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ORGANIZED MEDICINE; ITS INFLUENCE AND ITS OBLIGATIONS *

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CHICAGO

It is the purpose of every man's life to do something worthy of the recognition and appreciation of his fellow-men. There is no accomplishment of mine of sufficient importance to have merited the honor which you have conferred on me in electing me President of the American Medical Association, with its 34,000 members—the largest and perhaps the most influential body of medical men in the world. For your generosity in thus honoring me, I am most grateful. The span of man's activity is so short that many who are most worthy cannot receive this honor: that you should have conferred it on me affects me profoundly. In return for your confidence it will be my pleasure to give my best energy, thought and judgment to the welfare of the American Medical Association during the ensuing year.

ANNUAL MEETING

I would suggest two innovations in the programs of the annual sessions of the American Medical Association. The first has been devised and experimentally inaugurated at this meeting by the chairman of the Committee on Preventive Medicine and Public Health, Dr. W. A. Evans. It consists of a series of lectures and demonstrations to the public and should be made a part of the annual exercises. The second is a recommendation to the House of Delegates that there be two clinical days before and two after the meeting.

In regard to the first, it is not quite in keeping with the larger economics of to-day that the American Medical Association should annually gather a large number of medical luminaries and have them depart without leaving lasting impressions on the public mind of the community in which the meetings are held. Advantage should be taken of these occasions to produce a spirited public awakening in medical and health truths. There should be an extensive and accurately planned course of instruction on health and disease by the master teachers of the profession through lectures, exhibitions, lantern demonstrations and moving pictures. These should be free from technicalities and pedantry, should bristle with information but should be presented in a simple, comprehensive and attractive manner.

Concerning the recommendation for clinical exercises in connection with the annual session of the American Medical Association: Most of the members devote at least a week to the meeting, so there would be no special loss of time. The clinics should be in charge of the section officers who should select the ablest teachers in their special line. The material for the purpose of demonstrating pedagogic principles, diagnostic points, clinical results, etc., may be supplied by the local profession or brought from a distance. These clinics should not interfere with the general or section sessions. Information imparted in this way is far more attractive as well as instructive to the attending members than papers and discussions. If deemed advisable, inquiry and discussions may be carried on at the clinics. The Society of Clinical Surgery has demonstrated beyond question that clinical meetings are most attractive, instructive and inspiring and are the best means of advancing, coordinating and standardizing medical information. A striking example of the enthusiasm, appreciation and desire for this type of meeting was brought out in the first Congress of Surgeons of North America, organized by Dr. Franklin H. Martin and held in Chicago, in November, 1910. A still further evidence in favor of these clinics, if one be needed, is the ever-increasing attendance of busy practitioners in the surgical and medical clinic arenas. Men are inspired by seeing others doing and in action rather than reading or hearing about them. The clinics should be on diseases of the every-day type, accentuating the most recent advancement in diagnosis and treatment rather than surgical operations or demonstrations of unique and rare cases, except when these support or establish new principles. Methods of teaching should be particularly emphasized. Clinical pedagogy has received little or no attention, and as clinics involve one-third of the time of the medical students, it calls for active and definite lines of procedure in order to secure the best results. I feel that these clinics will increase the interest, enhance the educational value and double the attendance at our annual meetings.

INCREASE IN MEMBERSHIP

Let us next consider how the American Medical Association can be made more serviceable to the whole American medical profession and therefore to the American people. The first question is, shall the membership be increased? An increase in our membership is necessary for many reasons. First: The great volume of work demanded of the organization requires funds and this necessitates a larger membership. Second: The accomplishment of this work requires the influence of all the respectable and redeemable members of the medical profession in the remote districts, as well as in the great centers of our commonwealth. It is impossible to say how many of the men who have graduated in medicine remain affiliated with medicine and continue to practice. Of the 140,000 medical men in the United States, according to the second edition of the American Medical Directory, at least 100,000 should belong to this organization. The practical doubling of the present membership from 35,000 to 70,000 should be an easy matter when we have in the states over 55,000 doctors receiving The Journal. Surely every one of these should be an active member. Nearly 75,000 have joined the county societies, and only 35,000 of these are members of the American Medical Association. The remaining 40,000 should be active members of this organization within the next twelve months as they have taken the first step, namely, the establishment of their eligibility to this association. I hope that Dr. Thomas McDavitt, of St. Paul, chairman of the Committee on Uniform Regulation of Membership in County Societies, will, at this meeting, report a practical plan for the increased admission of members to the County Societies. What percentage of the doctors in the various states do not belong to the American Medical Association? It ranges from 77.5, 76 and 75.5 per cent. in Mississippi, Arkansas and Tennessee, respectively, to 33, 38 and 40 per cent., respectively, in Utah, North Dakota and Minnesota.

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* President's address before the American Medical Association, at the Sixty-Second Annual Session, at Los Angeles, June, 1911.

The method of becoming a member of the American Medical Association could be improved. When a man joins his county medical society he does not become a member of the American Medical Association; he becomes only eligible to membership. In some states a membership in the county society carries with it a membership in the state medical society. In other states the county membership establishes only eligibility to the state society. A committee of the Board of Trustees has already been appointed to consider this question. I recommend that this committee be enlarged by adding a number of members of the House of Delegates, and that this joint committee act promptly in bringing about such changes in the Constitution or By-Laws as is necessary to make every member of a county society a member of the American Medical Association. This could be easily carried out were it not for the difficulty of adjusting the relative finances of the county, state and national associations. A small fee for admission to these societies, say $1, to be collected by the state or county organization, and a portion of it forwarded to the other organization and the American Medical Association, would probably be the best plan, under the existing conditions. Careful consideration should be given the amount of the annual dues. This should be computed on the basis of the direct or indirect benefit derived by the individual from his connection with the Association. A $5 annual due is much too large for a great and widely distributed membership if nothing additional is done for its members. If, on the other hand, one or more periodicals are distributed, courses of study are furnished, lectures are made available, pamphlets, text-books, etc., are provided at a saving, a medical defense is instituted, places for self and society help installed, inferior competition controlled, the practice made more honest and the public educated—the annual dues of $5 are less than the profession will be willing and anxious to pay and less than the Association will need for the work, however economically it may be administered. If a membership in the Association is *only a paper asset*, a $1 due will be collected with difficulty. The Association must be actively doing for its members in many and divers ways; some of them direct, others indirect. The indirect benefits derived from the Council on Medical Education, the Council on Pharmacy and Chemistry, colossal though they be, are not appreciated by the average medical man, although he is a gross debtor to the organization for these services, be he a member or non-member.

The fixed charges, as administration expenses, cost of maintenance of the Council on Pharmacy and Chemistry, the Council on Medical Education, the Council on Health and Public Instruction and the Judicial Council, which I shall presently advocate, should not be decreased but rather increased if necessary to advance their efficiency. The largest item of expenditure is for the maintenance of The Journal of the American Medical Association, which is now the best journal of its kind in the world, printed in any language. Its position must not only be maintained but it must be the leader in the medical progress of our time. Our pride in it is justifiable. Besides its great prestige as an educator, it is the best business asset of our organization, for which Dr. Simmons, the Editor and Manager, deserves great credit.[1] Its character must not be altered, notwithstanding the fact that it is becoming too technical for many of its readers and would be still less advantageous to the additional number which we wish to draft into the Association through the state and county medical societies.

THE JOURNAL ADVERTISEMENTS

With a membership of 100,000, is it possible to reduce the price of The Journal and recoup the difference by increasing the number of advertisements and their rates? Such a Journal would no doubt have a circulation of 125,000, including subscriptions from non-members, and would mean 6,500,000 copies a year. This large circulation would make it attractive to advertisers who had never made use of the medium of medical journals before.

Under those circumstances I can see no reason for refusing any advertisement of a reputable character, which tells the truth—the dividing line between the good and bad in advertisements everywhere. One of the great pioneer, praiseworthy works of The Journal of the American Medical Association is that it has always demanded clean advertisements and insisted that advertisers of medical products in and outside of the profession shall tell the truth. This rule is extending to the better class of newspapers, periodicals and magazines. It might be that a vigorous advertising policy along these lines would increase the revenue of The Journal sufficiently to take care of the added cost of a large circulation, so that The Journal could be furnished to the members at a reduced price.

SMALL JOURNALS

There is still a larger field open to this great educational organization. There are many general practitioners who are keen, earnest, industrious, over-worked and ethical men, who desire and require scientific medical assistance. They are diffident and reluctant to ask for it. It should be the purpose and accomplishment of this body to deliver to them this information. The channel most available is by the establishment of a dollar monthly periodical, this to contain working abstracts of articles in the larger journal, original articles on the pathology, diagnosis and treatment of the more common ills, such as malaria, typhoid, diphtheria, tuberculosis, syphilis, hookworm, etc., brought up to date and by authorities, so that a man may have the latest information on the every-day diseases at his command. This will appeal to many practitioners who have had only a moderate amount of technical training and are unfamiliar with the more recent nomenclature. It

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[1] Secretary's annual report to the Board of Trustees, February, 1911.

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can carry in addition, personal news, medical economics, courses of instruction, legal decisions on medical subjects, write-ups on climate, states, cities, hospitals and men; in other words, a breezy, gossipy, personal helpful magazine containing a large percentage of the most modern practical medical facts.

I would recommend to the House of Delegates that a special committee be appointed to investigate and report on the practicability of such publication.

THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

The work of this Council, of which Dr. Henry B. Favill is chairman, can best be appreciated by an analysis of a report of its secretary, Dr. Green. It has been all that we should anticipate or expect since its reorganization. Health has received more attention than public instruction. It is my belief that public instruction in medicine is one of the most important functions which the American Medical Association has to perform. The first and all-pervading idea of our medical heritage is the public—the people—and concretely the patient. The latter is the center of the medical universe, around which all our works revolve and toward which all our efforts tend. For centuries the medical profession has criticized the public for its lack of judgment in its selection of doctors. The public has employed the quack; it has employed the irregular or sectarian; it has employed the psychopathic and Christian Science healer; it has employed the bone-setter, the chiropractor, etc. These were employed not alone by the ignorant, the foreigner or the poor, but by the so-called "intelligent, reasoning, educated" and wealthy people of every community. They place a greater amount of confidence in all of these healers and more enthusiastically support them than they do the regular members of the medical profession. Why? Are they more skilful? Are they more worthy of confidence and support? Not at all! But they give the patient some kind of explanation or reason or working hypothesis for the results they attempt to obtain or claim they secure. In other words, they educate the people in their theories, beliefs or sophistries and that is what the public wants, in fact, what it demands. What has the regular medical profession done to educate the public in the last three centuries? Nothing! We have demanded of the public our acceptance on blind faith and the age of blind faith in individuals is passed. What have we taught them of the real truths or principles of scientific medicine? Nothing! What beacon have we set for the layman to assist him in the selection of a skilful practitioner? None! Still, we daily condemn him for his lack of judgment in these matters. The people should be educated in the basic principles of medicine through the publication of articles in the daily or weekly press. These articles should be prepared with the greatest care so as to present the facts in a scientific yet comprehensive manner. There should be established in every large city subcommittees for "lay press publications," so that, when the layman wishes authoritative information in any particular line, he can write to the press and it, through this committee, can give him a clean-cut, positive and authentic report on what has been accomplished in any particular line. If the local committee lacks the information desired, it can be obtained from the central council on public education.

Still further—the Council on Health and Public Instruction should supply the lay press with extensive articles, not alone on the novelties but on the common diseases, giving the people plain information on the true nature, etiology, means of transmission, early signs of disease, etc. How much the mortality of the acute surgical diseases, the acute medical diseases as scarlet fever, diphtheria, pneumonia, etc., and the chronic diseases, as cancer of the lip and breast, tuberculosis, etc., could be reduced if the laity had a little instruction from the profession as to their early recognition, the danger of delay and the line of action in their treatment!

Up to date, the "patent-medicine" almanac, quack advertisements and leaves of healing have been the principal instructors of the public. In addition to this, it has been served by enterprising reporters with accounts of addresses, clinics, etc., in which truth and science are violated in almost every line and with the facts garbled and presented in the most sensational manner. Unfortunately the public accepts these as truths. So long as the above continue to be the only sources of public education, just so long the public will be their patrons. When we supply it with its medical education based on science it will become affiliated with us and sustain us in our every effort. If it were known that the business of this committee was to give authoritative information, the newspaper editors would appeal to it regularly. The education of the public is the most important obligation of this Association. As this advances, our science and our art will receive the admiration and support which true worth once understood always commands.

THE PHYSICIAN'S STATUS PRÆSENS

In society there is division of labor. Honors and financial support are given to those who serve the community well: the indifferent receive meager or no support. This is true of organizations and of men. Being true, it is profitable to inquire what is the standing of physicians?

We find that *certain* medical men are better supported by the community than medical men have ever been in the history of the world, but the *average* medical man is not so well paid as he was twenty years ago and the earnings of a large group are less than the earnings of those belonging to organized labor. Especially noticeable is this when we compare the declining earnings of general and "contract" practitioners with the advancing earnings of artisans and the increase in the cost of living. Society cannot afford to support its physicians indecently. It demands of them a certain standard of living but does not pay them legitimately enough to maintain that standard. The results are manifold but they all amount to the same thing. Physicians therefore are forced to obtain, legally or otherwise, enough to bring them a living income. They cannot have money or leisure for study and books and the community receives poor and out-of-date service commensurate with its payment. They lose in moral stamina and become quacks, advertisers, commission men, fee dividers, professional witnesses, etc.

For these sins I am not excusing the medical profession; I am using this high office—the presidency of the most powerful medical organization in the world—to say to legislative bodies that the horrible cost of poor medical service in invalidism and mortality falls on the community and that for it the community is greatly to blame, because its legislators have almost universally failed to enact sufficiently strict state laws controlling the practice of medicine; notwithstanding the repeated and urgent requests made by the profession for their enactment, they have not demanded, through their respective state boards, a high standard of education for license to practice; they have not prohibited quackery in all its forms by an adequate penal code; they have not supported the medical profession in its altruistic efforts to render to the people a better service. There must be a national, legal standardization of medical educational institutions and medical practice laws corresponding to that controlling interstate commerce.

The remedies I can only touch on lightly. They lie in a better equalization of the supply of and demand for medical men; better preparation for the art of practicing medicine to be brought about by better medical colleges, supported by private endowment, or by the state if necessary, and the legal suppression of incompetent ones.

COUNCIL ON MEDICAL EDUCATION

The Council on Medical Education, of which my colleague, Dr. A. D. Bevan, is chairman, has won distinction and should receive the highest commendation of this organization. The work it has accomplished in a few years is marvelous when we consider the personal and financial obstacles which it has encountered and overcome. The number of medical colleges in the United States granting degrees has been decreased through the efforts of this committee from 166 in 1904 to 129 in 1911! Of this number only sixty are doing really acceptable work. The number of medical students has been reduced from 28,142 in 1904 to 21,526 in 1910 and the number of graduates for the same period from 5,747 to 4,440. The greatest effect of its labor is in the general uplift of the standard of admission to the medical schools. Twenty-eight medical schools are now requiring as a minimum for entrance two or more years of work in a college of liberal arts, in addition to a four-year high-school education. Ten additional colleges require one year plus the high-school course. There will be four added to the latter in the present year. Thirty-five per cent. of all medical students in 1910 and 1911 were enrolled in the higher grade colleges. They deserve credit for the grading of the medical courses; the increased final requisites for graduation; the elevation of the standard by state boards for admission to state examinations (eight now require preliminary work in a college of liberal arts before entering a medical school); and the stimulation in the public mind of interest in the higher medical education. This Council has completed two tours of inspection of all of the medical colleges in the United States and is now entering on its third.

The admirable work of this Council should be supported financially by the Board of Trustees and morally encouraged by every member of this organization and every one interested in higher education. Its report should be carefully read by all the members of the profession.

MEDICAL EDUCATION

I cannot refrain from sounding a note of warning in connection with medical education, lest we become faddists. In the medical college of thirty years ago a large percentage of the professors were "chosen for chairs" in the college faculty because they had attained some local or national reputation as practitioners; were friends or associates of one who had the organization of the new school in hand; or possessed the all-essential requirement—a sufficient amount of money to invest in the stock or partnership. These selections were often made regardless of the professors' special knowledge of the subjects they were to teach or their ability to impart it if they possessed it. The students were forced as a requirement for graduation to sit for hours each day within the hearing of men ill informed and incapable of teaching. There were, however, many very able teachers in the colleges, though selected in this hap-hazard way. This condition did not exist alone in the third-class schools but in the first and second (modern classification). To be relieved of this we all looked forward to the time when the university would take charge of medical education; when the professor or teaching head of a department would be selected because he was particularly well informed on his subject, and could better instruct the student. The university control is here but with what result to the student? The departmental head is now a man of world-wide reputation as an original investigator, a discoverer, laboratory expert, etc.; but as a teacher, one capable of imparting information to a student or a class in an acceptable and attractive manner, he would not, in a considerable percentage of cases, receive a grading of C in a third-class medical school (Flexner's estimate), notwithstanding his abundant information on the subject. Original investigators ride their hobbies in the class-room to the exclusion of much accepted information in their branches which the student needs more than he does the individual's special trend of thought now given him.

The president and the faculty of a university should elect as teaching head of departments men capable of imparting information with force and in such a way as to be grasped, appreciated and retained by the student body.

There is a place and a first one for the special investigator, the discoverer, the laboratory and the original research man, but it is not in the delivery of the products of medical attainment to the student (unless he possesses special qualification as a teacher) that the best results in medical education can obtain. The laboratory idea has dominated education for the past decade. Much of the instruction has been given from a purely scientific standpoint; the department has been controlled by purely scientific men who had little or no knowledge of medical practice—often not even medical graduates—and they fail in establishing a relationship between the scientific facts and disease. The mission of the university medical department is not primarily the training of original investigators, but of educating physicians for the practice of medicine, i. e., training men who can apply the scientific knowledge to the patient, who is the hub of medical education. In the first one-half or three-fifths of the medical course of the modern university, the student is not brought in contact with the patient at all, and when he enters the junior or senior class, though overflowing with isolated scientific facts, he is woefully incapable of applying his scientific knowledge to the patient. The clinical phase has been in a minor rôle dominated by the laboratory idea. If pure science is to be the all-absorbing topic of medical education for the first two years, then a fifth year must be added to the curriculum, which should be, preferably, an internship in a good hospital. Laboratory research, experimentation, chemistry and bacteriology must all aid in the prevention of disease, and assist in the interpretation of symptoms, physical signs, clinical history into their pathologic entities and their etiologic factors—the only basis for rational therapeutics and the highest attainment in medicine, next to the original discovery of principles.

In order to meet the educational requirements for matriculation in the modern medical school, the young man is forced to keep his face in the folds of books from his infancy. He has had no opportunity to think, he has not been taught to think, he is a book-stuffed, machine-made, non-thinking automaton albeit a fit and acceptable applicant, according to present requirements, from which a medical school is *supposed* to make a thinking medical man. What marvelous powers a medical school must possess! How is it possible? What changes should be instituted in the evolution of the medical embryo?

Independent thought comes from men whose minds have not been warped by too close adherence to books and the thoughts of others but whose interests have been evolved by individual work and observations, and seeing others work rather than reading of it. An old Arabian proverb reads: "A fig-tree looking on a fig-tree becomes fruitful." An entrance examination of every student should be made by a committee in each state appointed by the Council on Medical Education, to determine his intellectual capacity. In addition to this, account should be taken of his previous condition of servitude at books, in schools and in other occupations. His first year should be one of probation, after which time a competent examining body should pass on his fitness to continue his course. There should be a readjustment of the curriculum so as to give a better-balanced instruction ration and thereby develop more serviceable practitioners as a finished product of medical college education.

GRADUATE STUDY

When a license to practice has been granted a graduate of a medical school it should be only for a period of, say five to ten years, at the end of which time he should be required to pass an examination or take a prescribed course of study. This provision is necessary to keep the general profession abreast of the times. A few enthusiastic men endeavor to accomplish this result now without the legal license requirement, by attending every year or two a course of postgraduate or clinical instruction, in their own or foreign countries. This would greatly improve the efficiency of the medical profession and the trusting public is entitled to it. This plan is not so novel as it seems, as in both the army and navy services periods of demonstrations of mental as well as physical fitness are required.

The development of postgraduate medical teaching in the county medical societies would be advantageous as an educational factor. The excellent courses of study outlined by and put into effect by Dr. Blackburn, of Bowling Green, Ky., in the Warren County Medical Society, should be used as a model. The educational features so ably represented by Dr. McCormack should expand from an individual labor to an organized machine, working through many men and reaching every reputable or redeemable member of the medical profession. No scheme or plan for the betterment of physicians in this country is workable that does not provide for strengthening medical societies—and to be specific—the American Medical Association and its component parts. Postgraduate college work should be controlled by the medical departments of universities. This most important branch of medical training should not be allotted to private corporations any more than undergraduate medical training.

POLITICAL ECONOMY

In every plan of social settlement there are two sets of agencies, governmental and extragovernmental. When the former fails in doing the work, philanthropy, charity, or good citizenship takes up the burden and society leans on it until a public sentiment is created, forcing the government to act—as in the prevention of tuberculosis, child welfare, etc.

The work of advancing medical science, of conducting experiments, of carrying on research, of discovering truths, of devising methods, of educating physicians, of holding them to ethics, of supplying them with modern information, of keeping them honest, upright and courageous—all these, society should itself be doing through government. Since it has failed, we of the profession are forced into the breach and at our own expense are carrying society's burden.

In Italy, the governmental principle has been established. On June 9, 1910, the Italian Chamber of Deputies and the Senate passed a law that every practicing physician in Italy and the provinces must belong to the national society called "The Order of the Doctors." It has absolute control of its members in all matters except in criminal or malpractice proceedings.

I recommend a careful study of this example of political economy, not only by the House of Delegates of the Association, but by political economists of the country. Until such time as our government is prepared to take these advanced steps, we should occupy ourselves with the study of methods whereby the American Medical Association can be made more serviceable to the American public. This Association will miss one of its greatest opportunities if it does not consider its duties outside of those directly concerning the medical profession.

The brunt of labor and expense in research has fallen on the profession. In some directions the results benefit the profession in a material way; in the majority of cases, however, they decrease the revenue of physicians, but greatly benefit the public. These scientists receive as a rule no compensation for their labor and, when a great discovery is made, a new principle established, or a life-saving invention produced, they never receive the same reward that comes to the discoverer or inventor in other fields.

DEFENSE OF MEDICAL RESEARCH

The right to conduct animal research is fought for by medical men almost single-handed. The contest for a national department of health for the prevention of disease has been made in the main by medical men. The struggle for health legislation is made mostly by medical men. Can any one doubt the sincerity of the medical profession in these struggles when their accomplishment means a great reduction in its revenue? The efforts of the general public and the profession should be cooperative, never antagonistic, to obtain the best results.

What is the character of the people in opposition to this work and what is the character of the natural force which is more deadly than opposition?

The opponents are ill-balanced sentimentalists—people with limited capacity for estimating educational or health factors—people without capacity for perspective (such as the antivivisectionists and antivaccinationists), and people with less intellect or integrity than any of these; half-way medical men, as osteopaths, chiropractors, etc.; people with theoretic creeds whose basic belief is against the physician in its sorry attitude, such as a minority of Christian Scientists; the suppressed patent and proprietary medicine venders of worthless or dangerous drugs; a group of men who have suffered financial loss through a growing demand made and fostered by this organization, that advertisements in newspapers, magazines, proprietary and "patent-medicine" pseudomedical journals, shall not lie; those whose often criminal and always fake practices have been destroyed by exposure through the medical profession; and lastly a group of erstwhile convicted criminals thirsty for revenge, now of quasi-respectability, affluence and power, whose past reeks with obscenity, vulgarity, immorality or crime.

The gross and unpardonable indifference of the people to their own physical welfare, that of their children and neighbors, is more discouraging and a greater barrier to progress than active opposition. It requires some great calamity to arouse the dormant public mind to an appreciation of its interests and its responsibilties and to the penalty it pays for inactivity.

A HEALTH JOURNAL FOR THE LAITY

How can we make the people see and understand that the obligation is theirs more than ours? How can we affiliate the people if not induce them to take the lead?

I would respectfully recommend the establishment by this organization of a health journal for distribution to the laity. It should have as associate editors, sanitarians, sanitary engineers, sewage and water engineers, sociologists, tenement workers, school teachers, child welfare workers and others with allied purposes. Such a journal should appeal to the general public, to the commercial interests, to the employers of labor, to the school boards, and more especially to mothers and home interests.

This journal should be self-sustaining financially. I suggest that the House of Delegates at this meeting appoint a committee to confer with the American Public Health Association on this very important matter.

ASSOCIATE MEMBERSHIP

I respectfully recommend that the By-Laws be so amended as to provide for an associate membership, admitting those who are making a life-work of or special effort for the betterment of the physical condition of man, as the noble bodies of non-medical men and women who are fighting tuberculosis, infant mortality, bad milk, bad water, and bad housing. These workers logically belong with us as well as medical scientists who are not medical graduates, pharmacists, dentists, etc.

I would further recommend that the committee on membership work out a plan by which the national, state and local organizations of these physical welfare activities may be affiliated with the American Medical Association and its component state and county societies.

Two weeks from to-day, July 11, the National Educational Association meets in San Francisco. The teachers of America have been powerful in the work of physical betterment. They are in a most advantageous position, for the seed of the truths of health once implanted in the child's mind grows with it and continues to bear fruit through life. This is well appreciated by religious workers who say: "Give me the child and the continuity of religion is safe."

I, therefore, recommend that the House of Delegates appoint a committee to bear to the National Educational Association the greetings of the American Medical Association, and express its appreciation of and thanks for the work they have done for the physical welfare of children and the hope that their future efforts may be materially increased. It would be desirable to have the committee arrange for an annual cooperative symposium at both of the national gatherings.

The Council on Health and Public Instruction should be placing health lecturers in every county in the union; also educational folders, leaflets, public press articles, etc., for the use of the local county committee for presentation to the public through these agencies.

When the people are educated and interested they will support and enforce every proper method for their betterment, and eventually we shall have as scientific an organization for the protection of the health of the people and their interests as we now have in the Department of Agriculture for the health of animals and plants. The movement will be irresistible. The physician is the natural flag-bearer; the people, the great beneficiary. The latter, however, will never sustain him in that position unless they have the utmost confidence in him. They will not enlist as his workers in his movements until he shows that he possesses and practices a standard of morality and integrity that is irreproachable.

IRREGULARITIES AMONG PHYSICIANS

Now, I have an unpleasant and most painful duty to perform, and that is to call this body's attention to the shortcomings of the medical profession—to the irregularities, immoralities and crimes that have crept into its practice. These have come to be recognized as public scandals. When public speakers attack us—when pamphlets derogatory to us receive general circulation—when newspapers repeatedly print exposés—there are now, through our years of internal protest and zealous remedial measures, too many in the secret for us to avoid open condemnation. For years within the confines of our organization, we have endeavored to suppress irregular advertising and exploitation. We have succeeded in producing penal enactments against abortion and infanticide, and have fairly well suppressed the practice. We have in many states abolished the quack advertiser and convicted a number of violators of these laws. If the exposure of the guilty physician had no other effect than to destroy the public confidence in that individual it would matter little to the profession in general, but it has a much deeper significance; it lessens confidence in all medical men and in all medical measures.

In assailing vice in every walk of life, there is a sense of humiliation in the admission of its presence, a shudder of horror at its exposure and a strong desire to minimize its malignant import. None of these, however, relieves us of our obligation to attack irregular, questionable and criminal practices with all the force and vigor of the manhood of this organization, with all the strength of the traditions of the profession, with all the impetus of altruism of medicine of all times, so as to preserve and sustain the purity and fidelity of the purpose of the profession in its transmission to our posterity. The medical profession should be the unquestioned forerunner of humanitarian undertakings. Our sacred calling should be exemplified in our acts, that each individual citizen may have every possible opportunity for the conservation of his health and the preservation of his life regardless of his ability to compensate the physician. There is a common, insidious and deadly parasite eating at the root of public medical confidence, and that is the practice of medical fee division, commission paying and the sale and purchase of patients. We should see to it that no man of our profession barters to the highest bidder in commission and fee divisions. He who offers or gives is morally as guilty as he who requests or receives, and no sophistries should be accepted in justification of this atrocious practice. The money changers of the profession must be driven out of the temple of Æsculapius as they were from the temple of religion.

The traffickers in human lives and infirmities must be stripped of their pseudo-ethical shield so that they may be known and recognized by the public. These, though comparatively few in number in some communities, are too great in all to be permitted to associate with the grand and noble, ever-ready and never-failing, unselfish and self-sacrificing body of general practitioners and specialists. A membership in this organization should be a certificate of manhood, of scientific attainment, of moral stamina and of loyalty to the principles of the Golden Rule, the basis of ethics of the medical profession. This united body must assume the responsibility for regulating the acts of its own members and if necessary request the legislative bodies of this great land to place on the statute books acts penalizing violations of professional trusts by doctors in and out of this organization.

This Association is called on by the public to relieve this situation. It relies on the justice and humanity of the cause. It relies on the power and response of your conscience when awakened. It relies on your love and devotion to the honorable traditions of your profession. It relies on your contempt for avarice at the expense of human suffering and human life. It relies on your love for and devotion to your fellow man. It relies on your integrity and sense of duty to your commonwealth, to your profession and to the people to exterminate these evil practices.

It is not sufficient for the profession of to-day to make great scientific advancement. It is our obligation to pass our untarnished traditional ethics in their highest sense to the succeeding generation, because it is only under the guidance of these basic principles of equity that the coming generation can accomplish the greatest good for the greatest number. Each generation must purchase by its deeds of valor, self-sacrifice, foresight and labor, security, blessings and advantages for the succeeding generations.

I recommend that the By-Laws be so changed as to make the Judicial Council a council in perpetual session with a salaried executive; that it hold meetings at least twice a year and as much oftener as is necessary; that it establish rules of procedure varying with the needs of different sections and different times; that it be empowered to appoint state subcommittees for special investigation; that it constitute the court of interpretation of all ethical relations—individual, organized and public; that it decide on and apply the proper remedy for the irregularities in practice; that it be invested with the right of suggestion where local societies are indifferent, unprofessional or unjust, and if this fails that it has the right of action against said society, subject to the approval of the House of Delegates; that it be constituted the court of appeal for any member of the medical profession who is denied membership in the American Medical Association through the refusal of his local society to accept him. After a fair and impartial trial this committee may make him a member of the American Medical Association. An expelled member of a local society may have the same rights.

The plan adopted in some states, whereby a member refused admission to his local county society may be accepted by any other county society in his state appears to be a good one for general adoption.

NATIONAL DEPARTMENT OF HEALTH

There is a deep-rooted public sentiment and a widespread movement throughout the land for the establishment of a national department of health. Senator Robert L. Owen, of Oklahoma, has been conspicuous in his advocacy of this measure. He introduced Senate Bill 6049 in the last Congress, and Senate Bill 1 in the present, for favoring the enlargement of the health functions of the national government. He has a keen insight and appreciation of the economic significance of health conservation. American medicine owes him a great debt for his labor and zeal in advancing this interest. We have already a fairly well-developed general medical service in the United States Public Health and Marine-Hospital Service. It has done excellent work in protecting the Pacific coast against plague, the Atlantic against cholera and the Gulf coast against yellow fever. It has made some admirable studies in its laboratories and added much to the value of the medical literature and to popular health education.

While it has developed greatly it has only kept apace with the great world movements of health. It has not been a leader. Even its most ardent supporters would not claim that it has attained the same degree of efficiency as our national bureaus which supervise the protection of agricultural interests.

If it be argued that public sentiment is not ripe for this movement, it only further proves the point which we make, i. e., that a way must be found to enlighten the people; they will then proclaim their rights and demand protection.

The character of the opposition to and the arguments advanced against this bill are clearly outlined in a personal letter which I recently received from Senator Owen.

UNITED STATES SENATE.
WASHINGTON, D. C., May 27, 1911.

Dr. J. B. Murphy, President-Elect,
American Medical Association.

My Dear Sir: Permit me to express my grateful appreciation of your invitation to address the Association at its next annual session in Los Angeles.

I deeply appreciate the kind manner in which you extend this invitation, and I had very greatly desired to have the opportunity of addressing what is perhaps the most useful and honorable association in the world, distinguished for learning, for intelligent service and for a noble spirit of self-sacrifice and altruism that marks the medical profession above all others.

I had greatly desired to address the Association in order to invite its more active sympathy and cooperation throughout the several states of the Union, in establishing a department of health, which I am endeavoring to do through Senate Bill 1.

The League of Medical Freedom, so-called, which I believe to be a league of those opposed to the Pure Food and Drugs Act, including some very honorable people who have been misled by these sinister forces, has established, I am told, a state league in nearly every state in the Union, with county and town organizations. I am advised that they are supplied with an abundant supply of money to carry on a wholesale campaign, advertising in a big way.

A few days ago I counted on one of the county papers of Oklahoma, on a single page, nineteen "patent-medicine" advertisements: These people are, of course, more or less potential.

The League of Medical Freedom denounces the American Medical Association as a "medical trust," charges it with being opposed to the freedom of the citizen in medical matters, and undertakes to stir up prejudice against the American Medical Association; charges the American Medical Association with being the author of Senate Bill 6049, to establish a Department of Health, which I, myself, drew and introduced during the last Congress without any consultation with the American Medical Association or any of its officials.

I regard it as of the greatest importance that the American Medical Association should exercise every energy possible to correct the false impressions spread broadcast by the so-called League of Medical Freedom. Every county in the United States should be organized and make a demand on the members of Congress representing such county and on the senators representing such state to pass this bill establishing a department of health.

It is true that if a national department of health could, by bulletins, increase the general knowledge of how to prevent sickness, it would diminish the number of sick people appealing to the doctors of the country. It would diminish the doctor's clientage. It would take from him a part of his annual income, but it is a noble sacrifice which every doctor worthy of the name, be he allopath, homeopath, or of any other school, will gladly make for the general welfare. Everybody who knows the medical profession knows this is true, and the base charge made against the American Medical Association that it is a "medical trust" should not be allowed to go unchallenged or unrebuked.

Doubtless it may be true that in some states legislation may have been sought by members of the profession that gave offense to those who were not regarded as members of the so-called "regular" profession. Advantage has been taken of this feeling to stir up the hostility of those who do not practice the regular profession and arouse their hostility to a department of health on the foolish ground that a department of health, being desired by the American Medical Association, must be a bad thing for all practitioners who do not belong to the allopathic school. The truth is that there are many thousands of men who are teaching various forms of physical culture and of preventive medicine who do not belong to any school of any kind—such as Horace Fletcher and men of that class.

I earnestly trust that the American Medical Association will now enter on a militant campaign to promote the public health and to concentrate the federal health agencies in one well-directed, well-organized department which may serve as a light to the health departments and health societies of the cities, counties and states of the United States and serve a function as useful as that of the Department of Agriculture, which has shown itself to be invaluable by disseminating information of a high character.

The new bill introduced by me to establish a department of health (Senate Bill 1) is an improvement on the bill which I myself drew a year ago, and has been modified to meet, as far as possible, some of the criticisms which were urged against the Senate Bill 6049.

The new measure contains express provision that the department officers shall not exercise any activity properly belonging to the states, without invitation from the proper state authorities, shall not enter any private house without permission of the inmates, and shall not discriminate in favor of any school or system of medicine.

The plain truth is that nine-tenths of the activities of a department of health would be devoted to race conservation, and the prevention of disease and death by proper quarantine, by authoritative information on the prevention of sickness put in the hands of the people, so that the people of the United States might be energized in protecting themselves from the typhoid fly, the malarial mosquito, the hookworm parasite, the tubercle bacillus, etc.

All learned physicians approve these things, and from the medical profession I have received the chief support in the effort to establish this department. The medical profession has been shamefully misrepresented, as I have said, as desirous of establishing a medical trust, when, in reality, if this department of health should be established, its first important service would be in reducing substantially the sickness of men, women and children, and thus diminishing the clientage of the practitioner, whose activities, unfortunately are so largely of necessity confined to restoring those who have made themselves sick by ignoring the laws of health.

I wish there could be some way in which the medical profession could be properly compensated for instructing people how to keep well and to become physically better. Perhaps, under the impulse of a department of health, the people will realize the importance, more and more, of authoritative instruction in the laws governing the preservation of health and of physical well-being, so that there might grow up in this country a new system of retaining medical men, charged expressly with the duty of instructing their clientage in the art of "how not to get sick." It seems to me that this might be a topic worthy of consideration and discussion by the American Medical Association.

There has been some genuine opposition to a department of health by some men, earnest and sincere, engaged in teaching the laws of health, and who have the following creed: "Men who are taught to live right do not need medicine; men who do not live right cannot be cured by medicine."

I believe the value of materia medica has been greatly exaggerated, and that there is much force in the creed which I have quoted to express the idea of those who are teaching methods of right living.

Very many thousands of physicians are engaged in this work of teaching right living, but the medical profession itself has so often been hypnotized by the Latin prescriptions of materia medica and the unavoidable recoveries (due to the providence of God), that they themselves as individuals frequently illustrate the violation of the soundest laws of right living, indulging to excess in tobacco, alcohol, food and in other ways, which prevent medical men from being high-class physical athletes and perfect specimens of physical life.

I wish you would do me the honor to say to the members of the American Medical Association that the first duty of a member of that great and honorable body is to present himself to his clientage as a model man, illustrating the glorious effects of obedience to the laws of right living, and that he offer himself as an exhibit worthy of imitation by those to whom he ventures to give advice concerning the most vital of all human possessions—good health and life.

I send the American Medical Association the most cordial greetings, with assurance of my earnest sympathy and admiration for that great body and its patriotic and self-sacrificing membership.

Yours faithfully, ROBERT L. OWEN.

The American Medical Association should, at this meeting, formally and strongly endorse the Owen bill. I respectfully recommend that the House of Delegates instruct the Board of Trustees and urge the Editor of THE JOURNAL to use all possible effort in advancing this movement. Furthermore, the Council on Health and Public Instruction should see to it that all of the great physical welfare organizations of this country speak their minds freely and emphatically on this matter. This Association has in the past year agitated and worked for this department without immediate results, but we recognize that in these movements there is always a stage of inertia in the cure of which the factor—time—cannot be eliminated.

SCIENTIFIC ACHIEVEMENTS SINCE LAST MEETING

While there has been no epoch-making discovery since our last meeting, great practical advancements have been made. The treatment of spirochete infections has been greatly advanced, though not mastered. The efficiency of vaccination in the prevention of typhoid fever has been thoroughly demonstrated in the encampment of the American troops at San Antonio. Here 18,000 men were encamped in a warm climate in an unfavorable season and under unfavorable conditions, and not a single case of typhoid originated in a soldier or a camp employee who had previously received the prophylactic vaccination. The prophylactic vaccination for measles has proved very effective. Vaccine treatment of disease as a whole has materially advanced in the last year. We are establishing a definite dosage, acquiring a knowledge of the best interval, and becoming familiar with the serviceable combination of vaccines.

Not infrequently the apparently fruitless years from the standpoint of the public are those in which the best work is done and from which the most potent results eventually flow. There is a steady onward medical movement in the protection given the people against disease.

Living in the home city of THE JOURNAL, I have had an opportunity to attend the meetings of the Board of Trustees and become acquainted with the workings of the various councils and standing committees—pharmacy, chemistry, public instruction and hygiene, blindness, etc.—and to see the splendid new building completed and the offices and machinery installed.

I trust that those of you who are not on the Board of Trustees or in the House of Delegates or do not even attend the annual meeting will carefully read the excellent detailed report of the Editor and General Manager, Dr. Simmons, made to the Board under date of Feb. 3, 1911; that you will interest yourselves in the ably edited synopsis of the work accomplished by the Council on Medical Education; that you will analyze and take educational advantage of the reports of the Council on Pharmacy and Chemistry; and that you will scrutinize the outlined plan for the future work of the Council on Health and Public Instruction. These reports are too voluminous to permit of an intelligent resumé here and of too great import to be overlooked by a single member of the Association. A study of these will enlighten you on the scope, force and stability of this mighty organization and impress on you the arduous labors imposed on the Board of Trustees, the Editor and the councils and committees, in conducting this work.

In conclusion I would say that the claim that the profession is overcrowded is not founded on facts. From personal observation of hospital and private practice for a third of a century, I would say that less than 40 per cent. of the people requiring operations are given surgical opportunities for relief. From a medical and surgical experience combined, and through information received from eminent medical men, I would say that not exceeding 60 per cent. of the acute and chronic cases are correctly and timely diagnosed; that procrastination is the curse of medical diagnosis and medical action, entailing an invalidism and mortality. The people foster this more than they do any other shortcoming in medicine.

There is not a sufficient number of competent medical men to treat all of the medical cases, nor of surgeons to do all of the operations, of obstetricians to attend all of the confinements, nor of specialists to meet all of the special demands. What *we* need is a lesser generalization of patients in diagnosis and treatment and a closer individualization of the special conditions and demands. What the *patient* needs is relief of his symptoms. If this were done and efficiently done, every doctor in this great land would be overworked and self-satisfaction in the practice of medicine would be a rarity.

Competency is attained and maintained only by zeal, indefatigable labor and continued efforts in self education. The responsibilities of his profession rest on the individual man. If he shrinks from its weight the burden grows doubly heavy. If he "short-cuts" for success he sinks into the mire of dishonesty and dishonor. If he carries the weight with an erect figure, abiding integrity and a strong heart, it rides like a bubble.

MEDICAL COMPETITION

The physician or surgeon is not in competition with his fellow practitioner at all, but is in competition with the average standard of the medical qualification of his time. This standard is the line dividing mediocrity and incompetency of varying degrees from knowledge and efficiency. He who keeps above the standard desires companionship. Therefore, if we elevate the ethical and educational average, we increase the brotherhood of the profession and enhance the percentage of efficiency to the public. The effect of capital and labor organization has been to lessen individual exertion and reduce men to a common or mediocre level—their decadence is inevitable. The ideal of medicine, on the contrary, must be the stimulation of individual exertion to the highest degree and the establishment of a standard, the attainment of which should be the one great desire of every member of our profession, each to assist the other in his upward progress. Advancement is retarded by the failure of the individual to utilize time and avail himself of opportunity. We are all spendthrifts of time; all overlook great opportunities. Many are ruminants on their imaginary disadvantages in the contest: these never become producers. The demand of the times is that we level every opposition and make smooth the way for general progress, enlightenment, education and the higher ethical obligations. The individual is responsible for his own position and to a limited but positive degree for that of his fellow practitioner. When given a diploma from a medical school or a license to practice, we are all supposed to be equal. But no insignia makes men equal in medicine more than in any other line of human endeavor. By their superior intellectual qualifications, their fidelity to purpose and above all their indefatigable labor the few become leaders. American progress has been made the admiration of the world. The American medical profession has sustained the statements which Emerson made for American scholars, in his Cambridge address, in 1837: "We walk on our own foundation, we work with our home-trained hands; we think with our free-bred courageous brains, and over all we execute with a power of art, admired and imitated by the world."

32 North State Street.

RACE AND ALCOHOLIC INSANITY

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The population of New York City, containing, as it does, such unusual aggregations of people from all parts of the world, furnishes a rare opportunity for comparative studies in race psychopathology. The conditions of an interesting experiment are practically fulfilled in that we find a number of races of pure blood living side by side in large colonies in a uniform, general environment. While this unique situation provides the alienist with material for making observations of great scientific interest, it is also a matter of practical importance for social workers, educators and physicians generally to become acquainted with any data which show the existence of special racial tendencies to disease, to immorality, or to excesses of various kinds; of particular interest are any facts relating to the extent of inebriety or the manifest pathologic effects of alcohol among these various elements which are streaming into our population.

At the Manhattan State Hospital, which receives patients exclusively from the City of New York, we have been strongly impressed with what appears to be a relation between racial types and certain forms of mental disease. We have noticed particularly that in some races alcoholic insanity was remarkably frequent, while in others it was extremely rare. This paper gives the results of an inquiry regarding the relative frequency of alcoholic insanity among the larger racial groups which go to make up the admissions to the hospital.

It is only within the past few years that our knowledge concerning the toxic psychoses has progressed sufficiently far to enable us to make anything like an accurate estimate regarding the frequency with which alcoholic insanity occurs in a community. In the reports issued by the New York State Hospitals, prior to six years ago, "alcoholic insanity" did not even appear in the statistical tables as a recognized form of mental disorder, and no attempt was made to differentiate the alcoholic psychoses from the old groups of mania, melancholia, paranoia, dementia, etc. Alcohol, of course, plays an etiologic rôle and often an important one in many psychoses other than the alcoholic insanities proper, but at present we include in the alcoholic group only the specific alcoholic psychoses — those mental disturbances which arise in chronic drinkers and present a characteristic symptom-complex. This better circumscription of the alcoholic group permits us now to make such comparisons as are here presented with much more accuracy than was formerly possible.[1]

The first analysis covers the following racial divisions which are shown in Table 1: The Irish group is composed of natives of Ireland whose ancestors were Irish. In a similar manner the native Germans and Italians make each a group. The Negroes and Jews form separate groups, without regard, however, to country of birth or length of time in America. For purposes of comparison I have added a group made up of individuals whose parents were born in the United States. This American group cannot, of course, be viewed as representative of any particular strain of blood or ethnologic division, but it is of interest to note how our native stock compares with the other racial groups studied. In a final group we have a remaining heterogeneous collection, containing representatives of almost every race in the world, but in numbers as yet too small to allow any safe deductions.

TABLE 1.—ANALYSIS OF 1,762 CASES OF BOTH SEXES, SHOWING PERCENTAGE OF ALCOHOLIC INSANITY IN THE DIFFERENT RACES AND NATIONALITIES

	Irish.	German.	Italian.	Negro.	Jewish.	U. S.*	Other Races.
Number admitted..	336	193	123	90	455	222	342
Per cent. alcoholic insanity	20	9	5	4	0.6	5	10

* Children of native-born parents.

Table 1 is based on a review of 1,762 cases, in which the patients were admitted to the hospital suffering from various forms of mental disorder. The first line of figures gives the number of persons of each race included among these 1,762 cases. The second line of figures shows the percentage of alcoholic insanity found among each of these racial divisions.

The most striking contrast is furnished by comparing the figures for the Irish and the Jews. Twenty per cent. of the 336 Irish people admitted were suffering from an alcoholic psychosis, while only 0.6 per cent. of the 455 Jews admitted were subjects of alcoholic insanity. Next to the Irish come the Germans, with 9 per cent. of alcoholic insanity, while the Italians showed only 5 per cent., and the Negroes the relatively low figure of 4 per cent. In the American group there was 5 per cent. of alcoholic insanity. All the remaining races lumped together totaled 342 persons and showed 10 per cent. of alcoholic insanity, a relatively high figure, but still far below that attained by the Irish.

TABLE 2.—OCCURRENCE OF ALCOHOLIC INSANITY AMONG MEN OF VARIOUS RACES AND NATIONALITIES

	Irish.	German.	Negro.	Italian.	Jewish.	U. S.*	Other Races.
Number admitted..	127	110	42	75	249	118	183
Per cent. alcoholic insanity	30	12	9	8	1.2	5	15

* Children of native-born parents.

Now when we tabulate separately the men and women, we obtain figures even more striking. Among the men, Table 2, we find the Irish with 30 per cent. of alcoholic insanity—which is two and a half times greater than that found in the next highest group, the Germans. The Negroes and Italians show approximately the same percentage, while the Jewish figure is 1.2 per cent. (this figure represents three cases of alcoholic insanity, the total number found among the Hebrews). The American group shows 5 per cent. In the remaining composite group the figure 15 per cent. is again high.

TABLE 3.—THE INCIDENCE OF ALCOHOLIC INSANITY IN WOMEN

	Irish.	German.	Negro.	Italian.	Jewish.	U. S.*	Other Races.
Number admitted..	209	83	48	48	206	104	159
Per cent. alcoholic insanity	15	3	0	0	0	5	3

* Children of native-born parents.

The figures for the women, shown in Table 3, I regard as particularly interesting. Here the overwhelming frequency of alcoholic insanity among Irish women stands out clearly, as 15 per cent. of the Irish women admitted were suffering with alcoholic insanity. The next highest group is the American, with 5 per cent., while the German women are third with 3 per cent. Not a single case of alcoholic insanity was found among the Negro, Italian or Jewish women entering the hospital.

TABLE 4.—COMPARISON OF RACIAL STOCKS, BOTH SEXES

	Irish.	German.	Negro.	Italian.	Jewish.	U. S.*	Other Races.
Number admitted..	560	291	90	134	455	222	375
Per cent. alcoholic insanity	19	10	4	4	0.6	5	10

* Children of native-born parents.

In the last tabulation, Table 4, a comparison is made on a different basis. An attempt is here made to compare racial stocks and to disregard place of birth. Under the Irish, for instance, we include all the natives of Ireland and the first generation of children born in the United States of Irish parents. In a similar way the German and Italian groups are formed. As in the former tables, the Negroes and Jews are kept apart and form each a group, without regard to country of birth or length of time in America. Also, as in the previous tables, I have restricted the American group so as to comprise only those individuals whose parents were born in the United States. This table covers 2,127 cases, and the percentages obtained from this comparison are very similar to those shown in the first table. The Irish and their descendants rank highest, then follow the Germans, Americans, Negroes, Italians and Jews in the order named. This last table seems to show pretty definitely that about the same disposition to alcoholic insanity exists in the first generation of children born in the United States as in the foreign-born parents.

The figures for the Irish race demonstrate in a most convincing manner the tremendous rôle played by alcohol in the mental disturbances of these people. Unfortunately, we have no reliable data on the extent of alcoholic insanity among the Irish in their native land and natural environment. Regrettable differences in nomenclature and confusion as to what psychoses are to be designated as alcoholic, prevent our obtaining from Irish physicians any figures which might be compared with ours. The Irish working classes of our large cities, are, I believe, rather generally regarded as intemperate people and great whisky drinkers. One should remark that the Irish also, to a large extent, control the liquor traffic, or at least are among the chief dispensers of alcoholic drinks. Occupation is, however, probably not an important predisposing factor, as the high percentage of alcoholic insanity among the women speaks against this.

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[1] Our figures do not include cases of delirium tremens, which are, of course, true psychoses, but which are practically all cared for in the alcoholic division of Bellevue Hospital, thus rendering unnecessary their commitment to a state hospital.

The amazing prevalence of alcoholic insanity among Irish women must be viewed as a serious menace to the mental and physical health of these people and their descendants. I am inclined to believe that our figures mean that the Irish constitute the most intemperate element in our population and that their preference is for alcohol in the form of whisky. The question as to whether they are, as a race, unusually susceptible to alcohol, remains unanswered.

The Germans are evidently less intemperate than the Irish and drink more beer, which alone is far less dangerous to the mental health than the stronger alcoholic beverages.

The Italians, certainly in their native country, are generally regarded as a temperate people, with a preference for alcohol in the form of light wines. The low percentage of alcoholic insanity among those who come to this country is striking.

The low percentage of alcoholic insanity found among the Negroes was a surprise to me. I think that it is commonly believed that immorality and alcoholic excesses are prevalent among the negro dwellers in cities, especially the large communities of the North. That sexual immorality is common, is shown by the fact that among the admissions to the hospital the Negroes stand higher than any other race in general paresis, a disease of syphilitic origin. If alcoholism exists extensively in the colored race, it has not yet manifested itself in mental diseases of alcoholic origin.

The infrequency of alcoholic insanity among Jews has been noted by observers in various countries, even in certain localities where alcohol is taken excessively by these people. The Hebrews that emigrate to America are, I believe, as a class, remarkably temperate. On the other hand, I find that a good deal of alcoholism exists among American-born Jews, but as yet they show no more tendency to develop alcoholic insanity than did their more temperate ancestors.

The results of the study demonstrate that some races, particularly the Irish, are remarkably liable to develop alcoholic insanity, while others, notably the Jews, are almost free from mental disease due directly to alcohol. The question naturally arises: Are some races unusually alcoholic or are they merely more sensitive than others to the poisoning effects of this agent, and, therefore, more prone to break down with alcoholic insanity?

Besides the form and amount of alcohol consumed and the power of resistance possessed against its injurious effects, other important factors undoubtedly come into play, e. g., occupation, social customs, home environment, religious influences, etc., It is, therefore, evident that the causes for this apparent susceptibility of one race and relative immunity of another depend on a number of factors of rather complex nature and about which we should seek more knowledge. In the meantime the indications are pretty definite as to what elements of the community stand most in need of educational and prophylactic measures.

Bacterial Lineage.—"There could hardly be a better example of the scientific spirit than the application of the methods of biometry to those excessively minute organisms, the bacteria. Experiments in this relation marked the beginning of a new era in bacteriologic classification and nomenclature. There have been applied the methods used by anthropologists and students of variations and heredity to the definition of the species of bacteria. The results are, of course, technical in their nature, . . . but they have a broad general interest."—*Scientific American*, June 3, 1911.

CHRONIC PANCREATITIS IN ASSOCIATION WITH GALL-STONE DISEASE *

JOHN B. DEAVER, M.D., LL.D.
PHILADELPHIA

It is now well known, particularly among surgeons, that in close association of the pancreas and its ducts with the common bile-duct we have an arrangement which is responsible for many cases of pancreatic disease. Recently I have collected the reports of seventy-three of my own cases of chronic pancreatitis in which I have verified the diagnosis at operation. Of these, forty-seven (65 per cent.) showed demonstrable disease of the gall-bladder or biliary ducts. Thirty-five, or approximately one-half, had gall-stones at the time of operation. Mayo found gall-stones in 81 per cent. of his cases of pancreatitis and Robson asserts that pancreatitis is associated with stones in the common bile-duct in about 60 per cent. of all cases. From these and similar observations it has become evident, first, that pancreatic disease is far more common than has hitherto been supposed, and, secondly, that a potent cause of pancreatic inflammation is to be found in what Mayo has aptly termed the "unfortunate association of terminal facilities" of the liver and the pancreas.

The usual descriptions of the anatomy of the pancreas are incomplete in that they do not sufficiently recognize the remarkable variations in the anatomy of the organ. From the standpoints of pathology and surgery we are concerned not so much with the variability in size and form as with the variations in the ducts which drain the organ and in the influence which the usual as well as the anomalous modes of duct-formation exert on ascending infection of the pancreatic tissue and the possibilities of drainage of the normal and pathologic fluids and exudates in conditions of inflammation or obstruction. The more recent studies of Schirmer and of Opie have greatly added to our knowledge of the anatomy of the ducts. Opie, in a series of one hundred cases studied with reference to this point, found both the duct of Wirsung and that of Santorini constantly present. In ninety cases the two ducts had an anastomotic connection. In the remaining ten the ducts were independent and with reference to their size were equally divided in number, in five instances the duct of Wirsung being larger, in the remaining five the duct of Santorini predominating in size.

In the ninety cases in which the ducts were joined within the substance of the gland, the duct of Wirsung was the larger in eighty-four cases, while the duct of Santorini was greater in only six cases.

The duct of Wirsung was found patent in every case. The duct of Santorini was not patent in twenty-one cases, while in more than half of all individuals it was either completely occluded or so narrow as to be incapable of assuming the function of the larger duct when occluded.

In considerably more than one-half the specimens both ducts were patent and the duct of Wirsung which unites with the duct of Santorini was larger than the latter. The usual description of the arrangement of the ducts, therefore, holds true in the majority of cases, but there is still a considerable proportion in which an anomalous arrangement may present a more or less favorable mechanism for the production and maintenance of pancreatic inflammation.

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* Read before the Hospital Graduates' Club of New York City, April 27, 1911.

The relation of the choledochus with the pancreas and its ducts is also variable and that variability may be the cause of symptoms which differ in kind and severity. Helly has shown that in approximately two-thirds of all cases the common bile-duct penetrates the head of the pancreas and is completely surrounded by pancreatic tissue. This gives us the well-known explanation of the production of jaundice by swelling of the head of the pancreas. Well-founded observation has now shown that at least a percentage of the cases of so-called catarrhal jaundice are thus produced by occlusion of the duct by the enveloping pancreatic tissue swollen as a result of some inflammatory process.

The origin in embryo of the common duct in close contact with the ventral pancreatic outgrowth is shown in adult life by the close connection of the choledochus and the duct of Wirsung at their terminations. They penetrate the coats of the duodenum side by side and pass obliquely through the wall to end in the majority of instances in the diverticulum of Vater which discharges by a single opening into the intestine. Rarely they open separately. It is evident, therefore, that a gall-stone passing down the choledochus must produce more or less disturbance of the duct of Wirsung when it lies in immediate relation to it. This may occur as more or less complete occlusion by the stone pressing directly on the pancreatic duct through the walls of the common duct, or by the extension of the inflammation caused by the passage of the stone to the pancreatic duct and adjacent tissue. A rarer mode of disturbance is exemplified by Opie's classical case in which the papilla of Vater was closed by a small stone, thus causing the retrojection of bile directly into the pancreatic duct which set up a fulminating and fatal pancreatitis.

At times calculi may be present in the common duct in close proximity to the pancreas for a considerable period. It is practically inevitable in such cases that the pancreas should be involved in the resulting inflammation.

There are three points at which such chronic lodgement is apt to occur. The first is at the point where the common duct plunges into the head of the pancreas. This is effective in only about two-thirds of all individuals as previously indicated from the anatomy. The second marked constriction is at the point where the duct penetrates the wall of the intestine, and the last and most marked obstacle is the narrow outlet of the papilla of Vater.

It is not necessary that stones be present in order to have infection of the pancreas or its ducts from the biliary apparatus. In twelve of my cases no stones were found, nor did the history indicate that any had been passed. There was present, however, a more or less marked non-calculous cholecystitis and cholangitis.

Doubtless it is unfair to assert in every instance in which biliary and pancreatic disease is found coexistent that the pancreatic inflammation is always transmitted from the biliary tract. The pancreas can be infected alone. In twenty-two cases of chronic pancreatitis I have found the biliary tract uninvolved at the time of operation. It is stretching the facts to assume that in these cases the pancreatic disease had been initiated by cholangitis which later disappeared. While this is possible, there is one important observation which seems to cast doubt on it. This is the fact that in simple chronic pancreatitis unaccompanied by gall-stones the incidence according to sex is reversed. In thirty-eight such cases elsewhere reported by me, there were twenty-two males and sixteen females. That this is not a chance finding is corroborated by Opie and by Böhm, both of whom observed the same preponderance among males. In view of the more frequent affection of the biliary passages among females this lack of parallelism further strengthens our belief that there exist certain cases of pancreatitis which are primary and in no way to be attributed to an antecedent inflammation of the bile-passages. If Desjardins is right in his belief that the same infection arising in the intestine and traveling up the bile and pancreatic ducts will in the former produce a stone-forming catarrh and in the pancreas will cause a chronic interstitial inflammation, it would seem to follow that the pancreas is more susceptible to ascending inflammation than are the bile-passages, and this would further square our finding with the fact that duodenal catarrh is more common in the male than in the female sex. We have long ago concluded that by far the greatest number of cases of inflammation of the bile-passages are hematogenous in origin, the bile being infected chiefly by the bacteria carried to the liver through the portal vein and by the liver excreted into the bile, which, so far from being strongly antiseptic in action, is now known to be an excellent culture medium for many bacteria. The pancreas is provided with no such circulatory apparatus as the liver and is thus guarded from infectious material carried from the intestinal tract, except through the roundabout circuit of the systemic circulation.

Primary uncomplicated pancreatitis is, therefore, most probably ascending in origin. This statement refers, of course, not to those infections which are clearly systemic, such as the characteristic syphilitic pancreatitis, or to that form of interacinar inflammation which affects the whole gland and, while its cause is not definitely known, seems to be more closely related to systemic causes. It refers only to those cases in which the inflammation is confined chiefly to that part of the pancreas which is in close proximity to the duodenum, producing a hard, nodular enlarged head of the organ without disease of the biliary tract.

While admitting, therefore, the existence of a primary pancreatitis probably of ascending origin, it is nevertheless true that the majority of inflammations of this organ owe their existence to previous cholecystitis and cholelithiasis; until the common duct becomes diseased it is rare for the pancreas to be greatly affected. The close relation of pancreatic inflammation to disease of the common duct is shown also in the fact that it is relatively rare for the entire pancreas to show chronic changes. The head is mainly and often exclusively involved, and particularly that portion of the head which lies in the triangle formed by the duodenum as a base and the two ducts as they converge from their outlets to the point of anastomosis within the gland. This is the so-called triangle of pancreatic inflammation.

That there is a more or less definite relation of the anatomical peculiarities of the ducts to the ease of infection and the severity of its manifestations is undoubted, but as yet we are able to bring but few clinical observations to illustrate the point. It must be true that the larger the accessory duct and the more capable it is of carrying on the excretory function of the gland the less is the liability of serious damage by gall-stones and their complications. It appears unfortunate that this arrangement occurs in only a minority of the cases.

The symptomatology of the milder grades of pancreatic disease is not yet sufficiently definite to enable one to recognize it in all instances. It is, moreover, so similar in many respects to that of biliary infection and cholelithiasis that it may be difficult or impossible to determine before operation whether or not the pancreas is affected. Chronic pancreatitis alone may exactly simulate the well-known picture of gall-stone disease. Even the distinctive Charcot's syndrome of hepatic intermittent fever may be produced by chronic pancreatitis.

One recent instance which I have not included in the statistical part of this paper may be outlined here:

History.—Mrs. E. M., aged 52, was admitted to the Hospital of the University of Pennsylvania complaining of severe recurring pains in the right epigastrium. About five years previous to admission she had several attacks of typical gall-stone colic for which she was operated on in Baltimore. She was told that gall-stones were found and a biliary fistula was made which drained for five weeks. Within a few weeks after the operation she again began to have attacks of pain in the region of the scar which were at times associated with vomiting, jaundice, chills and fever. She was told that she had malaria. The paroxysms of pain were so severe that she would writhe in agony on the floor and required large doses of morphin for relief. There was no periodicity observed in the attacks which gradually became more frequent. The vomitus was small in quantity, biliary in character, never blood-tinged. The bowels were fairly regular and the movements usually light in color. Her complexion was chronically sallow, deepening to saffron with attacks. In her previous history she had had several attacks of malaria, many years ago, and typhoid fever at 16 years of age. Seventeen years previous to admission to the hospital she had had what the doctors called "bowel consumption," characterized by an intractable diarrhea lasting several years, which reduced her weight to 69 pounds. Her best weight was 115 pounds.

Examination.—On admission she was emaciated, weak and the skin and conjunctivæ showed a slight icteric tinge. The next night she had an attack of pain with nausea, followed by distinct deepening of the jaundice. The epigastrium was so excessively sensitive that she would not permit deep palpation. Muscle spasm was present in the epigastrium. The lower abdomen was soft. The urine showed a faint trace of albumin and was positive for urobilin. The hemoglobin was 60 per cent. and the leukocytes 2,331 per c.mm. With the abdominal walls relaxed by the anesthetic before operation there was easily felt in the midepigastrium a firm rounded mass, which was freely movable in all directions through a radius of about 2½ inches. From the physical character of this mass the possibility of pyloric carcinoma was entertained.

Operation.—On opening the abdomen, the movable mass proved to be the greatly indurated and nodular head of the pancreas. The common duct, which was considerably dilated, was opened and together with the hepatic ducts was explored for stones and found free. The gall-bladder was opened and found to contain only thickened tarry bile. Drainage was instituted from both the gall-bladder and the common duct.

Postoperative History.—The drainage, which was scanty for the first few days, gradually became more profuse and normal in color. Convalescence was uneventful. There were no further attacks. Icterus disappeared and the patient began to gain in weight even before any bile was discharged into the bowel. She left the hospital at the end of a month with a small biliary fistula almost closed. Dr. George Stump of Perryville, Md., who kindly referred this patient to me, tells me the patient is well, eating heartily and taking on flesh.

The chief points of interest in the case are: (1) the onset shortly after operation for gall-stones, or perhaps we should say the persistence of pancreatitis after operation, for it is more than likely that the pancreatitis began during the attacks of cholangitis and gall-stone colic preceding operation; (2) the simulation of the symptoms of stone in the common duct by simple pancreatitis, and (3) the very satisfactory effect of hepatic drainage on the disease.

Pancreatitis is a disease of adults, the average age in my cases being about 44 years, and the extremes, 23 and 65 years. The predisposing causes are chiefly the same as those of gall-stone disease and the early history is that so well summarized by Moynihan in his address on "The Inaugural Symptoms of Gall-Stones." It would be interesting and valuable to determine with exactness the onset of pancreatitis as a complicating factor in gall-stone disease, but this is a practical impossibility. We may have a presumptive diagnosis of pancreatitis which will prove to be correct in the majority of instances when the symptoms point unmistakably to severe or repeated involvement of the common duct. It is quite likely that we frequently ascribe symptoms to disease of the biliary tract alone which are in reality the result of coexisting disturbance of the pancreas. It is but a few years since the pancreas was entirely neglected in the examination of the contents of the upper abdomen, and the surgeon who discovered disease of the bile-passages was quite content to explain all the symptoms on this basis. Now, when we make palpation of the pancreas a routine part of upper abdominal exploration, it is not uncommon to find evidence of disease that must certainly have been accompanied by clinical signs. The task of separating signs pancreatic from signs hepatic, cholecystitic or duodenal is not an easy one.

The recognition of chronic pancreatitis depends on three separate branches of inquiry: (1) the clinical history; (2) the physical examination; (3) the special tests for disturbed pancreatic function.

In the simple uncomplicated forms, chronic pancreatitis usually begins with disturbance of digestion which may take the form of discomfort, flatulence or pain after eating. If there are any particular articles of diet which are not well borne they are apt to belong to the carbohydrate class. The relation of pain or discomfort to the taking of food is an inconstant one. Periodicity of attacks is not marked as in duodenal ulcers. Subjectively the pain is not characteristic, nor are its location or paths of radiation distinctive. Nausea and vomiting usually occur at some time in the disease, but usually with the more acute exacerbations and at irregular intervals. Jaundice is present or has been noted previously in about two-thirds of the cases. Constipation is the rule. It is seen at once that among these symptoms there is none that may not apply as well to biliary disease as to pancreatitis. Hence the difficulty of surmising to which condition given symptoms are due.

The foregoing statements I have based on a careful analysis of the symptoms in sixty cases of chronic pancreatitis, half of which were complicated by gall-stones, while the remainder were not associated with stones. A partial summary follows:

TABLE OF PANCREATITIS FINDINGS

	Thirty Cases Complicated by Stones	Thirty Cases Uncomplicated
Male	7	17
Female	23	13
Acute severe pain	17	17
Jaundice	21	10
Vomiting	16	17
Belching	12	9
Previous indigestion	9	14
Recurrent attacks	29	21
Indigestion between attacks	8	9
Colicky pain	8	9
Seat of Pain:		
Epigastrium	20	15
Right costal margin	16	12
Left costal margin	3	1
General abdominal	..	1
Lumbar	1	2
Referred Pain:		
Right shoulder	12	8
Left shoulder	4	2
Back	14	8
Tenderness:		
Right costal margin	24	18
Left costal margin	3	4
Epigastrium	10	11
Gastric Contents, Free HCL:		
Normal	8	2
Subnormal	8	13
Above normal	1	1

In the diagnosis of chronic pancreatitis the physical examination is not of great service. Occasionally in thin subjects under favorable conditions, the pancreas may be felt lying transversely across the midepigastrium. The greatly swollen head of the organ may at times be palpated and during exacerbations it is exquisitely tender. Rigidity of the overlying muscles usually prevents detection of a mass when inflammation is marked. A sense of resistance or indefinable mass in this situation is sometimes helpful. A point which has interested me is the mobility of the organ. We are apt to suppose that the pancreas is quite securely fixed in its retroperitoneal situation. It may, however, possess a considerable degree of mobility, especially in emaciated patients, when the loose areolar tissue behind the peritoneum has been stripped of its adipose packing. In such circumstances a palpable pancreas may be moved about at will much like a pyloric tumor. This is true only of inflammatory enlargements. Malignant disease fixes the organ immovably in position by infiltration of the surrounding structures.

Simple tenderness in the epigastrium is a very misleading sign. Unless it is well marked but little attention should be paid to it. When it is clearly pathologic it may be due to other causes than pancreatitis. In the above table it was noted in about one-third of the cases, and when clearly localized to the region of the head of the pancreas it may be given weight as a confirmatory sign.

The gastric analysis in my experience has usually shown a subnormal acidity in simple pancreatitis while in the presence of stones the acid content is more likely to be normal or higher.

In the absence of signs and symptoms by which we may establish the existence of coexistent disease of the pancreas we have turned to various devices intended to demonstrate whether or not the function of the organ is disturbed.

It is well known that carbohydrate metabolism is closely dependent on the pancreas. Starch digestion is chiefly accomplished by the amylopsin of the pancreatic secretion, while all carbohydrates after their absorption as sugar depend for their utilization within the body on the presence and functional activity of the pancreas. Furthermore, we have reason to believe that it is the islands of Langerhans which are invested with this special function. Evidently disease of the pancreas of sufficient degree to disturb these bodies should give rise to an alteration in the behavior of the body to carbohydrates.

In two of my cases (7 per cent.) there was slight but persistent glycosuria. I have seen still other instances in which glycosuria was demonstrated during exacerbations of pancreatitis, disappearing during the interval.

The assimilation limit for carbohydrates may be lowered in still other cases which, under ordinary diet, do not show glycosuria. That this symptom is not more commonly associated with pancreatitis is fortunate and due chiefly to two facts. First, a small amount of normal pancreatic tissue with its central islands is capable of maintaining the internal carbohydrate metabolism. The body or tail of the organ may be found quite normal even when there is marked chronic inflammation of the head. Secondly, Opie has shown that there are two chief varieties of chronic pancreatitis, the interlobular and the interacinar. In the former type the sclerosis affects almost exclusively the interlobular septa and the central portion of the lobules are protected for a long time. Thus the islands of Langerhans are saved from injury. In the interacinar type the fibrous tissue invades the lobules themselves and may early attack the islands, causing atrophy or hyaline degeneration. It is the interlobular type, which is less dangerous for the islands, that is most likely to follow obstruction to the pancreatic duct and such inflammations as result from gall-stones and biliary infection.

That there is a danger of diabetes even here is shown by my observations and those of other workers in this field. The demonstration of sugar in the urine in connection with symptoms of an organic lesion in the upper abdomen give conclusive evidence for the belief that the pancreas is diseased.

A more complicated test which appears to depend on similar facts is that devised by Cammidge. This consists in the demonstration in the urine of certain crystals which are typical in form and solubility and are believed to be derivatives of a pentose. While I have not been so fortunate as the author of the test in obtaining positive reactions in chronic pancreatitis I have found it constantly present in acute pancreatitis and in the more severe exacerbations of chronic pancreatitis.

In this series the reaction was positive seven times (25 per cent.), negative twenty-one (75 per cent.).

Examination of the feces is important. The typical, large, fatty, diarrheal stools to which the term steatorrhea is applied, is very strong evidence of insufficient pancreatic function. This typical stool, however, is present only in late and extensive disease of the organ. I have already stated that constipation is the rule. Undigested muscle fibers (azotorrhea), if marked, possess some significance, though care must be exercised in interpreting this finding. The presence of an excess of neutral fat or of both neutral and split fats when stercobilin can be shown chemically to be present in the feces is a point in favor of deficient pancreatic secretion.

It is well to note that clay-colored stools do not mean absence of bile, since a large amount of unabsorbed fat and fatty acids will give the same appearance. If stercobilin can be demonstrated chemically it will prove that bile is being discharged into the intestine and that the chief source of the digestive disturbance is not the liver or its ducts, but the pancreas.

I have not made use of the various tests for demonstrating pancreatic ferments in the gastric and duodenal contents and feces. The ferments act in such incredibly small amounts that until pancreatic disease is very marked it seems to me that the ferments must be present in the intestine. When they become so deficient that their lack is recognized *in vitro* it may also be recognized by the grave and characteristic disturbances of digestion. Duodenal tubes and buckets I regard as ingenious toys which as yet have not justified their existence from the standpoint of practical results. No one could be more willing to welcome this assistance in diagnosis and indicating treatment than I, but at present their chief function appears to be the production of income and the delay of surgery.

To recapitulate briefly: Chronic pancreatitis may be suspected of having complicated gall-stone disease when the symptoms point to severe recurrent disease of the choledochus with marked emaciation and disturbance of the carbohydrate metabolism or evidence of insufficient action of the pancreatic ferments on the food in the intestine.

This liability of the pancreas to involvement by gall-stone disease is a strong argument for early operation in biliary infections or cholelithiasis.

The treatment of chronic pancreatitis itself is closely bound up with the surgery of the bile passages. In the surgical treatment of chronic pancreatitis Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and, through this outlet, drainage also of the pancreatic ducts would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment and, though it may seem roundabout, its efficacy has now been demonstrated too often to admit of a question. The easiest and most advantageous method of providing drainage is by a cholecystostomy. If for any reason this is impracticable, drainage of the common duct should be done. At times when the closure of the common duct is complete and likely to be lasting a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or more weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long such an opening will remain patulous is a question, for I have reoperated on patients on whom this operation had been performed and found the opening closed. It should not be forgotten also that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy.

Pancreatitis was formerly regarded as a most dangerous complication of cholelithiasis from the operative standpoint. This doubtless was due to the fact that only the most extreme cases were recognized. In the present series I lost only one patient. The argument for operation is all the stronger if pancreatitis is present, as the danger of chronic invalidism or death is even more pressing.

In spite of optimistic reports and some results of my own which seemed astonishing, I am not inclined to give too rosy a prognosis as to complete recovery in cases in which long-continued disease has caused marked sclerosis of the pancreas.

The best cure for pancreatitis is prevention, which means earlier intervention in calculous and non-calculous disease of the bile-passages.

1634 Walnut Street.

TRAUMATIC TETANUS

RECOVERY FOLLOWING THE ADMINISTRATION OF TETANUS ANTITOXIN

EDWARD N. LIELL, M.D.

JACKSONVILLE, FLA.

The following history evidences the successful use of tetanus antitoxin despite decided symptoms of lockjaw being manifested for three days antedating its use. Fifty-five thousand units of antitoxin were given in all.

History.—Jesse C., aged 10, was admitted to the isolation ward at St. Luke's Hospital, Jan. 5, 1909. He gave the usual history of traumatism, having been injured twelve days previously by the reckless use of a toy pistol, a portion of the wad and blank cartridge lacerating the middle finger of the right hand. On the ninth day following the injury, symptoms of rigidity of the muscles of the lower jaw developed, with slight convulsive seizures; subsequently, the muscles of the neck, chest and back became implicated. On the day of admission, at 2:30 p. m., he had a decided convulsion, which was repeated an hour later. At this time, the wound, of a charred character and but partly healed, was thoroughly excised and a bichlorid dressing applied.

Treatment and Course of Case.—At 4:30 p. m., I injected 5,000 units of antitoxin serum in the muscles over the right shoulder-blade; an enema of normal salt solution was also given.

January 6, 11 a. m., 5,000 units were again injected. Repeated convulsions lasting from a few seconds to two minutes occurred through the night; the patient slept at intervals only; though nourishment was refused, he took water frequently through a tube. At noon, he had a convulsion lasting a full minute. At 4:30 p. m., I injected 3,000 units; 1 pint enema of salt solution was also given.

January 7, 11 a. m., the patient slept at intervals through the night; muscles were contracted but not as rigid as the previous night. He had four convulsions within the past twelve hours; 3,000 units were again injected at this time. Five p. m.; the patient has had light convulsions almost every half-hour since noon; 3,000 units antitoxin were again injected.

January 8, 11 a. m., numerous convulsive seizures occurred during the night, varying in intensity from a few seconds to two minutes; the patient was very restless; refused both nourishment and medication, the latter being chloral and sodium bromid 10 grains each dose; he took water, however. I again injected 3,000 units of antitoxin. Seven p. m.; the patient had several convulsions since noon, one lasting eight minutes though not formidable in character; 3,000 units antitoxin were injected at this time.

January 9, noon, the patient had several severe convulsions through the night; he was very restless, the nurse being obliged to give morphin 1/8 grain hypodermically, as well as 20 grains chloral, per rectum, to control restlessness; 3,000 units antitoxin was injected. Seven p. m.; the patient had frequent light convulsions through the day. For the first time since the onset of convulsions, the muscles of the jaw and neck relaxed somewhat, so that the teeth could be separated 1 inch; 3,000 units were again injected.

January 10, 11 a. m., the patient had through the night eleven seizures, several of which were severe; however, he slept peacefully nearly an hour at one time; 3,000 units were again injected. Eight p. m.; there were several paroxysms during the day, though lighter in character; 3,000 units were injected.

January 11, 10 a. m., patient turned himself in bed, sleeping comfortably on the left side for three hours, with jaws relaxed, without any convulsive seizures during that period of time; he also flexed his limbs voluntarily; however, with this favorable turn in view, I injected 3,000 units. Eleven p. m.; several slight seizures occurred during the afternoon, followed by two severe convulsions about 10 p. m.

January 12, 11 a. m., the patient had seven light seizures through the night, but awoke feeling better; nevertheless I injected 3,000 units. Seven p. m.; paroxysms have been few and light through the day; the patient slept at intervals; 3,000 units were again injected.

January 13, 11 a. m., the patient slept better than usual through the night; turned over himself in bed this morning, asking for nourishment; only 1,500 units were injected this time. Eight p. m.; paroxysms have been light and far apart; the muscles of the jaw and other muscles are more relaxed; 1,500 units were injected.

January 14, 11 a. m., the patient had three severe convulsions through the night, though otherwise he slept well; 1,500 units were again injected. Eight p. m.; the patient had a comparatively quiet day, so no injection was given at this time.

January 15, 11 a. m., only two light seizures occurred during the night; the muscles were much more relaxed; the patient is less sensitve to touch and noise; 1,500 units were injected at this time. Eight p. m.; paroxysms have been few and superficial through the day. Twenty grains chloral were ordered to be given in place of the antitoxin injection.

January 16, the patient had a good night; occasional muscular contractions only occurred during the night; chloral was repeated for the night.

January 17, no paroxysms occurred during either night or day. The patient sat up in bed half an hour. Chloral was stopped.

January 18, the patient slept well all night. He is now sitting up in bed; feeling very hungry, but somewhat annoyed by itching of the skin over the seat of the various injections.

From this time on the patient improved rapidly, having no further muscular contractions or paroxysms. The temperature ranges were from 99 to 101, the latter being on January 9, the seventh day of the convulsions and the sixteenth day following the time of injury. The pulse-rate varied from 84 to 122, the latter being on the 10th; while the respiration varied from 20 to 46, the latter being on the 9th, the date of highest temperature. The patient was discharged from the hospital, well, January 24.

In the statistics at my command referring to traumatic tetanus, the result of Fourth-of-July wounds, out of 350 collected reports of cases, but seven patients are positively known to have recovered. This gives a mortality of 98 per cent. Of these seven cases in which recovery was reported, in five prophylactic treatment had been resorted to before the toxin of tetanus had time to permeate the nervous system. In the other two cases, satisfactory results were attained despite decided symptoms of lockjaw manifesting themselves.

I am well aware of the general teaching advocated through the various state boards of health bulletins that, when tetanus has once developed, antitoxin is practically useless. Yet here is another instance in which recovery followed its administration, the intramuscular method being used because of its simplicity, 55,000 units being administered in all, the first injection being given three days after symptoms of lockjaw had manifested themselves.

140 West Monroe Street.

INFLUENZAL MENINGITIS AND ITS SERUM TREATMENT *

SIMON FLEXNER, M.D.

NEW YORK

That influenzal cerebrospinal meningitis is by no means a rare affection is being shown by the increasing number of reports of its occurrence. Within a few months, in the United States alone, reports dealing with the subject have been published by Wollstein, Dunn, and Davis. Moreover, the disease is highly fatal. All but six of the fifty-eight cases thus far reported in which the influenza bacillus has been detected in the cerebrospinal fluid, have terminated fatally.

Influenzal meningitis is more frequent among infants and children than among adults. It sometimes follows on undoubted influenza bacillus infections of the respiratory tract, and sometimes develops independently of obvious disease of that tract. Since the influenza bacillus is often present in the secretions of the respiratory mucous membrane in children, suffering from a variety of diseases, during the wide prevalence of influenza, it is probable that the infection of the meninges is always secondary to the respiratory infection. Moreover, all or nearly all cases of influenzal meningitis are examples of bacteriemia, since the bacilli have frequently been cultivated in large numbers from the blood during life or at autopsy.

The fact of the frequency and severity of influenzal meningitis was impressed on us at the Rockefeller Institute, where, for a period of several years, large numbers of specimens of cerebrospinal fluid have been examined bacteriologically in connection with the studies being conducted there on the serum therapy of epidemic meningitis. All the cases diagnosed by us as influenzal meningitis terminated fatally.

We undertook, therefore, the experimental investigation of this highly fatal disease. Dr. Wollstein was able to show, first, that the injection of virulent cultures of *Bacillus influenzæ* into the subdural space of several species of monkeys by lumbar puncture would set up a severe and usually fatal form of acute cerebrospinal meningitis that reproduced the clinical and pathologic effects observed in the spontaneous disease occurring in human beings. The effects of the inoculations begin to be apparent about five hours after the injection, and death may result as early as thirty-six hours after the inoculation, or it may be delayed for three or four days. The microorganisms multiply actively and pus cells are quickly poured into the membranes, but few or none of the bacilli are taken up by the cells. In human cases some of the bacilli are found inside cells, but the greater part also remain free in the fluid. From the subdural space the bacilli pass freely into the blood-stream and sometimes secondary localizations take place in the lungs and pleuræ, where inflammations are produced.

The experimental production of an influenzal meningitis was regarded merely as preliminary to the attempt to influence the course of the infection by means of the local application of a therapeutic agent. An efficient one for the experimental infection has been found in an immune serum prepared in the goat by the long continued, repeated injection of virulent cultures of *Bacillus influenzæ*. Dr. Wollstein is reporting in detail on this phase of the subject in a forthcoming number of the *Journal of Experimental Medicine*.

It has been found possible to rescue monkeys regularly from the fatal effects of the subdural inoculation of cultures of the influenza bacillus through daily injection, by means of lumbar puncture, of the immune serum for three or four days. Serum injections produce an arrest of the multiplication of the bacilli and bring about a free phagocytosis, with which is connected the cessation of the emigration of leukocytes and a consequent clearing of the cerebrospinal fluid. The fluid, at first turbid or purulent, tends to return to clear in three or four days, while cultures which are at first abundant become negative in that period or a little later. The bacteriemia is also brought under control and the secondary localization of the bacilli in the organs prevented. Recovery is, therefore, complete.

In view of the severe conditions surrounding influenzal meningitis in human beings, it would seem desirable to apply the serum to the treatment of the spontaneous disease. If this should be done, then every effort should be directed to the making of the bacteriologic diagnosis at the earliest possible moment, and the employment of a serum that has been prepared with virulent influenza bacilli and that shows a high degree of opsonic value. The manner in which the serum should be employed in human beings is indicated by the manner in which the serum for epidemic meningitis has come to be applied successfully. The testing of the anti-influenzal serum will be confined, for the present, to a few places in which its effects can be carefully observed and controlled before it is offered for more general use.

Sixty-Sixth Street and Avenue A.

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* From the Laboratories of the Rockefeller Institute for Medical Research.

THE ETHER RAUSCH

A SAFE AND CERTAIN METHOD OF PRODUCING BRIEF GENERAL COMPLETE ANESTHESIA WITH ETHER

WILLIAM T. COUGHLIN, M.D.
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ST. LOUIS

I know of no perfectly satisfactory anesthetic; and that surgeons in general are not quite satisfied with our means of making surgery painless is shown by the many anesthetics, both local and general, with their various methods of administration. Each method and every anesthetic has its enthusiastic advocates, but I suppose that all agree with me when I say that an ideal anesthetic has yet to come into common use.

When in general practice I often felt the need of a safe method for producing brief general complete anesthesia for certain minor surgical operations. I shall, therefore, give, for the benefit of the general practitioner, a simple description of the technic of administration of, and my experience with, the ether *Rausch*. It may be that the method here described and advocated is one already used in certain clinics in our country, but I have talked with many, from all or nearly all of our principal cities, and I have met only one—Dr. Kelly of Cleveland—who had seen it used in the United States. Dr. Kelly informed me that the method had been in use in this country twenty-five years ago. Why has it fallen into disuse?

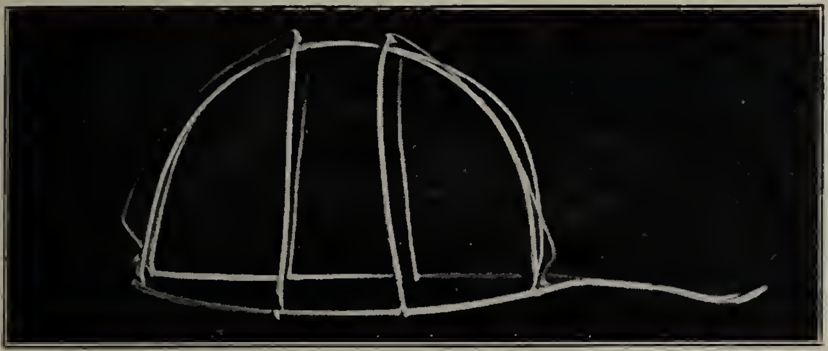

Fig. 1.—Wire frame of mask large enough to fit the face.

It is true that in some text-books on surgery attention is briefly called to the fact that a stage of primary anesthesia occurs early during the administration of chloroform and ether. Da Costa says (quoting Packard) that such is the case but that the primary anesthesia so induced lasts only half a minute. The anesthesia induced by the ether *Rausch* is profound, general and complete and it lasts at least three minutes and usually more than five. There is no nausea, vomiting or other unpleasant effect. As the patient begins to recover the mask may be reapplied and the anesthesia renewed, although this is rarely necessary.

Being in Dresden, I visited the clinic of Lindner one morning, and the subject of anesthetics came under discussion. I was an enthusiast for local and regional anesthesia, for I had watched with great interest the methods of Professor Reclus in Paris. I never saw anyone who knew so much about anesthesia in general and local anesthesia in particular as Professor Reclus.

I was asked by Professor Lindner whether I had ever used the *Aether Rausch*. I confessed that I had never even heard of it. He asked the assistant if there happened to be a case that morning on which it might be used and the latter replied that there was a large cervical abscess. Lindner therefore proceeded to illustrate his method—a method which he had then used, he believed, more than 5,000 times. The patient was placed on the table as for an ordinary anesthetic. All instruments, drains and dressings, etc., likely to be used were ready and close at hand. All those present were requested to be silent. The anesthetist took the mask—a large wire affair, such a one as that shown in the illustrations—and showed it to the patient, told the latter what was to be done, and admonished him to have no anxiety or alarm, explaining that the only unpleasant feature was the smell of the ether. The patient was asked to raise his arm and to keep it raised as long as he could. Meanwhile the pad at the bottom of the mask was saturated with ether, the mask was placed in position and the patient was told to breathe deeply. At about the twelfth inhalation, the arm wavered and began to fall; the mask was removed and at once the operation was begun and quickly finished. In a very short space of time three drains had been inserted and fixed in position. I was spell-bound. The mask had been removed at the first incision and the patient, though somewhat cyanosed, remained quiet. The cyanosis speedily disappeared; the patient opened his eyes, looked foolish, laughed, and asked where he was. Twenty minutes or so afterward we saw him as we passed through the ward; he was eating his dinner and seemed none the worse for his operation. He assured me that he had felt no pain whatever.

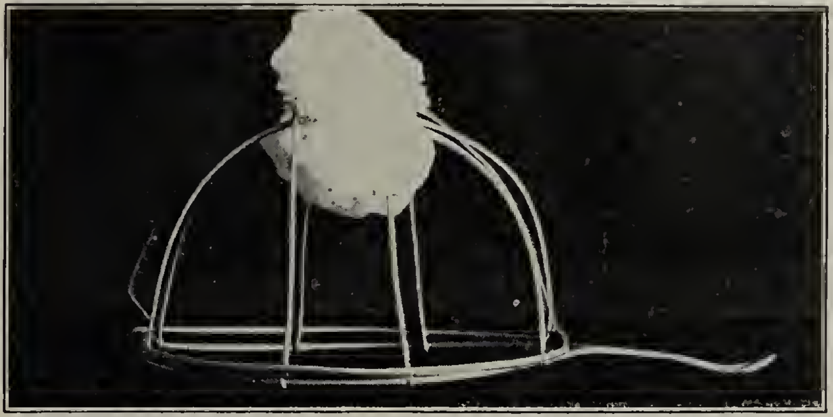

Fig. 2.—The same, with pad of gauze in position.

The method of Lindner is that until recently used by me at the Washington University Hospital and now used by me at the College Clinic, St. Louis University Medical School.

Every surgeon engaged in clinical or consultant practice sees almost daily cases in which the timely and thorough performance of some minor surgical operation would in all probability have effected a speedy cure. He sees many in which attempt at operation has been made, but without the success which the patient and perhaps the doctor expected.

I believe that in nearly all these cases the physician first in attendance knows what he wants to do. He realizes, for example, that a free early incision with efficient drainage is urgently indicated in a palmar phlegmon, but he does not like to subject his patient to the risk of a general anesthetic or one which necessitates the expense of an assistant, and his patient is not willing to have any extra expense. He uses a local anesthetic, perhaps novocain, cocain or ethyl chlorid. Now you who have used these know that when tissues are acutely inflamed one is likely to cause a good deal of pain when applying the local anesthetic; and, furthermore, after having applied the local anesthetic one is usually far from having secured a complete anesthesia. The surgeon uses a local anesthetic and inflicts pain when operating. The patient struggles or cries or orders him to desist. At any rate, the surgeon ceases before the operation is as well done as he could wish—before it is properly done. The case drags on with him. The process is perhaps repeated several times. The patient at last seeks relief elsewhere and the reputation of the first in attendance suffers in consequence.

It is in these cases that I advocate the use of the ether *Rausch*. I have used it now in more than two hundred cases, in the clinic, in the office and in the home. I have used it in cases in which I have had plenty of assistants and also in a few cases in which I have had to act both as anesthetist and as operator. I have never failed to secure complete anesthesia, except in cases in which the patient refused to proceed beyond the first two or three inhalations.

The *Rausch* may be given in a variety of ways; no special appliance is necessary. The principle to remember is this: that the ether is to be administered with very little air; the air must be excluded as much as possible. I have used it in the home by means of a couple of wet towels rolled in the form of a hollow cylinder or cone with an ether-saturated towel or cotton-wool over the upper end. Often I have used an ordinary derby hat. This is made to fit the patient's face closely by means of wet towels placed around the edge, and wet towels are placed around the sides and over a portion of the top; the wet towels exclude the air better.

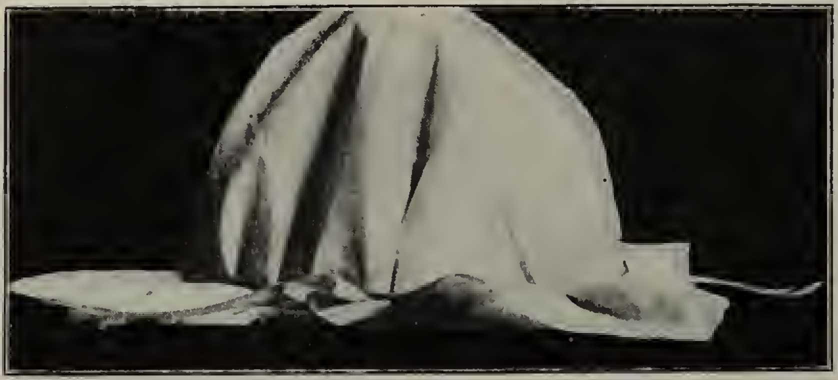
Fig. 3.—The same, now covered with oiled silk.

I have tried the ordinary open mask in many cases. My objection to it is that I have never found it satisfactory. That it takes more time may seem a trifling objection; but the patient often becomes much frightened and refuses to proceed. The parents or relatives fear that the patient is to be completely anesthetized and become alarmed. The patient often becomes sick at his stomach, something I have never seen happen either during or after the *Rausch*. Furthermore, with the open mask it is difficult to tell just when primary anesthesia has been induced because the arm sign fails, the arm falling through fatigue.

I have been using the *Rausch* now for over two years; I have used it more than two hundred times. I recommend its use in all minor surgical operations which can be better done if the patient feels no pain. I have used it in opening abscesses, setting fractures, reducing dislocations, removing ingrown toe-nails, etc., etc.

I would not use it in the presence of chronic bronchitis, emphysema, marked arteriosclerosis or generally in disease of the pulmonary or cardiovascular system. Nor would I use it in any case in which the operation required more than five minutes' time to perform, or in those in which general relaxation is necessary. Neither would I use it in those pale, flabby children in whom one fears to encounter the "status lymphaticus."

Metropolitan Building.

A NEW SPLINT FOR TRACTION AND COUNTER-TRACTION IN FRACTURES OF THE HUMERUS *

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WATERBURY, CONN.

Traction and counter-traction in the treatment of the femur as devised by Buck fifty years ago was so simple, effective and satisfactory, that no substantial improvement thereon has been made, or is needed.

Traction and counter-traction in the treatment of fractures of the humerus, while not so universally necessary, is often desirable, and sometimes essential. Its need is expressed by Scudder, Eisendrath, and other American writers, without offering practical means for meeting it. Bardenheuer, of Cologne, has exploited and developed the application of traction and counter-traction to every part of the body, giving most elaborate details for its execution. His apparatus for the arm, however, is very complicated and unwieldy. Modifications of it have been offered by various German surgeons, the most ingenious and available being that of Hoffmann, who adapts the Mitteldorpf triangle into a rhombus. The only ingenious and practical device I have seen described in this country, is by Osgood and Penhallow.[1]

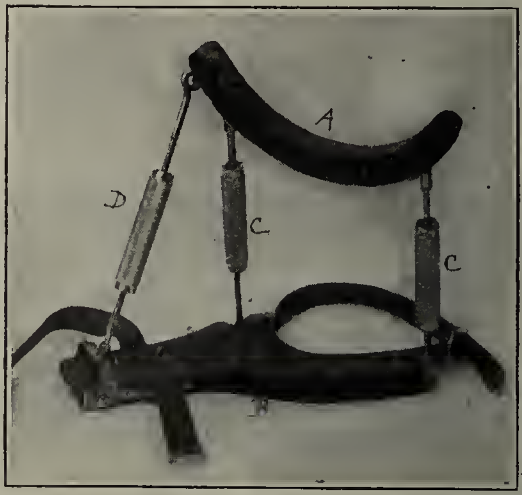

Fig. 1.—Traction splint for humerus. *A*, axillary crutch; *B*, forearm board; *C*, parallel rods through which traction is secured; *D*, guy-rod for maintaining forearm at right angle.

They submit a tin gutter-splint, moulded to fit the arm, forearm and thorax. It would seem to be ideal, except for not permitting of elevation, graded traction, or reversal for the opposite arm.

The distinctive features of the device which I submit are an axillary crutch, *A*, for counter-traction, and a forearm board, *B*, for traction; the two being forced apart by parallel rods, *C*, extended by turnbuckles; the forearm being held meanwhile in right-angled flexion by a guy-rod, *D*, reaching to the axilla. After applying, the traction is employed and can be carried to any necessary extent. Under this powerful traction, there is opportunity for adjustment and manipulation of the fragments, and *x*-ray examination. There is ample space for coaptation splints, for applying pressure by compresses at required points, and for frequent dressings of blisters or wounds. After full reduction and adjustment, the extreme tension can be somewhat relaxed, if the fracture is not spiral or oblique. In ordinary cases the appliance should be held to the body by a swathe; but in cases in which it is necessary to maintain elevation and abduction of the humerus, the entire apparatus can easily be held up in the air, by a rod passing from the elbow to a belt at the waist; though a shoulder-girdle would be required to keep the axillary crutch from slipping down.

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* Read at the semi-annual meeting of the New Haven County Medical Society, April 27, 1911.

[1] The Journal A. M. A., July 31, 1909, p. 375.

By unscrewing one turnbuckle, *D*, the whole affair turns inside out, and when the turnbuckle is replaced, we have a complete apparatus for the opposite side.

The size of the crutch is such as to minimize axillary pressure. Pressure on the radial surface of the forearm must be guarded against by thorough padding, which can be supplemented by a pneumatic pessary. Traction is exerted only by the two posterior turnbuckles—the front one being used simply to maintain right-angled flexion of the elbow.

This device may bear very slight resemblance to the one which will finally be generally adopted by the profession, but I hope it may be a link in the chain of evolution which is destined eventually to make traction and counter-traction of the humerus as efficient, positive and available, as it now is in the thigh.

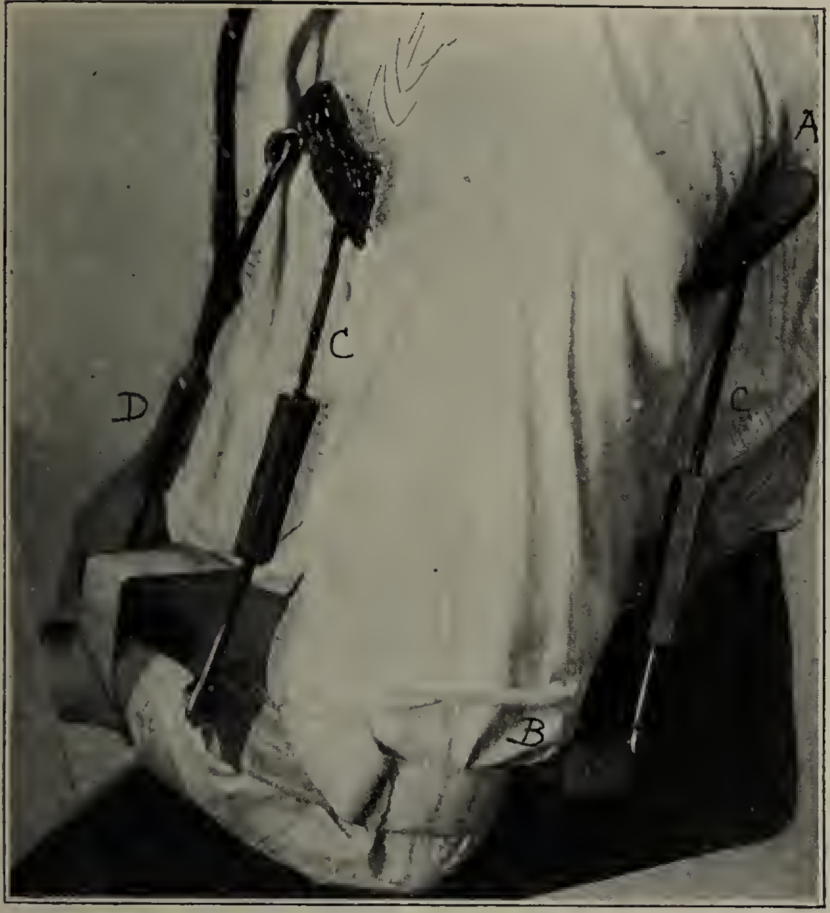


Fig. 2.—Traction splint applied to humerus.

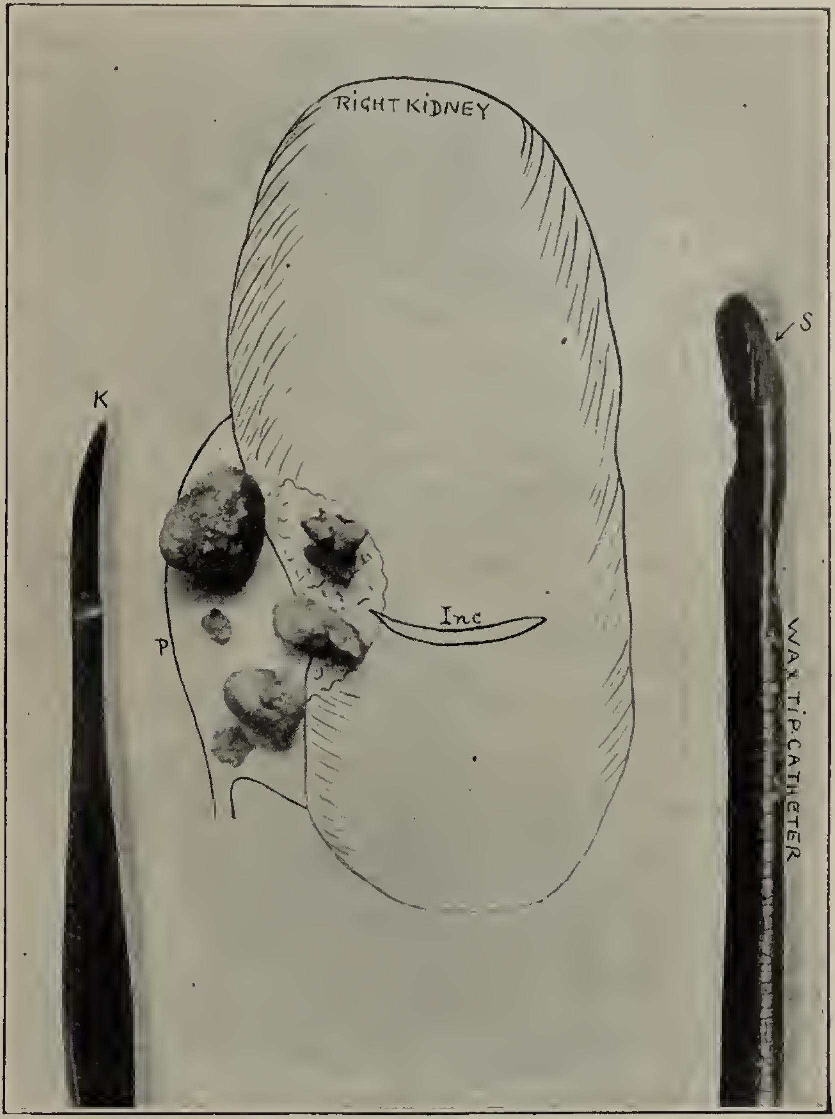
A NEW AND SIMPLE METHOD OF REMOVING A RENAL CALCULUS

HOWARD A. KELLY, M.D.

BALTIMORE

In dealing with renal calculi in instances in which the previous examination has shown that the kidney is good enough to be saved, we need to have a variety of methods at our disposal in order to treat all patients satisfactorily and successfully. No one method will do, but we must vary our procedure according as the kidney is fixed or movable and according as we have a solitary stone to deal with, free in the pelvis of the kidney, or as the stone is branched and projects into the calices. Again, if the patient is very stout, and we have a long twelfth rib, we may be compelled to modify our technic.

A nephrolithotomy carefully done is a very safe procedure; if it is clumsily done, it may easily cost the life of the patient. On account of the risks from hemorrhage, there is a strong tendency to turn to pyelotomy, a good, neat operation when the stone is in the pelvis and the kidney is movable enough to be drawn well up into the wound, and when there is not too much surrounding inflammation. If we follow up the avascular zone on the posterior surface of the kidney near its lower pole, then we can make a pyelonephrotomy with advantage in the removal of larger stones, especially those fastened in the lower calices (Albarran-Broedel).



The right kidney is shown in outline with its pelvis to the left containing the stones, of which there are five. The little mass below the ureteral orifice is the calculous debris. The wax-tipped catheter is shown on the right, and *S* points to the scratch-marks by means of which the diagnosis of stone was made. This is from an untouched photographic enlargement (about three times). The blunt knife, *K*, is shown on the left, reduced to about three-fifths of its actual size. With this the incision (Inc.) was made in the dorsum of the kidney inclining to the left side, opening the pelvis. Through the blunt opening made in this way into the kidney, distended with a solution of silver nitrate, the stones were grasped and extracted and the upper urinary tract thoroughly washed out.

I have devised and used at intervals a transrenal plan of nephrolithotomy which, except in the simplest cases, with an easy exposure, is, I think, quicker and safer and better than pyelotomy or any other transrenal operation, and I am now inclined to accord to it a wide field of utility. It is as follows:

TECHNIC

A renal catheter 1.75 mm. in diameter, large enough to obturate the ureteral orifice and prevent a reflux of fluid into the bladder, is inserted through an open-air cystoscope and introduced well up to the kidney just before giving the anesthesia.

The patient is then put to sleep, preferably with gas, semiprone, on an Edebohls cushion. An incision is made in the loin and the superior lumbar triangle is pulled open and the kidney exposed and freed on all sides from its fatty capsule.

The stone is then felt and the kidney gently loosened as far as possible on all sides and brought towards the wound. Then an assistant forces fluid (1/1,200 silver nitrate) into the renal pelvis, until it puffs out tense. As a rule, with a careful preliminary study, the exact capacity of the renal pelvis is already known. Then when the pelvis and kidney are swollen up tense the surgeon first incises the capsule and then plunges a blunt-pointed and blunt-edged knife (see illustration) through the cortex on the posterior surface, easily entering the renal pelvis at once and enlarging the incision, in a transverse direction if the stones are small. There is a gush of fluid which stops as he introduces his finger and feels for and finds the stone, which he at once grasps with a small stone forceps and removes.

The calices and the mouth of the ureter are now examined for more stones and the kidney is palpated on all sides with both hands, one finger being inside the renal pelvis. After all stones are removed, the wound is plugged or held closed, while the pelvis and the calices are again distended with the silver solution, when the finger is suddenly withdrawn, letting the fluid escape with a rush, bringing any small calculous *débris* with it. This may be repeated several times.

The stones in the illustration were removed in this way. In the lower part of the outline of the pelvis is seen some sand which was washed out in the manner described. Often such a wound bleeds but little and needs no suturing at all, as in this case. If the kidney is badly infected, the ureteral catheter may be left in the ureter for from several days to a week or more for constant or intermittent irrigation with a mild antiseptic fluid.

I wish to emphasize the following points regarding the operation:

1. It involves a minimal amount of damage to the kidney.
2. It is done through the part of the organ most easily accessible.
3. The distention is invaluable in offering a bag of fluid, overlaid with a zone of soft tissue, which is easily punctured.
4. An exploration is easily conducted through the opening, revealing the presence or absence of other calculi.
5. If it is desirable to keep it open a while for drainage the transverse incision is a good one for this purpose, as it can be left open and will close rapidly when the irrigations are omitted.
6. In the last case in which operation was done, no sutures were put into the kidney, and yet there was no escape of urine after twenty-four hours and practically no bleeding through the incision.

1418 Eutaw Place.

The Origin of New Cults.—Most men are subject to irregularities in their supply of energy. Sickness, disaster, bad food, and many other conditions produce this result. In consequence, most men at intervals pass from one extreme to the other. Downward curves bring doubt, fear and depression; upward curves create men anew and give the higher powers an unwonted supply of energy. It is during the dominance of the upward movement that suggestion is potent and new beliefs are readily formed. The many plans of recent origin for the suppression of pain and the inculcation of invigorating beliefs have their bases in this thought, even if the mode of expressing it is so immaterial that the physical background of the mind is ignored. To keep the thought of pain out of the mind when depression tends to make it vivid, and to utilize the early epochs of recovery for presenting suggestive ideas, are two rules that work wonders in rebuilding the higher life among those temporarily depressed. (From Patten's "The Social Basis of Religion," New York, 1911.)

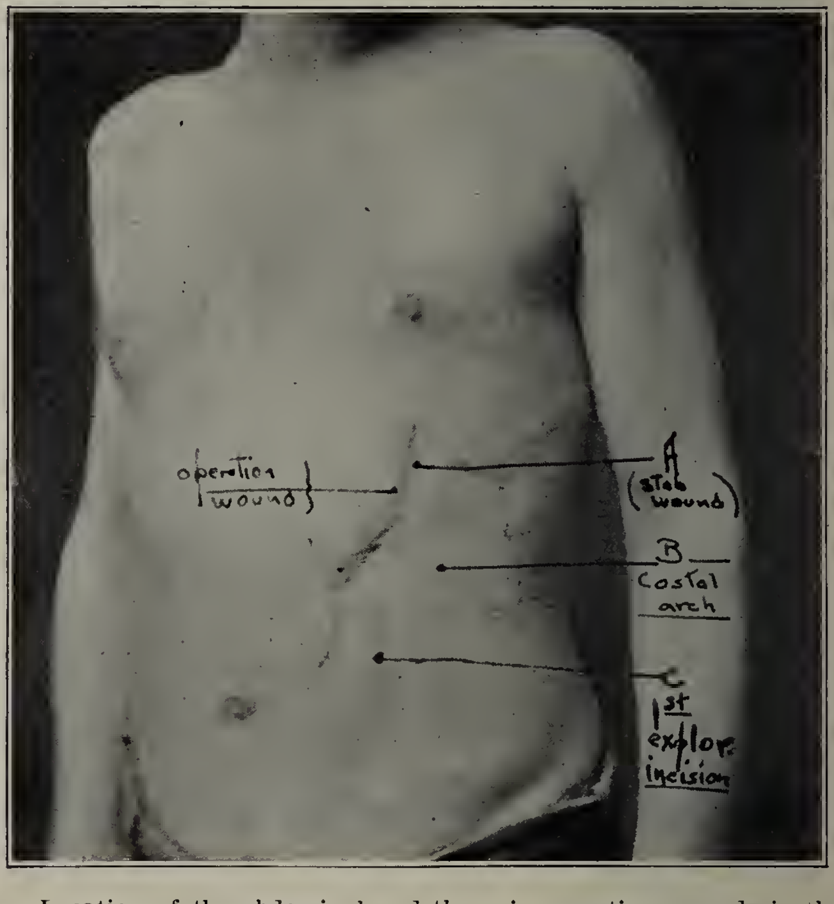
A CASE OF INCARCERATED AND OBSTRUCTED DIAPHRAGMATIC HERNIA WITH OPERATION AND RECOVERY

BENNETT V. CAFFEE, M.D.
TERRE HAUTE, IND.

While the literature on diaphragmatic hernia is fairly voluminous, there *seem* to be very few reported cases of operation with recovery; many of the cases were discovered post mortem; in others the patients died following operation. A synopsis follows of those discovered after a fairly extensive search.

Case 1.—A patient[1] of 23; diagnosis, obstruction of bowels. Operation through median incision above navel; colon found passing through rent in diaphragm; second incision along border of costal arch; colon being firmly attached, hernia could not be reduced; artificial anus made (colostomy). Recovery with subsequent closure of colostomy opening.

Case 2.—Male,[2] aged 18; signs of obstruction after violent exercise. Incision through rectus in upper abdomen; transverse colon, omentum and greater part of stomach protrude through rent in the diaphragm 3½ inches long; omentum adherent to pleura; thorax then opened by rib resection; hernia reduced; patient's condition too low to permit suturing of diaphragm; abdominal wound closed; rent in diaphragm held together by gauze packing through thoracic opening. Recovery complicated by empyema; no return of hernia apparent.



Location of the abdominal and thoracic operation wounds in the case of diaphragmatic hernia reported.

Case 3.—A boy,[3] aged 11, had been injured in the eleventh intercostal space, resulting in a hernia; two ribe were "osteotomized, not resected." The hernia was reduced and the rent repaired without opening the abdominal cavity. Recovery.

Case 4.—A man,[4] aged 23, stabbed in the left seventh intercostal space seven years before; taken with mild symptoms of intestinal obstruction, tenderness and rigidity over abdomen, especially over appendix. Operation six days after first symptoms; median incision; a knuckle of colon protruded through very small rent in diaphragm at site of old scar; too firmly adherent to detach; lateral anastomosis. Recovery.

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[1] Leuw, C.: Cor.-Bl. f. Schweiz. Aertze, 100, xxxi, p. 231.

[2] Dannis, W. A.: St. Paul Med. Jour., 1905, vii, 736.

[3] Postempski, P.: Bull. d. r. Accad. med. di Roma, 1888-9, xv, 191.

[4] Bamberger, A.: The Journal A. M. A., Dec. 31, 1910, p. 2296.

CASE 5.—The case which I report was in a glass blower, aged 25. He had received a stab in the left mammary line, cutting through the costal cartilages of the seventh and eighth ribs. The omentum protruded between the cut ends, plugging the opening. The abdominal cavity was opened and the contents examined, but no perforation was found. The omentum was resected and returned through the stab-wound; the opening in the diaphragm could not be closed.

Healing was by primary intention. Four months later, after the patient had been blowing glass one month, he stepped off from a porch: he felt a sudden pain in the region of the stab-wound. Symptoms of intestinal obstruction immediately ensued—severe pain, vomiting, etc. He was taken to the Union Hospital twelve hours after onset of symptoms and an incision made below the left costal arch. The splenic flexure of the colon was found closely adherent to the diaphragm, in which a very small opening sufficient to admit the index-finger could be felt; the costal arch was then cut through almost to the site of the old stab wound. After retracting the ribs the colon was released, only a knuckle of it having passed through. The opening in the diaphragm was then securely sutured by two chromic sutures passed through the sixth intercostal space on the index-finger as a guide. The wound was closed and healed promptly. The photograph from which the accompanying illustration was made was taken six weeks after the operation. The patient has been working since, though not at his trade, with no return of his symptoms.

An interesting feature is that the patient correctly diagnosed the hernia before I was called, as he had been warned of the danger of it.

A PLATE-CHANGING DEVICE FOR STEREOSCOPIC RADIOGRAPHS OF THE CHEST

SIDNEY LANGE, M.D.
CINCINNATI

Stereoscopic *x*-ray work demands the taking of two radiographs from different angles and the subsequent superimposing of the plates by viewing them through prisms or in a Wheatstone stereoscope. After exposure the first plate must be removed and a second one must be substituted.

With the improvement of *x*-ray apparatus it has become possible to make two radiographs of the chest in the space of a few seconds; that is, while the patient suspends respiration, and thus to obtain true stereoscopic pictures of the chest. But the problem of quickly removing one photographic plate and substituting a second has been a serious hindrance in this work.

The following simple method has been devised to change the plates: A sheet of lead, ⅛ inch thick, is provided on both sides with small clamps sufficient to hold a photographic plate against each aspect. This sheet of lead is then suspended at two points in a metal frame so that it can revolve around a horizontal axis (Fig. 1). A spiral spring (shown faintly in Fig. 1) made of stiff wire is attached to one end of this axis and when wound, by revolving the lead sheet, tends to unwind and revolve the lead in the opposite direction. The frame is hinged to some sort of chair or other upright support in which the patient sits or stands (Fig. 2). A thin sheet of aluminum is placed between the plate-changing device and the patient's chest, against which the patient leans.

The apparatus is operated as follows: Two photographic plates in their light-proof envelopes are inserted one on each side of the sheet of lead. The spring is wound by revolving the lead sheet one-half revolution. The patient is instructed to take a deep breath and hold it and the first exposure is made on one plate, the second plate on the opposite side being protected from the *x*-ray by the intervening sheet of lead.

By means of a string attached to the lower margin of the frame, the operator (in his protected booth) pulls the frame outward and thus allows the spring to revolve the sheet of lead, and with it the photographic plates, one-half of a revolution. On dropping the frame back into position the second plate will have exchanged places with the first and the second exposure is made. Of course provision must be made for shifting the *x*-ray tube at the same time.

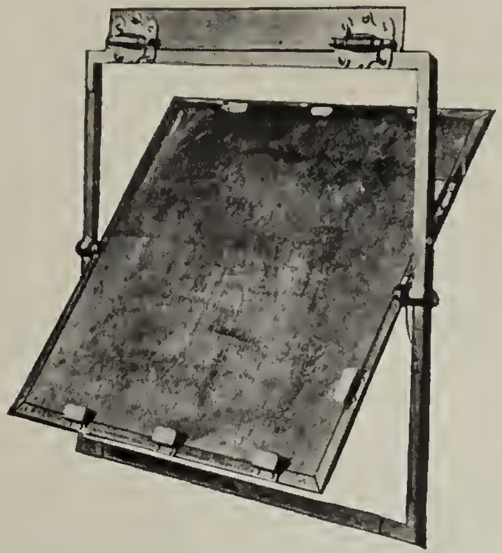

Fig. 1.—Radiographic plate-holder devised for rapid changing of plates.

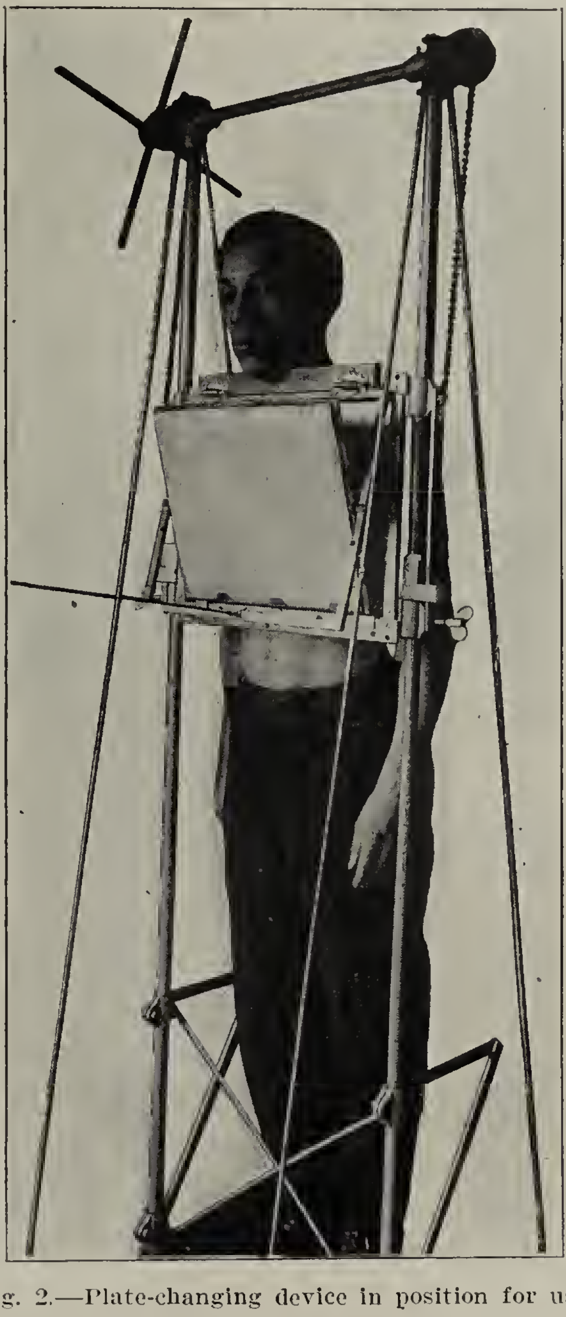

Fig. 2.—Plate-changing device in position for use.

In order to limit the vibration of the sheet of lead after the change is made and to cause it to come to rest quickly, a small spring snap has been placed on the lower margin of the frame, but is not shown on the accompanying illustrations. This is very important, otherwise several seconds may be lost while waiting for the apparatus to settle down before making the second exposure.

The apparatus as here shown can be used only in the upright position.

22 West Seventh Street.

A VEST-POCKET CASE FOR CARRYING EVERYTHING NECESSARY FOR MAKING A BLOOD-COUNT

M. BOYD KATZENSTEIN, B.Sc., M.D., M.Sc.
PITTSBURG

When making routine blood examination on patients, it is necessary to have blood pipettes at hand at all times. On account of the inconvenience of carrying them, solutions and pipettes are usually not at hand when wanted.

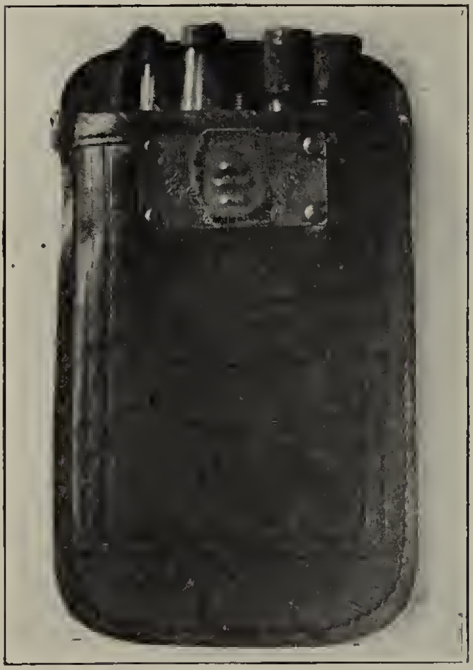

Fig 1.—The pocket blood-counting case complete.

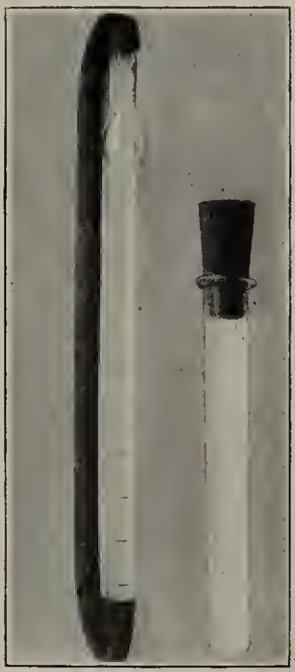

Fig. 2.—Sealed pipette and small test-tube for solution.

I have devised a little case, which can be slipped into the vest pocket and be ready at any time to make a blood-count.

It is a small leather pencil-holder and contains white and red blood pipettes; a small trocar, such as is found in a surgical pocket set, to be used for pricking the finger; two small rubber tubes, without the bone mouthpiece and two very small test-tubes for the diluting fluids (Fig. 1). All these parts are very easily secured and assembled, at a very small expense, the only item of expense being the blood pipettes. The two small tubes, while in the case, are either empty or may be filled with solution. If empty the diluting fluids can easily be made at the bedside by putting two or three drops of vinegar in the little tube and filling it with water. This makes a satisfactory diluting fluid for leukocytes. Into the second tube should be put a very small pinch of salt and it should be filled with water. This makes a satisfactory solution for the red corpuscles. For hemoglobin the test color sheet and a few pieces of filter-paper may be torn out of the Tallquist book. This can easily be slipped into the little case.

For sealing the pipettes for transportation I have two methods. In one I use the tube by which the fluid is drawn into the pipettes; this tube is to have no bone mouthpiece and it will be found just as convenient without it. After the pipette is filled with solution and is thoroughly shaken, the tube is brought down and the free end passed over the pointed end of the pipette, as shown in Figure 2. One should always see that the pointed end of the pipette is dry before slipping on the little tube. The second method is as follows: For this two parts are necessary for a single tube, both easily attainable and made by the user. The first part is a simple small rubber stopper such as is used to seal the small vials that usually contain serums; these are just large enough to fit into and completely close the upper wide opening of the pipette. The second is a small rubber tube of small caliber, such as is used in drawing the blood and solution into the pipette. This piece of tubing should be 2 cm. long and have a caliber of 0.5 cm.; one end being plugged by the large end of the small rubber stopper, such as is mentioned above (Fig. 3).

In use, the blood pipette is filled in the usual manner, is well shaken to mix the solution and blood and a small rubber tube slipped over the pointed end of the pipette: this will force a small part of the fluid up into the upper expanded portion of the pipette (no fluid is lost); then the small stopper is inserted and the outfit is ready for transportation.

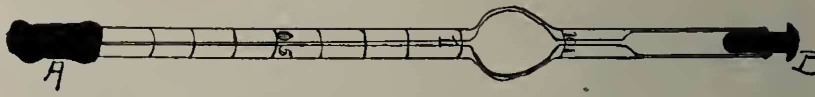

Fig. 3.—A second method of sealing the pipette for transportation.

When one is ready to make the count the tube is opened in just the opposite manner to closing. The little rubber stopper is first removed, then the closed rubber tube, and it will be found on removing the tubing that the fluid that was forced out of the bulbous portion of the pipette will be again drawn into it. The pipette is again well shaken and is then ready for a count to be made, the dilution remaining accurate.

The pipette can be carried in any position.

8110 Jenkens Arcade Building.

Treatment and Prevention of Measles.—In the treatment of both measles and scarlet fever, Robert Milne, M.D. (*Proc. Royal Soc. Med.*, April, 1911), claims to have carried out the following treatment with surprising results in the cure and in the prevention of the spread of these infections, even in institutions, without adopting methods of isolation or disinfection. He first used phenol in oil 1 to 10. For twenty-seven years, however, he claims to have used pure eucalyptus oil. During the first four days, commencing at the earliest possible moment, this oil is gently rubbed in, morning and evening, all over the body. The treatment is kept up until the tenth day of the disease. The tonsils and pharynx are swabbed with 1 to 10 phenol in oil every two hours for the first twenty-four hours, rarely longer. He claims for this treatment that when it is begun early, secondary infections never occur and complications are unknown. With the treatment carefully carried out, children may occupy the same room and even the same bed without risk of infection. No quarantine is necessary and other children in the family may be allowed to attend school. No after disinfection is necessary. Milne gives his experience in public institutions among large numbers of children in which this plan of treatment resulted successfully.

TREATMENT BY VACCINE THERAPY OF A CARBUNCLE IN A DIABETIC

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Bacteriologist to St. Alexis Hospital
CLEVELAND, OHIO

The brilliant results produced by the use of *Staphylococcus aureus* vaccine in the treatment of carbuncles is already too well known to require further discussion. The following case, however, I am sure, is of sufficient interest to warrant reporting:

History.—Mr. R., aged 48, had been suffering with diabetes for three years, during which time he had lost 30 pounds and on several occasions had suffered from numbers of furuncles. In January of last year a large carbuncle appeared on the back of his neck. It was well opened and packed, but continued to discharge profusely for six weeks, with little or no sign of healing. At this time he was referred to me for vaccine treatment. A culture was taken and the causative organism found to be *Staphylococcus aureus.*

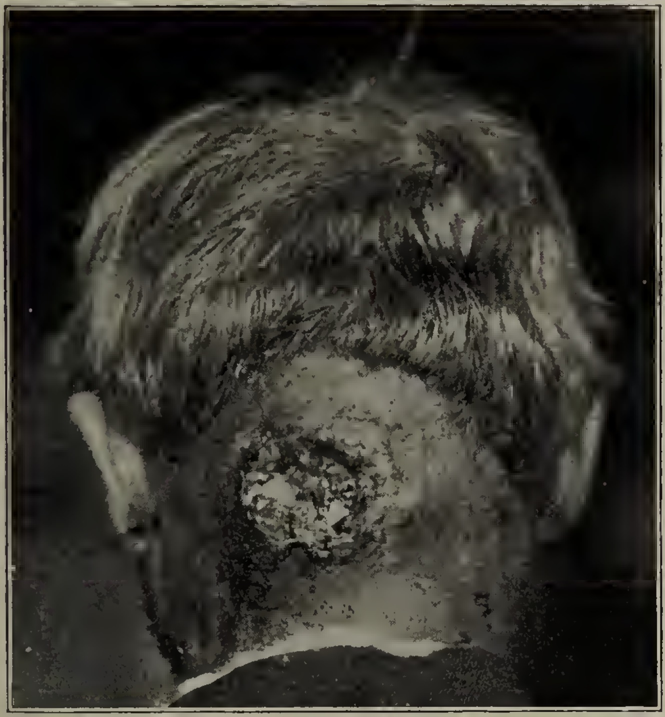

Fig. 1.—Carbuncle in a diabetic, treated with staphylococcus vaccines. Picture taken before inoculations were begun.

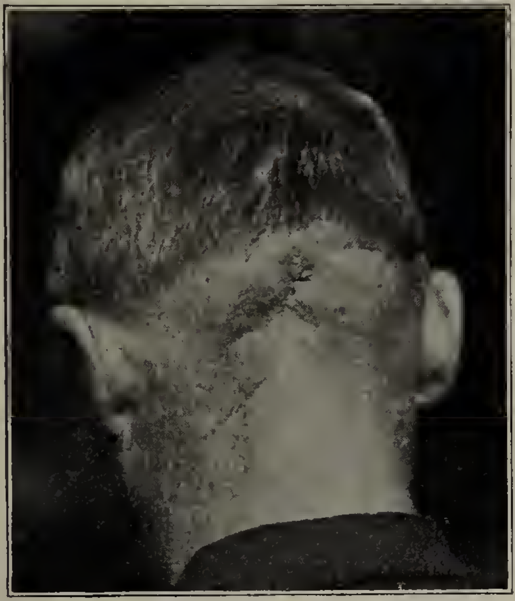

Fig. 2.—Picture taken after three inoculations with staphylococcus vaccines; appearance twenty-three days after first inoculation.

Treatment.—An autogenous vaccine was prepared and the patient inoculated with 100,000,000 dead staphylococci. For two days following the inoculation the discharge was somewhat increased and the patient complained of slight soreness at the site of inoculation. By the end of the first week the discharge had decreased about 75 per cent.; the soreness and induration about the carbuncle had greatly diminished. At this time a second inoculation of 200,000,000 dead staphylococci was given, followed by almost complete arrest of the discharge, induration and pain. A third inoculation of 200,000,000 staphylococci was given on the fourteenth day, with continued improvement, and on the twenty-third day his neck was entirely healed, as shown in Figure 2. The patient was now advised to present himself for an inoculation once every six weeks, with the hope of preventing a recurrence of both the carbuncle and furuncles. He followed this plan very faithfully and up to the time of making this report has been entirely free from either condition, although his diabetes has been taking its usual course.

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SODIUM CACODYLATE IN SYPHILIS

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I have been using sodium cacodylate in three cases of secondary and one case of tertiary syphilis. Each dose contained 3 grains of the drug. The cases are as follows:

CASE 1.—A. M., male, aged 31, married, had been under mercurials and tonics for eight months. The only lesions present were two small mucous patches on the side of the tongue. Mercury was discontinued. On April 26, April 30 and May 10 the patient received 3-grain doses of sodium cacodylate. May 12 the patient was attacked by very severe cephalalgia, requiring opiate by hypodermic method to relieve. Mercury by inunction soon controlled the trouble.

CASE 2.—Mrs. A., aged 28, had just recovered from secondary skin lesion under mercury. On April 26 and April 30 she received hypodermic injections, each containing 3 grains of the drug, into pectoral muscle. May 15 brown patches appeared on the arms and chest. Proto-iodid by mouth caused them to disappear in a week.

CASE 3.—F. A., male, aged 35, married, had secondary mucous patches on the lower lip, pharynx and tonsils. He received three injections, on April 26, April 30 and May 10. No effect on mucous patches, and skin lesions followed. Proto-iodid given by mouth, and solution of mercuric nitrate, applied to patches, made great improvement in a week.

CASE 4.—A. D., male, aged 33, unmarried, had tertiary syphilids on the face, neck and chest, which had nearly disappeared under potassium iodid. This was discontinued and sodium cacodylate used hypodermically at six-day intervals, for three doses. In four weeks skin lesions reappeared. Potassium iodid was resumed, and the lesions were gone in two weeks.

It is evident that sodium cacodylate was useless in my cases and even harmful, inasmuch as the patients all suffered relapses under its use.

COMPARATIVE RESULTS OF DRY AND WET TEST-MEALS *

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The results regarding the secretory function of the stomach obtained by the original Ewald-Boas test-breakfast are not so conclusive as it was originally assumed, mainly on account of the closely interrelated and overlapping effect of motility and secretion. The gastric contents obtained after an Ewald-Boas test-breakfast, are made up of ingested bread and water, mucus, saliva, and gastric juice. It has been impossible to determine the proportion of gastric juice in the stomach contents. Boas suggested that a dry test-breakfast, consisting of a roll without water, would be a more accurate index of gastric secretion. Such a test would also eliminate the error due to the possible stimulating effects of water. Dry test-meals, consisting of a roll, and wet test-meals, consisting of a roll and 400 c.c. of water were given to forty-seven patients on alternate mornings, for a series of days, with a view of comparing the quantity of gastric contents, the total acidity and the amount of free hydrochloric acid. In patients suspected of continuous gastric secretion or of retention, gastric lavage was done before and after the tests were given to determine that the stomach was empty.

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* Read before the American Gastro-Enterological Association, at its fourteenth annual meeting, held at Philadelphia, April 20, 1911.

4. In proportion of two to one, the acidities obtained after a dry test-meal are greater than those obtained after a wet test, the exact figures being as follows: In thirty-three cases the results after a dry test were greater than after a wet test, and in fourteen cases after a wet test-meal the results obtained were greater than those after a dry test.

5. In all cases of pyloric stenosis, the results obtained after a wet test-meal have been greater than those obtained after a dry test-breakfast.

6. In myasthenia gastrica in which there is delayed motility, the results regarding the acidity obtained after a dry test-meal have been usually greater than those obtained after a wet test-breakfast, because in the case of the wet test, water remains in the stomach to dilute the juice.

7. In cases of disordered motility, the dry test-meal is a more accurate index of the secretory function of the stomach than the wet.

TABLE SHOWING AVERAGE OF COMPARATIVE RESULTS OF DRY AND WET EWALD TEST-MEALS *

The following are cases in which the results from the dry test-meals were greater than those obtained from the wet test-meals:

		Volume		Free HCl		Total Acidity	
Patient	Diagnosis	Wet, c.c.	Dry, c.c.	Wet	Dry	Wet	Dry
9888	Hypersthenic gastritis	152^{5}	56^{2}	34^{5}	34^{2}	66^{5}	73^{2}
856	Hypersthenic gastritis	60^{1}	60^{1}	5^{1}	9^{1}	78^{1}	86^{1}
10801	Hypersthenic gastritis	49^{2}	60^{1}	29^{2}	28^{1}	57^{2}	76^{1}
9961	Hypersthenic gastritis	168^{8}	124^{7}	54^{8}	55^{7}	75^{8}	70^{7}
986	Hypersthenic gastritis	105^{1}	75^{1}	32^{1}	30^{1}	48^{1}	62^{1}
10800	Hypersthenic gastritis	112^{1}	67^{1}	28^{2}	32^{1}	60^{1}	70^{1}
10769	Asthenic gastritis	96^{4}	60^{6}	21^{5}	17^{5}	45^{8}	54^{6}
11048	Asthenic gastritis	60^{3}	77^{4}	0^{3}	0^{4}	22^{3}	27^{4}
15500	Asthenic gastritis	102^{7}	40^{4}	10^{7}	12^{4}	33^{7}	44^{4}
11011	Asthenic gastritis	77^{3}	87^{2}	0^{3}	0^{2}	21^{3}	22^{2}
457	Myasthenia gastrica	45^{2}	11^{2}	3^{2}	14^{2}	47^{2}	47^{2}
478	Myasthenia gastrica	90^{2}	67^{2}	6^{2}	28^{2}	38^{2}	73^{2}
15551	Myasthenia gastrica	142^{2}	112^{2}	33^{2}	62^{2}	68^{2}	111^{2}
978	Myasthenia gastrica	105^{1}	65^{1}	21^{1}	38^{1}	32^{1}	70^{1}
15505	Neuroses	540^{4}	52^{4}	22^{4}	28^{5}	52^{4}	63^{5}
15550	Neuroses	150^{1}	150^{1}	0^{1}	38^{1}	36^{1}	80^{1}
70	Neuroses	150^{2}	45^{1}	19^{2}	12^{1}	47^{2}	52^{1}
15498	Duodenal ulcer	172^{2}	90^{1}	93^{2}	92^{1}	115^{2}	124^{1}
658	Pyloric ulcer	160^{2}	360^{1}	39^{2}	56^{1}	64^{2}	94^{1}
15432	Lymphosarcoma	150^{1}	60^{1}	18^{1}	22^{1}	38^{1}	50^{1}
15530	Cirrhosis of liver	150^{1}	40^{1}	20^{1}	32^{1}	60^{1}	72^{1}
30	Adhesions pyloric	170^{1}	67^{1}	30^{1}	30^{1}	69^{1}	70^{1}
107	Carcinoma intest.	142^{2}	102^{3}	2^{2}	5^{3}	31^{2}	34^{3}
201	Cholecystitis	90^{6}	164^{4}	35^{6}	66^{4}	68^{6}	78^{4}
453	Cancer	60^{2}	60^{1}	5^{2}	9^{1}	30^{2}	44^{1}
741	Osteosarcoma	140^{2}	35^{1}	13^{2}	30^{1}	35^{2}	50^{1}
856	Gastrosuccorrhea	60^{1}	60^{1}	36^{1}	34^{1}	78^{1}	86^{1}
9962	Hyperchlorhydria	135^{3}	30^{1}	46^{3}	49^{1}	75^{3}	70^{1}
948	Hyperchlorhydria	115^{3}	20^{1}	41^{3}	30^{1}	53^{3}	68^{1}
1082	Hyperchlorhydria	20^{2}	155^{1}	46^{2}	42^{1}	34^{2}	76^{1}
1129	Hyperchlorhydria	105^{1}	105^{1}	44^{1}	14^{1}	78^{1}	48^{1}
981	Endocarditis	90^{2}	65^{1}	0^{2}	0^{1}	10^{2}	24^{1}
338	Pleurisy (dry)	180^{1}	60^{1}	12^{1}	14^{1}	46^{1}	60^{1}

CASES IN WHICH THE RESULTS FROM THE WET TEST-MEALS WERE GREATER THAN THOSE OBTAINED FROM THE DRY TEST-MEALS

		Volume		Free HCl		Total Acidity	
Patient	Diagnosis	Wet, c.c.	Dry, c.c.	Wet	Dry	Wet	Dry
10927	Stenosis of pylorus	423^{10}	307^{6}	67^{10}	55^{6}	88^{10}	87^{6}
1040	Stenosis of pylorus	200^{1}	90^{1}	34^{1}	32^{1}	60^{1}	58^{1}
160	Stenosis of pylorus	198^{8}	78^{4}	41^{8}	26^{4}	74^{8}	54^{4}
10788	Myasthenia gastrica	270^{2}	195^{1}	29^{2}	20^{1}	64^{2}	60^{1}
1068	Myasthenia gastrica	60^{1}	60^{1}	60^{1}	25^{1}	86^{1}	35^{1}
449	Myasthenia gastrica	52^{2}	32^{2}	36^{2}	29^{2}	78^{2}	56^{2}
11190	Asthenic gastritis	34^{4}	40^{2}	10^{4}	4^{2}	25^{4}	19^{2}
1	Neuroses	180^{3}	95^{3}	19^{3}	6^{3}	47^{3}	52^{3}
221	T. B. sinus, amyloid	100^{3}	45^{2}	6^{3}	2^{2}	42^{3}	32^{2}
58	Cancer stomach	225^{2}	15^{1}	0^{2}	0^{1}	25^{2}	18^{1}
802	Hyperchlorhydria	270^{1}	105^{2}	66^{1}	53^{2}	92^{1}	90^{2}
1042	Chronic appendicitis	60^{1}	15^{1}	42^{1}	34^{1}	72^{1}	54^{1}
1064	Gastroduodenitis	340^{1}	200^{1}	52^{1}	44^{1}	76^{1}	72^{1}
1066	Diabetes	135^{1}	20^{1}	36^{1}	16^{1}	78^{1}	48^{1}

* Cases from the medical department of Prof. Edward Quintard, New York Post-Graduate Hospital. The small figures above and to the right of the figures in columns indicate the number of tests with the given result in each test.

1. Comparatively slight differences in the volume expressed and in the acidities obtained were noted in the results between the dry and wet test-breakfasts, suggesting a correlation existing between motility and secretion—a tendency to automatic regulation of the gastric function. The variation between wet and dry tests is, however, greater than between wet and wet tests, and between dry and dry tests.

2. The dilution of the juice by water is greater than the stimulating effect of water on the peptic glands.

3. The volume obtained after a wet test-breakfast is practically always greater than after a dry test-breakfast. No definite relationship could be made out between the volume and the acidity.

8. In order further to assist in solving the relationship existing between motility and secretion, the fluoroscope in conjunction with bismuth will be of great assistance.

The part which fatigue plays in the rate with which the stomach empties itself has, with the assistance of the fluoroscope, already been taken up, but the material so far has not allowed of any conclusions. It is, however, a line of investigation which appears very promising, particularly in view of the new fundamental discoveries regarding tonicity presented by Dr. Cannon.[1]

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[1] Proc. Am. Gastro-Enter. Assn., 1911.

INJURY TO THE CHEST PRODUCING SIGNS OF ABDOMINAL INJURY

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History.—Mr. F. A., aged 30, was shot from below, by a person standing on the sidewalk, the bullet going through a window and striking him in the right lumbar region. The patient was brought to the hospital, and presented the appearance of considerable shock, with marked abdominal pain and rigidity. The abdominal findings were those of peritoneal injury with marked distention, tenderness and pain. The pulse was 100, temperature 99 F. The patient was prepared for operation and taken to the operating-room, but refused operation at that time, it being 2 o'clock in the morning. The following morning at 9 o'clock, the symptoms not having abated, the patient was again consulted and urged to submit to operation, to which he consented.

Operation.—The abdomen was opened in the middle line above the umbilicus, and the liver, gall-bladder, stomach, spleen and the intestines, were carefully gone over without finding any evidence of injury to them or any fluid or intestinal contents in the peritoneal cavity. A second incision was made below the umbilicus, and the abdominal contents examined through this incision, without finding any lesion. Examination of urine having been made without finding any blood or albumin, it was felt that the kidneys had escaped injury, and the abdomen was closed up, with drainage.

Subsequent Course.—The following day the patient developed a slight elevation of temperature and the temperature continued to increase on succeeding days, until he had a daily temperature of 101 F.

Physical examination of the chest revealed the pressure of fluid in the pleural cavity on the same side as the injury. The patient made a quick recovery from his laparotomy wounds. The findings in the chest cleared up after three weeks and the patient was discharged as cured.

The explanation of the clinical findings of injury to the peritoneal contents, I believe, lies in the fact that the diaphragmatic portion of the pleura was injured and infected, and the pain was transferred to the abdomen, as is so frequently observed in lower lobe pneumonia.

I believe that with the symptoms above enumerated, no surgeon would have been justified in leaving the abdomen unopened, and that we have no means at our command at the present time of discriminating between a wound of the pleura which produces abdominal symptoms, and a wound of the abdomen itself.

Sanitary Control of Public Milk-Supply.—"The importance of controlling the quality of the public milk-supply," says Prof. E. O. Jordan (*Science*, June 2, 1911), "although frequently urged by sanitarians, is not always appreciated. At the present time, in a great majority of American cities, it is safe to say that for every case of infectious disease due to drinking-water, ten cases are caused by infected milk. It is difficult to secure adequate funds for the sanitary control of the milk-supply. By sanitary control of milk is meant, not the upholding of a rigorous standard of butter-fat and total solids, but the maintenance of proper standards of cleanliness and health for dairy cows and especially the safeguarding the milk free from infection during collection and transportation. Under some conditions the protection of the consumer against milk-borne infection may be best brought about by compulsory pasteurization of that portion of the milk-supply which cannot otherwise be raised to proper standard. Whatever method of control may be adopted, it is certain that any genuine improvement in the character of a milk-supply will be followed in the long run by a lessening in the amount of typhoid fever and to some extent tuberculosis. The early detection of a single case of typhoid fever or scarlet fever on a dairy farm may be the means, not only of preventing an extensive epidemic, but of avoiding the formation of scores of new foci which can . . . light up subsequent cases for many years."

Therapeutics

CHOLERA INFANTUM; SUMMER DIARRHEA OF INFANTS

Probably both of the designations at the head of this article will soon be entirely banished from scientific nomenclature. At the present time, however, it is convenient to use them, even if they are not scientifically accurate, to indicate a class of diseases which are seen during the hot weeks of summer. It was formerly the custom to limit the use of the term "cholera infantum" to attacks of diarrhea with watery movements, accompanied by vomiting and great prostration, which came on suddenly, and often resulted in death. At the same time it was the custom with many physicians to apply the name to all cases of diarrhea with vomiting seen in young children, so that the accounts given by medical men of this trouble have been more or less inexact. Not properly included within this class are the very large number of cases of diarrhea in children which come on more or less gradually and which often are not so severe as the cases previously spoken of. In some of these cases, besides the diarrhea, vomiting is a prominent symptom. In other cases, vomiting is nearly or completely absent. The movements frequently contain blood, mucus, or pus, and are accompanied by pain and tenesmus. The former class of cases are commonly designated as acute gastro-enteritis, the latter as entero-colitis.

ETIOLOGY

Several factors are obviously concerned in the production of these diarrheal disorders. Formerly, the high temperature prevalent during the greater part of July and August was supposed to have an important influence in causing the disease. More recently, with the increasing attention paid to the study of bacteriology, and especially to the study of the so-called intestinal flora, a fermentation of the food, produced by the growth and development of the bacteria, is believed to be the most important element in the production of these diseases. Now, it is assumed by many that the deleterious influence of the high temperature of the summer is chiefly productive of disease by encouraging the fermentation and putrefaction of the different articles presented to the child as food, and particularly causing the growth and development of bacteria in milk, with the consequent fermentation and putrefaction and production of various sorts of toxins. The etiologic factor of disease, "cold or chilling," to which so much was formerly attributed in causing disease, has been almost forgotten. Few now stop to consider that possibly the chilling of the surface of the body, during cool nights, or by exposure to drafts, may so interfere with the normal processes of digestion as to produce a gastro-enteritis.

PROPHYLAXIS

It is impossible to overestimate the importance of properly instructing parents and care-takers how to feed infants and young children so that they may avoid attacks of these disastrous diseases. It is not necessary to stop here to discuss the desirability of feeding infants at the mother's breast until they are at least 6 months old, and perhaps a year old. The occurrence of diarrheal diseases in breast-fed infants is infrequent, and the mortality is very slight. A common grave mistake in the feeding of children under 2 years old is to give them everything which the adults of the family eat, everything which they see and ask for, and in addition to this various candies and cakes which are presented to them, in addition to all the rest of the food which the family eats. It is not necessary to protest to medical men against this system of dietetics, but it is necessary to remind some of them that they should make it a point to protest to the parents against permitting the children such a miscellaneous variety of food. But even when intelligent mothers attempt to feed their children in a sanitary way, they find many pitfalls and obstacles in their path.

Perhaps the chief and the most important is the difficulty of securing suitable food. In the country, where every farmer has his own cows, and where every resident is not far distant from a farm, it is a matter of only a little trouble to get fresh milk immediately after the morning and evening milking. This is the ideal food-supply. Children who are so fortunately circumstanced that they can obtain food of this kind have little excuse for suffering from diarrhea in summer. If milk, as soon as it is taken from the cow, is subjected to a temperature of 40 or perhaps 45 F., the growth of bacteria is inhibited, and if the milk is kept continually at this temperature it may be preserved without becoming damaged much longer than when it is allowed to stand in the ordinary temperature of the air.

When milk is brought to small cities from farms in the immediate neighborhood, the dairyman frequently places the milk in quart bottles as soon as it is cooled, and keeps it cool until it is delivered to the consumers. This is the ideal method of handling milk, but only a small portion of milk is handled in this way.

It is necessary for the physician to impress on the mind of the parent the importance of using every effort to get a good supply of milk which is as fresh as possible, and which has been carefully handled. In the opinion of most physicians who have given the subject careful study, no other food is as desirable for a child under one year of age, who is deprived of its mother's milk, as fresh cow's milk.

The recognition of the difficulty of securing fresh milk, or milk which has been properly cooled and preserved, led, some years ago, to the introduction of sterilized milk as a food for infants. It did not take very long to demonstrate that this was not a satisfactory food for general and prolonged use in infant-feeding. Next it was proposed not to sterilize it by boiling, but to pasteurize it by subjecting the milk to a lower temperature than was necessary for complete sterilization. It is to be noted that this process, while it inhibits the development of bacteria, does not prevent the growth of spores and does not destroy the toxins which have been already produced in the milk. While it is very much the fashion at the present day among physicians and charitably inclined women to advocate pasteurization of the milk, there seem good reasons for believing that while perhaps pasteurization as a temporary expedient may not be an unmixed evil, still there are so many and such serious objections to its use that it should not be generally recommended. Not only does it fail to destroy the spores and toxins in the milk, but there are reasons for believing that it produces dissociation of the mineral and protein elements of the milk so that they do not fulfil the nutritive function in the body of the child as do the same ingredients of unchanged milk.

Equally important with the food-supply to the young child is the air with which he is surrounded and which he breathes. An attempt must be made to give as much fresh air as possible to the large number of poor children, who can neither be taken to the mountains nor to the seashore, but who must continue to spend the entire season in a tenement house in a crowded district. They should be taken out of the houses, into the parks, or, if they live in a seaport town, taken to the edge of the harbor or to the bank of the river. When they are at home, they should, if possible, be kept on the roof or piazza, and when this is impracticable, the windows should be opened so that the fresh air will circulate through the house. At the same time, the child, when out of doors, should be kept out of the sun, and when indoors should be protected from drafts.

TREATMENT

It is impossible to lay down any routine treatment to apply in all cases of infantile diarrhea. Success requires the exercise of the physician's best judgment and common sense. First, it may be mentioned that the child should be kept as much as possible in cool, fresh air, and should be kept quiet. Carrying the patient about or shaking him, as children are so often shaken and jumped, will increase the movements of the bowels. On the other hand, if he is kept absolutely quiet and comfortable, his bowels move less frequently. If he has considerable fever, he should be bathed with tepid or cool water, at intervals of three or four hours. Although he must be in a cool room, he should be protected from direct drafts through windows or doors.

Under the present belief of the very great importance of the part played by bacteria in producing these diarrheal disorders, most teachers of the present day advise initiating the treatment by the administration of a cathartic or laxative, with the idea of clearing out from the intestinal tract the fermenting food and the bacteria which are causing fermentation. Probably castor oil is the most useful drug which can be given for this purpose. To a child 6 months old half a teaspoonful may be given, to one a year old, a teaspoonful, and to one 2 years old, two teaspoonfuls. Nothing else should be taken into the stomach within two hours either before or after the oil is administered. If the first dose is vomited, a second should be given after one hour. If, on account of excessive vomiting, or for any other reason, it seems wise to give some other cathartic than castor oil, a teaspoonful of aromatic syrup of rhubarb may be given. This does not act so quickly as the castor oil, but like the latter, has the advantage of having its action followed by a constipating effect. Many prefer small doses of calomel to either castor oil or rhubarb. An eighth or one-tenth of a grain of calomel may be given at intervals of half an hour, until a grain has been taken.

The physician who is called to a little child who has had a number of copious watery movements in rapid succession, and who has vomited several times while the diarrhea has been going on, may decide that the stomach and bowels are sufficiently emptied, and may commence the treatment by giving sedatives without the preliminary cathartic. Drugs of this kind will be discussed later.

After a cathartic has been given and has acted, it is advised that all food should be withheld for at least twenty-four hours. A small amount of water may, however, be given at more or less frequent intervals. The patient usually suffers very much from thirst, and it is necessary to administer some fluid by the mouth to quiet his restlessness and fretfulness. If the vomiting continues after a cathartic has been administered, often a little hot water placed on the tongue will stop it. The water should be given in such quantities as experience in the case shows are suitable, beginning with a quarter or a half teaspoonful at intervals of fifteen minutes or half an hour. If this amount is tolerated, it may be gradually increased so that the patient will take from a teaspoonful to a tablespoonful at intervals of one or two hours.

At the end of twenty-four hours, if the stomach is settled and the patient is free from pain, and the character of the movements is improved, food in small amounts may be commenced. In most cases nothing is better than small quantities of milk properly diluted. This dilution will be made according to the experience of the individual doctor in infant-feeding. Barley-water has long been a favorite diluent for milk, and one may try a teaspoonful of the top of a bottle of milk diluted with six or eight parts of barley-water. A small amount of this may be given, depending on the success with which it is retained. If the child retains a small quantity, at subsequent feedings the quantity may be increased until he takes a sufficient amount to fill his stomach. This being retained, the strength of the milk may be increased until he takes it of the strength adapted to his age.

In most of these cases the digestive power of the child is more or less impaired, and this suggests the desirability of predigesting the milk before it is given to him.

A great variety of especially prepared foods have been suggested for young children, and have been advised as of special use in children suffering from indigestion and diarrhea; but the tendency of the present day is to consider these all inferior to fresh milk. The same may be said of various broths, gruels and meat-juices which have from time to time been recommended by various writers. One substitute for fresh milk should, however, be mentioned, and will perhaps sometimes be found useful in emergencies such as when, for any reason, fresh milk cannot be obtained, or when, owing to the great heat, the supply on hand becomes spoiled. This substitute is condensed milk. This came into great popularity in certain large cities because men who practiced among the poor experienced difficulty in obtaining fresh milk, and found that the children throve when given condensed milk. Even now when good milk cannot be obtained, or when it is found that the child does not digest the milk provided for him, condensed milk may occasionally be tried and will not infrequently be found to give satisfaction. Its use, however, should not be indefinitely continued, for children who are fed on it alone for long periods of time are likely to contract scurvy.

While the hygienic and dietetic management of these diarrheal diseases is of the very greatest importance, the medicinal treatment should not by any means be neglected. It has been mentioned that in some cases it may seem proper to commence the treatment of this disorder by sedative medicines, without a preliminary cathartic. The best and the most useful gastro-intestinal sedative which we have is the subcarbonate of bismuth. This may be given in doses of from 0.30 to 1 or even 2 gm. (5 to 15, or even 30 grains). It frequently checks the vomiting, and has a favorable influence over the intestinal movements. It is often of benefit to add a small dose of phenyl salicylate (salol), a bowel antiseptic, to each dose of bismuth.

Next in importance and value to bismuth stands opium. While many physicians condemn the use of opium in these disorders, probably every physician who has much practice among children is often compelled to use it to save his patient. The best preparation of opium for use with children is the tincture of deodorized opium. Of this one drop may be given to a child one year old, and this dose may be repeated every two, three or four hours, if the child is in pain, or if he is not asleep.

In some cases it is desirable to give some of the digestive ferments in order to promote the digestion of food. A palatable essence of pepsin will often be found useful.

If the vomited matter or the stools are sour, the bicarbonate of sodium may be given with a carminative. For instance:

℞	Gm. or c.c.		
Sodii bicarbonatis	2		ʒss
Spiritus menthæ piperitæ	2	or	fl.ʒss
Syrupi	25		fl.℥i
Aquæ	ad 100		ad fl.℥iv

M. et Sig.—Give 1 teaspoonful, every two hours, in a little hot water.

In cases which are severe from the beginning, if there is much pain, with frequent copious watery movements, a hypodermatic injection of 1/100 of a grain of sulphate of morphin with 1/1000 of a grain of sulphate of atropin may be administered. If this dose is found to be too small, a larger dose may be given. By stopping the pain, by quieting the intestinal movements and the general restlessness, and perhaps by producing sleep, this will often do the little patient a great deal of good.

After the disease has continued for several days, if the heart becomes weak, brandy may be administered in doses of from 10 to 20 drops for a child one year old.

During recent years the use of buttermilk in diarrheal affections has found many advocates. Investigation of the bacteria found in the intestine in health and in disease has shown that the bacteria which are present in health disappear and their places are taken by other bacteria during the presence of diarrhea. It has been found that these diarrheal bacteria have their action inhibited by certain strains of lactic acid bacteria. There are a great variety of these lactic acid bacteria, perhaps twenty-five or more, and not all strains of the lactic acid bacteria are equally efficient against the pathogenic bacteria. But practically certain efficient strains have been found and have been cultivated, and these should be used when the treatment by buttermilk is to be undertaken. It has been customary in a great many places to pasteurize the buttermilk before it is given to the child, but this, of course, entirely nullifies any action of the lactic acid bacteria, and either fresh buttermilk should be given unpasteurized, or, if the pasteurized product is used, it should be freshly inoculated with an efficient strain of the lactic acid bacteria; otherwise no beneficial action can be expected.

The administration of lactic acid bacteria is not equally effective in all sorts of diarrheal troubles, but it has been found that they are especially useful in that class of cases which are termed "fermental" diarrhea. Clinically these cases are characterized by diarrhea which, as a rule, comes on suddenly. The movements are loose and watery, usually green in color, and with a foul or sour odor. The mucus, blood and pus which are usually present in enterocolitis are usually absent in this condition. The temperature may be elevated for a day or two, but this does not persist. Vomiting is common, and abdominal pain is present, but tenesmus is not. In cases such as these, the administration of buttermilk containing lactic acid bacilli will often prove very beneficial.

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SATURDAY, JULY 1, 1911

RESTRICTION OF THE SALE OF HABIT-FORMING DRUGS

The Boylan bill to prohibit the sale of hypodermic syringes or needles at retail without an order from a physician or veterinary, which passed the New York legislature some time ago, has been signed by the governor and is now a law. This measure is an effort on the part of the State of New York to control the growing use of morphin and cocain. Commenting on this bill the *Outlook* said editorially: "It seems incredible that there should be objection on the part of any intelligent person to the passage of such a measure. . . . It is beyond doubt that the availability of the hypodermic syringe has been as much a factor in the wide-spread use of morphin, cocain, etc., as the availability of the drugs themselves and that the vast majority of hypodermic syringes and needles are used to give morphin and cocain in a harmful way. The objection is made that drug fiends could easily obtain syringes and needles through the mails from druggists in another state. This is perfectly true and is, of course, the weak point in all state legislation designed to control the use of habit-forming drugs and instruments for their injection. If New York State will lead the way in this reform, however, there is little doubt that other states will follow so good an example. At all events, the lower grade of drug and department stores of New York and elsewhere would be deprived of one of their activities. . . . If the laity is buying hypodermic outfits we may, we think, rest assured that it is for the harmful injection of morphin and cocain."

The statement made by the *Outlook*, that hypodermic syringes and harmful drugs can be sent through the mails from other states having no restrictive laws, can and should be met by appropriate federal legislation prohibiting interstate commerce in hypodermic syringes, needles and habit-forming drugs, except by responsible and properly authorized persons. The suppression of traffic in these drugs for vicious purposes will probably necessitate the adoption of some restrictions and regulations on the part of physicians. For instance, in the bill introduced two years ago in congress, by Mr. Mann, intended for the suppression of interstate commerce in morphin and cocain, it was provided that physicians ordering such drugs from pharmaceutical houses outside of their own state must be registered with the federal authorities and must keep a record of the amount of such drugs ordered and the manner of their disposal. As was to be expected, this proposition brought out indignant protests from pharmaceutical mail-order houses and others who asserted that it was an infringement on the rights of the dispensing physician. To this cry was added the usual stock argument that the proposed legislation was inspired by a drug syndicate for the purpose of preventing dispensing by physicians. As a matter of fact, Mr. Mann's bill was drafted in accordance with the recommendations of the International Opium Conference held at The Hague and composed of representatives of the various nations interested in the suppression of the opium traffic.

Custom-house records show that the importations of opium and cocain into this country vastly exceed the amount required by physicians for legitimate purposes. Beyond question, the surplus is used for the gratification of drug habitués and the creation of new victims. The repression of this horrible traffic can be accomplished only by rigid regulation of the legitimate trade, for which a careful record of all sales and purchases of such drugs is essential. If such regulation imposes some inconveniences on our profession, it must be accepted as a part of our duty to the state and to the public. We must recognize the fact that the right to use dangerous drugs for saving life as a corollary carries with it an obligation to prevent the improper or harmful use of such drugs and that it is quite as important a duty of physicians to see that no person secures morphin or cocain who does not need it as it is to see that patients who are in need of the beneficent effects of such a drug are given the benefit of it. We congratulate New York on having been the first to pass such a bill and hope that her example will be speedily followed by all other states.

MEDICAL HISTORY CLUBS

A favorite statement of continental European writers is to the effect that the average English and American physician is often lacking in a proper interest in the history of his subject, the reason usually assigned being the intensely practical nature of the English-speaking practitioner, which allows him neither the time nor the inclination to approach his specialty from the historical side. While much of the best historical work in the past has undoubtedly been done by French and German scholars, like Littré and Daremberg, Choulant or Pagel, yet such exhaustive recent monographs as those of Adams, Greenhill, Payne, Norman Moore, D'Arcy Power, Osler, Sir Clifford Allbutt, Finlayson, Billings or Weir Mitchell have gone far to lift this imputation of late years. For the practitioner who writes, the advantage of a proper study of "origins" is, of course, self-evident. Much superfluous controversy, much waste of the writer's (and reader's) time and of a journal's space, might be saved if physicians investigating a subject always knew exactly what others had done before them.

A proper interest in the historical side of medicine might easily be stimulated by means of short courses in medical history for students before graduation or by the formation of medical history clubs among practitioners themselves. As such clubs are usually made up of kindred spirits, the membership of any is not likely to be too large, which has the double advantage of giving every one a frequent chance to read papers and of avoiding unnecessary repetition in discussions. As an example of what can be accomplished in this field we may instance the remarkable work of the Historical Club of the Johns Hopkins Hospital, which was organized in November, 1890, beginning with exhibitions of rare medical classics by Drs. Billings, Osler, Kelly and others, and which has since turned out so many fine papers, published in the *Bulletin of the Johns Hopkins Hospital*.

Another prominent medical history club, the Charaka Club of New York City, organized in 1898, consists of eighteen members and has already published three handsome volumes of transactions, which have been reviewed in these columns. Among the subjects treated were "Greek Medical Fees," "The Evil Spoken of Physicians," "The Cult of Æsculapius," "Antonius Musa," "Fracastorius," "Shakespeare's Last Illness," "The King's Touch for Scrofula," "Dutch Physicians in New Amsterdam," "Garth's Dispensary" and "Flaubert's Epilepsy"; and the proceedings have been enlivened by original poems, little plays, novelettes and facetiæ by the different members.

The Medical History Club of Washington, D. C. was founded in 1908, and prints its transactions in the *Old Dominion Medical Journal*. During the present year interesting papers on Auenbrugger, Pasteur and Bichat and "Casserius and Anatomic Illustration" were read. Practitioners of the town and country will find relaxation from the cares of their busy lives in little coteries of this kind and their papers will lend variety and interest to the journals and transactions of their respective medical organizations.

THE PRESIDENT AND THE FOOD AND DRUGS ACT

We have, for the past three weeks, called attention to the failure of the federal Food and Drugs Act, under the interpretation recently given it by the Supreme Court, to protect the public against loss both in health and pocket from lying claims regarding the curative effects of nostrums. As soon as the new interpretation became public, some of the more progressive members of Congress began to plan for getting an amendment to the pure food law that would specifically prohibit untruthful claims for therapeutic effects of drugs. President Taft, on June 21, took official cognizance of the blow that the Supreme Court decision had dealt the Food and Drugs Act by sending a special message to Congress urging the very amendments that are needed to restore that law to its previous efficiency. Said the President:

> "An evil which menaces the general health of the people strikes at the life of the nation. In my opinion . . . the sale of drugs under knowingly false claims as to their effect in disease constitutes an evil and warrants me in calling the matter to the attention of the Congress.
>
> "Fraudulent misrepresentations of the curative value of nostrums not only operate to defraud purchasers, but are a distinct menace to the public health. There are none so credulous as sufferers from disease. The need is urgent for legislation which will prevent the raising of false hopes of speedy cures of serious ailments by misstatements of the fact as to worthless mixtures on which the sick will rely while their diseases progress unchecked."

To meet the objection that has been raised in some quarters that the curative effect of nostrums is a matter of opinion and not of fact and that the opinion will vary both as regards the so-called schools of medicine and also as to individuals of the same school, Mr. Taft says:

> "No physician of standing in his profession, no matter to what school of medicine he may belong, entertains the slightest idea that any of these preparations will work the wonders promised on the labels."

And further:

> "Of course, as pointed out by the Supreme Court, any attempt to legislate against mere expressions of opinion would be abortive; nevertheless, if knowingly false misstatements of fact as to the effect of the preparations be provided against, the greater part of the evil will be subject to control."

That the amendment suggested by the President will be fought by the "patent medicine" interests is to be expected. The Proprietary Association, as recently as June 17, sent out a letter purporting to give "the legal aspect of the Johnson case." The gist of the letter is contained in the following sentence that appears in it:

> "As there is no science in therapeutics, the practice of medicine being based on opinion and not on definite scientific facts—any statement concerning the curative properties of any drug, chemical or medicine, is largely a 'matter of opinion' . . ."

In the opinion of the Proprietary Association—in other words, in the opinion of "patent medicine" makers—"the effect of the decision of the Supreme Court does not change or weaken the Food and Drugs Act in any particular."

President Taft, as evidenced by his special message, disagrees with the "patent medicine" men, for in his message he says:

> "I fear that if no remedial legislation be granted at this session the good which has already been accomplished in regard to these nostrums will be undone, and the people of the country will be deprived of a powerful safeguard against dangerous fraud."

We believe that the restrictions the President would have placed on the nostrum business are more likely to meet with public approval than the "wide-open" policy advocated by the makers of "patent medicines." Amend the act!

Current Comment

THE MILWAUKEE WATER-SUPPLY

About a year ago[1] a report by our special commissioner appeared in THE JOURNAL dealing with the relation between typhoid fever in Milwaukee and the water-supply. In that report the opinion was expressed that the excessive prevalence of typhoid fever in Milwaukee was chiefly due to a contamination of the public drinking-water with sewage. The conclusions then expressed have been fully confirmed by the report of a commission of well-known sanitary engineers which has been just submitted to the Milwaukee Common Council. The work of the commission, which has extended over more than two years, has led to several important recommendations. Immediate filtration of the water-supply is advised, with disinfection when necessary, this recommendation being based on the observation that "the waters of the bay are polluted by the sewage of the city and at times the water supply is contaminated." In accordance with the best practice the report advises that sewage purification be undertaken only to the extent necessary to prevent undue contamination of the rivers and bay. Specific recommendations are made concerning the installation of flushing works, intercepting sewers and trickling filters. If expert advice of this sort is followed, water-borne typhoid fever in Milwaukee will quickly disappear.

DIPHTHERIA AND MILK IN MINNEAPOLIS

The recent epidemic of diphtheria among the students and faculty of the University of Minnesota, which originated in one of the dairies supplying milk to the section of Minneapolis in which many of these persons resided, emphasizes several points regarding the transmission of infectious diseases. The human carrier of these infections is being found constantly to bear a wider responsibility in this respect, and the problem of eradicating many infectious diseases resolves itself into one of making human bacillus-carriers as harmless as possible. This is true of yellow fever, of malaria, of sleeping-sickness, of typhoid and of diphtheria. As a secondary medium of contagion probably no single substance occupies a more important rôle than milk, and the difficulties of removing all possibility of infection through this source are brought out forcibly in this Minneapolis epidemic of diphtheria. In line with the strenuous campaign for clean milk, which is now well-nigh universal, Minneapolis has adopted stringent regulations regarding the production and handling of milk and the measures have been fairly well carried out. It was found, however, that the source of the infection in this epidemic was one of the cleanest and best regulated dairies in the Minneapolis district. Almost ideal conditions obtained in the dairy, and the personnel seemed to be unobjectionable. The epidemic was traced to this source notwithstanding and the application of scientific methods in taking cultures from the throats of every employee revealed the fact that one, a man who handled the milk, though appearing well himself, was a carrier of the diphtheria bacillus. Prompt measures, including the isolation of the carrier, the destruction of the milk which this man had handled, the sterilization of all the utensils, the examining and quarantining of every person exposed to the infection and the disinfection of houses and schoolrooms promptly checked the epidemic; not, however, until twenty-two cases of diphtheria had developed. This instance illustrates the tremendous difficulty of absolutely ruling out all sources of contamination of the milk-supply, but it also illustrates the correct scientific method of getting at the origin of infections and of handling them promptly.

MISREPRESENTATION A WEAPON OF THE REACTIONARIES

One of the most important bills passed during the recent legislative season was Senate Bill 451, passed by the Arkansas legislature, creating a state department of health. This bill was opposed from the time of its introduction by the representatives of the National League of Medical Freedom, and the usual misstatements and stock editorials appeared in all the newspapers in the state which the interests behind this organization could control. One of the newspapers of Fort Smith published a stereotyped editorial which, with a few alterations, has been made to do service in many other states, opposing the passage of this bill and the establishment of a department of health by the state. The editorial contained an extract from the much-quoted paper of Dr. Samuel G. Dixon[1] which appeared in THE JOURNAL several years ago, but, in addition to the extract from Dr. Dixon's article, the following appeared as a part of the quotation: "The faithful allies, the physicians of the commonwealth are, of course, only those physicians who belong to and are in good standing in the state and county associations." As soon as this editorial appeared, one of the local members of the Association called the attention of the editor to the fact that this sentence did not appear in the paper as published in THE JOURNAL or in the printed record of the meeting, and that it has been interpolated without authority. Accordingly, in a subsequent issue the editor acknowledged the inaccuracy of the quotation and withdrew the interpolated sentence. The editorial in question is a fair sample of the methods followed by the organized interests which are opposing the forward movement in public health legislation. It would be well to scrutinize carefully the publications, pamphlets, and especially the "canned editorials" which are appearing in such quantities in the newspapers, in order to prevent further misrepresentation and distortion of facts.

SUICIDE REPORTS IN THE PRESS

The American Academy of Medicine, in cooperation with the American Medical Association, took action last year condemning the publication of details of suicides in the public press, and the former organization appointed a committee for the purpose of investigation along these lines. In an advance report[2] of the committee, now at hand, this attitude of the press is characterized as criminal. The evidence that the suggestive effect of reading details of suicides is a partial cause of this crime among susceptible persons unfortunately cannot be reduced to a mathematical demonstration. Statistics can show only by presumption the importance of this influence, which, however, is pronounced to be obvious by those who have had to deal with such persons. The committee believes that legislative steps to prevent publication of this class of news must be preceded by popular education. For this purpose the following suggestions are offered: 1. The coroners in large cities should keep data showing (a) dates of prominent publication of details and methods of suicides, (b) dates of subsequent suicides, grouping the cases by methods, (c) direct evidence obtained by investigation at inquests. 2. The papers should refrain from publishing such news for a month, and then all should simultaneously publish prominently an account of one such case. Again they should refrain from such publication for a month; meanwhile accurate records of cases and methods should be kept. If the results indicate a direct relationship, the publication of such news should be recognized as criminal. This would be animal experimentation on a large scale. The cooperation of the press could make possible some valuable deductions. The work of this committee will form weighty evidence as to the influence of the American press of to-day.

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[1] Typhoid Fever in Milwaukee and the Water-Supply, THE JOURNAL, July 16, 1910, p. 211

[1] Dixon, Samuel G.: Law, The Foundation of State Medicine, THE JOURNAL A. M. A., June 8, 1907, p. 1926.

[2] Presented at Los Angeles, June 24, 1911.

THE LOS ANGELES SESSION

According to telegraphic advices, the Sixty-Second Annual Session of the American Medical Association, held in Los Angeles, California, during the past week, has been a remarkably successful one in every respect. While the distance from the center of population was great and deterred many who otherwise might have been present, nevertheless, on Tuesday night 2,024 had registered—an unusual number when the location is considered. It is not too much to estimate that between 2,500 and 3,000 will be the total registration—perhaps more. It is probable that the larger proportion of the arrivals at this session are early in the week because there is not a very populous section of country in the vicinity from which members are apt to come after the opening of the session. A large number of ladies accompanied the members, as the attendance at the meeting is being made the occasion for a summer outing. Many special trains were sent to the meeting, and a common topic of discussion was what route to take on the return trip and how many different attractions of the western country could be seen. The entertainments provided by the local Committee on Arrangements seem to have been on a more splendid scale than at any meeting heretofore held. The reputation of California for hospitality has been increased by the treatment of the visitors at the Los Angeles session. Commencing on page 57 of this issue, THE JOURNAL devotes thirty-two pages to the official minutes of the House of Delegates, entirely covering its first and second meetings, Monday morning and afternoon, June 26, except for three small reports near the end. The minutes will be continued in THE JOURNAL next week. The Address of the President, Dr. John B. Murphy, delivered before the General Meeting Tuesday morning, appears as the leading article in this issue of THE JOURNAL. The publication of Section papers and discussions will begin next week, July 8. The character of the scientific proceedings is not behind that of other years. Some programs did not contain so many papers and thus more time was saved for discussion, which is always a valuable feature. The Sixty-Second Annual Session is thus a success in every way and an occasion of pleasure and profit to those so fortunate as to be able to attend it.

Medical News

CONNECTICUT

State Society Meeting.—The 119th annual meeting of the Connecticut State Medical Society was held at Hartford, May 24-25. The following officers were elected: president, Dr. John G. Stanton, New London; vice-presidents, Drs. D. Chester Brown, Danbury, and Robert C. Paine, Thompson; secretary, Dr. Walter R. Steiner, Hartford, and treasurer, Dr. Joseph H. Townsend, New Haven. The society will hold its next annual meeting at New Haven, May 22-23, 1912.

ILLINOIS

Another County Bulletin.—The Williamson County Medical Society has commenced the publication of a little four-page bulletin called the *Williamson County Physician*. It contains some constructive editorial matter, announcements of the next meeting of the society, some personal news items, and some advertisements.

State Board of Health Appropriations.—The appropriations of the State Board of Health for sanitary purposes were increased by the general assembly just adjourned. The sum of $46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was also made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately, it is specified in this appropriation that no part of this sum shall be expended for legal services.

State Board of Health Handicapped in Prosecutions.—The recently enacted law, in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fees, fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice act in the several counties of the state. Suits must be brought hereafter through state's attorneys, few of whom instituted prosecutions in the past even when paid the fines collected. The State Board of Health fears that under the present conditions, the state will be overrun with unlicensed practitioners, who will practice in defiance of the law.

Chicago

Chicago Society Election.—Chicago Medical Society recently elected the following officers: President, Dr. Joseph M. Patton; secretary, Dr. George F. Suker; councilors, Drs. Charles E. Humiston, Frederick Tice, Frank Billings, Hugh T. Patrick and Edward M. Brown.

Personal.—Dr. Henry G. W. Reinhardt, coroner's physician, has resigned to become statistician of the Cook County Hospital. He will be succeeded by Dr. Edwin R. LeCount, professor of pathology at Rush Medical College.——Dr. John E. Siebel, Jr., will sail for Europe soon.

LOUISIANA

Parish Society Reorganized.—The physicians of Vernon Parish met at Leesville, May 17, and reorganized the Vernon Parish Medical Association, electing Dr. Finas P. Jones, Leesville, president; Dr. N. M. Palmer, Fullerton, vice-president, and Dr. M. R. McAlpin, secretary-treasurer.

Personal.—Drs. Benjamin H. Talbott and Joseph H. Pankey have been appointed members of the Board of Health of Dodson.——Dr. Hugo A. Gabert, New Orleans, on the occasion of the twenty-fifth anniversary of his entrance into the profession, was given a silver service by the Firemen's Charitable and Benevolent Association.——Dr. K. Winfield Ney, Madisonville, has leased the Hammond Sanitarium.

Election of Medical Club.—At a meeting of the Physicians' and Surgeons' Club of Shreveport, May 23, it was decided that the club should be continued and it was recommended that the name be changed to The Academy of Medicine. The following officers were elected: president, Dr. William K. Sutherlin; vice presidents, Drs. Joseph E. Knighton, C. Pearl Munday and Thomas F. Long, and secretary and treasurer, Dr. P. W. Oden.

MAINE

Society Meetings.—The physicians of Sanford and Springvale met recently and organized the Sanford Medical Society, electing Dr. Charles W. Blagden, president; Dr. W. H. Kelly, secretary, and Dr. Ernest L. Burnham, treasurer.——At the annual meeting of Somerset County Medical Society, held in Skowhegan, the following officers were elected: president, Dr. Leander A. Dascombe, Skowhegan; vice-president, Dr. Walter S. Milliken, Madison; secretary, Dr. Harry W. Smith, Norridgewock; delegate to the Maine Medical Association, Dr. F. S. Merrow, Norridgewock, and censors, Drs. Walter S. Stinchfield, John E. Wadsworth, Showhegan, and Justin D. Ames, Norridgewock.

MARYLAND

Baltimore

Personal.—Dr. Alexius W. McGlannan received the degree of M. A. at the commencement of Rock Hill College, Ellicott City, June 16.——Dr. George Heller is reported to be seriously ill with rheumatism.——Dr. Albertus Cotton has received the degree of A.M. from Ohio University.——Drs. Frederick Taylor, Herbert M. Evans, Lillian Welsh and Mary Sherwood have sailed for Europe.——Dr. Albert H. Carroll will spend the summer at Woods Hole, Mass., in research work.——Dr. Gordon Wilson has been appointed a member of the board of managers of the Maryland Tuberculosis Sanatorium.——Drs. J. Conrad Uhlig, Joseph E. Gichner, L. R. Klemm and William W. Ford have sailed for Europe.

Johns Hopkins Commencement.—At the commencement exercises of Johns Hopkins University, June 13, a class of eighty-four received the degree of M.D. The following announcements were made of changes in the medical faculty: Dr. Thomas R. Boggs was made associate professor of medicine; Charles D. Snyder, Ph.D., associate professor of physiology; Dr. Frank J. Sladen, associate in medicine; William E. Burge, Ph.D., instructor in physiology; Dr. Karl M. Wilson, instructor in obstetrics; Dr. Solon A. Dodds, assistant in obstetrics; Eli K. Marshall, Jr., Ph.D., assistant in physiologic chemistry; Dr. Isaac R. Pels, assistant in dermatology, and Dr. Maxwell Ross, assistant in medicine.

MASSACHUSETTS

Massachusetts Medical Society.—The 130th annual session of the Massachusetts Medical Society was held at Boston, June 13-14, and the following officers were elected: president, Dr. George B. Shattuck, Boston; vice-president, Dr. Ernest S. Jack, Melrose; secretary, Dr. Walter L. Burrage, Boston; and treasurer, Dr. Edward M. Buckingham, Boston. The next meeting will be held at Boston in June, 1912.

Personal.—Dr. Henry E. Doonan, South Hadley Falls, has been appointed associate medical examiner for the Third Hampshire County District, vice Dr. David E. Harriman, term expired.——Dr. John H. C. Gallagher, Chicopee Falls, has been appointed medical examiner of the Fifth Hampden District.——Dr. Frederick H. Thompson has been chosen as school physician of Fitchburg.——Dr. John F. Sullivan has been appointed school physician of Boston.

MINNESOTA

Personal.—Dr. Hibbert Winslow Hill, director of the division of epidemiology of the Minnesota State Board of Health, received the diploma of public health from the University of Toronto, June 9.——Dr. Arthur W. Shaleen, Hallock, has returned from Europe.

Society Merger Favored.—The Minnesota Valley Medical Association, at its recent meeting in Mankato, voted unanimously in favor of forming a union with the Southern Minnesota Medical Association and appointed a committee to carry on negotiations to bring about this result. The Southern Minnesota Medical Association will act on the matter at its meeting in August.

NEW JERSEY

New Building for Sanatorium.—The budget of the city of Newark contains an item of $10,000 for the erection of a shack for the accommodation of patients on the sanatorium grounds at Verona, to accommodate thirty patients.

New Quarters for Academy.—The newly organized Academy of Medicine of Northern New Jersey took possession of its new quarters on the tenth floor of the Wiss Building, Newark, June 1. The academy occupies a half floor of the building and has accommodations for a laboratory, assembly room and office.

Building at Epileptic Village.—The contract for the erection of a building to be used for the treatment of feeble-minded men at the New Jersey Village for Epileptics, Skillman, has been awarded. The building is to cost $37,810.——An exhibition of the work done by the patients at the state village for epileptics was held in Newark, June 3, and on that day the institution was thrown open to the public for inspection.

Sanitarium for Treatment of Surgical Tuberculosis.—The North American Children's Sanitarium for the Treatment of Surgical Tuberculosis, Atlantic City, N. J., the direct successor of the North American Sanitarium for Convalescent Children, is about ready for the reception of patients. The sanitarium will be under the direction of an executive committee composed of Drs. H. Augustus Wilson, John B. Carnett and William L. Rodman of Philadelphia.

NEW YORK

For Flushing Hospital.—A benefit recently given netted $10,000 which is to be used for the erection of a new hospital for Flushing, L. I.

For Mount Vernon Hospital.—A twelve-day subscription campaign for the benefit of the building department of the Mount Vernon Hospital has resulted in pledges amounting to $75,000.

A Site for a Tuberculosis Hospital for Yonkers.—This city has received a gift of 5 acres of land as a site for a tuberculosis hospital from Alexander Smith Cochran. The common council will be asked to appropriate $50,000 for a building.

Personal.—Dr. Charles W. Webb, bacteriologist of the Clifton Springs Sanatorium, has been appointed bacteriologist of Ontario County.——Dr. Charles S. Allen, one of the oldest practitioners of Rensselaer, celebrated his 87th birthday, June 8.

New York City

Off for Europe.—The following have sailed for Europe: Dr. and Mrs. Theodore C. Janeway, Dr. and Mrs. Nathan E. Brill, Dr. William C. Lusk and Dr. and Mrs. Emery J. Thomas.

Addition to Minturn Hospital.—Plans have been filed for an additional story to the scarlet fever pavilion of Minturn Hospital at the foot of East Sixteenth Street, to cost $12,000.

German Bacteriologist Visits New York.—Dr. Erich Martini, a noted German bacteriologist who has been studying the bubonic plague in the far East for several years, and who has recently been visiting in New York City, has returned to Germany.

Local Medical Society Election.—At the annual meeting of the Harlem Medical Association, Dr. Thomas F. Reilly was elected president; Dr. Carl Goldmark, vice-president; Dr. Frederick C. Heckel, secretary; Dr. Seymour Oppenheimer, treasurer, and Drs. Frank C. Yeomans, John Remer and Martin Cohen, trustees.

Personal.—Dr. and Mrs. J. Wilford Allen. Dr. and Mrs. John D. Quackenbos and Dr. and Mrs. John Howland sailed for Europe.——Dr. Samuel B. Lyon, after fifteen years' service as superintendent of the Bloomingdale Asylum, will resign on July 1.——Dr. Charles S. Percival was rescued from a New Mexico desert recently by Capt. C. C. Farmer, Fourth U. S. Cavalry, and reached El Paso, June 11.——Dr. C. H. Chetwood received the honorary degree of LL.D. from Fordham University, at its commencement exercises, June 14.

Death-Rate Breaks Record.—Not in the history of the department of health has the death-rate for any one week been lower than for the week that ended June 11. There were 1,224 deaths from all causes recorded in the greater city compared with 1,389 for the corresponding week of last year, or 12.81 per cent. as against 15.81 per cent. in 1910. The death-rate from typhoid fever was the lowest that it had been in the last five years, there being five deaths as compared with ten of the previous year, and there were 385 deaths of children under 5 years as against 435 last year.

Cornell Commencement.—At the commencement exercises of Cornell University Medical College, June 14, a class of fifty-five was graduated. The John Metcalfe Polk memorial prizes were awarded to Helen Dudley, Elvira Dudley Dean and Wesley Manning Baldwin. Dr. Baldwin is to continue his studies in anatomy abroad during the coming year. The prizes in otology were given to Dr. Arthur William Justin and James

Edward McCormick. At a special meeting of the faculty, held prior to the commencement exercises, a set of engrossed resolutions was presented to Prof. Rudolph A. Witthaus, commemorating his years of distinguished service in the institution and expressing the regret of the faculty for his voluntary retirement from the chair of chemistry, toxicology and medical jurisprudence, which he has held since the college was opened. The dean expressed his satisfaction at the fact that Professor Witthaus would still retain a close connection with the college as professor emeritus.

OHIO

Personal.—Dr. Chalmers D. Morgan, Galion, has returned from Europe and is now located at Columbus.——Dr. Charles Barnsdall Parker, Cleveland, has received the honorary degree of Master of Science from the Ohio Wesleyan Medical School.——Dr. Fred L. Watkins, Columbus, registrar of the State Bureau of Vital Statistics, has handed in his resignation to Secretary of State Graves.——Dr. Frank H. Yarnell, West Lafayette, is suffering from blood poisoning in the hand as the result of a rusty nail scratch; although his condition is still serious, the progress of the disease has been arrested.——Dr. Harry E. Welch, Youngstown, has been reelected health officer by a unanimous vote.——The board of health of Dayton will make its headquarters at the home of Dr. Herbert C. Haning, a member of that board, at 143 West Fourth Street.

Cleveland

School Notes.—Fourteen men were graduated at the sixty-seventh annual commencement of the medical department of the Western Reserve University. The following faculty changes have been announced: Dr. George W. Crile was made professor of surgery; Dr. Carl A. Hamann has resigned as professor of anatomy and has been elected professor of applied anatomy and clinical surgery; Dr. Henry Gerstenberger was made assistant professor of pediatrics; Dr. Frederick C. Herrick, associate in surgery; Dr. Walter H. Merriam, associate in medicine; Dr. William H. Weir, associate in gynecology; Dr. John J. Thomas, associate in obstetrics; Dr. Davidson Black, associate in histology and embryology; Dr. James D. Pilcher, associate in pharmacology and materia medica; and George B. Farnsworth, instructor in obstetrics.——The medical department of the Ohio Wesleyan University, now absorbed by Western Reserve, graduates twenty-two men this year.

Personal.—Dr. John M. Ingersoll has sailed for Europe and will study in Vienna during the summer.——Dr. Henry O. Feiss has resigned his position as orthopedist to Lakeside Hospital and has suspended practice, expecting to devote his time to experimental research.——Dr. Chauncey W. Wychoff has been appointed assistant director of the Central Dispensary and Milk Laboratory of the Babies' Dispensary and Hospital.——Dr. Alfred I. Ludlow has resigned as demonstrator of surgical pathology in Western Reserve Medical Department.——Dr. Rodger G. Perkins has departed for his summer home in Rhode Island.——Dr. Henry Gerstenberger, director of the Babies' Dispensary and Hospital, has entered private practice.——Dr. Arthur M. Tweedie has moved to Dickinson, N. D.——Dr. David Marine has gone to California for the summer, and will devote his time to research work.——Dr. Harlan Pomeroy, who has been seriously ill with angina pectoris, is reported to be much improved.

PENNSYLVANIA

Births Exceed Deaths.—The bulletin of the State Department of Health, issued June 11, announces that in 1910 there were 209,636 births recorded in the state, as compared with 119.717 deaths.

Cement Region Physicians Meet.—The Cement Medical Association, at its annual meeting in Siegfried, June 6, elected the following officers: president, Dr. Edgar J. Klotz, Northampton; vice-president, Dr. Jacob E. Longacre, Weaversville; secretary, Dr. M. G. Miller, and treasurer, Dr. Nathan C. Peters, Cementon.

Personal.—Drs. Louis Starr, E. B. Mongel and Morris B. Miller have sailed for Europe.——Dr. J. Chalmers DaCosta received the honorary degree of LL.D. at the commencement exercises of the Villanova College, June 14.——Dr. Edgar Fahs Smith received the honorary degree of LL.D. from Rutgers College, June 21.

Philadelphia

Off for Europe.—Drs. Arthur V. Meigs, George Strawbridge and Alfred R. Allen sailed for Europe, June 17.

Reduction in Infant Mortality.—According to the report of the Bureau of Municipal Research, 336 babies under 2 years of age died from January 1 to June 1 during the present year as compared with 418 for the corresponding period of last year, a decrease of 20 per cent.

University Commencement.—At the 155th annual commencement of the University of Pennsylvania, held in the Academy of Music, June 21, Thomas R. Marshall, Governor of Indiana, delivered the address to the graduates and 152 men received the degree of doctor of medicine.

Personal.—Dr. John A. Kolmer has been elected professor of pathology and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. James C. Wilson, professor of practice of medicine and clinical medicine at the Jefferson Medical College for twenty years, has resigned.

Pier Hospitals Opened.—The summer's campaign against infant mortality was begun June 15 with the opening of the Chestnut Street and the Race Street Piers for poor children. There is a hospital on each one, but the Race Street Pier will be open day and night and will confine its work to the sick children, while the Chestnut Street Pier will be an open air playground and the beds will be used for tired children and those too small to walk. Milk will be supplied free to mothers for their infants and modified milk and barley water will be sold for 1 cent a bottle. Six nurses have been allotted to this work, three to each pier, and Dr. L. A. Wilkes is in charge of the Race Street Pier.

TENNESSEE

Nashville and Tennessee Universities Dissolve Relations.—The medical departments of the University of Nashville and the University of Tennessee, Knoxville, combined more than a year ago for the purpose of greater efficiency, have dissolved relations. The medical department of the University of Tennessee will be removed to Knoxville; that of the University of Nashville will be abandoned.

WISCONSIN

Personal.—Dr. and Mrs. Martin Hagen, Cashton, sailed for Europe, May 30.——Dr. Wade Hampton Brown, Madison, formerly assistant professor of pathology in the University of Wisconsin, has been elected professor of pathology in the University of North Carolina, Chapel Hill.—Dr. Aaron Yaffe, Milwaukee, intern in the Emergency Hospital for two years, has resigned.——Dr. John M. Dodd, Ashland, fractured his right arm, June 1, while cranking his automobile.——Dr. Bartholomew Bantley, for eight years surgeon of the Wisconsin Veterans' Home, Waupaca, has returned to Milwaukee to resume practice.——Dr. John P. G. Bjorkman, Racine, who has been critically ill with septicemia for several months, has recovered and resumed practice.——Dr. Sherman E. Wright, Marinette, has been made an honorary member of the Fox River Valley Medical Association.——Dr. Calvin F. Hess, Madison, who was operated on, May 2, for appendicitis, is convalescent and has returned home.——Dr. L. Winfred Sayles has been appointed health officer of Baraboo.——Dr. Maurice A. Bernstein, Kenosha, has been appointed senior physician at the Cook County (Ill.) Infirmary, Oak Forest.

GENERAL NEWS

Tri-State Physicians Meet.—At the semi-annual meeting of the Tri-State Medical Association of Ohio, Indiana and Michigan, held in Toledo June 6, the following officers were elected: president, Dr. Charles M. Smith, Toledo; vice-president, Dr. Victor C. Vaughan, Ann Arbor, Mich.; secretary, Dr. George W. Spohn, Elkhart, Ind. (reelected), and treasurer, Dr. Joseph A. Weitz, Montpelier, O. (reelected). The next meeting will be held in Fort Wayne Ind., in December.

Pediatrists Elect.—At the twenty-third annual meeting of the American Pediatric Society, at Lake Mohonk, N. Y., May 31-June 2, the following officers were elected: president, Dr. Augustus Caille, New York City; vice-president, Dr. Percival J. Eaton, Pittsburg; secretary, Dr. Samuel S. Adams, Washington, D. C.; treasurer, Dr. Charles Hunter Dunn, Boston; recorder and editor, Dr. Linnaeus E. La Fetra, New York City. The next meeting will be held in Hot Springs, Va., May 29-31, 1912.

National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.—At the tenth annual meeting of this association, held in St. Louis, June 16, the following officers were elected: president, Dr. William T. Shanahan, Sonyea, N. Y.; vice-presidents, Mr. W. C. Graves, Chicago, and Dr. Albert S. Priddy, Keyesville, Va.; secretary-treasurer, Dr. James F. Munson, Sonyea, N. Y.; chairman of the executive committee, Dr. David F. Weeks, Skillman, N. J.; and editor of transactions, Dr. William P. Spratling, Baltimore. The place of meeting for 1912 is yet to be decided.

Throat, Nose and Ear Specialists Hold Meeting.—The American Laryngological, Rhinological and Otological Society held its seventeenth annual meeting at Atlantic City, June 1-3, and the following officers were elected: president, Dr. G. Hudson-Makuen, Philadelphia; vice-presidents, Drs. Theodore W. Corwin, Newark, N. J., chairman of the eastern section; John A. Thompson, Cincinnati, chairman of the middle section; Dr. Thomas J. Gallaher, Denver, chairman of the western section, and Dr. Otto Joachim, New Orleans, chairman of the southern section; secretary, Dr. Thomas J. Harris, New York City, and treasurer, Dr. Ewing W. Day, Pittsburg, Pa.

Rockefeller Institute Staff Appointments.—At a recent meeting of the Board of Scientific Directors of the Rockefeller Institute for Medical Research the following staff appointments were made: Dr. Alfred E. Cohn, associate in medicine; Dr. Arthur W. M. Ellis and Alphonse R. Dochez, assistant resident physicians; Dr. Frank W. Bancroft, associate in experimental biology; Dr. Reinhard H. Beutner, assistant in experimental biology; Drs. James B. Murphy and Henry K. Marks, assistants in pathology; J. J. Bronfenbrenner, fellow in pathology; Dr. Frederick B. LaForge and Angelina M. Courtney, assistants in chemistry, and Helen L. Fales, research scholar in chemistry.

Climatologists Meet.—The annual meeting of the American Climatological Association was held in the new medical building of McGill University, Montreal, June 1 and 2, and the following officers were elected: president, Dr. A. D. Blackader, Montreal; vice-presidents, Drs. H. M. King, Loomis, N. Y., and Carroll E. Edson, Denver; secretary-treasurer, Dr. Guy Hinsdale, Hot Springs, Va.; representative on the executive committee, Dr. Roland G. Curtin, Philadelphia; alternate, Dr. Thomas Darlington, New York; councilors, Drs. John W. Brannan, New York, Thomas Darlington, New York, Thomas D. Coleman, Augusta, Ga., Charles E. Quimby, New York, and Edward R. Baldwin, Saranac Lake, N. Y.

Mississippi Valley Medical Meeting.—The preliminary announcement of the thirty-seventh annual meeting of the Mississippi Valley Medical Association has been issued. The association will meet at Nashville, Tenn., October 17-19, under the presidency of Dr. Robert H. Babcock, Chicago, the subject of whose address will be "Medical Tendencies." The address in surgery is to be delivered by Dr. Joseph D. Bryant, New York City, on "The Indebtedness of Posterity to the Pioneer Surgeons of the Mississippi Valley," and the address on medicine by Dr. James C. Wilson, Philadelphia, on "Doctors and the Public." There is to be a symposium, including both sections of the society, on the "ptoses," with papers by Drs. E. W. Suckling, Birmingham, Eng., on visceroptosis, and a report of four hundred operations for nephroptosis by Mr. D. Billington, Birmingham, Eng. There will also be symposiums on cholecystitis and genito-urinary diseases.

CANADA

Provincial Medical Association.—At the annual meeting of the Ontario Medical Association, held in Niagara Falls, May 30-June 1, the following officers were elected: president, Dr. Herbert A. Bruce, Toronto; vice-presidents, Drs. F. W. E. Wilson, Niagara Falls, William Hall, Brampton, F. Drake, London, and George Field, Coburg; general secretary, Dr. F. A. Clarkson, Toronto, and treasurer, Dr. J. Heurner Mullin, Hamilton.

National Laboratory at Ottawa.—Under the supervision of the Health Department of the Canadian Conservation Commission, Canada is to have established in the immediate future, a national laboratory for the manufacture of sera, vaccines, toxins and antitoxins. A subcommittee of the federal cabinet has approved of the proposal and has recommended speedy provision for the construction and equipment of the laboratory. This proposition also was endorsed by the Canadian Medical Association at several of its recent meetings.

Medical Convocation at McGill.—At the medical convocation of McGill University on the 5th of June, thirty-one candidates received their M.D., C.M. degrees. Dean Shepherd announced Lord Strathcona's latest gift of $100,000 for the completion of the new medical buildings. Honorary degrees of doctor of laws were conferred on Drs. Richard A. Reeve and Prof. Archibald B. MacCallum, Toronto; Dr. John Stewart, Halifax, and Hon. Dr. Henry E. Young, Victoria, B. C., and Drs. L. E. Barker and W. T. Councilman of the United States.

McGill Medical Reunion—New Medical Building Opened.—June 5 and 6 were the days set apart for the McGill medical reunion and the opening of the new medical buildings. The ceremony of opening the buildings was performed by Earl Grey, who was presented with a gold key for the occasion. The new medical building is by far the largest building of the group of buildings which comprise the university. It has a frontage of 268 feet toward the campus, and the east and west wings run back, respectively, 171 and 114 feet. The erection of this building was made possible by the generous donation of $450,000 by Lord Strathcona, which went to supplement handsomely the insurance of $336,500 on the buildings destroyed a few years ago by fire. The medical reunion brought together over 500 graduates.

Personal.—Dr. George A. Armstrong, Montreal, has been appointed chief surgeon at the Royal Victoria Hospital, Montreal, in succession to the late Dr. James Bell.——Dr. Andrew MacPhail, Montreal, was severely injured by the explosion of a bottle of aerated water, June 14.——Drs. J. W. Harris and George M. Biggs, London, have resigned from their positions on the staff of the London Hospital for the Insane and have sailed for England. The staff of the hospital presented them with a steamer trunk, club bag, gold-headed umbrella and addresses.

Annual Report, Queen's Medical Faculty.—The past session at the medical department of Queen's University, Kingston, Ont., was the largest in its history, the number in attendance being 232. Many other applications for admission were received but rejected for various reasons, showing that Queen's keeps a keen edge on the class of candidates it admits to the study of medicine. Twenty former students were also refused admission on account of incomplete matriculation. Owing to the death of Dr. Isaac Wood, Dr. Gordon W. Mylks was appointed associate professor of obstetrics and gynecology and professor of pediatrics; and Dr. Charles Alex Morrison appointed to succeed Dr. Mylks as associate professor of applied anatomy. Dr. George E. Kidd took charge of the anatomic department, succeeding Dr. Frederick Etherington, resigned. Dr. Kidd is, at present, spending the summer in Glasgow, London and Edinburgh. The faculty decided to develop its library and spend $5 per student per year on its maintenance.

Queen's University and the Ontario Medical Council.—In the bulletin issued quarterly by the Medical Faculty of Queen's University, Kingston, Dean Connell has something to say with regard to the proposed amendment to the Ontario Medical Act, fathered by the University of Toronto to confer special privileges, as regards examinations and licenses, on that institution. The proposed amendment did not find favor with the legislature nor yet with the medical profession at large throughout the province. The article states that "The council stands for a principle which is of vital interest for the maintenance and advancement of medical education in the province." Dean Connell considers that the council must grant a radical measure of reform or cease to exist—and this reform must take place at the coming meeting of the council in July. Propositions are advanced which will be supported by the representative from Queen's and also, it is understood, by other members of the council. 1. Matriculation to be uniform with junior matriculation in arts as conducted by the education department. 2. The universities to arrange the details of the courses; five years. 3. One final examination at the end of the fifth year; a workable system of assessors. 4. Fees reduced materially, say from $25 to $50; probably the establishment of fellowships or research scholarships. 5. Reorganization of the council as follows: eight territorial representatives, one homeopath, and three collegiates; thus doing away with four homeopaths, ten territorials and the five representatives from defunct medical institutions.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, June 16, 1911.

An Attempt to Assassinate Dr. Guinard

June 12, when Dr. Guinard, surgeon of the Hôtel-Dieu, was leaving the hospital, one of his former patients, named Herrero, sprang from behind a pillar and fired five shots into the surgeon's back before anyone could interpose. The would-be assassin said that he wished revenge on Dr. Guinard for excising his rectum without cause. Dr. Guinard was taken to the operating room, where Drs. Rochard and Pierre Duval performed a laparotomy, finding six intestinal perforations.

May a Pharmacist Absent Himself Regularly from His Shop?

The tribunal of the Seine was recently called on to decide the question whether or not a pharmacist who is regularly absent from his shop, except from 5 to 7 p. m., is thereby breaking the law. The pharmacist's apprentice and the pharmacist himself were both prosecuted: the first for illegal practice of pharmacy, and the second for complicity therein. The line of defense was that prescriptions were filled only in the evening under the eyes of the pharmacist. During the day the apprentice sold only non-medicinal products such as mineral waters, tooth pastes, etc. Under these conditions the defense held there was no illegal practice of pharmacy, even in the pharmacist's absence. The court, however, ruled against the defense and imposed on the apprentice a suspended fine of $100 (500 francs). It fined the pharmacist the same amount but did not suspend his fine. The Syndicat des pharmaciens, which was civil party to the suit, moreover obtained $40 (200 francs) as damages.

The Heroic Death of a French Army Physician

A dispatch from Ras-el-Ma announces that Dr. Lucien Auvert has just died like a hero in Morocco in the engagement of Mékès, two hours' distant from Fez. At the time of the first expedition to Morocco Dr. Auvert asked to be allowed to accompany the column but his request was refused. It was granted, however, at the beginning of the second campaign. Major Auvert had distinguished himself everywhere by acts of bravery, and his death, on the firing-line, where he was caring for a wounded soldier, was a fitting close for such a life. The injured soldier was about to be removed from the firing-line to have his wound dressed. "No," said Auvert, "to carry him away would be fatal. In a few minutes I can make a first dressing which may save him." While endeavoring to save the man's life he himself fell mortally wounded.

A Duty of Specialists Toward General Practitioners

In medical circles the question of the duty of specialists toward general practitioners is being warmly discussed in connection with the following incident: A Belgian physician attended a young married woman during her pregnancy and confinement, which presented nothing abnormal. The child was healthy. Nine months afterward the physician attended the same patient for a uterine affection. The husband then confessed to the physician that he had infected his wife at the time of his marriage and that she had been treated by a specialist who had had her under intensive mercurial treatment from the beginning of the pregnancy, but had failed to warn the obstetrician who had charge of the confinement. Thus the obstetrician and the nurse ran the risk of infection, for, being unwarned, they had taken no unusual precautions. There can be no doubt that a specialist does not infringe on medical secrecy in confiding to another physician, likewise bound to secrecy, the nature of a patient's disease, and that the specialist in the present case neglected a manifest duty in omitting to warn his colleague.

The Franco-American Institute

In a previous letter (THE JOURNAL, Feb. 12, 1910, p. 549) I mentioned the formation of the "Franco-America" committee for promoting exchanges between the United States and France. Frenchmen and Americans belonging to the scientific, artistic and political world, met on June 14 in the ministry of public instruction and formed the Franco-American Institute for the purpose of facilitating such exchanges. M. Emile Boutroux, who has recently visited the principal university and literary centers of the United States, made an interesting communication in which he sketched the intellectual and moral evolution which is taking place among the Americans, who are now, he said, learning to respect the antiquity which they have long despised in favor of bizarre novelties.

Medical Students and Classical Studies

During its last session the committee of the Association corporative des étudiants en médecine de Paris unanimously passed a resolution to the effect that classical studies constitute a preparation for medical study altogether superior to that which most young people intending to study medicine receive, and that in future no substitution ought to be allowed for the present diplomas and the baccalaureate degree, which are the best means of controlling secondary studies.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, June 10, 1911.

Personal

Professor Payr of Königsberg has been called to Leipsic as the successor of Professor Trendelenburg. Payr came to Königsberg a short time ago from Greifswald.

Professor Dürck, director of the institute of pathologic anatomy at Jena, is exchanging places with the prosector of the municipal hospital on the right of the Isar in Munich. This remarkable occurrence, in which a regular professor abandons his position for that of a prosector, is explained by the fact that in the first place Dürck is a native of Munich, and probably does not feel at home in Jena, a small university town, and further by the continual lack of pathologic material in Jena. Dürck was for many years assistant at the pathologic institute in Munich.

At the close of the summer semester, Prof. B. Fraenkel will resign his position on account of his advanced age and his impaired health of late years. The oft-renewed question whether the Berlin laryngologic clinic shall be maintained as a separate department or be merged with the otologic clinic will now attract attention. In general, the wish is expressed here that the former policy may be pursued and that Professor Killian of Freiburg may be asked to take Fraenkel's place. The contrary tendency, to unite both clinics under the direction of the otologist, Professor Passow, is so strong on account of the influence which Passow possesses in court circles, that it is doubtful how the question will be decided.

Professor Ehrlich has been elected as an honorary member of the Academy of Sciences at Bucharest, and has received the Liebig medal of the German Chemical Society as a special honor. The honors accorded to the discoverer of salvarsan are accumulating in an uncanny way and to an extent quite out of proportion to the real value of his discovery, and to the honors which such men as Robert Koch, Pasteur, Behring and other discoverers in former times received. The value of such distinctions in general, especially in Germany, has depreciated remarkably in consequence of their commonness of late. A striking example of this fact is the circumstance that the city of Kolberg voted the freedom of the city to a member of the Prussian state medical department, Professor Dietrich, for his services in organizing the recent congress of thalassotherapy. To obtain such an honor, the highest which a city can bestow, a man should have performed greater services than merely to make arrangements for holding a scientific annual meeting.

The Königsberg anatomist, Stieda, celebrated the semicentennial of his doctorate June 10.

Legal Consequences of a Physician's Experiment

As a result of his studies on trachoma which led him to the apparent result, not confirmed by others, that the germ of trachoma was a modified gonococcus, Dr. Herzog, privat-docent in ophthalmology in Berlin, undertook experiments in April of last year in the ophthalmologic clinic at the municipal hospital of Triest, to confirm his conclusions. Among other methods he asked of Dr. Manzutto, the director of the department, the privilege of inoculating the blind eye of a patient with a culture of gonococci. Dr. Manzutto at first refused his consent on account of the danger of causing an infection of the sound eye, but he finally allowed himself to be persuaded to consent. Without the knowledge of Dr. Manzutto, Dr. Herzog made a second injection, and that after the sound eye had been operated on for cataract. Soon after the injection of a virulent gonococcus culture, an inflammation of the operated eye set in which endangered vision, but was finally cured. As a result of the injury to the patient suit was entered against Dr. Manzutto, while Dr. Herzog, anticipating that he would be held responsible, left Austria. Dr. Manzutto was fined $50 by the lower court, but he appealed from this judgment and was acquitted at the second trial, on the plea that he could not have supposed that a man of recognized scientific reputation would, behind his back, apply a method different from that which had been discussed between them.

Care of the Insane in War

A number of measures for the care of the insane in time of war have been taken by the Prussian military authorities. A supply of hypnotics and sedatives for quieting excited maniacs has been installed at the individual army posts. As under some circumstances it may be necessary to provide a special ward for the insane, there have been provided for each depot of supplies twelve tubs for permanent baths, twenty box or lattice beds, twenty pairs of shoes which cannot be torn, twenty straight jackets, and finally a number of earth-closets (*Torfmullklosetts*). A number of the nurses of the military hospital service have been specially trained for the care of the insane. An increasing number of physicians are required to attend psychiatric clinics in receiving their training so that a sufficient number of the medical force will be available for the care of mental cases. Special cars for the transport of these patients to their homes need not be provided, as the ordinary hospital train can be adapted to this purpose, with a few slight changes which can be quickly made and will not be needed in the first few weeks of a war.

Urine Examination in Official Public Health Work

The faculty of the Kaiser Wilhelm military medical school has reported on the question whether a reliable reagent for the detection of albumin in urine can be recommended for the examination case of sanitary officers. The report states that albumin and globulin occur in traces in normal urine, but that these traces are not discoverable by the classic tests without especial preparation. A urine in which these tests give negative results may be regarded as free from albumin. On the other hand, all albuminurias of clinical importance are detected by the ordinary tests. As army surgeons cannot carry caustic liquids in their outfit, the materials for the test of Bödeker in the form of powdered citric acid and tablets of potassium ferrocyanid are to be recommended. Naphthalinsulphonic acid, on which the faculty was asked to make a special report, may be regarded as a serviceable test for albumin, but must be used by a physician acquainted with the sources of error.

Hygiene and Votes for Women

With us the advocates of woman's right to vote on social and political questions use every opportunity to advance their cause. Thus there is to be a discussion at a conference held by the advanced women's clubs of Dresden, in connection with the international exposition of hygiene, on the connection between hygiene and woman's suffrage. The care of youth, housing reform, protection of working women, prostitution, and the campaign against alcohol are to be discussed in a series of addresses from the standpoint of woman's suffrage. A public meeting in behalf of the cause is to be held in the large lecture hall of the hygiene exposition, at which addresses will be made on the importance of woman's suffrage in its relation to the family, the community and the state.

Marriages

Clarence Leonard Olson, M.D., McIntosh, S. D., to Miss Ruth Eleanor Cook of Mankato, Minn., June 14.

James Henry Hatfield, M.D., Barren Fork, Ky., to Miss Julia McClancy of Flat Rock, Ky., June 12.

Thomas Linwood Bennett, M.D., New York City, to Miss Ethel Hope of Bayside, L. I., June 10.

Albert Merher Moore, M.D., to Miss Annie Haseman Brown, both of Philadelphia, June 6.

Charlie A. Fowler, M.D., Supply, Okla., to Miss Grace A. Cunningham, at Bevier, Mo., May 30.

Walter Truslow, M.D., to Miss Josephine Stearns Bacchus, both of Brooklyn, N. Y., June 14.

Ethan A. Nevin, M.D., Newark, N. Y., to Miss Louise Hart Dolley of Albion, N. Y., June 10.

Frank J. Pokorney, M.D., to Miss Charlotte Henrietta Wolf, both of Chicago, June 13.

Jacob Rosenbloom, M.D., New York City, to Miss Merla G. Cohen of Baltimore, June 14.

Willard Thompson, M.D., Chicago, to Miss Hazel Crofoot of Sandwich, Ill., June 14.

Leo Thomas Myles, M.D., to Miss Helena Murphy, both of Cambridge, Mass., June 13.

Demeter Kalinoff, M.D., to Miss Alice Pennington, both of Stillwater, Minn., June 8.

Walter Estell Lee, M.D., to Miss Margaret Gordon, both of Philadelphia, June 14.

Arthur D. Bechtel, M.D., to Miss Leita Jones, both of Sacramento, Cal., June 3.

Herman J. Betten, M.D., to Miss Edith B. Dawes, both of Garneill, Mont., June 8.

John Bodine Lowman, M.D., to Miss Ray Test, both of Johnston, Pa., June 14.

Henry P. Graul, M.D., St. Louis, to Miss Alice Hafner of Haven, Kan., June 14.

Ross C. Ottinger, M.D., to Miss Edith Lawrie, both of Indianapolis, June 14.

Janet Malcolm, M.D., to John F. Wohlgemuth, both of Chicago, June 10.

Paul Rider, M.D., to Miss Nellie Delia Morris, Morgantown, W. Va., June 13

Deaths

Daniel M. Dill, M.D. University of Michigan, Ann Arbor, 1867; of Newark, N. J.; a veteran of the Civil War; at one time coroner of Essex County; a member of the Board of Freeholders from 1884 to 1890 and again from 1892 until 1900; formerly superintendent of the Essex County Hospital for the Insane; a member of the Medical Society of New Jersey; at one time on the visiting staff at St. Barnabas Hospital, Newark; died at his home, June 9, from nerve paralysis brought on by injuries received in a fall several years ago, aged 71.

Benjamin B. Leonard, M.D. Medical College of Ohio, Cincinnati, 1853; a veteran of the Civil War; ex-president of the Ohio State Medical Association, the Northwestern Ohio and the Logan County Medical Societies; an honorary member of the Indiana and West Virginia State Medical Associations, and the Alumni Association of Jefferson Medical College; died at his home in West Liberty, O., June 15, from chronic gastritis, aged 86.

James Carmichael Hutchison, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the American Medical Association; formerly president of the Rensselaer County (N. Y.) Medical Society; for twenty-three years attending physician to the Troy Hospital; died at the home of his daughter in Rockford, Ill., June 11, from cerebral hemorrhage, aged 65.

William Harvey Rush, M.D. Washington University, St. Louis, 1901; a member of the American Medical Association; lecturer on clinical chemistry and microscopy in his alma mater; a member of the staff of Washington University Hospital and clinical assistant in Washington University Hospital dispensary; died suddenly at his home in St. Louis, June 2, aged 45.

William J. Mathews, M.D. University of Tennessee, Nashville, 1890; a practitioner of Austin, Tex., for over thirty-five years; formerly a member of the American Medical Association; attending physician at St. Edward's and St. Mary's Colleges; at one time city health officer; formerly president of the school board; died at his home, June 6, aged 62.

John Lewis Fortier, M.D. Medical School of Maine, Brunswick, 1883; a member of the Maine Medical Association and Waterville Clinical Society; an alderman of Waterville from 1908 to 1910; for many years city physician, and in 1908 representative in the state legislature; died at his home, June 4, aged 58.

John Henry Brierley, M.D. Starling Medical College, Columbus, O., 1878; of Glasco, Kan.; formerly a member of the American Medical Association; a member of the state legislature for several terms; local surgeon of the Union Pacific Railroad; died at a hospital in Kansas City, June 14, aged 62.

Jacob C. Kreamer, M.D. Berkshire Medical College, Pittsfield, Mass., 1859; of Aquashicola, Pa.; a member of the Carbon County Medical Society; formerly coroner of Carbon County; at one time a member of the state legislature; died at his home, June 7, from paralysis, aged 77.

Harvey A. Warner, M.D. University of Wooster, Cleveland, O., 1873; of Topeka, Kan.; a member of the Kansas Medical Society; lecturer on life insurance in the Kansas Medical College, Independence; died at his home, June 9, from a stroke of apoplexy received February 16, aged 61.

Charles F. Doyle, M.D. Jefferson Medical College, 1880; of Centreville, Pa.; a member of the Bedford County Medical Society; coroner of Bedford County; tax collector and school director of his township; died at his home, June 6, of locomotor ataxia, aged 55.

William H. Riker, M.D. Medical College of Ohio, Cincinnati, 1876; a member of the American Medical Association; president of the Darke County Medical Society; died at his home in Versailles, O., May 27, from cancer of the bowels, aged 61.

David S. Livingston (registration, Texas, 1902); of Llano; formerly a member of the American Medical Association; division surgeon of the Atlanta & Pacific Railroad; died in a hospital in Austin, June 5, from appendicitis, aged 50.

James Taylor Williams, M.D. Medical College of Virginia, 1881; for many years a practitioner of Russell County, Va., and Sullivan County, Tenn.; died at his home in Bristol, Tenn., April 24, from asthma, aged 59.

Irving W. Johnson, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1856; one of the oldest practitioners of Illinois, died at his home in Peoria, June 12, of septicemia, due to a carbuncle, aged 79.

Frederick Adam Powell, M.D. Jefferson Medical College, 1891; a member of the American Medical Association; oculist and aurist of Sioux City, Ia.; died at his home, June 7, from disease of the liver, aged 43.

Charles Ellis Holmes, M.D. Medical College of Georgia, Augusta, 1901; of Millen, Ga.; member of the city council; county, city and railroad physician; died at his home, June 12, from acute indigestion.

John Wesley Watenpaugh, M.D. Hahnemann Medical College of the Pacific, San Francisco, 1905; of Weaverville, Cal.; died in a Redding, Cal., hospital, May 25, from typhoid fever, aged 32.

Humphrey Howell Bate, M.D. Medical Department University of Nashville (Tenn.), 1868; a veteran of the Civil War; died at his home near Castalian Springs, Tenn., June 8, aged 66.

Daniel Joseph Kelley, M.D. Jefferson Medical College, 1902; a member of the American Medical Association; died at his home in Worcester, Mass., June 10, from kidney trouble, aged 53.

Solomon S. Stearns, M.D. Georgetown University, Washington, D. C., 1868; a veteran of the Civil War; died at his home in Washington, D. C., June 10, from heart disease, aged 72.

Ransom Terry, M.D. University of Buffalo (N. Y.), 1874; one of the best known practitioners of Cattaraugus County, N. Y.; died at his home in Hinsdale, June 8, aged 72.

Clarence E. McFall, M.D. Louisville (Ky.) Medical College, 1891; formerly of Peoria, Ill.; was killed, June 6, by a cave-in while digging a trench on his ranch at Corona, Cal.

Charles Ott, M.D. Ensworth Medical College, St. Joseph, Mo., 1895; of Kansas City, Kan.; died at the home of his son in Higginsville, Mo., June 9, from nephritis, aged 60.

Thomas Hartford Wileman, surgeon of volunteers during the Civil War; died at his home in Seneca, Kan., January 3, from senile debility, aged 81.

Aaron B. Avery, M.D. University of Michigan Homeopathic College, Ann Arbor, 1878; died at his home in Pontiac, Mich., June 12, from heart disease.

Eugene S. Judkins, M.D. Miami Medical College, Cincinnati, 1870; of Highland, O.; died at Evanston, O., June 13, from Bright's disease, aged 65.

John A. Farren, M.D. Baltimore (Md.) Medical College, 1893; of Chicago; was found dead in Hot Springs, Ark., June 1.

John William Reno (license, Kansas, 1901); died at his home in Tonganoxie, June 3, from heart disease, aged 65.

George W. Walden (license, Missouri, 1883); of Miami Station, Mo.; died at his home, June 5, aged 81.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

DEKOFA

A Caffein-Poor Coffee

To those who would indulge their cravings, but whose health will not permit such indulgence, alcohol-free beer, nicotin-free cigars and caffein-free coffee is an ever-alluring subject. Unfortunately these articles have in the past been free from their objectionable constituents in name only, or if true to claim were unsatisfactory substitutes for the real articles—for beer without alcohol, tobacco without nicotin and coffee without caffein is much like "Hamlet" with Hamlet left out. In the end, those whose health interdicts the use of these stimulants wisely become total abstainers rather than consumers of unsatisfying substitutes, which but perpetuate the craving.

Recently a "decaffeinated" coffee, advertised and sold in this country by Merck & Co., first as "Dekafa" and now as "Dekofa," has attracted some attention, judging from the inquiries received regarding it. It is evident from these inquiries that physicians in view of past experiences no longer rely on the unconfirmed statements of manufacturers but require more convincing evidence than such statements before accepting the product for what it is sold. In view of the many inquiries regarding Dekofa the Association chemists investigated the product and report:

Dekofa is sold on the retail market in 1-pound packages labeled:

> "Dekofa—a genuine coffee from which the stimulating drug caffein has been largely removed. Particularly adapted for those to whom ordinary coffee is forbidden."
>
> "Use precisely as ordinary coffee—no special directions for making are needed."

Besides the above the following statements, some addressed to the laity and others to the profession are found in the advertising matter:

> "Does the doctor forbid you coffee? Then ask him about Dekofa or Merck's 'Caffeinless' coffee. Most probably he'll let you drink that—and lots of it too."
>
> "Drink it at home and you won't have to drink it in Europe—and you may not have to go to Europe for your health, either."
>
> "There is no need of you forbidding coffee to your patients troubled with 'heart' or 'nerve' or 'stomach' complaints, if you will direct them to use Dekofa, Merck's 'Caffeinless Coffee.' "
>
> "The average caffein content of ordinary coffee is 1.3 per cent. Dekofa contains approximately 0.13 to 0.15 per cent. of caffein or about 10 per cent. only of the normal content."

From the standpoint of the chemist the claims made by the manufacturer bring up for discussion the following points: Dekofa is spoken of as "Merck's Caffeinless Coffee." This term would signify that the coffee is free from caffein but as the firm makes a statement that the product contains 0.13 to 0.15 per cent. caffein it is evident that here the manufacturers seek exemption from the truth under a sort of poetic license enjoyed in the past by "patent medicine" exploiters. The use of the phrase "caffeinless" can do but one thing—disguise the truth and hence should be dropped.

The firm asserts that "the average caffein content of ordinary coffee is 1.3 per cent." According to published analyses the caffein content of coffee varies from 0.64 per cent.[1] to 3.64 per cent.[2] This variation is due in part to natural causes and in part to the unsatisfactory methods of assay. Thus one investigator finds in coffee of different sources 0.64 to 1.53 per cent. caffein,[3] while three experimenters, working on the same specimen of coffee, reported, by the provisional method of the Official Agricultural Chemists, results ranging from 0.28 per cent. to 0.89 per cent. caffein and by another method from 1.02 per cent. to 1.21 per cent. caffein.

These results make it evident that no reliable average caffein content for coffee can be given, particularly when the method of assay is not defined. We are not in a position, however, to deny the correctness of the average caffein content of coffee as given by Merck & Co., nor, therefore, the claim that the presence of 0.13 per cent. caffein is an indication that 90 per cent. has been extracted. Assuming for the present that 0.13 per cent. caffein does indicate the removal of 90 per cent., and in view of repeated inquiries it was decided to determine whether the actual caffein content of this product on the market agrees with the manufacturers claims.

To determine the caffein content (1) the modified provisional method of the Association of Agricultural Chemists (*loc. cit.*) and (2) a method proposed by Görter (*ibid.*) were used and the following results obtained:[4]

1. (*a*) 0.13 per cent.; (*b*) 0.17 per cent. or an average of 0.15 per cent. caffein.

2. (*a*) 0.21 per cent.; (*b*) 0.25 per cent. or an average of 0.23 per cent. caffein.

Although these results vary somewhat, due to the different methods of assay used, they show that the caffein content of the product agrees in general with the claims. In conclusion it may be said that in those cases in which physicians feel called on to interdict the use of coffee and in which the patient is not willing to give up the habit, this product—unsatisfying as it is—may be used with the knowledge that it is relatively free from caffein.

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[1] Arch. Pharm., 1876, p. 294.

[2] Allg. Kaffee Zeitung, Rotterdam, from Proc. Amer. Pharm. Assn., 1885, p. 144.

[3] Arch. Pharm., 1876, p. 294.

[4] The details of analysis will appear in the annual report of the Association laboratory.

Correspondence

Salvarsan and Patents

To the Editor:—I was very much interested in the article by Dr. F. E. Stewart of Germantown, Pa., that appears on page 1676 of your journal of June 3, 1911. [It is not the article, but an abstract thereof, in the report of a society meeting.—Ed.]

I have noticed a number of articles of this kind on Salvarsan and Professor Ehrlich, appearing in many instances in the "house journals," or written by indirect employees of some of the manufacturing concerns on this side. [Our correspondent here refers to the connection of Dr. Stewart with the H. K. Mulford Co.—Ed.]

It is interesting to note that Dr. Stewart says, "we are told." It is hard to tell by whom "we are told," and a statement a little more definite would be interesting. Without going into the merits of Professor Ehrlich's discovery, or the Professor's professional ethics, which I hardly believe need any championing, did it ever occur to the physicians at large, what might happen if a product like Salvarsan which has taken years of research and large sums of money to perfect, were not patented or covered in some way to guarantee that the product finally put on the market, would be reliable?

I recall very clearly some years ago that when the Hoechst-Farbwerke, who are now putting out Salvarsan, also put diphtheria antitoxin on the market, they did not take the precaution of patenting it at the time, or copyrighting a name for the product. The result was that through the description of the works, which Consul-General Mason, then in Frankfurt, sent to the United States, it was only a short time before antitoxin plants sprang up all over this country. Not only private individuals, but local boards of health began to make antitoxin, without yielding the inventor or the firm that made it possible, through investigations, to produce the product commercially, any royalty or remuneration of any kind, but instead, depriving them of a legitimate market in which there was a great demand for the product.

The imported article paid 25 per cent. duty. When the McKinley tariff was under discussion, there appeared one morning a clause placing antitoxin in the dutiable list at 100 per cent. This was not inspired by any clamor for the "home product," but simply by some manufacturers on this side who had taken up the making of antitoxin. Senator White of California moved to have the clause stricken out, and it remained with a duty of 25 per cent., which it still pays.

A patent was eventually granted for antitoxin to the Farbwerke, but they never saw fit to avail themselves of this protection or interfere in any way with those manufacturing on this side.

Your files will probably show that in one city at least, which took up the manufacture of antitoxin, the unfortunates who were treated with it, died of lockjaw, although they were cured of diphtheria. Another one of the American manufacturers who very strenuously objected to the Board of Health of New York city selling antitoxin to other cities, I found on investigation, during my recent incumbency of the office of comptroller of this city, was one of the best customers that the board of health had for its surplus antitoxin, and that the firm in question bought it in bulk, put it out under its own label, and continued discussing the ethics and propriety of a municipality competing with a private industry.

If Professor Ehrlich and the Farbwerke, in the interests of all concerned, and primarily those needing the remedy, have decided to protect in every way its production by patent as well as trade mark in all countries of the world, they are certainly guaranteeing to the profession and the sufferers the quality of the product they use.

Undoubtedly, there are others who could manufacture Salvarsan, but it does not follow that every one with a laboratory, or stable for producing vaccine virus or antitoxin, can produce as complicated a chemical preparation as Salvarsan. It would be pretty hard to tell just what might be turned out if some one took up the manufacture on a large scale, and sold it in bulk for proprietary houses to sell under their own label.

It is not always well to generalize, and what may not be quite ethical in one case may be more than ethical, and in fact, eminently proper and fitting in another.

It is well sometime to inquire into the sources of these complaints, and the antecedents, and motives of some of those who either directly or indirectly are responsible for these veiled insinuations against the acts of others.

As before stated, neither Professor Ehrlich, nor Salvarsan, nor the Farbwerke Hoechst, need any apologies or justification for their acts from me. They are all large enough to stand by themselves on their records.

But to one who knows something about the inside of these matters, it is certainly illuminating and impressive to see the many ways in which some folks try to create unfavorable impressions regarding a new product, "of course," in the most "disinterested" manner, and on the basis of the "highest possible ethics."

H. A. Metz, New York.
President, Victor Koechl & Co.

[Comment.—This letter presents the views of a manufacturer of proprietary medicines. While there is some justification for his attitude, and while we do not wish at this time to discuss the ethics of proprietorship in medicines, we believe that the medical profession will disagree with the view taken. The public could have been protected in other ways than by monopolizing salvarsan. If Professor Ehrlich had published in detail the method of manufacturing salvarsan and had provided standards and tests whereby its good quality could be determined, the difficulty in securing for the medical profession a supply of unquestioned purity would not have been an insurmountable one.—Ed.]

Commissions Offered and Refused

THE OFFER

Dr. ——— ————

Dear Sir:—You will receive our check for $3.00 for every woman for whom you prescribe one of our ——— ——— as soon as we receive our pay for it. Your patient will get the best materials and workmanship she ever had. . . .

Respectfully yours,
——— ——— Co.

THE ANSWER

——— ——— *Company,*

Dear Sirs:—I have your letter stating that you will send me a check for $3.00 for every woman for whom I prescribe one of your ———.

You are perhaps not aware that all right-thinking members of our profession make a note of such a letter, and take particular pains to see that no people are sent to you. We have a list of several manufacturers who offer us commissions or profit in one way or another, and we keep the list in order to make sure that no one is sent from us to them.

Yours truly,
——— ——— ———.

Single Trauma and Cancer.—H. Schöppler adds another to the few cases of this kind on record. A cancer developed in the breast of a woman of 36, a month after a fall on the stairs, the left breast striking the banister post. By the third month an excised scrap of the tumor showed carcinoma, and recurring growths developed two months after its removal. The breast had been previously normal, he states, and the single trauma had undoubtedly led to the development of a carcinoma. The case is reported in the *Zeitschrift für Krebsforschung*, 1911, x, 219. Abramowski in the same number publishes a study of the predisposition and irritation as factors in cancer. He ascribes the increasing prevalence of cancer in women to the measures to prevent pregnancy and the lack of breast nursing which affects injuriously both the mother and child. In men the consumption of alcohol is a predisposing factor.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

ROENTGEN-RAY PICTURE: ROENTOGRAM; ROENTGRAM

To the Editor:—What shall we call the Roentgen-ray picture? Every term proposed and used to date is too general or else too much of a jaw-breaker or time-waster. "Skiagram" is not a good term, for this means merely a shadow picture, whereas radium, the Becquerel rays and probably other substances soon to be discovered all produce shadow pictures. "Radiogram" is open to the same objection, since a number of different kinds of rays are able to produce shadow pictures. Life is too short and time too fleeting to use the term "roentgenogram," which roentgenologists are trying to force on the world. Even if we adopt it now it will be thrown out as useless ballast sooner or later. What is the matter with "roentogram?' This indicates the special Roentgen technic, while it is comparatively terse and is readily found in the index on turning to Roentgen. It seems absurd to index under A ("actinogram") or S ("skiagram"), or X ("*x*-ray picture") what one naturally would turn to under R ("roentogram"). C.

Answer.—If long words trouble our correspondent, why not go one step further and use "roentgram" ?

MALARIA AND METHYLENE-BLUE

To the Editor:—What is the dosage and method of administration of methylene-blue in chronic malaria? When was malaria discussed in your therapeutic column? G. P.

Answer.—Methylene-blue may be administered in doses of 0.13 gm. to 0.2 gm (2 to 3 grains), given in capsules with a little powdered nutmeg, repeated every four hours. The patient should always be warned that his urine will be colored blue. This treatment should never be used in estivo-autumnal malaria. The treatment of the different forms of malaria is discussed in the Department of Therapeutics in The Journal, Aug. 3, 1907, p. 427; Aug. 17, 1907, p. 615, and Aug. 31, 1907, p. 786.

PREPARATION OF COW'S MILK FOR MARKET

To the Editor:—Some years ago I read an article on preparing cow's milk for market. When fully prepared, according to this article, there was nothing added to the milk except 0.5 per cent. of water. Can you help me get that article?

H. S. Pickard, North Syracuse, N. Y.

Answer.—Budde, in 1904, advocated the treatment of milk with 0.5 per cent. hydrogen dioxid and subsequent heating to 52 C. (125 F.) in a covered vessel and keeping at this temperature for eight or ten hours. Subsequent investigations appear to have shown that the process is unreliable, in that it does not completely destroy the bacteria and appears to destroy a ferment contained in milk, which is probably useful. The method is quite fully described in Hewlett's article "Experimental Investigation of the Budde Process for the Preservation of Milk" (*Lancet*, London, Jan. 27, 1906; abstr. in The Journal, Feb. 24, 1906, p. 621). The following references may be consulted:

Budde: New Method of Sterilizing Milk, *Hygiea*, lxvii, No. 3, 1904; abstr. in The Journal, May 21, 1904, p. 1396.

Medin, O.: Treatment of Milk with Peroxid of Hydrogen, *Hygiea*, March, 1908; abstr. in The Journal, May 23, 1908, p. 1762.

AN ERROR IN DOSAGE OF POTASSIUM IODID

To the Editor:—In the article by C. H. Snover on "Chronic Lead Poisoning" (The Journal, June 17, pp. 1799-1800), under the heading "Treatment" the author is made to give 30 gm. of potassium iodid three times daily. Should not this be 30 gr. three times a day instead of 450 gr.?

Thomas H. Dickson, Jr., M.D., St. Paul, Minn.

Answer.—The dose as it appears on the printed page is certainly excessive. This is a case of a dropped decimal point. The dose in the manuscript read ".30 gm."

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 24, 1911.

Frick, Euclid B., lieut.-col.; Ashburn, Percy M., major, and Thornburgh, R. M., major, ordered to proceed to Los Angeles to represent the Medical Department of the Army at the sixty-second session of the American Medical Association, June 27-30, 1911.

Fauntleroy, P. C., major, relieved from medical supply depot, St. Louis, and ordered to Fort Benjamin Harrison, Ind., for duty.

Manly, C. J., major, granted leave of absence for one month.

Dade, Waller H., M.R.C., will proceed from San Francisco to his home and on arrival report by telegraph to the adjutant-general of the Army; Lieutenant Dade will stand relieved from active duty in the M.R.C. on expiration of leave of absence granted him this date; granted leave of absence for three months and one day, to take effect on arrival at his home.

Hess, John H., D.S., granted leave of absence for one month, to take effect about July 5, 1911.

Stephenson, William, lieut.-col., in addition to his duties as assistant to the chief surgeon, the eastern division, assigned to him in general order 74, June 6, 1911, W.D., is detailed as sanitary inspector.

Austin, Thomas C., lieut., granted thirty days' leave of absence about July 1, 1911.

Chamberlain, W. P., major, relieved from duty in the Philippines division, Jan. 15, 1912, and directed to proceed to London, England, to attend course at the London School of Tropical Medicine, and on completion of this duty to proceed to New York City for further orders.

Stallman, George E., D.S., left Fort Sam Houston, Texas, on three months' leave of absence.

Snyder, H. McC., lieut., left Fort Leavenworth, Kan., with Company E., Fifth Artillery, to Camp Sparta, Wis.

Munson, Edward L., major, is ordered to proceed to Niantic, Conn., for duty as inspector-instructor of the sanitary troops of the State of Connecticut during encampment, July 17 to 22, 1911.

Winter, Francis A., major, granted thirty days' leave of absence.

Nichols, Henry J., captain, granted thirty days' leave of absence.

Kelly, John P., M.R.C., is relieved from duty at Fort Hamilton, N. Y., on the return of Major Hess, M.C., to that post, and will proceed to College Park, Md., and report to the commanding officer of the signal corps detachment at that place for duty.

Rukke, Guy V., captain, left Jefferson Barracks, Mo., on ten days' leave of absence.

Betts, Charles A., M.R.C., granted three months' leave of absence, with permission to go beyond the seas, to take effect about Sept. 15, 1911.

Stone, John H., major, retired from active service on account of disability.

Cooper, Wibb E., lieut., ordered to return to Fort D. A. Russell, Wyo.; granted thirty days' leave of absence about July 1, 1911.

Gray, William W., colonel, ordered to St. Paul, Minn., for temporary duty, and on completion thereof will proceed to San Francisco, as heretofore ordered.

Medical Corps, U. S. Navy

Changes during the week ended June 24, 1911.

Cohn, I. F., P. A. surgeon, detached from the *Castine* and ordered to the *Michigan*.

Pugh, W. S., Jr., P. A. surgeon, detached from the *Dixie* and ordered to duty at the naval hospital, Boston.

Clifton, A. L., asst.-surg., detached from the *Michigan* and ordered to the *Castine*.

Sterne, C. F., asst.-surg., ordered to naval hospital, Las Animas, Colo., for treatment.

Malkin, G. M., A. A. surgeon, detached from the Navy recruiting station, Baltimore, and ordered to the marine recruiting station, Pittsburg, Pa.

Dessez, P. T., P. A. surgeon, ordered to the naval hospital, Boston, for duty.

Ledbetter, P. B., asst.-surg., ordered to the naval hospital, Norfolk, Va., for duty.

Brownell, C. D., surgeon, ordered to duty at the naval hospital, Portsmouth, N. H., when discharged from treatment at the naval medical school hospital, Washington, D. C.

Bogan, F. M., surgeon, detached from the naval hospital, Portsmouth, N. H., and ordered to the *Wisconsin*.

Melhorn, K. C., asst.-surg., detached from the *Dixie* and ordered to the naval hospital, Newport, R. I.

Stone, E. P., medical inspector, detached from the Navy yard, Boston, and ordered to command the naval hospital, Canacao, P. I.

Stitt, E. R., surgeon, detached from command of the naval hospital, Canacao, P. I., and ordered to temporary duty in the bureau of medicine and surgery, Navy department.

Kennedy, R. M., surgeon, detached from the naval station, San Juan, P. R., and ordered home to await orders.

Porter, F. E., P. A. surgeon, detached from the naval station, San Juan, P. R., and ordered home to await orders.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 21, 1911.

Geddings, H. D., surgeon, granted one month's leave of absence from May 23, 1911.

Eager, J. M., surgeon, directed to proceed to Palermo, Italy, for duty in the office of the American consul.

King, W. W., P. A. surgeon, leave of absence for three weeks from April 7, 1911, revoked.

Wille, C. W., P. A. surgeon, granted seven days' leave of absence from June 20, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to certain parts on the drainage basins of lakes St. Clair, Huron and Michigan on special temporary duty.

Mullan, E. H., P. A. surgeon, granted one month's leave of absence from June 24, 1911.

Grimm, R. M., asst-surg., granted seven days' leave of absence from June 14, 1911, under paragraph 191, Service Regulations.

Bingham, E. O., A. A. surgeon, granted fifteen days' leave of absence from June 20, 1911.

Delgado, J. M., A. A. surgeon, granted fifteen days' leave of absence from July 1, 1911.

Mason, W. C., A. A. surgeon, granted nine days' leave of absence from June 21, 1911.

Mazzacarra, R., A. A. surgeon, directed to proceed from Messina, Italy, to Calabria on special temporary duty.

Miranda, R. U. Lange, A. A. surgeon, leave of absence for six months from June 3, 1911, without pay, revoked.

Parker, T. F., A. A. surgeon, granted fifteen days' leave of absence from July 1, 1911.

Pearse, H. E., A. A. surgeon, granted thirty days' leave of absence from June 22, 1911.

Wood, J. E., A. A. surgeon, died June 2, 1911.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

A RELIGIOUS NEWSPAPER ON THE BLACK PLAGUE

The growth of enlightened sentiment on public health questions is well illustrated by an editorial in a recent number of the *Congregationalist and Christian World* of Boston, which discusses, simply but forcibly, problems which a few years ago would have been considered unfit for comment on the editorial page of any lay newspaper, least of all a religious weekly. The *Congregationalist* is to be congratulated on its editorial wisdom and fearlessness. May its example be speedily followed by other religious papers! Here is the editorial:

> Rhode Island has lately been in a state of panic over the presence of a 14-year-old boy in one of its schools who has been discovered to be a leper. The authorities have strictly quarantined him and sought to make an arrangement that would establish him for life in the Massachusetts leper colony on the island of Penikese in Buzzard's Bay. Every one must be sorry for the boy and his family, and perhaps this plan of exile to the leper colony is the best solution of a difficult problem. On that beautiful island the boy will find the only social group in New England where he will not be regarded with dread and suspicion. There is already there a boy of his own age whose mother has exiled herself, probably for life, to become her son's companion.
>
> Doctors are not in agreement about the contagiousness of leprosy. Many of them maintain that it is not contagious at all, though they are not prepared to account either for its origin or to offer a cure. But there is a disease quite prevalent in Rhode Island and all the other states, which the doctors are all agreed is both contagious and which has been regarded as incurable as leprosy. Yet the victims go about the streets unquestioned and are received in homes, even though the rottenness in their bones shows plainly in the disfigurement of their faces. Their disease is so contagious that it has compelled the disuse of public drinking-cups. It may be caught innocently by the use of a towel or handkerchief after a sufferer, or the touch of a cut place on a hand. Husbands give it to wives and through them to unborn children.
>
> If we are going to segregate lepers in horror of contagion, it is high time we shut up syphilitics in a place where they cannot spread their rottenness. But it would take a larger island than Penikese to hold all these perilous sufferers from blood-poisoning and carriers of contagion.

AN INDEPENDENT EDITOR'S VIEW

In pleasing contrast to the position taken by some newspapers at the command of the interests opposed to public-health legislation, is the attitude of many high-class newspapers of the country, which have opened not only their news-columns but their editorial departments as well, to hearty and unqualified endorsement of the present movement for better health conditions. An excellent example of this class of newspapers is the Berkeley (Cal.) *Independent*, which has recently published a series of articles, discussing the Owen bill and the opposition to it. The *Independent* says that the time is ripe for explaining to its readers just what the National League for Medical Freedom is; for showing, in fact, that its only reason for demanding "medical freedom" is to permit the unhampered continuance of medical fakers, charlatans and health-cure pettifoggers, and that the danger to public health created by such a class is sufficient excuse for discussing the situation. After reviewing the history of the introduction of the Owen bill into congress and the hearings before the committee to which it was referred, the *Independent* says:

> There came to the hearings of the committee the representatives of the National League for Medical Freedom with the express purpose of killing the bill by any possible means. The vociferous opposition they raised was enough to deceive any except the most experienced. Any intelligent man knows that the national government has no more control, outside of the District of Columbia, over the practice of medicine than it has over the practice of farming or of law and, although the Owen bill proposed provisions for the prevention of disease, and not its cure, and made absolutely no provision for putting any kind of doctors in authority over any kind of body or thing, yet the practitioners of the homeopathic and eclectic and other schools were gravely informed that the "regulars" were to be in absolute control of homes and families, that even religious liberty was being threatened. The real people back of this clamor made little effort to keep their identity a secret and it soon became known. Among them were the patent-medicine people, the adulterators of food and members of other interests naturally at enmity with pure drugs and pure food and honesty and decency of method in such matters, fearful of every possible curtailment of the millions of yearly income they were deriving from their nefarious trade. They had organized into an unholy and corrupt conspiracy to mislead the people of the United States and to break down the profession which was taking the people's side against them—the American doctor.

After discussing the need of better health legislation the *Independent* concludes:

> These, then are some of the men who are opposing the regular physicians of the United States, calling them every possible name that the libel laws will permit, fighting every effort they are making to prevent illness in the United States and to promote healthful conditions. The National League for Medical Freedom is organized to protect its members' pockets, no matter what happens to the people.

Medicolegal

Mining Companies Not Liable for Services Rendered Injured Employees at Unauthorized Requests of Superintendents

The Supreme Court of Florida, Division A, holds, on the appeal of the Atlantic Refining Co. vs. Leffingwell & Berry (54 So. R. 266), that where a corporation operates a mining plant, and does not authorize its superintendents to employ a physician at the expense of the corporation to attend an employee injured by the machinery of the plant, the law does not imply such authority, at least where there is testimony that such authority was not given or contemplated by those exercising the rights of the corporation. The liability of the corporation for negligence that proximately injures an employee may extend to medical services to him, but this does not create a contract liability for such services.

In this case an employee in the mining plant of the company was injured by machinery in the plant, and a superintendent of the mine telephoned to one of the plaintiffs, a physician, to come to the injured man and bring another physician with him. The two plaintiffs went to the place and were met by the superintendent mentioned and another superintendent of the mining plant, who took them to the injured man, and asked them to take charge of him, and the other superintendent asked for a statement of the condition of the injured man to be sent to the home office of the company. The superintendents stated to the physicians that the man was injured by the company's machinery, and requested them to take charge of him, and they attended him after he was removed to his home. In answer to a letter written by the superintendents to the vice-president of the company the latter said that, while the company, as a manufacturer, was not responsible for physician's bills incurred by patients in the treatment of injuries received by accident in its factories, in this particular case the company was willing to pay such bills indirectly; that the company assumed no responsibility even for such bills incurred when in emergency a physician was summoned by the company; that all bills should be rendered to the patient, and the company would advance him such money as was necessary to pay reasonable charges for medical attention, etc.

Under these circumstances, and because in view of the testimony in the case it was not clear that the duties of the superintendents of the mining plant were such that the law implied therefrom authority to employ physicians for the company to attend employees of the company injured by its machinery, a new trial should have been granted, and the judgment obtained by the plaintiffs is reversed. A request of the superintendent to render the medical services was not in law a request of the company, and as a consequence the liability of the company was not shown.

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, New London, Conn., July 11.
Oregon State Medical Association, Los Angeles, Cal., July 10.

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Second Annual Meeting, held at Shreveport, May 30-June 1, 1911

The President, Dr. E. J. Graner, New Orleans, in the Chair

The officers elected were named in The Journal, June 10, 1911, page 1729.

Cerebrospinal Meningitis

Dr. L. G. Bebeuf, New Orleans, reported a case of toxic cerebrospinal meningitis, which was successfully treated with the Murphy drip.

DISCUSSION

Dr. L. R. DeBuys, New Orleans: I have not had any experience with the Murphy drip in cases of cerebrospinal meningitis. I rather approve of doing spinal puncture in all suspected cases of cerebrospinal meningitis. I have never seen any harm done by it, and I think we can gain a great deal of knowledge by it in such cases.

Dr. C. C. Bass, New Orleans: The essayist stated that he did not make use of lumbar puncture, and did not give the Flexner serum, but I think it is worthy of emphasis that the Flexner serum for cerebrospinal meningitis seems to be as well established as antitoxin for cases of diphtheria. I do not think anybody should treat a case of meningitis without it. Determine whether or not it is a meningococcic meningitis, and, if so, give the patient the benefit of the serum treatment. The serum treatment is not of service in any other cases except meningococcic meningitis. In the recent outbreak of meningitis that occurred in Mississippi, a striking beneficial effect was obtained in those cases in which the antimeningococcic serum was administered. Not a single patient with meningitis who received the serum died. Three out of four died without the use of the serum, and three out of three lived with the serum. That is in keeping with most of the reports on the use of the Flexner serum.

Dr. J. B. Elliott, New Orleans. In the last three or four cases of meningitis I have seen the spinal column was tapped immediately, and the Flexner serum given promptly. You cannot do any harm by administering the serum; it may do good, and it is my practice to tap the spinal column immediately, and then give the Flexner serum. The Murphy drip is the best thing I know of, and when I get a bad case of any kind, I use the Murphy drip with good black coffee, using 3 ounces in ½ pint of normal salt solution.

Dr. E. Denegre Martin, New Orleans: In children it is unnecessary to run the catheter into the intestines any great distance. Two inches is sufficient, because when the catheter is run into the intestine very far it will coil up in the rectum, and if you keep on pushing it long enough it will come back again. Introduce it 2 or 3 inches into the rectum, and hold it there with adhesive plaster, and it will remain as long as the plaster sticks. As to the drip, the vessel containing the fluid should never be raised more than 2½ or 3 inches above the rectum in the case of infants. If it is, the fluid will not be absorbed. It will cause a reflex action of the bowel, and the whole thing will be expelled.

Acute Otitis in Measles, Diphtheria and Scarlet Fever

Dr. Arthur I. Weil, New Orleans: In scarlet fever, otitis is much more apt to occur late in the disease during the period of desquamation, consequently it is during convalescence that we must be especially on our guard for the signs of beginning otitis. The otitis of scarlet fever is more severe than that accompanying the other two diseases, although the same rule holds good here as in the others, that the virulence of the otitis is proportional to the virulence of the causative disease. The ear complications of diphtheria fall naturally under four heads: 1. Diphtheritic inflammation of the external auditory canal. 2. Affections of the internal ear, usually a nerve deafness, somewhat analogous to postdiphtheritic paralysis of the soft palate, and other neuroses produced by the general toxemia of the disease. 3. Diphtheritic inflammation of the Eustachian tube and middle ear. 4. Acute catarrhal or purulent inflammation of the middle ear without the formation of membrane. This is in no sense different from the otitis caused by scarlet fever or measles. The scarlet fever otitis is the most fulminating and causes more danger to life and hearing. Next in order is diphtheria, and lastly measles. The chief danger to life is caused by extension to the meninges, the brain and thrombosis, with subsequent septicemia and pyemia. The hearing is threatened probably through involvement and necrosis of the internal ear, complete absorption of drum membrane with the ossicles and caries of the surrounding bone. The otitis becomes chronic with constant suppuration and is a menace to the remaining hearing throughout the life of the patient until a radical operation is performed.

The Dyspepsia of Phthisis

Dr. J. A. Storck, New Orleans: The lungs of every young person who suffers from a persistent dyspepsia should be examined. Derangements of digestion are a common accompaniment of tuberculosis, and present one of the greatest difficulties in its treatment. The success of the fight in a given case of tuberculosis depends on the integrity of the digestive system, and therefore it should be given the most careful attention. The management and therapy of the case should deal with the primary disease. A very full rich diet should be insisted on in spite of the dyspeptic complaints. Hansmann has pointed out the importance of examining the empty stomach in the morning for tubercle bacilli, as often they are found when no chest symptoms are manifest, tubercle bacilli having been swallowed during the night. The appetite does not always correspond to the gastric findings. The cases in which free HCl is normal or in excess, are as a rule, free of fever. Motor function is very little impaired in initial stages but is reduced in later stages. In the beginning the secretory power of the stomach is usually increased, often normal, and rarely reduced. In the terminal stages it is always greatly reduced. The dyspepsia of early phthisis belongs chiefly to the group of anemic-enteroptotic dyspepsias. Nausea and regurgitation, which frequently occur after meals, should not be given too much attention. Only when cramp-like pain and diarrhea set in should the amount of food be lessened, and the diarrhea properly treated. Constipation is often best corrected for the time being with magnesium sulphate or castor oil. Massage of the stomach and also of the intestines affords considerable relief during the rest cure. Suitable support by adhesive plaster belt or properly fitting abdominal supporter is indicated when ptosis of the viscera exists. Symptoms should be treated as they arise, and indications for acid, iron, belladonna, etc., met. Alcohol should positively be avoided. Almost every case of tuberculosis sooner or later shows some disturbance of the digestive organs. It is understood that the care of these patients is to be that of every well-treated case of tuberculosis of the lungs. Dyspepsia appears more frequently among women than among men. Women are more frequently affected with flatulence and vomiting and men with pain and acidity. The most typical instances of dyspepsia are encountered in that variety of pulmonary tuberculosis which commences insidiously and progresses slowly.

Toxemia of Pregnancy; Its Cause, Nature and Treatment

Drs. O. W. Cosby and R. H. Blackman, Monroe: Nearly all the symptoms incident to pregnancy from simple morning sickness to pernicious vomiting, and eclampsia, are only varying degrees of toxemia. This toxemia is due to suboxidation, or unoxidized substances, principally of the nitrogenous derivative, in the circulation. Urea and uric acid are harmless end products, which can be eliminated as such without trouble, but it is only when the nitrogenous particle is incompletely oxidized, leaving bodies, such as xanthin, hypoxanthin, ammonia, creatin, etc., that toxemia begins. Both the urinary and the autopsy findings show that the toxemia of pregnancy is the same condition as auto-intoxication of the non-pregnant individual. The pregnant woman is more prone to this autotoxemia because of the increased katabolic activity, more sedentary habits, and because of the increased demands for oxygen on account of its fetus. Oxidation is brought about, governed and controlled by the adrenal system, and the thyroid secretes a fluid which stimulates the adrenal activity, thereby increasing oxidation, as witness the physiological enlargement of the thyroid, in normal pregnancies, to meet the demands on it for increased oxidation, and as shown by Charles Mayo, when this enlargement does not occur, the woman is in danger of eclampsia. The internal secretion of the adrenal is the constituent of the hemoglobin molecule, which carries oxygen to the tissues, and in cases of suboxidation or adrenal insufficiency, and amelioration of the condition, and a cessation of symptoms, or an increased adrenal activity, can and is brought about by administering thyroid extract.

Veratrum viride is the very best remedy we have in eclampsia for lessening the irritability of the vasomotor center, lowering vascular tension, and relieving the attack. Chloroform is not safe, on account of its liability to produce degenerative changes in the liver, and morphin is only an artificial remedy, which should never be used when there is any kidney disease, or diuresis is not free. Chloral, and the bromids when used in large enough doses to control the convulsions, act similar to, but are not as desirable as veratrum. Elimination combined with the above means and lessened proteid ingesta are the only rational methods of combating this toxemia. Physiologic saline solution, preceded by venesection in suitable cases, is one of the safest as well as the surest means of preventing eclampsia, during the pre-eclamptic period, as well as controlling and relieving the seizure. It is the duty of the physician in every case of pregnancy in which he expects to act as accoucheur, to inform the patient of some of the dangers incident to pregnancy, to give her full and minute instructions in regard to her diet, exercise, elimination, etc.; also to examine a twenty-four-hour specimen of urine every four weeks during the first six months, and every two weeks after that, not only for albumin but more especially for the total nitrogen, amount of urea, casts, etc., and when evidence is found that elimination is checked, to put the patient on an absolute milk diet, plenty of water and administer thyroid extract to increase the adrenal activity and oxidation. For two years we have used thyroid extract with the elimination measures outlined, in all degrees of toxemia, or adrenal insufficiency, with the most happy results.

A Plea for the Proper Feeding of Infants

DR. C. H. RICE, New Orleans: I wish to call attention to the new method of percentage feeding. At first, I watched with considerable skepticism the milk formulæ that were written out in the pediatric clinic of New Orleans for the cases of malnutrition; but when the infants showed a gain of 2 to 6 ounces a week, my skepticism vanished, as did the mystery of it. The pediatrists are doing in a careful scientific manner just what the old woman did with her blind instinct. They are supplying in sufficient amounts the food ingredients that these starving infants need. By diluting the milk, or cream, and adding milk sugar they are adjusting the fats, carbohydrates and proteins, according to the weight, age and digestion of each infant. The results obtained in these clinics last summer were excellent. A majority of the infants that remained under observation regained their loss in weight and had no further trouble. Some of the others remained underweight, but managed to live through the hot months without any digestive disturbances. In my own clinic the results obtained by this method have been so satisfactory, so far in excess of those from the old methods that I am convinced that the time has come when all of us who treat children must cast aside our ancient and unprogressive ideas about infant-feeding and adopt that method.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Annals of Surgery, Philadelphia

June

1 Large Intrathoracic Cysts of the Thyroid Causing Dyspnea. W. Martin, New York.
2 *Anesthesia by the Intratracheal Insufflation of Air and Ether. C. A. Elsberg, New York.
3 Laminectomy for Injury and Tumor of the Spinal Cord. G. P. Muller, Philadelphia.
4 *Organoscopy. B. M. Bernheim, Baltimore.
5 Treatment of Chronic Pancreatitis by Pancreatostomy. G. Link, Indianapolis.
6 Acute Hepatitis Simulating Stone in the Common Duct and Liver Abscess. J. W. Churchman, Baltimore.
7 *Rational Treatment of Acute Appendicitis. J. B. Deaver, Philadelphia.
8 *Chronic Appendicitis. E. MacD. Stanton, Schenectady, N. Y.
9 *Surgery of the Ureter. G. E. Brewer, New York.

2. **Intratracheal Insufflation Anesthesia.**—Elsberg has found this anesthesia very useful in operations on the neck, such as thyroidectomy. In the first place the anesthetizer is away from the field of operation. More important, the operator can manipulate the trachea as much as necessary without causing disturbance in breathing or interference with the anesthesia. Nor need he fear a sudden collapse of the trachea in the course of the removal of a large goiter; the presence of the tube in the trachea will guard against such complications. He believes that insufflation anesthesia should be very valuable in the operation of laryngectomy, but he has not yet had the occasion to perform a laryngectomy under insufflation anesthesia. The method of anesthesia is of great value in operations on the tongue and mouth and in operations on the superior and inferior maxilla, in which the buccal cavity or pharynx has to be widely opened. There is no danger of aspiration of blood into the lungs, and tamponade of the larynx is unnecessary. No blood can run down into the trachea. The current of air which is continually flowing upward in the trachea by the side of the tube will blow out all of the blood which tends to run down into the larynx and trachea. The anesthesia should be useful in those operations in which the patient has to be placed flat on the abdomen. Thus, it should be advantageous in those operations on the brain and the spinal cord, such as bilateral suboccipital craniotomy and laminectomy, in which the patient has to be in the prone position and in which the giving of the anesthesia is ordinarily difficult.

4. **Organoscopy.**—Bernheim feels that the results obtained by him with Jacobeus' method of visual inspection of the abdominal organs in two cases were sufficiently encouraging to warrant a further trial.

7. **Acute Appendicitis.**—Deaver says, in concluding his paper, that if there is one fact in the field of medicine which has been demonstrated conclusively, it is that the rational treatment of acute appendicitis is in operation, early and immediate, if possible; late, postponed, or absolutely contra-indicated only by the presence of other conditions which may be complications of the disease itself or entirely independent of it, mere coincidences which render the performance of any operation too hazardous.

8. **Chronic Appendicitis.**—In Stanton's experience the majority of patients suffering from chronic appendicitis give a history of having had one or more attacks of acute abdominal illness, with a sequence of symptoms recognizable as those of an acute appendix attack, namely, sudden severe abdominal pain, usually beginning in the epigastrium or mid-abdomen, accompanied by nausea and vomiting and followed by a period of pain and tenderness in the right lower quadrant. In his experience, further, appendiceal dyspepsia has been characterized by symptoms strikingly analogous to the earliest symptoms of acute appendicitis, namely attacks of epigastric or mid-abdominal pain or distress only rarely accompanied by subjective symptoms referable to the region of the appendicitis. During these attacks the pain or distress is nearly always increased by food intake. Pain confined chiefly to the right lower quadrant and not associated with attacks

of epigastric pain and nausea is seldom due to the appendix, and before making a diagnosis of chronic appendicitis in these cases every other possible condition should be excluded. The majority of our failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cecum, usually accompanied by other evidences of enteroptosis. In the future a certain proportion of these patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure. Unless the diagnosis is absolutely certain, the gall-bladder, stomach and right kidney should be explored, and the possibility of Lane's kink excluded in all cases operated on for chronic appendicitis.

9. **Surgery of Ureter.**—In reviewing the histories of thirty-three cases, Brewer says that the majority of his mistakes in diagnosis were made in cases supposed to be calculus. There were six of these. In three, other lesions were found which were sufficient to account for the symptoms. In the remaining three no lesions were found to account for the symptoms, although an extra-ureteral calcarous body was found in one instance, which gave rise to the shadow in the skiagraph, and in another there was reason to believe that a stone was present at the time of the examination, which passed before the ureter was opened. Of his three other mistakes in diagnosis, two were in mistaking a ureteral calculus for a lesion of the vermiform appendix, and one in mistaking a ureteral calculus for intestinal obstruction. In none of these cases did he have the aid of cystoscopy or radiography. Only one death occurred in the series, and that was a traumatic case which was moribund at the time of admission, and in which nothing was done other than to check the hemorrhage by gauze packing. Of fifteen cases in which the ureter was exposed, opened, and subsequently sutured, all healed without infection and without leakage of urine. The same may be stated in regard to two cases in which a ureteral calculus was removed through an opening in the bladder.

16. **Rabies in Philippine Islands.**—The prophylactic treatment against rabies, advocated by Ruediger, consists of twenty-five subcutaneous injections, one of which is given each day, hence the course of treatment covers twenty-five days. Injections should be made in the back or in the abdominal wall, not in the arms or legs. Material for injection is furnished by the Bureau of Science in Manila, in bulbs containing one dose each; the bulbs are numbered from 1 to 25, indicating the order in which they are to be used. On the first day of treatment inject the contents of Bulb 1; on the second day inject the contents of Bulb 2, and so on until the twenty-five doses have been given.

New Mexico Medical Journal, Las Cruces

May

10 Cases of Intestinal Obstruction. J. Vance, El Paso, Texas.
11 Influence of Altitude on Heart Disease. S. D. Swope, Deming.
12 Modern Practice. M. D. Walsh, Pena Blanca.
13 Acute Suppuration of the Middle Ear. D. D. Swearingen, Clovis.
14 Diagnosis of Cancer of Stomach. E. C. Prentiss, El Paso, Texas.
15 Lymphatic Leukemia. R. E. McBride, Las Cruces.

Bulletin of the Manila Medical Society, Manila, P. I.

April

16 *Rabies in the Philippine Islands and Method Available for Controlling It. E. H. Ruediger, Manila.
17 *Five Hundred Cases of Peritonitis. H. Schmid, Manila.
18 Technic of the Surgical Clinic of the Philippine General Hospital, Manila. J. R. McDill and H. E. Schiffbauer, Manila.

17. **Peritonitis.**—The material which is the basis of Schmid's paper consists of all cases of diffuse peritonitis operated in Koerse's clinic in Berlin, between 1890 and 1910. During this time they had among 1,258 perityphlitis cases, 22.2 per cent. peritonitis. This percentage may appear very high, but we must not forget that during the first years of the compilation of the statistics, the operation of perityphlitis was practically unknown. To find out the best time for the operation, Schmid compiled the results of the days on which the operation had been performed after the beginning of the disease. On the first day of disease, operated on 29, recovered 26, fatal 3, mortality 10.3 per cent.; on the second day of disease, operated on 89, recovered 70, fatal 19, mortality 21.3 per cent.; on the third day of disease, operated on 67, recovered 46, fatal 21, mortality 31.3 per cent.; on the fourth day of disease, operated on 174, recovered 71, fatal 103, mortality 59.1 per cent. This shows that the mortality increases the longer the duration of the disease. The conclusion is obvious that every appendicitis which shows only the slightest symptoms of peritonitis should be operated on. The technic of the operation must be adapted to the cause of the peritonitis. In most of the cases, Schmid says, it will be possible to determine diagnostically the point of origin of the peritonitis, and under these circumstances one must cut so as to reach this point at once. His method is: In appendicitis due to peritonitis make a long cut following the margin of the os ilei, dissecting the muscles sharply with the knife. After the removal of the appendix all parts of the peritoneal cavity are carefully examined and all adhesions carefully separated. Now wash with warm normal salt solution and place a drain in the place of the resected appendix. Very often the question has been discussed whether it is advisable to wash the peritoneal cavity or not. Schmid has compared the mortality of those cases in which they cleansed the peritoneum with absorbent gauze with those in which they irrigated. The difference is very small. In the washed cases there was 40 per cent. and in the others 42 per cent. mortality. However, he qualifies that it may be due to the fact that they always applied the irrigation in more severe cases while in the mild ones the patients were sponged. Excluding the patients treated within the first three days the mortality is 55.4 per cent. for the irrigated and 69.2 per cent. for the sponged ones. Still greater is the difference in children. The cases of peritonitis in children irrigated gave a mortality of 40.5 per cent., the sponged ones, 68.7 per cent. Of ten patients with perforated stomach ulcer, operated after the first day, only one recovered. Patients operated during the first twelve to twenty-four hours gave a mortality of 25 per cent., while no patients died if operated within the first twelve hours. Generally speaking, Schmid believes that the prognosis of peritonitis caused by a perforation in the digestive tract is worse the lower the perforation. Perforation of an infected gall-bladder gives a mortality of 50 per cent. He regards as the main reason for this high mortality the fact that patients with a perforated gall-bladder are usually weakened by long sickness. The cases of peritonitis resulting from the female sexual organs gave the high mortality of 64.7 per cent. The explanation of this remarkably high figure is said to be the fact that only the most severe cases of this class of peritonitis are operated by the surgeon, most of them being treated expectantly. Schmid does not believe in operating on puerperal peritonitis, because general sepsis seems to be the danger.

Journal of the Kansas Medical Society, Kansas City

May

19 Injury to the Eye. H. W. Woodruff, Joliet, Ill.
20 Eyes and Ears of School Children. H. B. Caffet, Pittsburg.
21 Varicose Veins. N. C. Morrow, Altamont.
22 Diagnosis and Treatment of Ulcer of Stomach. P. T. Bohan, Kansas City, Mo.
23 Post-Operative Thrombosis and Neuritis. S. Cooper, Fort Smith, Ark.
24 Ankylostomiasis. F. W. Tretbar, Stafford.

American Journal of Diseases of Children, Chicago

June

25 *Diagnosis of Infantile Tetany. H. B. Wilcox, New York.
26 *Hexamethylenamin in Influenzal Meningitis. W. V. Brem and A. H. Zeiler, Cristobal, Canal Zone.
27 *Blood in Pertussis. J. A. Kolmer, Philadelphia.

25. **Diagnosis of Infantile Tetany.**—In Wilcox's series of 318 electrical tests on 118 infants, 10, or 3.1 per cent., gave evidence of extreme or kathodal hyperirritability. Of the middle grade or anodal irritability giving response to kathodal closure and anodal closure alone below 5 milliamperes, there were 101, or 31.8 per cent. With kathodal closure and anodal opening alone present, below 5 milliamperes, he found fifty, or 16.6 per cent. With both kathodal closure, anodal closure and anodal opening, less than 5 milliamperes, there were forty, or 12 per cent. The occurrence, then, in his series of abnormal reaction or increased electrical response according to Esch-

erich's definition was 193, or 61 per cent. Of these cases of anodal or partial hyperirritability none developed other symptoms of tetany under observation. The incidence of partial hyperirritability in children under 5 pounds was 16 per cent.; 5 to 10 pounds, 22 per cent.; 10 pounds and over, 30 per cent. With reference to change in weight or, as this is its best index, the general condition of the subjects, it was found that of sixty children losing weight, 25 per cent. showed partial hyperirritability; of the twelve with stationary weight, 16 per cent. showed partial hyperirritability; and of the twenty-seven gaining weight, 37 per cent. showed partial hyperirritability. During the period of this work there were fifty-seven infants on skim-milk mixtures, twenty-one on condensed milk, twenty-three on butter-milk, eighteen on Finkelstein's "Eiweismilch," fourteen on whole-milk mixtures and twenty-four were on the breast. As it has been shown that tetany occurred more frequently in the artificially than in breast-fed children, comparisons between the reactions of these classes were made. In the breast-fed the average of kathodal closure, 3.2 in thirty-eight tests; anodal closure, 4 in twenty-four tests; anodal opening, 4 in seven tests; and kathodal opening, 2.4 in one test, were practically the same as those for artificial feeding, which were: kathodal closure, 2.8 in 172 tests; anodal closure, 3 in 123 tests; anodal opending, 4 in sixty tests; and kathodal opening, 4 in nine tests. Taking the number of breast and artificially fed children who showed distinct hyperirritability, it appears that there was none of the ten former, but 24 per cent. of the 108 of the latter class. It must be added, however, that the cases were not exclusively on either type of nourishment for a great length of time before testing. Of thirty-eight instances of good gastric digestion 30 per cent. showed hyperirritability; of fifty-eight instances of poor gastric digestion 30 per cent. showed hyperirritability; of twenty-seven instances of good intestinal digestion 33 per cent. showed hyperirritability; of seventy-seven instances of poor intestinal digestion 24 per cent. showed hyperirritability.

26. **Hexamethylenamin in Influenzal Meningitis.**—Two patients, 18 and 23 months old respectively, with meningitis caused by a bacillus culturally like *B. influenza* were treated by Brem and Zeiler with large doses of hexamethylenamin without apparent benefit. Both infections terminated fatally. Late in the course of the disease in the second patient, while hexamethylenamin was being given, a needle was inserted into the spinal canal in the lumbar region and was left in situ in the hope of securing permanent drainage. Immediately afterward the temperature dropped practically to normal and remained normal for about twenty-four hours, when it rose again. It was found that the needle had worked out and drainage had ceased. The authors state that the combination of permanent drainage and hexamethylenamin treatment may be of value in treating those cases of meningitis for which we have no specific treatment.

27. **Blood Examination in Pertussis.**—Out of the thirty-seven cases of cough which could not be diagnosed clinically from pertussis in the catarrhal stage, observed by Kolmer, sixteen proved later to be pertussis. Of these, thirteen, or 81.25 per cent., had been diagnosed correctly by means of the blood examination. Three, or 18.75 per cent., were given an incorrect diagnosis. Of the twenty-one cases proving not to be pertussis, fifteen, or 71.4 per cent., were given the correct, and six, or 28.6 per cent., the incorrect diagnosis. Kolmer cautions that the presence of secondary infection which may by itself produce leukocytosis with a relative or actual decrease of the small lymphocytes, will lead to error. In such cases it is better to be guided by the total number of leukocytic elements in the c.c. of blood rather than by percentages.

Yale Medical Journal, New Haven, Conn.

April

28 The Roentgen-Ray as an Adjuvant in the Treatment of Cancer. C. E. Skinner, New Haven, Conn.
29 Treatment of Youthful Tendencies to Functional Nervous Disorders. C. A. McKendree, Cromwell, Conn.
30 Functional Ear Tests. C. Weidner, Hartford, Conn.

Albany Medical Annals, Albany, N. Y.

June

31 Discovery of the Tubercle Bacillus. A. T. Laird, Albany, N. Y.
32 Clinical Experiences with the Wassermann-Noguchi Test. J. N. Vander Veer, Albany, N. Y.
33 Surgical Sequels of Acute Anterior Poliomyelitis. J. B. Garlick, Schenectady, N. Y.
34 *Electrical Remedies for High Arterial Tension. H. W. Van Allen, Springfield, Mass.
35 Right-Handedness and Left-Handedness. I. Hartshorne, Poughkeepsie, N. Y.

34. **Electrical Remedies for High Arterial Tension.**—Allen claims that high frequency currents, as auto-condensation, reduce blood-pressure by removing the exciting cause; prevent auto-intoxication, and relieve diabetic conditions. Fulguration removes moles and small questionable epithelioma and can be used in the bladder. Heat penetration causes increase of heat at a distance from the point of application and therefore relieves in joint conditions, contusions and non-malignant exudates.

Journal of the South Carolina Medical Association, Charleston

May

36 *Imperative Necessity for Proper Drainage of Our Water Courses and Low Lands. J. H. McIntosh, Columbia.
37 Treatment of Lobar Pneumonia. J. D. Wilson, Lowndesville.

36. Abstracted in The Journal, June 3, 1911, p. 1678.

Wisconsin Medical Journal, Milwaukee

May

38 Early Diagnosis of Cancer. F. G. Connell, Oshkosh.
39 Aneurism of Descending Thoracic Aorta. J. F. Smith, Wausau.
40 Plaster Spica in High Fractures of Femur. C. H. Lemon, Milwaukee.
41 *Olive Oil in Treatment of Ulcer of Stomach. O. Lotz, Milwaukee.
42 *Relation Between Splanchnoptosis and Pulmonary Tuberculosis. W. Becker, Milwaukee.

41. **Olive Oil in Treatment of Gastric Ulcer.**—Two patients with intractable recurrent gastric ulcer, which seemed to have as a more or less exciting factor a marked hyperacidity, apparently recovered from the acute condition under the use of rest, dietetic measures, bismuth and alkalies, but so soon as these were discontinued the old symptoms of hyperacidity would return, while the general nutritive condition of the patient was not much improved. Lotz then resorted to the use of olive oil before meals. The results in both cases were exceptionally gratifying, and the oil treatment was used by Lotz in all cases of gastric ulcer and hyperacidity, only to find out the truth of the old story that after all the patient must be treated, and not so much the condition. There is no doubt as far as the diagnosis is concerned, as all the cardinal symptoms of gastric ulcer, characteristic pain, tenderness, vomiting and hemorrhage were present. It has been Lotz' experience that a large majority of the patients suffering from hyperacidity and chronic ulcer of the stomach give a history of a gradual loss in weight, extending over a long period of time, and frequently present themselves in a nutritional condition far below par. Besides this, a history of chronic constipation is in this class of cases very conspicuous, while signs of secondary anemia are likewise of common occurrence. Without exception all of the ulcer patients, under the use of pure olive oil, a liberal diet, and somewhat regulated mode of life, gained rapidly and steadily in weight, some of the signs of anemia disappeared, while the constipation ceased to be an annoying factor. Furthermore, up to the time of writing, so long as these patients have retained their normal weight, no symptoms of gastric hyperacidity have appeared. Taking these results as a working basis, Lotz asks, could it not be possible that the persistent hyperacidity, which has at the present time an unknown etiology, is due to the presence of a so-called vicious circle, the hyperacidity preventing normal digestion and assimilation, with chronic constipation, anemia and poor nutrition as resulting conditions, while these some conditions in their turn act as exciting factors in maintaining the hyperacidity. The continued use of olive oil before meals, Lotz believes, is an effective method of breaking into the vicious circle. By holding in check the excessive secretions of acids for the time being, the oil permits of a liberal diet as soon as pain and tenderness have more or less disappeared.

it of itself has a high nutritive value, and finally, with very many patients, the olive oil acts sufficiently as a laxative to keep the bowels in a normal, regular condition.

42. **Splanchnoptosis and Phthisis.**—Becker states that the phthisical habit and asthenia universalis (splanchnoptosis) are identical. Hence the phthisical habit is not a specific phthisical inheritance. Stiller's costal stigma is a constant concomitant of the same, indicating its presence, but not its degree. Stiller's costal stigma, being a congenital defect, and present in earliest infancy, can, therefore, be considered a diagnostic feature of the habitus phthisicus (so-called) long before phthisis has developed. Diagnosis of asthenia universalis offers great opportunities of combating the congenital disposition to tuberculosis.

Northwest Medicine, Seattle, Wash.

May

43 Value of Indican and Bile Tests in Diagnosis of Abdominal Diseases. G. G. Baar, Portland, Ore.
44 Consideration and Importance of Early Recognition of Erysipelas: Mistakes in Diagnosis. H. E. Robinson, American Fork, Utah.
45 Eyes and Ears of School Children. F. A. Kiehle, Portland, Ore.
46 Middle-Ear Disease in Children. N. P. Wood, Seattle, Wash.
47 Medical Inspection of Schools. N. L. Thompson, Everett, Wash.
48 Follies, Legal and Otherwise, Concerning Our Medical Practitioners. J. C. Robison, Cedar City, Utah.
49 Pemphigus. L. Buck, Portland, Ore.
50 Sterility. D. F. Donnelly, Portland, Ore.

St. Paul Medical Journal

June

51 Septic Endocarditis. T. W. Stumm, St. Paul.
52 Recent Progress in Pediatrics Relative to Digestive Tract. W. R. Ramsey, St. Paul.
53 *Magnesium Sulphate in Tetanus. C. J. Holman, Mankato, Minn.

53. **Magnesium Sulphate in Tetanus.**—Holman reports one case in which the injection of a 12.5 to 25 per cent. solution of magnesium sulphate at various intervals in doses of from 10 to 12 c.c. resulted in recovery.

Detroit Medical Journal

May

54 Pathology of the Derivatives of the Primitive Foregut in the Living. G. V. A. Brown, Detroit.
55 Treatment of Chronic Constipation. L. J. Hirschman, Detroit.

Archives of Diagnosis, New York

April

56 Alleged Pulmonary Tuberculosis; Differential Diagnosis. A. Jacobi, New York.
57 Tuberculous Toxemia. A. C. Wiener, Chicago.
58 Diagnosis of Some Uncommon Intra-Abdominal Conditions in Early Life. G. R. Pisek, New York.
59 The Cellulose Test in the Diagnosis of Ulcer of Stomach. H. W. Soper, St. Louis.
60 *Value of the Glycyltryptophan Test. G. A. Friedman, New York.
61 *Diagnosis of Fibrillation of the Auricle. L. F. Bishop, New York.
62 Diagnosis of the Extra-Genital Chancre. W. S. Gottheil, New York.
63 *Causation of High Blood-Pressure in Cases of Auto-Intoxication. H. B. Hiatt, Ashboro, N. C.
64 *Exophthalmos, A Common Symptom of Chronic Bright's Disease. H. C. Gordinier, Troy, N. Y.

60. **The Glycyltryptophan Test.**—Friedman concludes that even though the glycyltryptophan test was positive in many of his cases of gastric cancer, it cannot be looked on as a reaction pathognomonic of the disease.

61. **Fibrillation of Auricle.**—Attention is called by Bishop to auricular fibrillation, a condition which, he says, can be diagnosed with as much certainty without apparatus as can many other clinical conditions, but tracings afford the complete proof.

63. **Blood-Pressure and Auto-Intoxication.**—The belief of Hiatt is that the rise in blood-pressure in cases of auto-intoxication is caused primarily by the action of these poisons on the smaller ganglionic endings of the splanchnic nerves in the vessel walls, and these poisons have a selective action for the vasoconstrictor nerves. The first effect of this action is a rise in the blood-pressure of the portal vessels. The connection of the nerves supplying these vessels is such that there is a general reaction. An efferent impulse is sent out to the entire vascular system from the reflex centers located in the spinal cord. This will result in acceleration of the heart beat, both through the sympathetic ganglia and the accelerator nerves of the heart. Another factor in the faster beat is local, and is dependent on primary irritation of the heart. Thus we have a faster beat and we have an increased peripheral resistance; these two factors will raise the pressure to an extent that will require a more forceful beat to overcome it. This more forceful beat in the presence of the conditions mentioned will cause a rise in pressure and thus a vicious circle is established.

64. **Exophthalmos a Symptom of Bright's Disease.**—The common occurrence of exophthalmos and the associated external ocular signs in chronic nephritis, are by Gordinier considered important signs in chronic Bright's disease. During the past year he has studied twenty-eight cases of chronic nephritis, two of the chronic parenchymatous type and twenty-six of the chronic interstitial form. Of this number fourteen presented exophthalmos of varying degrees, together with one or more of the associated ocular manifestations. The two cases of large white kidneys presented a marked degree of exophthalmos. They were observed late in the disease suffering with marked renal and cardiac insufficiency and uremia. The cases of the chronic interstitial type of nephritis—twenty-six in number—all presented hypertension, left-sided, and occasionally right-sided cardiac enlargement, with accentuation of the aortic and occasionally of the pulmonic second sounds and the urinary findings that exist in this type of disease. Of this number twelve presented exophthalmos, von Graefe's and Stellwag's sign, and seven the sign of Moebius. In three cases the pupils were irregular. In five cases the exophthalmos seemed more marked on one or other side. In two of the cases the enlargement was greater on the left side, and in three on the right. In none of the cases that have come under his observation was the thyroid gland visible or palpable. The exophthalmos, although most marked in the advanced cases suffering from serious toxemic manifestations, was distinctly visible in those of a less advanced type with fairly compensated hearts and without distinct uremic manifestations. In five of the twelve cases with exophthalmos, albuminuric retinitis was present, and in six cases, arteriosclerotic changes in the vessels of the retinæ with hemorrhages were observed. In none of the cases was tachycardia a prominent symptom. Gordinier believes that the most probable explanation of the exophthalmos and associated ocular signs in chronic nephritis (von Graefe, Stellwag and Moebius) is an irritation of the cervical sympathetic system of fibers by toxins floating in the blood-stream the result of a chronic renal insufficiency.

Denver Medical Times and Utah Medical Journal

May

65 Inflammations of the Conjunctiva and Cornea of Tubercular Origin. E. O. Sisson, Denver, Colo.
66 A Case of Suppurating Appendicitis with Subnormal Temperature and Slow Pulse. H. S. Shafer, Denver.
67 Baptisin. H. H. Redfield, Chicago.
68 The Serum Reaction for Syphilis. S. Simon, Denver.
69 A Glowing Tribute to the Stimulating Properties of Alcohol. J. M. Shaller, Denver.
70 Medicolegal. E. S. McKee, Cincinnati.
71 Nervous Symptoms of Arteriosclerosis and the Removal of the State Causing Them. T. A. Williams, Washington, D. C.
72 *The Medical Profession. Must Change Its Tactics. W. J. Robinson, New York.
73 The Police Power in the Light of Constitutional Inhibitions. E. C. Ashton, Salt Lake City, Utah.

June

74 *A Few Odd Things Found at Operations. J. M. Perkins, Denver.
75 How Some Oriental Countries Dispose of Their Dead. C. F. Shollenberger, Denver.
76 *Rubberized Open Meshed Net as a Retaining Dressing in Skin-Grafting. C. E. Tennant, Denver.
77 Reconsideration of Prostate Gland. W. M. Spitzer, Denver.
78 Nitrous Oxid and Oxygen—General Anesthetic. J. W. Seybold, Denver.
79 Nuptial Contamination and Its Remedy. G. H. Bogart, Brookville, Ind.
80 The Stomach-Laboratory Diagnosis. E. S. Budge, Logan, Utah.

72. Also published in the *Detroit Medical Journal*, February, 1911, and in THE JOURNAL, Jan. 14, 1911, p. 138.

74. **A Few Odd Things Found at Operations.**—The first of Perkins' patients operated on for strangulated bowel had been

operated three months previous for appendicitis. On opening the abdomen Perkins found large and small bowel both caught under a band of bowel. On tracing this band up he found it came to a point where it adhered to the mesentery. It proved to be a blind pouch coming off from the small intestine, of the same coating and caliber as the intestine. In the second case, that of a patient operated on for appendicitis, Perkins found a sloughed hole in the appendix about the middle, with two hard concretions of fecal matter about the size of peas, by the opening in the free abdominal cavity, also pus in the free abdominal cavity; and crawling across the ascending colon he found a worm of the lumbricoid variety, which had escaped through the hole into the abdominal cavity. In the third case, a patient operated on for chronic appendicitis, there was a history of having a severe attack of pain some weeks before, which was diagnosed by the family physician as gall-stone colic. After removing the appendix, Perkins found it contained a small gall-stone with polished edges. In the fourth case the appendix contained a single grape seed.

76. **Rubberized Net as a Dressing in Skin-Grafting.**—After all the grafts have been placed and are ready to be fixed in position, Tennant applies a loose meshed bandage which has previously been prepared by immersing for twelve hours in a solution of rubber-tire cement diluted with benzine or gasoline, then dried and sterilized by boiling. The approximate end of the bandage is first tacked to the skin in several places with adhesive tape to avoid slipping of the bandage while it is being wound about the limb. Two or three complete laps are usually made, the ordinary gauze and cotton dressings applied, and the part enclosed in the bandage. The outer dressings may be removed at any time without disturbing the grafts or granulations underneath, and since the dressing is porous and the fabric impervious, it permits of the free escape of discharges, which may be washed from time to time without disturbing the surface underneath. This net remains in position until the grafts are thoroughly healed—from ten days to two weeks. If necessary or desired, windows may be cut away from certain portions of the dressing without interfering with its effectiveness or disturbing the grafts.

81. **Examination in Heart and Blood-Vessel Diseases.**—Bishop claims that it may be said, in general, that the indications disclosed are nearly always the regulation of cardiac functions, rather than stimulation. Weakness indicates either a depressed activity of the heart, which may be, on the whole, conservative, or exhaustion of the reserve of the heart, which renders stimulation a desperate resource. An exhausted heart needs rest, not stimulation. It may be necessary to overcome a loss of tonicity in the heart muscle by digitalis, but that is not stimulation in the true sense, and in some cases of chronic heart disease it may be best to continue its use almost indefinitely, but, where possible, improvement of condition by proper diet, exercise, and conservation of energy should replace drug treatment. The history of the patient could influence judgment much in the advice one could give him, as would also the patient's personality and the measure of his resources.

83. **Stethoscopic Examinations.**—Abrahams, in his defense of the stethoscope, says that while all other instruments may come and go, the stethoscope will forever remain the handiest, readiest and most trustworthy tool of the work-a-day practitioner.

New York Medical Journal

June 10

81 *A Review of Methods of Examination in Heart and Blood-Vessel Diseases. L. F. Bishop, New York.
82 A Polygraphic Machine, Recording Automatically. T. E. Satterthwaite, New York.
83 *Stethoscopic Examinations. R. Abrahams, New York.
84 *Circulatory Disturbances of Mesenteric Blood-Vessels. H. D. Collins, New York.
85 Radiographic Examination of the Gastro-Intestinal Tract. R. H. Boggs, Pittsburg, Pa.
86 *Destruction of Surface and Cavity Neoplasms by Desiccation. W. L. Clark, Philadelphia.
87 Diseases of Occupation. M. Korshet, Passaic, N. J.
88 Involvement of Trachea, Lungs and Pleura in Grippe. R. E. Coughlin, Brooklyn, N. Y.
89 Kidney Infections of Pregnancy. L. Louria, Brooklyn, N. Y.

June 17

90 Prescriptions Old and New. J. J. Walsh, New York, and J. P. Walsh, Philadelphia.
91 Twilight Talks with the Doctor. G. F. Butler, Chicago.
92 Effects of Certain Chemicals on the Type of Tissue, Resulting from Chronic Irritation. G. L. Rohdenburg and F. D. Bullock, New York.
93 An Obscure Case of Miliary Tuberculosis (Pulmonic Type) Diagnosticated by the Roentgen-Ray. G. Rosenbaum, Philadelphia.
94 Mortality from Venereal Diseases. H. A. Brown, Washington, D. C.
95 Side Lights on the Social Peril. M. Glasgow, New York.
96 *Foramitti's "Tubilization" Method of Nerve Suture. G. Torrance, Birmingham, Ala.
97 Rupture of the Intestine from a Blow on the Abdomen. H. A. Royster, Raleigh, N. C.
98 Amygdalotomy or Amygdalectomy. M. Lubman, New York.

84. **Disturbances of Mesenteric Vessels.**—Circulatory disturbances of the blood-supply of the small intestine that present themselves to the surgeon, are usually of such a character as ultimately to produce gangrene of the gut. Among these we have injury to the mesenteric vessels by trauma, constriction of the vessels by volvulus, intussusception, strangulated hernia, etc. The conditions present such a train of symptoms that diagnosis may frequently be made and surgical interference often check the evil before it is too late, and thus the parts be restored to normal, or what amounts to the same thing, a cure effected by resection. The principal symptoms are sudden pain of a marked degree, abdominal rigidity and tenderness, fever, either constipation of severity or stools mixed with blood. Hiccough is often present, and so is leukocytosis of high count. Another symptom, on which much stress may be laid, is a doughy sensation in that part of the abdomen overlying the swollen gut; this doughy area moves about as the position of the gut is changed. Later on, the gangrene produces a septic peritonitis with its marked symptoms. The treatment is obvious; the prognosis depends on the amount of gut to be resected and the condition of the patient. In lieu of a better name Collins has called this condition intestinal apoplexy. He reports three cases.

86. **Destruction of Surface and Cavity Neoplasms by Desiccation.**—The object of Clark's paper is to show a means whereby tissue may be destroyed by rapid depletion of its fluid element. The idea is to produce, control and sustain a degree of heat sufficient to cause rapid desiccation of the part to be treated, sterilizing and converting it into an inert mass. He says that a current from a static machine of large output with properly attuned accessories, when applied with correct technic and care is capable of producing a superficial or a deep destruction of tissue by desiccation, or rapid depletion of its fluid element, which breaks up and disintegrates the cells. It has sterilizing, deodorant, styptic, penetrating and stimulating properties. This specialized current has no particular affinity for abnormal tissue over the normal, but it is a simple matter to keep the destruction well within bounds on account of refinement of control. It is operative in all accessible lesions in which destruction is desirable, and works from without inward. Living tissue is destroyed by this means almost as readily as dead tissue (raw meat). The rapidity of action appears to be directly proportionate to the density of the tissue. Clark has tried the method on 317 lesions and is very enthusiastic over the results.

96. **Foramitti's "Tubilization" Method of Nerve Suture.**—Following a traumatic section of the musculo-spiral nerve, Torrance's patient developed wrist drop with the hand drawn toward the radial side; pronation and supination only slightly affected; the ring and little finger were flexed on the palm and the other fingers were partially flexed; had lost all power of extension of the thumb; complete loss of sensation in the thumb and index finger and extending up to the wrist. Six months after the injury the nerve was exposed and found to be severed just above where it divides into the radial and interosseous, so that the ends were not widely separated and were caught in the scar tissues of the wound; each end showed a bulb formation of the nerve and scar tissues; these were excised and the nerve terminals sutured together with fine catgut in an absorbable tube prepared from the artery of a cow after Foramitti's method, slightly modified; good apposition was obtained. The wound was closed without drainage and a cast was applied with the arm at right angles. When seen a month after the operation the wound was perfectly healed and the patient had regained sensation in the hand, except in a narrow strip across the thumb at the base

of the nail, and she could extend the fingers to a right angle with the palm.

She was lost sight of for more than a year, when she reported that the numbness in the thumb had disappeared in about nine months and that the arm and hand were perfectly normal at the end of a year.

Medical Fortnightly, St. Louis

May 25

99 *Treatment of Patients Desperately Ill in Consequence of Accident (Shock, Hemorrhage and Infection). C. E. Bowers, Wichita, Kan.
100 One Side of a True Analogy Largely Lost Sight of. E. E. Clark, Danville, Ill.
101 Tubercular-Phobia. C. Pope, Louisville, Ky.
102 Typho-Bacillosis. W. F. Waugh, Chicago.
103 In the Twilight. C. E. Warren, North Easton, Mass.

99. Abstracted in The Journal, Nov. 5, 1910, p. 1676.

Medical Record, New York

June 10

104 *Stretching of the Pylorus in Benign Stenosis. M. Einhorn, New York.
105 *Pollution of Harbor Water Used in Free Floating Baths. L. R. Williams, New York.
106 *"Carriers" in Relation to the Spread of Diphtheria. E. C. Hill, U. S. Army.
107 *Acute Psychosis Due to Belladonna Poisoning. M. A. Starr, New York.
108 Possible Causes of Failure Following Use of Bacterial Vaccines and Antiserum. H. E. Plummer, New York.
109 Stokes-Adams Disease; Report of Cases. J. C. Johnston, McAlester, Okla.
110 *Neglected Phase of Prevention of Summer Gastro-Enteric Disease in Infants. Le G. Kerr, Brooklyn, N. Y.
111 Heart Displacement in Pulmonary Tuberculosis. H. Greeley, Brooklyn, N. Y.

104. Abstracted in The Journal, May 27, 1911, p. 1607.

105. **Pollution of Harbor Water.**—While bathing in floating baths and in other contaminated waters it has been shown that water is taken into the mouth. The casual bather, therefore, runs a risk of receiving typhoid bacilli into his alimentary canal by bathing and swimming, and the risk of the constant bather is increased. A thorough study of the floating baths of New York leads Williams to draw the following conclusions: There are a large number of people in the metropolitan district constantly ill of specific diseases. The discharges of many of these patients containing specific disease-causing bacteria are emptied undisinfected into the sewage. Some of these bacteria, notably the typhoid bacillus, may live for days in sewage and sea water. Other bacteria causing specific diseases may live in sewage and sea water, though less is known about them. There is danger in bathing in the harbor waters. The floating baths have but little cleansing value and the water is unwholesome for bathing purposes. They may be refreshing to some and give pleasure to thousands, some of whom learn to swim. Floating particles of sewage enter many of the baths even though they are situated 500 feet or more from sewer outlet. The quality of the water adjacent to the shores of Manhattan and Brooklyn in the East and Hudson Rivers and the Harlem River is such that it is unsuitable for bathing purposes even though it were possible for the baths to be so situated and protected that floating particles of sewage did not enter the floating baths. This water is constantly diminished in oxygen, contains large numbers of bacteria, among which are colon bacilli in 0.01 to 0.001 of a c.c. of water. While bathing in these waters it is hardly possible to prevent water from entering the mouth and nasal passages and also the mucous membrane of the eye, and bathing in such water is a constant source of infection.

106. **Spread of Diphtheria.**—It is held by Hill that carriers, missed cases and atypical and undiagnosed cases of diphtheria must be considered as of as much more importance in the spread of the disease than fomites. House disinfection and quarantining healthy as well as sick inmates of a household is an unscientific method of controlling epidemics if no attention is paid to carriers. A rational use of antitoxin, i. e., sufficient dosage at frequent intervals, will, undoubtedly, greatly reduce the present high death-rate from diphtheria.

107. **Acute Psychoses Due to Belladonna Poisoning.**—Two cases of belladonna poisoning are reported by Starr which did not present the usual symptoms but presented a state of mental excitement most unusual and interesting. He says that the sudden development of illusions, hallucinations and delusions in a previously healthy person should always awaken suspicion of a toxic psychosis.

110. **Prevention of Gastro-Enteric Disease in Infants.**—The time to commence treatment of the summer diarrheas of infants, according to Kerr, is in the late spring or at the latest the early summer. Gastro-enteric disease, as it is expressed in infants and young children, is not always an acute process. In fact, although it appears as an acute condition, it is uncommonly such, and careful history-taking will almost invariably reveal the fact that the acute process is one that is developed on a soil which has been long prepared for it. Thus the prevention of digestive disturbances is the largest factor in the limitation and prevention of acute gastro-enteric disease.

Therapeutic Gazette, Detroit, Mich.

May

112 Diagnosis of Facial Pains from Those of Tic-Douloureux and Their Treatment by Alcoholic Injection. T. H. Weisenburg, Philadelphia.
113 What Cases of Constipation Are Amenable to Surgical Treatment? J. G. Clark, Philadelphia.
114 Infantile Pyloric Stenosis and Infantile Spasmodic Pyloric Stenosis. A. L. Hertel, St. Louis.
115 Diagnosis and Treatment of Tuberculous Lesions in the Upper Respiratory Tract. G. B. Wood, Philadelphia.

Boston Medical and Surgical Journal

June 15

116 Obstetrics in General Practice. A. Worcester, Waltham, Mass.
117 *Hexamethylenamin as a Possible Preventive of Pneumococcus Empyema. F. C. Shattuck, Boston.
118 *"Fibrositis" as a Cause of Chronic Hypertrophic Spondylitis; A Heretofore Undescribed Sign in Intestinal Auto-Intoxication. N. S. Yawger, Philadelphia.
119 *Treatment of Gastric Hyperacidity with Hydrogen Peroxid. G. W. Hall, Boston.
120 A Case of Vertigo Cured by Treatment of the Eustachian Tube. E. M. Holmes, Boston.
121 A Case of Nerve-Deafness Due to the Toxemia of Diabetes. W. H. Merrill, Lawrence, Mass.
122 Lateral Deviations of the External Nose. A. Coolidge, Boston.
123 Plaster Casting from Life to Show External Deformities of the Nose Before and After Correction. I. D. Kerr, Boston.

117. **Hexamethylenamin and Pneumococcus Empyema.**—From March 1, 1910, to March 1, 1911, fifty-nine cases of lobar pneumonia were treated with hexamethylenamin in the medical wards of the Massachusetts Hospital. This number includes only cases in which the diagnosis seemed assured. The drug was given as soon as the diagnosis was made, and the dose was 10 gr. three times a day, continued until death or well into convalescence. In three cases of young children the dose was proportionately less. The duration of illness before the drug was given varied from one to sixteen days, averaging five and one-half days. The duration of the hexamethylenamin treatment averaged twelve days. Three of these cases developed empyema. During the same period, there were forty-six cases of lobar pneumonia treated without hexamethylenamin. Three or four of these were not given the drug because moribund when brought to the hospital, and in one the pneumonia was a terminal event in chronic nephritis. In general, however, the cases were of the same class as those comprising the hexamethylenamin series. There was no selection of cases for the treatment. Of this number only one developed empyema. In the preceding year, March, 1909, to 1910, of 142 cases of lobar pneumonia without hexamethylenamin, three developed empyema. Excepting in one doubtful case, no urinary disturbance could be attributed to the hexamethylenamin, although the average finding of albumin and casts was higher in the hexamethylenamin cases than in the others. Pericarditis, which complicated 4 or 5 per cent. of the non-hexamethylenamin cases in both years, was not observed in the hexamethylenamin series. The same is true of otitis media, which occurred in 3 to 4 per cent. of the cases not under the drug.

The mortality of cases in the hexamethylenamin series (20 per cent.) is a little lower than in the other series (25 per cent. in 1909 and 26 per cent. in 1910); but not counting the cases which did not receive hexamethylenamin because they were moribund, the mortality of the hexamethylenamin series would be as great or a little greater than that of the others.

Shattuck believes that his results are not encouraging to the hope that in hexamethylenamin we may have a preventive for empyema, one of the most frequent, and, from the point of view of the comfort of the patient, the most serious sequelæ of pneumonia. They suggest, however, that this drug may be a preventive of pericarditis and otitis media. Of course, it may be a mere coincidence that neither of these complications developed in the hexamethylenamin cases, but the contrast between the two series leads Shattuck to continue the use of the drug, and thus perhaps to arrive at more definite conclusions.

118. **Fibrositis and Chronic Hypertrophic Spondylitis.**—Having studied a considerable number of cases of chronic "rheumatic" myositis and having observed in these cases many instances in which the skin, fasciæ, fat and periosteum as well as muscles were involved, and also finding tenderness and stiffness quite commonly present about the spine in many persons in whom other parts were affected, it has seemed to Yawger that chronic hypertrophic spondylitis is often but the spinal localization of a very common general condition, and which, in a mild degree, is quite frequently present. In many instances these various manifestations appear to have a common cause, this being auto-intoxication of intestinal origin. Of course, Yawger says, it is important to distinguish between a stiff back due to adventitious osseous formations and that due to chronic muscular rheumatism, and this may be done with the administration of an anesthetic, when the latter condition yields readily, while the former remains unchanged. A skiagraph will also help to clear up the diagnosis.

119. **Gastric Hyperacidity.**—The results obtained by Hall in the treatment of thirty patients who complained of distress or pain, referred to the stomach with other symptoms of hyperacidity by means of hydrogen peroxid show that it diminishes the amount of hydrochloric acid in the stomach; that those patients with hyperchlorhydria get great or total relief from their symptoms; that there is a gain in weight; that it does not appear to benefit cases with active ulcer; and finally, that this method of treatment is a useful addition to the methods already in use in the treatment of hyperchlorhydria.

Annals of Otology, Rhinology and Laryngology, St. Louis

March

124 Therapeutic Value of Radium in Treatment of Diseases of the Upper Air Tract. W. Freudenthal, New York.
125 Examination and Treatment of the Nasopharynx and Eustachian Tube by Aid of the Nasopharyngoscope. E. M. Holmes, Boston.
126 Electric Nasopharyngoscope. F. P. Emerson, Boston.
127 A Case of Cerebellar Abscess Presenting Certain Features Suggestive of Labyrinthine Suppuration. P. D. Kerrison, New York.
128 Suppurative Otitis Media Treated with Suspensions of Lactic Acid Bacilli. W. H. Haskin, New York.
129 Pathologic Conditions of the Ear Resulting in Profound Impairment of Hearing. E. B. Dench, New York.
130 A New Method of Eliciting the Functional Ear Tests. E. P. Fowler, New York.
131 Sarcoma of the Nose and Nasopharynx. T. H. Farrell, Utica, N. Y.
132 Carcinoma of the Pinna and External Auditory Canal. H. A. Kiefer, Los Angeles.
133 Educating the Eye to Substitute for Deaf Ears. E. B. Nitchie, New York.
134 The Ideal Clinic in Laryngology. A. J. Huey, New York.
135 The Yankauer Operation in Chronic Middle Ear Suppurations. H. Hays, New York.
136 Pathogenesis of Otosclerosis. G. Ferreri, Rome.
137 Sinus Thrombosis with Special Reference to the Diagnostic Value of Blood-Cultures in Otitic Disease. S. Oppenheimer, New York.
138 Cases of Ear Suppuration Presenting Irregular Symptoms. E. B. Dench, New York.
139 A Case of Sinus Thrombosis, with Extensive Accumulation of Fluid Pus in the Sinus: Recovery After Resection of the Jugular Vein. R. L. Loughran, New York.
140 Mechanical Aids to Hearing. P. Fridenberg, New York.
141 Physiologic Vestibular Nystagmus. J. R. Fletcher, Chicago.
142 The Improved Technic of the Thiersch Graft Following the Radical Mastoid Operation. C. F. Welty, San Francisco.

Lancet-Clinic, Cincinnati

June 10

143 Cooperation, Inspection and Reorganization of Medical Colleges. J. U. Barnhill, Columbus, Ohio.
144 Acute Pericarditis with Effusion. C. A. Tribbet, Westboro, Ohio.

June 17

145 Enucleation of the Eye Under Local Anesthesia—Indications and Technic. D. T. Vail, Cincinnati.
146 Importance of Teaching Dermatology and Syphilology in the Medical Colleges. A. Ravogli, Cincinnati.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 27

1 *Rational Empiricism and Scientific Medicine: The Boundaries Dividing Them. Sir D. Duckworth.
2 Food and Feeding. R. Saundby.
3 *Cancer, Credulity and Quackery. E. F. Bashford.
4 Bonesetting. H. Marsh.
5 *Quackery and Female Complaints. Sir J. Byers.
6 Skin Diseases and Cosmetics. G. Pernet.
7 Practice of Medicine and Surgery by Unqualified Persons. J. H. Taylor.
8 Quackery in Rural Districts. C. E. S. Flemming.
9 Unqualified Practice in East Anglia. E. G. Barnes.
10 Bonesetting and Treatment of Painful Joints. F. Romer and L. E. Creasy.

June 3

11 *Fractures of the Patella and Their Surgical Treatment. C. B. Lockwood.
12 *Bursal Swellings About the Knee-Joint. A. E. Barker.
13 Pharmacologic Effects of Strong Sulphur Water. D. Brown.
14 Balneologic Treatment of Disease. W. R. Gore.
15 Cottage Nurses for Rural Districts. H. Hick.
16 Transmission of Trypanosoma Lewisi by Rat-Flea (Ceratophylus Fasciatus). E. A. Minchin and J. D. Thomson.
17 Comparative Nutritive Value of White, Standard and Whole-Meal Bread. L. Hill and M. Flack.

1. **Rational Empiricism and Scientific Medicine.**—Rational empiricism together with slowly progressive scientific medicine, says Duckworth, are now being carried on by the best practitioners. In the immediate interests of the sick this must be so, and there can be no antagonism between them so long as the whole field of medicine is not covered by science. The boundaries which divide them are sufficiently clear to all well-educated members of the profession. It is as possible to be too empirical as it is to be too scientific in daily practice. Some therapeutic methods urged on an alleged scientific basis have ultimately proved to be unscientific, and of little or no value. In the meantime, Duckworth says, we need to be both more prudently empirical, and more on the alert to avail ourselves of such knowledge as comes to us with the imprimatur of honesty and exact laboratory research. Such research must, however, be carried on with close and prolonged clinical cooperation. In that way only true progress lies. The task is, indeed, a difficult one, and the outlook for all engaged in it appears likely to become more burdensome for each generation. Such seekers after truth must not expect much sympathy or support from the public, which looks for results quickly wrested from Nature, and is apt to be impatient with slow and persevering research. They know, however, that the true philosopher, who makes his mark for all time, reserves his results till he has covered the whole field of his research, and that he is the last man to seek untimely and sensational publicity for them.

3. **Cancer, Credulity, and Quackery.**—A few of the so-called "cancer cures" investigated by the Imperial Cancer Research Fund are spoken of by Bashford, also the reasons for the existence of so much credulity on the part of the public.

5. **Quackery and Female Complaints.**—The suppression of quackery, Byers believes, may be brought about in three ways: (1) By doing everything to advance the progress of medical science and to improve the art of healing; (2) by educating the public as to the folly of quack nostrums, particularly in the direction of the exposure of "secret remedies," by scientific analysis as to what they contain and what they cost, as is being so admirably carried out by the British Medical Association; and (3) by demanding that there should be legislation on the subject which might follow the lines indicated by the executive committee of the Association of County Councils in Scotland, who have recommended their association to adopt a resolution to the effect that the Sale of Food and Drugs Acts should be amended and extended so as to provide: (1) That for medicines which are supplied otherwise than on medical, dental or veterinarian prescriptions, no condition of sale short of the publication on each packet of medicine of the name and quantity of each of its constituents should be permitted. (2) That the label should be made to constitute a warranty; and that a false description, whether on the label or main advertisement, should be made an offense. (3) That the provisions of the Sale of Food and Drugs Acts should be applied to proprietary medicines.

11. **Fractures of Patella and Surgical Treatment.**—Lockwood strongly favors treating all fractures of the patella by an open operation. It gives a far better result in a far shorter time. The advantages gained far outweigh the risks.

12. **Bursal Swellings About Knee-Joint.**—Barker not only discusses the usual enlargements of bursal cavities about the knee, but also suggests that in some obscure conditions in this region an explanation may be found in enlargements of synovial tracts which are sometimes forgotten. In the case of enlargement of some of them he believes that they are the origin of those large cystic swellings which have been erroneously believed to be due to hernial protrusions of the synovial membrane of the knee-joint. As to treatment, we are safest when we regard them as rudimentary joints, and deal with them as such. And as it is now recognized that joints may be dealt with freely by operation with a good prospect of the preservation of their functions, so may these bursal sacs.

Lancet, London

June 3

18 *Progressive Spinal Muscular Atrophies of Infants (Werdnig-Hoffmann). F. E. Batten.
19 The Medico-Chirurgical Transactions a Hundred Years Ago. J. M. Bruce.
20 Position of Present Reform Movement in Anesthetics. F. W. Hewitt.
21 *"Förster's Operation" of Posterior Root Section for Treatment of Spasticity (Rhizotomy). O. May.
22 Successful Removal of a Sarcoma from Head of the Pancreas. J. Sherren.
23 *Referred Penile Pain in Intussusception. G. E. Waugh.
24 Chronic Pancreatitis, Diagnosis and Treatment. P. J. Cammidge.
25 Gangrenous Pancreatitis; Operation; Recovery. G. A. Wright and E. L. Luckman.
26 Tobacco Dyspnea. J. D. Reckitt.
27 Burns of Anterior Aspect of the Chest and Neck, with Part of Lateral and Posterior Aspects. E. F. Travers and D. F. Maunsell.

18. **Progressive Spinal Muscular Atrophies of Infants.**—The case described by Batten illustrates a type of progressive paralysis beginning in a child below the age of 12 months, affecting, in the first place, the trunk and proximal muscles, gradually spreading to those more distally situated, affecting the intercostals but sparing the diaphragm. The intelligence, sensation, and the visceral functions remain unaffected. Pathologic examination of other cases shows that this progressive paralysis is due to a change in the cells of the anterior horn caused by some toxin or condition the nature of which is at present unknown.

21. **"Forster's Operation" of Posterior Root Section for Treatment of Spasticity.**—In May's case, the operation yielded the most satisfactory results. The spasticity was of congenital origin. The patient was 5 years old. His condition before operation was as follows: By the exercise of considerable force the leg could be almost fully extended, but would spring back immediately it was released. If the heel of one foot was raised quickly from the bed the other promptly followed it. If done very gradually the other heel was raised when the first was about 10 inches from the bed. The maximum separation possible of the knees was 7 inches and of the ankles 15 inches. If one leg was held down the other could not be raised more than 12 inches (from the bed to the heel). The maximum voluntary separation of the heels was about 6 inches, and this could not be sustained, the legs returning quickly to the crossed position. The legs could not be moved independently at all; efforts to raise one leg caused movements of all the limbs and often of the head as well. All the tendon jerks—knee, ankle, adductor, etc.—were tremendously exaggerated; ankle-clonus was not obtained, being prevented by the strong contracture of the plantar flexors of the ankle. Even light pressure over the adductor tubercle of the thigh caused a spasmodic movement of the whole frame—limbs and trunks. The plantar reflexes were of the extensor type, and Oppenheim's reflex was easily obtainable. No impairment of sensation could be detected. The second sacral and fifth, third and second lumbar posterior roots on each side were successively resected. Three weeks after operation, forcible extension of the knee seemed rather painful; otherwise there was no evidence of pain. The legs could be widely abducted, until the ankles were nearly 30 inches apart. There was still, however, some degree of spasticity of the adductors and hamstrings; the calf muscles were free, so that the foot could be fully dorsi-flexed. The reflexes were as previously noted. The child had lost the marked spasm previously elicitable by pressure over the insertion of the adductor magnus. Each leg could be fully flexed at the hip without producing any appreciable movement of the other leg.

23. **Referred Penile Pain in Intussusception.**—The occurrence of paroxysmal attacks of pain referred to the end of the penis and suprapubic region in association with an intussusception appears not to have been recorded up to the present time. Its association in cases with a definite abnormal type of mesenteric formation, and the fact that in one case this primitive persistence of mesenteries was diagnosed before the operation and confirmed by the operation, are additional reasons why Waugh calls attention to it. Lastly, some unusual features of intussusception formation appear to depend on the presence of these mesenteries, and when their presence can be recognized beforehand by reason of this referred pain a departure from the usual traditional treatment of immediate operation can be justified with advantage to the patient. The clinical signs and symptoms common to these cases briefly were these: Pain in the abdomen and vomiting at intervals, were present for about a week before admission to hospital. The pain was paroxysmal in nature, was sufficiently intense to make the patient cry out loudly and clutch the end of the penis. The penis and suprapubic region were lacerated by the fingernails. In all the cases the pain had been present for two or three days before the vomiting began. The abdomen was soft, not distended, and moving freely. A tumor of the usual character of an intussusception was present in the left iliac fossa and easily palpable per rectum. Small quantities of feces were passed at intervals, with only an occasional slight trace of mucus, and on one occasion a tinge of blood was present. In these three cases development had been arrested at the stage of rotation, so that no fusion of the retrocolic folds of peritoneum had occurred. That is to say, both the ascending and descending colons hung freely from the posterior abdominal wall, with a fold of peritoneum nearly one inch in depth behind them, forming an ascending and descending mesocolon, while the mesocolon of the transverse portion of the large gut had not fused with the layers of the great omentum, so that part of the intestine lay in the abdominal cavity at a level just below the transumbilical plane. Further evidence of a primitive stage of development was the presence of a large appendix fully three inches in length, reaching up to the under surface of the right lobe of the liver, with an extensive and well-vascularized meso-appendix in all the cases, while in addition, in one of them a Meckel's diverticulum was present and in another a large congenital hernial sac in the left inguinal canal.

Medical Press and Circular, London

May 24

28 Endometritis. G. E. Herman.
29 Cases Illustrating the Origin of Hysterical and Pseudo-Hysterical Symptoms. T. A. Williams.
30 Errors of Diagnosis in Supposed Cases of Appendicitis. G. P. Newbold.
31 Hand Atrophies. C. M. H. Howell.
32 Treatment of Scar Tissue. W. K. Sibley.

May 31

33 Displacements of the Uterus and Pelvic Floor. J. S. Fairbairn.
34 *Absence of the Fallopian Tubes, with Recurrent Peritonitis; Spencer's Operation. E. A. Chill.
35 *Malformations of the Uterus, Tubes and Ovaries of Clinical Interest. A. Doran.
36 Injection of Paraffin in Depressed Scars, Furrows and Other Cosmetic Defects. D. Walsh.
37 A Case of Duodenal Ulcer. O. Smith.

34. **Absence of Fallopian Tubes.**—In the case cited by Chill there was absence of the Fallopian tubes and of menstruation, associated with monthly recurring attacks of peritonitis. A woman, aged 31, married three years, never had any menstrual flow. No blood or blood-stained fluid had ever been passed. At the age of 14, attacks of pelvic pains began and recurred monthly, lasting three to seven days, during which there might be a little whitish-yellow discharge, but never enough to require a diaper. These attacks became more and more severe, affecting the lower half of the abdomen, beginning on one side and spreading to the other, but always worse on the left side. This was accompanied by nausea, headache and sweat-

ing. She had been under treatment without benefit. These attacks of recurrent peritonitis rendered the patient weak and thin, but beyond this, everything, including the breasts, pubic hair, external genitals, vagina and uterus appeared normal. There was tenderness on pressure in both iliac regions and rigidity over the lower abdomen. *Per vaginam*, a tender swelling could be felt on each side behind and external to the uterus, more marked on the left side. The body of the uterus was quite normal; in the place of each cornu was a pea-like knob. There was no sign of the main portion of the Fallopian tube on either side, but the round ligament was well defined, and there was nothing else abnormal about the inner part of the broad ligament. Each ovary was enclosed in a pouch formed by peritoneal adhesions; the opening of the pouch into the general peritoneal cavity was directed backwards; the peritoneal surface of the ovaries projected into the interior of the pouches. This surface of the ovary appeared normal, and on pricking one of the follicles fluid spurted out. Chill did not observe any sign of a corpus luteum of menstruation, nor any remains of blood-clot or pigment whatever. In the wall of the sac where it was continuous with the broad ligament there appeared to be traces of the fimbriæ of the Fallopian tube. A uterine sound was passed quite easily and to the normal distance. But the lumen of the uterus did not extend into the pea-like knobs previously noted. On the left side the knob contained a small dermoid cyst enclosing sebaceous material but no hairs. On the right the knob was a mass of fibrous tissue. A drainage tube was passed downward from the uterine cavity through the cervix, and the orifices of the two ovarian pouches were brought over the uterus and sutured so as to establish a continuity with the uterine cavity. The patient has returned frequently for examination, is in very good health and has had no further attacks nor abdominal disturbance.

35. **Malformations of Uterus, Tubes and Ovaries.**—Four cases are reported by Doran: (1) Arrested development of the upper part of the female genital tract; (2) hermaphroditism detected in operations for hernia; (3) distention of the otherwise well-developed uterus and Fallopian tubes, with menstrual blood; (4) bifid and unicorn uterus in parous subjects.

Tropical Medicine and Hygiene, London

May 15

38 Curative Influence of Roentgen Rays in Malaria. H. D. McCulloch.

39 Cultural Characters of the Fungi of *Tinea Imbricata*. A. Castellani.

Annals of Tropical Medicine and Parasitology, Liverpool

April

40 Further Experimental Researches on the Etiology of Endemic Goiter. R. McCarrison.

41 Non-Ulcerating Oriental Sore: The Cultural Characteristics of the Parasite as Compared with a New Similar Parasite in Erthesina Bullo (Thumb), a Pentatomid Bug. R. M. Carter.

42 Infantile Leishmaniasis (Marda Tal Biccia) in Malta. A. Critien.

43 *Production, Life and Death of Crescents in Malignant Tertian Malaria, in Treated and Untreated Cases. D. Thomson.

44 *The Leukocytes in Malarial Fever: Method of Diagnosing Malaria Long After It Is Apparently Cured. D. Thomson.

45 Yellow Fever in the Black Race and Its Bearing on the Question of the Endemicity of Yellow Fever in West Africa. Sir R. Boyce.

46 The Ameba Parasitic in the Human Intestine, with Remarks on the Life-Cycle of Entameba Coli in Cultures. H. B. Fantham.

47 Observations on the Tsetse-Fly, Described as Glossina Grossa. R. Newstead.

48 The Correlation Between Trypanosomes, Leukocytes, Coagulation Time, Hemoglobin and Specific Gravity of Blood. V. T. Korke.

43. **Production, Life and Death of Crescents in Malignant Tertian Malaria.**—Thomson believes that crescents are produced from the ordinary asexual spores of *P. falciparum*, due to a development of immunity towards the latter. They develop somewhere in the internal organs and then appear suddenly in the peripheral blood. The period required for their development is about ten days. Crescents do not generally live more than a few days in the peripheral blood. Crescents may be present in the peripheral blood during periods as long as eight weeks, not because the individual crescents survive for that time, but because their numbers are constantly replenished from surviving asexual forms. Fresh broods of crescents come into the circulating blood daily, or every other day, or irregularly, according as the asexual sporulations occurring ten days before were quotidian, tertian, or irregular. Quinin has no direct destructive action on crescents, either during their development or afterward, but it destroys the asexual source of supply. Quinin reduces the crescents to numbers less than one per c.mm. of blood within three weeks, provided it be given in daily doses of twenty to thirty grains. Quinin in small doses tends to increase crescent production (?) by favoring the development of immunity to the asexual parasites. Methylene-blue in doses of 12 gr. daily reduces the number of crescents, and would seem to have some direct destructive action on them.

44. **Leukocytes in Malarial Fever.**—During active malaria the number of leukocytes in the peripheral blood is decreased. During quiescent malaria, and in cases apparently cured by treatment, the leukocytes in the peripheral blood are much increased. During the rigor and temperature in malaria, the mononuclear leukocyte percentage (more especially that of the large mononucleated variety) is low. With the fall of temperature, however, the mononuclear percentage rises very high, sometimes even to 90 per cent. of the total leukocytes. This fluctuation in the percentage of total mononuclear leukocytes occurs also long after continuous quinin treatment, and is observed for months and even years (?) after the last attack of fever. In these apparently cured cases of malaria, the mononuclear percentage is lowest at the time of the day at which the rigor and fever occurred during the previous active malaria; and, moreover, at this time there also occurs a very marked leukocytosis, which continues for only a few hours. The leukocytes often reach numbers as great as 30,000 to 50,000 per c.mm. of blood. On one occasion, noted by Thomson, they were as numerous as 125,000 per c.mm. Two hours later they had fallen to 22,000 per c.mm., and in eight more hours there were only 6,000 per c.mm. This case showed a regular daily periodic variation in the number of leukocytes, averaging from about 6,000 per c.mm. to 50,000 per c.mm. The height of the rise always occurred about noon. This was the time at which the rigor and fever, which was quotidian, was wont to occur previously. This post-malarial leukocyte phenomenon occurred always without exception in the forty cases examined, and would therefore seem to be an infallible sign of previous malaria, as, so far, it has not been observed in any other disease. It would appear, says Thomson, that large numbers of malarial parasites on sporulating cause leukopenia, while a very small number on sporulating cause a leukocytosis.

Journal of Laryngology, Rhinology and Otology, London

May

49 Fibrolysin in Otology. M. Yearsley.

50 The Visual Fields in Sphenoid and Ethmoid Sinusitis. G. F. C. Wallis.

51 Case of Thrombosis of the Lateral Sinus Exhibiting Symptoms of Cerebellar Abscess; Operation; Recovery. J. W. Wood.

Australian Medical Journal, Melbourne

April

52 *Etiology of Acute Rheumatism. A. V. M. Henderson.

53 Treatment of Cardiac Affections of Acute Rheumatism. H. H. Turnbull.

54 *Manifestations of Rheumatism in Children. F. H. Cole.

55 Relationship of Botany to Medicine. A. J. Ewart.

56 *Functional Murmurs in Children. R. M. Downes.

57 Ten Cases of Poisoning by Castor-Oil Seed. W. A. Wood.

58 Case of Sudden Death from Pulmonary Infarction. W. H. Brown.

52. **Etiology of Acute Rheumatism.**—Anderson's paper is a summary of the present stage of our knowledge of the etiology of acute rheumatism and other diseases apparently related to it. He believes that we may, at present, regard rheumatic fever as an acute infectious disease, the predisposing causes of which are to some extent known; and that its exciting cause is a germ, probably a diplococcus or streptococcus, and possibly the organism investigated by Poynton and Paine.

54. **Rheumatism in Children.**—Cole believes that in nearly all cases, the rheumatic heart in children comes to stay and to destroy, partly, no doubt, because the difficulties of management and treatment over long periods are almost insuperable.

56. **Functional Murmurs in Children.**—Downes regards it as advisable to bear well in mind, in regard to the question of treatment and prognosis, the frequency with which marked murmurs are present in children even with some signs of enlargement of the heart suggestive of congenital heart disease, these signs rapidly vanishing on change of posture, or on improvement of the general health. In addition, he says, the fact of the normal greater intensity of the pulmonary second sound in children has to be remembered in making a diagnosis of organic disease of the heart.

Annales des Maladies des Org. Génito-Urinaires, Paris

May 1, XXIX, No. 9, pp. 769-864

59 Pyelotomy for Removal of Renal Calculi; Six Cases. P. Bazy.
60 Complete Retention of Urine in Ulcerative Cystitis in Woman of 68. G. Gross and L. Heully.
61 Anuria Due to Presence of Calculi; Three Cases, One Fatal. Kouznetzki.

Annales de Médecine et Chirurgie Infantiles, Paris

May 1, XV, No. 9, pp. 273-304

62 The Appetite in Children. E. Périer and Gaujoux.

May 15, No. 10, pp. 305-336

63 Vomiting in Children. E. Périer and Gaujoux.
64 Management of Day Nurseries. (Le fonctionnement d'une crêche.) H. Boquet.

Archives des Maladies du Cœur, Etc., Paris

May, IV, No. 5, pp. 273-336

65 The Extrasystole as a Symptom and in Prognosis. M. Leconte.
66 Case of Adams-Stokes Syndrome Without Heart-Block. (Syndrome de Stokes-Adams, sans lésion du faisceau de His et sans blocage complet, dans un cas de péri-aortite avec médiastinite fibreuse dans la région du plexus cardiaque.) J. Mollard, A. Dumas and J. Rebattu.
67 Experimental Myeloid Reaction. R. Hertz.

Lyon Médical, Lyons

April 30, CXVI, No. 18, pp. 777-820

68 Acute Colitis with Necrosis; Two Cases. M. Ducand.

May 7, No. 19, pp. 821-872

69 Acute Encephalitis in Course of Pneumonia. J. Mollard and A. Dufourt.

May 14, No. 20, pp. 873-916

70 The Roots in the Nervous System. (Les Racines du système nerveux.) J. P. Morat.

Presse Médicale, Paris

May 24, XIX, No. 41, pp. 425-432

71 The Domain of Psychiatry. J. Dejerine.
72 *Should High Blood-Pressure Always Be Combated? A. Martinet.
73 Hay Asthma. (Asthme des foins.) P. Maurel.

May 27, No. 42, pp. 433-444

74 Clinical Examination of the Duodenum. R. Gaultier.
75 Paralytic Zona of the Cerebral Nerves and the Theory of Acute Posterior Poliomyelitis. H. Claude and H. Schaeffer.
76 Ankylostomiasis. H. Benoit-Bazille.

72. **Should Hypertension Always be Combated?**—Martinet concludes from his study of this question that when the systolic pressure drops while the diastolic pressure rises, this is a sign of weakening of the myocardium. On the other hand, when the systolic pressure drops and the diastolic drops with it, this is a sign of true primary hypertension in the artery; it is generally a favorable sign. In every case of hypertension there is a lower limit to the pressure in the artery, below which the pressure cannot be reduced without injury to the myocardium.

Revue de Gynécologie, Paris

March, XVI, No. 3, pp. 209-344

77 *Hermaphrodism. (Hermaphrodisme. Ses variétés et ses conséquences pour la pratique médicale.) T. Tuffier and A. Lapoint. (Neuf cas personnels de pseudo-hermaphrodisme.) S. Pozzi.

April, No. 4, pp. 345-440

78 Ovarian Cytotoxins. S. D. Chiaje.
79 Complex Case of Exstrophy of the Bladder. O. Cohrs.

77. **Hermaphrodism.**—This whole issue of the *Revue* is devoted to this subject, Tuffier and Lapoint reporting a case and comparing it with others on record. When dubious as to the sex of an infant they say that the physician had better inform the family of his doubts but at the same time advise to have the child brought up as a boy, as 75 per cent. of all hermaphrodites turn out to be of this sex, and, in the other event, it is easier to make the change than if a boy has been brought up as a girl. An incision in the inguinal region is a simple matter to confirm the sex, especially as a further operation generally follows. Exploratory laparotomy is justifiable in some cases. Kolisko did this on a 2-year-old child and determined the presence of normal internal female organs, but it might be better to wait until the age of 5. The medicolegal and surgical aspects are discussed by Pozzi, with a profusely illustrated description of nine cases of pseudohermaphrodism.

Revue de Médecine, Paris

April, XXXI, No. 4, pp. 265-344

80 *Recurring Erythema in the Tuberculous. E. Devic and C. Gardère.
81 *Tuberculous Rheumatism. L. Tommasi.
82 Experimental Research on Antiglycosuria Serums. L. Castriota.
83 Dementia Præcox. Pascal.
84 Pleurisy in Diabetes. Braillon.

May, No. 5, pp. 345-432

85 *Banti's Disease. W. Oettinger and P. L. Marie.
86 Potato in Diet of Diabetics. (Valeur de la pomme de terre comme aliment chez les diabétiques.) F. Rathéry.
87 Pericardial Friction in Tuberculous Pericarditis. E. Devic and C. Gardère.
88 Results of Experimental Inoculation of Meningococcus. R. Debré.
89 Actinomycosis of Base of Skull and Meninges. J. Belkowski.
90 Prevalence of Diabetes. R. Lépine.

80. **Recurring Erythema in the Tuberculous.**—In the case reported the woman had five recurring attacks of an eruption resembling that of scarlet fever, succumbing in the last attack which was of a hemorrhagic nature with femoral thrombosis and gangrene. Some of the attacks seemed to develop spontaneously while others followed the administration of antipyrin, etc. The erythema in such cases is evidently a manifestation of an idiosyncrasy or anaphylaxis. In the present case the first eruptive attack was diagnosed as measles, the second and third as scarlet fever; the latter was finally excluded by the lack of severe sore throat and of contagion of others and by the early desquamation.

81. **Tuberculous Rheumatism.**—Tommasi found a distinct history of some supposedly rheumatic joint trouble in 23 per cent. of his last hundred tuberculous patients. In 20 per cent. of the twenty-three cases the joint trouble had just preceded a hemoptysis or other manifestation of the tuberculosis. He gives the details of three cases in which the tuberculous nature of the joint trouble was very probable. One was a young girl with healed tuberculous lesions in the lung who had had pains in the joints at night for a month. They were severe but there were no signs of congestion or swelling in the joints affected and the fever was too slight for ordinary articular rheumatism. Necropsy showed conditions in the joints like those Poncet has described as typical of chronic tuberculous rheumatism. Death was due to intercurrent streptococcus septicemia. The tuberculin reactions had been negative during life. The second patient was a woman of 64 and all the large joints became painful and swelled but without redness or local heat. She died of intercurrent pneumonia three months later, and the necropsy findings were also typical of tuberculous rheumatism; the diffuse tuberculous fibrous processes in the lungs and a focus of osteomyelitis also testified to the tuberculous nature of the rheumatism. In all three cases salicylic medication did harm rather than good, and the local intolerance of heat was also striking. The importance of differentiation of the tuberculous rheumatism is due mostly to the necessity for treatment as for tuberculosis rather than for rheumatism, as the measures indicated for the latter do direct harm in the former. In the third case one joint was generally affected at a time for a few weeks and then another, the clinical picture being more of the nature of a serofibrinous synovitis with effusion.

85. **Banti's Disease.**—The patient in the case reported was a previously healthy young man whose spleen gradually enlarged in the course of three or four months. There were no other symptoms except a slight tendency to jaundice and on seven occasions vomiting of blood or melena. Splenectomy was done to put an end to the hemorrhages but the patient died in a postoperative hemorrhage. Necropsy showed lesions in the spleen, liver and splenic vein. The possibility of these is the gravest danger in operative treatment of Banti's disease. The mortality is 50 per cent. to date, but only 12.5 per cent. in

the cases in which the operation was done before the disease was extremely far advanced.

Semaine Médicale, Paris

May 24, XXI, No. 21, pp. 241-252

91 *Chronic Intestinal Stasis. F. Lejars..

May 31, No. 22, pp. 253-264

92 *Diffuse Phlegmons with Slow Course and Their Treatment. F. Moty.

91. **Chronic Intestinal Stasis.**—Lejars reviews a long array of articles in international literature on chronic constipation and intestinal obstruction from kinks and adhesions. The various operative measures that have been extolled have not obtained much credit, he says, in their home countries and there is still a broad field for research on the causes and accidents of intestinal stasis and their prevention. When medical measures fail, surgical should be applied in the appropriate cases before irreparable harm has been done, but the question as to the best mode of intervention is still open to discussion.

92. **Treatment of Diffuse Phlegmon with Long Course.**—Moty warns that extensive incisions may do harm in diffuse phlegmons, especially of the chest wall. He reports two cases in detail; his first patient was a young soldier and after a long period of extreme weariness and indisposition to exertion the pectoralis major was found protruding from a phlegmon below. In two days the swelling had extended in all directions and an erythema developed on the chest wall, sparing the phlegmon region proper. Several punctures were made but no pus could be discovered, until finally a little secretion drained away through a wick inserted in the last puncture hole. By the end of six weeks the patient was practically cured although very thin. Moty encountered a second case of this same deep, diffuse, erysipelatous, almost chronic phlegmon, also in a young soldier, and Galine has reported a similar case with a fatal outcome after extensive incisions. Moty ascribes his success with his two patients to his cautious conservative treatment, refraining from injuring the tissues, saying that this class of phlegmons displays little tendency to gangrene, and the purulent foci are small and long in developing. They are manifestly due to some general or generalized cause, as is shown by the long preceding malaise, and the small pus foci are gradually absorbed. Nature heals by a kind of autoserotherapy, the physician aiding with constitutional treatment, quinin, arsenic and tonics, but refraining from overactive local measures. What is the use of incising here and there to give issue merely to a little blood, with no effect on the general condition? It is far wiser, he says, to wait and merely puncture when the small circumscribed foci are revealed by fluctuation. They are the expression of a local reaction to the general affection and the natural defensive process should not be hindered by injuring the tissues from without in the useless search for pus. Moty does not go quite so far as Georgiades, of Athens, however. The latter now refrains even from puncture. He has encountered thirty-six cases of diffuse phlegmon in children, and reports that none died of the twenty-seven treated merely by applying a protecting and absorbent bandage, while six died of the nine who were treated by incisions.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIX, No. 3, pp. 431-507. Last indexed June 3, p. 1690

93 Frequency, Importance and Specific Diagnosis of Bovine Tuberculosis. (Rindertuberkulose.) M. Klimmer.
94 The Air in Pneumothorax. (Untersuchungen über Pneumothoraxluft.) F. Tobiesen.
95 Necropsy Findings in Lung Immobilized by Induced Pneumothorax. (Zur pathologischen Anatomie des künstlichen Pneumothorax.) E. Kistler.
96 *Children in Contact with Tuberculosis. (Das Kind im tuberkulösen Milieu.) R. Pollak.
97 Specific Endotin Treatment of Tuberculosis. I. Gabrilowitsch.

96. **The Child in a Tuberculous Environment.**—Pollak has been systematically examining conditions in the families with tuberculous infants, and has found it possible to trace the tuberculosis to its source in every such case. He has also applied the tuberculin test to 285 chilldren from 6 months to 14 years old who lived in contact with some tuberculous individual, and only six of the children failed to give a positive reaction to the tuberculin. Analysis of this material and of his experience outside has demonstrated, he asserts, that a great difference is evident between the children who were exposed to tuberculosis during infancy and up to the age of 4, and those who were not exposed to this infection until after the age of 4. While both give a positive tuberculin reaction, yet there are seldom manifest symptoms of tuberculosis in the children not infected until after the age of 4, and the infection seems to remain latent in them. On the other hand, the children infected before the age of 4 generally develop symptoms and grow up with the phthisical habitus. The tuberculous manifestations of older children may generally be regarded as the relapse of infection acquired during early childhood. When older children bear infection with tubercle bacilli without apparent harm, their systems must have gradually become proof against the tubercle bacilli. The experiences related emphasize anew the paramount importance of protecting children under 4 from infection with tuberculosis.

Berliner klinische Wochenschrift

May 22, XLVIII, No. 21, pp. 925-972

98 *Indications for Surgical Treatment of Gastric Ulcer and Its Consequences. (Magengeschwür.) L. Kuttner.
99 Radiology of the Stomach. (Geben uns die in der Radiologie zur Verwendung kommenden Metallsalze ein falsches Bild von Form und Grösse des Magens?) A. Hasse.
100 *Technic of Transfusion. W. Schultz.
101 Acute Benzol Poisoning. E. Buchmann.
102 Familial Inherited Eosinophilia. D. Klinkert.
103 *Bilateral Intrathoracic Vagotomy. E. Unger, M. Bettmann and S. Rubaschow.
104 Subcutaneous Injection of Tuberculin for Diagnosis in Animal Experiments. M. Jacoby and N. Meyer.
105 Growth Changes Suggesting Mutation in Cholera Germs. O. Weltmann.

98. **Gastric Ulcer.**—Kuttner discusses the indications for operative treatment and the final outcome in cases of gastric ulcer. He has encountered cases in which cancer developed in the floor of a round gastric ulcer and also cases in which a carcinoma developed in the vicinity of an ulcer and he has also witnessed the transformation of a benign pyloric stenosis into malignant disease. At the same time, he does not think that these occurrences are frequent. The greatest predisposition for cancerous degeneration is afforded by old ulcers and those in the prepyloric region. The ulcer developing cancer may show no symptoms of cancer and even with direct inspection, it may be impossible to distinguish between simple ulcer and cancer when only scraps of the tumor are examined. In Kuttner's thirty cases of resection on account of callous ulcer the microscope revealed cancer in over 43 per cent. These facts and the great benefit liable to be derived from an operation with simple chronic ulcer and benign pyloric stenosis have convinced Kuttner that in dubious cases and when there is the slightest suspicion of cancer, resection should be advocated. He regards it as the duty of the internist to appreciate the limits of his skill and the necessity for calling in the surgeon when this promises better results than internal treatment alone. Surgery is winning its best laurels in the field of gastric ulcer, but far better results will be attained, he declares, when all realize that the operation must be supplemented by a course of ulcer dieting. It is a great temptation to let the patient eat at will after the operation, but this avenges itself and sooner or later the patient returns with recurring ulcer or some dangerous complication, all of which might have been avoided by proper internist care after the operation. Not only before but during and after the operation, surgeon and internist must work together. He does not consider operative intervention except in the cases of gastric ulcer refractory to all internal measures and which by their persisting or continually recurring pains and vomiting permanently distress and debilitate the patient. Repeated ulcer courses are especially justified when there are long intervals in which the patient is free from disturbances.

100. **Transfusion of Blood.**—Schultz writes from Grawitz' service to describe the fine results obtained with transfusion from man to man after the blood has been tested for agglutinins and hemolysins with negative findings. By this precaution, it has been possible to eliminate the symptoms, such as collapse, chills, hemoglobinuria and edema, which formerly were common. At the same time, as is shown by a recent case described in detail, there must be some other biologic differ-

ences between the blood of the two persons which are as yet unknown but which may cause fever and malaise under certain circumstances. In the case reported, aside from the transient disturbance, great benefit was derived from the transfusion of 380 c.c. of defibrinated blood. In three days the red corpuscles had increased from 713,000 to 1,240,000.

103. **Bilateral Vagotomy.**—The research described was done with the Meltzer tracheal insufflation method for maintaining the pressure in the lungs and administering ether when the thorax was opened. Experiments on sixteen dogs showed, the writers say, that the Meltzer technic does not injure the lungs or heart and that severing the vagus close above the diaphragm has no injurious consequences for the functioning of the lungs and heart, but the stomach musculature becomes paralyzed and the contents are not moved along. If the stomach was full just before the operation and more food was taken afterward, the mass remained in the stomach and acute dilatation followed and ulceration was almost inevitable. If the stomach was empty before the operation and the dogs were given merely fluid food for eight or ten days afterward, the paresis of the stomach subsided and the dogs showed no injurious consequences from the operation. There was no vomiting on the part of the dogs, probably because the vagus was severed so low that the nerve fibers innervating the lower part of the esophagus were not divided.

Deutsches Archiv für klinische Medizin, Leipsic

CII, Nos. 5-6, pp. 457-624. Last indexed June 3, p. 1692

106 *Hitherto Undescribed Properties of the Urine. (Neue Eigenschaften des Harnes bei Gesunden und Kranken.) H. Pribram.
107 Pepsin in Urine Has No Diagnostic Importance with Gastric Cancer. (Harnpepsin bei Magencarcinom.) R. Bieling.
108 Localization of Atherosclerotic Processes in the Peripheral Arteries. S. Oberndorfer.
109 Metabolism of Salt and Kidney Functioning. (Experimentelle Untersuchungen über Kochsalzwechsel und Nierenfunktion.) H. v. Hoesslin and T. Kashiwado.
110 Congenital Pulmonary Stenosis and Secondary Changes in Blood. F. P. Weber and G. Dorner.
111 Study of Second Heart Sound. R. Wiesel.
112 Connections Between Nucleus and Plasma in Rudimentary Red Blood Corpuscles and Their Relation to the Hemoglobin. (Ueber Verbindungen zwischen Kern und Cytoplasma bei Erythroblasten und deren Beziehungen zum Hämoglobin.) W. Knoll.
113 *Independence of Peripheral Blood-Vessel System and Its Relations with the Central System. (Ueber die Selbständigkeit der Peripherie des Kreislaufes und ihre Beziehungen zum zentralen System.) K. Hasebroek.
114 Mercuric Cyanid Test for Sugar Content of Blood. (Neue Methode der Bestimmung des Blutzuckergehaltes.) H. Tachau.
115 Poisoning with Ammonium Sulphocyanid. (Vergiftung mit Rhodanammon.) O. Adler.
116 The Arneth Eosinophil Blood Picture. O. Roth.
117 *Diabetes and Cancer in the Pancreas. (Ueber Zuckerkrankheit und Krebs in der Bauchspeicheldrüse.) K. A. Heiberg.

Supplement.

118 General Index, Vols. I-C.

106. **Some New Properties of Urine.**—Pribram reports clinical, chemical and serologic research on the urine which has demonstrated, he says, that the urine injected into an animal induces the production of hemolysins, precipitins and complement-binding antibodies in the animal's serum. Precipitation occurs more intensely with normal urine than with urine containing albumin, while the complement-binding property is most marked with the latter. He discusses which elements in the urine are responsible for these various actions.

113. **Independence of the Peripheral Circulation.**—Hasebroek presents evidence to show that the relative width of the vessels does not determine the biologic conditions in regard to the peripheral circulation. He expatiates on the importance of the pulse wave and of the aspiration at the periphery and the relations between the latter and the central propelling impulse.

117. **Diabetes with Cancer in the Pancreas.**—Heiberg has found glycosuria mentioned in only three of thirty-five cases of pancreatic cancer whose records he had examined, and it was never very pronounced. In a case he reports in detail the diabetes was most probably primary, the same as in a case reported by Lépine in 1909. In both these cases the diabetes had existed for eighteen months and several years and the cancer was of comparatively recent development. Heiberg's patient was a man of 37.

Deutsche medizinische Wochenschrift, Berlin

May 25, XXXVII, No. 21, pp. 961-1008

119 *Bilateral Thrombosis of Femoral Veins After Severe Catarrh of the Large Intestine. B. Riedel.
120 *Tuberculosis of the Kidneys. (Ueber Nierentuberkulose.) A. Barth.
121 Acid-Agglutination of Bacteria, Especially of Typhoid Bacilli. L. Michaelis.
122 Changes in the Suprarenals with Growth. (Ueber den Umbau der Nebenniere im extrauterinen Leben.) H. Kern.
123 *Physical Forces in Treatment of Certain Internal Diseases. (Die physikalische Therapie bei einigen inneren Erkrankungen.) F. Klug.
124 Radiography of Calculi in Urinary Passages. (Untersuchungen über die röntgenologische Darstellbarkeit von Steinen des harnleitenden Apparates.) W. Telemann.
125 Vaccine Therapy. A. Strubell.
126 Salvarsan and Hemolysis. H. Meyer.
127 Pathogenesis of Hemorrhagic Purpura. S. Cannata.
128 The Pyloric Murmur. (Das Pylorusgeräusch.) S. J. Meltzer.

119. **Bilateral Femoral Thrombosis after Severe Intestinal Catarrh.**—Riedel reports two cases which suggest that thrombosis in certain obscure cases may be traced to a pre-existing intestinal affection. Both of his patients recovered, so he cannot prove the truth of his surmise as to the connection between the intestinal catarrh and the development of the thrombosis, but the features of the cases seem to sustain it. The first patient was a young housemaid and the primary trouble was a severe gastro-intestinal catarrh, with the large intestine predominantly affected. The onset was so sudden and stormy that appendicectomy was done at once but the appendix was found totally obliterated. Diarrhea continued after the operation and by the eighth day signs of thrombosis appeared. The second patient was a physician, 63 years old, whose right leg had been amputated on account of obstruction of the anterior tibial artery. He became extremely constipated from lack of the exercise that used to keep his bowels in good order, while he refrained from straining at stool for fear of injuring the healing of the stump. After three months he had vague discomfort and loss of appetite, slight chilliness, the tongue somewhat coated, and by chance his temperature was taken and found febrile, with pulse of 96, and the next day signs of serious auto-intoxication developed; the tongue and mouth were parched and the patient was constantly somnolent. Riedel comments parenthetically on the importance of this constantly dropping off to sleep as a sign of auto-intoxication, having observed it in an extreme type recently in a patient whose ileum had been united with the sigmoid flexure. The feces passed on into the colon and accumulated there instead of taking the short cut into the rectum. This patient could not keep awake until an artificial anus was made, which restored approximately normal conditions. In Riedel's second patient mentioned above the auto-intoxication was intense and the patient lost 24 pounds in two weeks. Then the thrombosis in both thighs was discovered. The patient had not complained of any pain. He gradually recovered and was able to resume his practice after three months, and by the fifth month he had regained his former weight and health. Riedel thinks it probable that colon bacilli may migrate from the intestine in case of catarrh or extreme constipation and pass into the mesenteric lymphatics and thence into the walls of minute veins. From this point thrombosis may develop down into the femoral veins by way of the hypogastric vein. In both his cases the thrombi were apparently entirely aseptic or only very slightly infected, judging from the outcome of the cases. One patient had typical obstructing thrombosis, the other probably only thrombosis at the valves, with transient piling up of blood-plates.

120. **Tuberculosis of the Kidneys.**—Barth has traced to date thirty-seven patients whose kidney he had removed on account of tuberculosis; three others died. During the same period he had about forty other patients with renal tuberculosis who were not given operative treatment for various reasons. Twelve of the thirty-seven patients recovered entirely after the nephrectomy and twelve were materially improved while thirteen have died. Analysis of the cases shows that as long as the tuberculous process is restricted to one kidney and its ureter, nephrectomy promises a complete cure. But if the bladder is involved, a cure can be anticipated in only 25 per cent. of the cases; 25 per cent. of his patients succumbed during the year to the progress of the tuberculosis.

The others all showed great improvement, but about 25 per cent. succumbed later to the tuberculosis, after an interval of from two to over nine years. Even when the tuberculous process in the bladder heals completely, it leaves permanent disturbances in the form of unduly frequent desires to urinate, particularly annoying at night. He admits the possibility of a spontaneous cure of open or closed tuberculosis of the kidney, but declares that there is not the least prospect of such a cure after the tuberculous foci begin to break down and pyuria appears. The process then spreads rapidly along the lymphatics in the kidney itself and down toward the bladder. It is impossible to determine the actual healing of a tuberculous process in the kidneys except by repeated catheterization of the ureter; all other signs and information are deceptive and worthless. Nephrectomy with unilateral tuberculosis, normal functioning of the other kidney understood, is, he affirms, almost entirely free from danger. It should be advocated in every case of open tuberculosis of the kidney and if possible before the bladder is invaded. The open tuberculous process in the kidney can be detected in the incipient and early stages only with the aid of the ureter catheter; chromocystoscopy does not locate the seat of the process unless there is advanced destruction of kidney tissue. It is important, therefore, to insist on catheterization of the ureters and bacteriologic examination of the urine in every obscure case of pyuria ("catarrh of the bladder").

123. **Employment of Physical Agents in Treatment of Internal Disease.**—Klug expatiates on the importance of induced hyperemia in treatment of internal disease, stating that dry warmth acts more superficially and slowly on the tissues, owing to its comparatively slight conducting power, while moist heat, on account of its remarkable conducting power rapidly penetrates through the organs of the body, and of all methods of application the steam douche is most effectual, according to his extensive experience. He remarks that the steam douche has had only stepmotherly consideration in the literature to date, and yet its field is broad. He applies it to fully a third of all his patients with internal diseases, and ascribes a large part of his success to it, emphasizing the excellent results obtained in twenty-four cases of disturbances in the liver or biliary passages, especially congestions and stasis, cholecystitis, catarrhal jaundice, gall-stone trouble and diffuse inflammation of the liver. The steam douche puts an end to the cramp of the vessels causing the colics and thus cures the pain. The pressure is about one atmosphere and a half, and he generally follows it with an alternating hot and cold fan douche. When there is persisting tenderness he applies a hot coil to the liver region through which water at a temperature of 45 C. (113 F.) is constantly running. His experience with the steam douche was equally favorable in five cases of kidney stone colic. The steam douche was applied for half an hour and followed by a bath at 35 C., all cooperating to relax the spasmodic contraction of the vessels. The steam douche frequently takes the place of and renders morphin unnecessary. The same principles have proved equally effectual in treatment of motor and secretory gastric neuroses, nervous dyspepsia and gastralgia, acute and chronic gastro-intestinal catarrh, and for atony and constipation. Hot packs to the stomach region with a hot coil act as a specific for nervous vomiting or dyspepsia and gastralgia, but the steam douche proved more effectual in the other conditions supplemented by massage and exercises. He adds that the steam douche is proving a valuable aid also in treatment of pulmonary tuberculosis, etc.

Medizinische Klinik, Berlin

May 28, VII, No. 22, pp. 839-874 and Supplement

129 *Occult Diseases. (Okkulte Erkrankungen innerer Organe.) N. Ortner.
130 Digitalis in Treatment of Typhoid. A. Skutetzky.
131 Pseudoleukemia. (Ueber einen klinisch eigenartigen Fall von Hodgkinscher Krankheit — vom Typus Sternberg — mit Fraenkel-Muchschem Bacillenbefund.) H. Luce.
132 *Misnaps with Intravenous Salvarsan Injections. (Zufälle bei intravenösen Salvarsaninjektionen.) Leven.
133 *Treatment of Persistent Hiccup. (Zur Behandlung des hartnäckigen Singultus.) P. Jödicke and G. Rethy.
134 Research on Effect of Climate. (Zur Methodik der Klimaforschung.) N. Zuntz.
135 Importance of Hormones for Internal Medicine. L. Borchardt.

129. **Occult Diseases.**—Ortner applies this term to an affection which is masked by some other more prominent one, and describes a number of instructive cases of this kind from his personal experience. Behind pulmonary emphysema may be hidden an aneurysm of the aorta or a hydrothorax; behind an acute or chronic insufficiency of the myocardium, there may be unsuspected exophthalmic goiter. His observation has shown that pronounced venous stasis without arrhythmia but accompanied by considerable tachycardia may be explained by injury of the heart from unsuspected exophthalmic goiter. Still more difficult to explain are the cases in which miliary tuberculosis is masked by insufficiency of the myocardium. In one such case fatty degeneration of the heart was assumed until the necropsy. In this as in a number of the other cases described, the mere conception of the possibility of the occult disease gives the clue to its discovery. Pernicious anemia and leukemia may be hidden beneath the clinical manifestation of cardiac insufficiency, anasarca, tender, enlarged liver with urobilinuria, dilatation of the heart and signs of relative mitral and tricuspid insufficiency. Neglect to examine the blood leads inevitably to diagnostic blunders. To detect a hidden hydrothorax, he has found it useful to determine the lower, rear limit of the lungs after the patient has been reclining flat for a long time. The lower limit will be found very high but after the patient has been erect for a time the fluid flows forward and the lung is low again. He warns that he has often found a copious pleural effusion persisting for months behind the retracted part of the thorax drawn in by the newly formed connective tissue on the pleura. Exploratory puncture, evacuation of the accumulated fluid, rendered complete by pumping in of air—these are the only certain means to reveal and cure these cases in which tuberculosis is often imagined and the patient sent to sanatoriums. The subfebrile temperature and disturbances keep up, however, until the purulent fluid behind the thickened pleura is discovered and released. Another occult affection is an ulcer at the pylorus causing very slight stenosis; the stomach is able usually to expel its contents but under special stress it fails. Conditions of this kind are best revealed by a test meal of a quantity of some food difficult to digest, the *Belastungsmahlzeit*, as he calls it.

132. **By-Effects After Injection of Salvarsan.**—Leven has reported a case of transient collapse after intravenous injection of salvarsan and here reports a still more serious case. An intravenous injection of 0.3 gm. of salvarsan, in a middle aged patient was followed at once by cyanosis and nausea and the face swelled enormously and the tongue became too large to pass between the lips. Intense headache and retching completed the picture, but the symptoms subsided after twenty minutes except for the swelling in the face. By the next morning nothing was left of the disturbances but moderate edema of the eyelids. The pulse and temperature had been persistently normal.

133. **Treatment of Obstinate Hiccup.**—Jödicke as a last resort in the very serious case reported, the patient so exhausted that he had been brought to the hospital, had the legs flexed on the abdomen and pressed them against the abdomen so that the intestines were forced up against the diaphragm as much as possible. The hiccups became at once weaker and the intervals longer and in ten minutes the hiccup had ceased entirely. They began again after two hours but were arrested anew by the same measure. The principle is the same as Kannegiesser's method of forcing up the diaphragm by the gases formed by effervescence in the stomach. Jödicke has applied his method again in several other cases and with equal success. Rethy reports good effects also from pressure applied along the entire spine.

Monatsschrift für Kinderheilkunde, Leipsic

April, X, No. 1, pp. 1-54

136 Metabolism of the Artificially-Fed Infant During First Days of Life. (Zur Physiologie des neugeborenen Kindes. IV.) W. Birk.
137 Treatment of Rachitis with Cod Liver Oil Emulsions and Their Action on the Metabolism. J. A. Schabad and R. F. Sorochowitsch.
138 Influenzal Whooping-Cough. (Zur Aetiologie des Keuchhustens.) E. Welde.
139 Behavior of Leukocytes in Tuberculosis in Children. (Verhalten der weissen Blutkörperchen bei kindlicher Tuberkulose.) H. Hirschfeld.

Münchener medizinische Wochenschrift

May 23, LVIII, No. 21, pp. 1113-1168

140 Theoretical and Practical Aspects of the Newer Electrophysiology. M. Gildemeister.
141 *Blood-Pressure Raising Properties of the Hypophysis Cerebri. (Ueber die therapeutische Anwendung von Pituitrin—Hypophysenextrakt—mit bes. Berücksichtigung seiner blutdrucksteigernden Komponente.) R. Klotz.
142 *Epinephrin in Peritonitis. (Die pharmokologischen Grundlagen für eine intravenöse Adrenalintherapie bei der Peritonitis.) E. Holzbach.
143 *Determination of Very Slight Albuminuria. (Zur Methodik des Nachweises sehr kleiner pathologischer Eiweissmengen im Harn.) O. Glaesgen.
144 *Irritation of the Kidneys by the Salicylates and Its Avoidance by Giving Alkalines. (Ueber Nierenreizung durch Salizylpräparate und ihre Aufhebung durch Alkalizufuhr.) O. Glaesgen.
145 Property of Human Organs to Render Air a Conductor for Electricity. (Fähigkeit menschlicher Organe, die Luft für Elektrizität leitend zu machen.) A. Caan.
146 Treatment of the Heart with High Frequency Oscillating Currents. (Zur Rumpfschen Herzbehandlung mit hochfrequenten oszillierenden Strömen.) G. Hunerfauth.
147 *Diagnostic Importance of Palpable Glands in Children's Arms. (Fühlbare Kubitaldrüsen bei Kindern.) P. Grosser and A. Dessauer.
148 Improved Technic for Leukocyte Count and Cytodiagnosis. (Eine erweiterte Zahlkammer für Leukozytenzählung und Zytodiagnostik.) R. Dunger.
149 The Hematocrite Blood-Count Method. (Bestimmung der Masse der roten Blutkörperchen durch Zentrifugieren.) R. Schmincke.
150 Salvarsan in Frambesia, Leprosy and Tropical Granuloma. G. Rost.
151 Dry Versus Moist Rubber Gloves. (Gummihandschühe.) Schede.
152 To Prevent Caustic Action of Benzine. (Zur Aetzwirkung des am Verdunsten verhinderten Benzins.) A. Hörrmann.

141. **Hypophysis Extract.**—Klotz writes from Sellheim's clinic to describe experimental research and clinical experiences with an extract made from the hypophysis. He states that it induces a moderate rise in blood-pressure, lasting for several hours, with only slight demands on the heart. At the same time it stimulates the heart and peristalsis and also the bladder and increases the output of urine while it proves a stimulant for the uterus and the cardiovascular system in general. He adds that the extract is not a harmless, innocent substance by any means, and it should not be used when the blood-pressure is already high or the cardiovascular system out of order at any point. By intramuscular injection the action is speedy, and he does not think that any injury of the human organism under moderate dosage need be feared.

142. **Epinephrin in Peritonitis.**—Holzbach found that prolonged instillation of a very weak saline epinephrin solution was able to keep the blood-pressure at the normal height in peritonitis with a tendency to collapse, and do this without harm. Injection of a single dose in a concentrated solution is not only dangerous but does little good as the action of the epinephrin is transient. His clinical experience has confirmed the results of his experimental research in this line.

143. **Determination of Minute Amounts of Albumin in the Urine.**—Glaesgen adds 5 drops of a 20 per cent. solution of acetic acid to 20 c.c. of urine and then pours half into each of two beakers. The contents of one beaker are boiled, the other not. By this means the slightest tendency to coagulation of albumin in the boiled fluid is readily apparent.

144. **Alkalines to Prevent Injury of Kidneys During Salicylic Medication.**—Glaesgen found the sensitive test described in the preceding abstract extremely useful to determine injury of the kidney under the salicylates. Albuminuria was the rule, but this could be prevented by giving an alkali at the same time. About twice as much of the alkali as of the salicylate was necessary to neutralize it. The therapeutic action of the salicylates did not seem to be modified by the alkali, and the sodium bicarbonate even in doses of from 6 to 10 gm. (90 to 150 grains) a day did not seem to induce any disturbances; this amount was necessary to actually reduce the acidity of the urine.

147. **Diagnostic Importance of Enlarged Glands in the Arms of Children.**—Grosser and Dessauer examined 1,897 children for the presence of palpable supratrochlear lymph nodes, finding them equally frequent in the children with inherited syphilis and in those with rachitis. In those without syphilis or tuberculosis only 5.6 per cent. of the 1,037 infants and 7.8 per cent. of the 711 children over a year old had enlarged trochlear glands, while 19.2 per cent. of the 94 older children presented them. These findings show that palpable nodes in this region cannot be accepted as pathognomonic of syphilis.

Wiener klinische Wochenschrift, Vienna

May 18, XXIV, No. 20, pp. 695-743

153 *Appendicitis in Children. (Ueber Blinddarmentzündung beim Kinde.) H. Salzer.
154 *Intravascular Transplantation. G. Joannovics.
155 *Latent Pyelonephritis in Women. F. Kermauner.
156 Treatment of Acute Infectious Diseases with Salvarsan. F. Lucksch.
157 *Experimental Research on Cutaneous Reactions. F. Luithlen
158 *Chorio-Epithelioma. F. Hitschmann and R. Cristofoletti. Commenced in No. 19.

153. **Appendicitis in Children.**—Salzer comments on the high mortality of appendicitis in children. Kümmell cites it at 11, 19 and up to 30 per cent., and in Salzer's 200 cases, thirty-five of the children were apparently cured by internal measures alone, two were moribund and 163 were given operative treatment with twenty-two deaths, a total mortality of 12 and operative mortality of 13 per cent. He insists that this excessive mortality is due solely to the fact that the trouble is not recognized early enough. People are too apt to regard gastro-intestinal disturbances in children as a matter of course and not as frequently a symptom of a serious affection. An early operation should be recommended even more energetically than for adults, as children must be protected against the indolence of their environment.

154. **Intravascular Transplantation.** — Joannovics reports some interesting experiments on cats injected with ground parathyroid and thyroid tissue in the jugular vein, with or without preceding thyroidectomy. In one animal tetany following thyroidectomy subsided under thyroid treatment.

155. **Latent Pyelonephritis.**—Kermauner calls attention to Göppert's important research on pyelocystitis in children, especially in infants; 89 per cent. of the children thus affected were girls. Interesting further is Heubner's assertion that pyelitis is especially frequent in children who have had some mild infectious disease, measles or varicella. In infants the pyelocystitis is most frequent in the second half of the first year and it seems to heal, but it recurs before puberty in about 20 per cent., and Kermauner thinks that it probably persists in a latent form for years when the colon bacillus is involved. This bacillus seems to thrive in the urine, while the urine is bactericidal for other bacteria. This demonstrates, he thinks, that colipyelitis may be traced into early childhood and that it may flare up after prolonged latency in consequence of some intercurrent injury. The menstrual periods may influence it to some extent, but the greatest influence is exerted by a pregnancy. This is liable to act as an intercurrent injurious influence bringing on an acute attack in some cases or merely aggravating the latent pyelitis. He reports a case in a woman of 30 who had had measles three times during childhood, and during menstruation had always experienced intense tenesmus and smarting in the vagina. At the fifth month of the pregnancy there was severe pain in the right kidney region for a few days, with turbid urine, but no fever and there is still a sense of oppression in the kidney region. He explains the case as a latent pyelonephritis, and recommends in such cases internal treatment with hexamethylenamin, although he does not think that an actual cure can thus be realized. If this medication clears up the urine, the diagnosis of latent pyelonephritis is rendered more probable. He does not advocate catheterization of the ureter and lavage of the pelvis unless the attack lasts for more than a week or is unusually severe. With latent pyelitis, local measures are best deferred until after the childbirth.

157. **Cutaneous Reactions in Animals.**—Luithlen has been experimenting with cats and dogs, watching the local reaction on their shaved backs to irritating substances after the animals had been taking hydrochloric acid, sodium oxalate or calcium chlorid. Under the influence of this medication the skin became much more sensitive to irritation from without; with the calcium chlorid the tendency to exudation was materially reduced. The skin is evidently modified from within, and the response to irritation can thus be varied at will.

158. **Chorio-Epithelioma.**—The first part of this article was reviewed in THE JOURNAL, June 17, page 1864. A case is here described in which vaginal hysterectomy was attempted for

malignant chorio-epithelioma, the patient a woman of 32, but conditions were found inoperable. Examination four weeks after the operation disclosed that the growth had disappeared and that the uterus was movable; the woman has been in good health during the eight years since. Study of this case shows that the thrombosed veins evidently prevented the spread of the chorio-epithelioma, the malignant tissue losing its vitality in the thrombosed vessels. The aim should be to reproduce similar conditions to restrict the growth to the region first involved. For this he recommends ligation of the efferent veins as a preliminary to abdominal hysterectomy, with great care to refrain from artificially inducing embolism.

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II, No. 1, pp. 1-122. Last indexed May 13; p. 1431

159 Distribution of Nitrogen in the Urine of New-Born Infants. (Zur Stickstoffverteilung im Urin des Neugeborenen.) S. Simon.
160 Physiology of Nutrition of Prematurely Born Infants. (Beiträge zur Physiologie der Ernährung von frühgeborenen Kindern.) S. Samelson.
161 Biologic Tests for Casein in Infants' Stools. (Nachweis des Caseins in den sogenannten Caseinbröckeln des Säuglingsstuhls mit Hilfe der biologischen Methodik, insbesondere der Anaphylaxie.) Uffenheimer and Y. Takeno.
162 Internal and External Temperature in Infants. (Ueber Stamm- und Hauttemperaturen bei Säuglingen.) H. Schelble.
163 *Incubation of Measles. (Cytologische und klinische Beobachtungen während der Maserninkubation.) R. Hecker.
164 Influence of Phosphorus Cod-Liver Oil on Metabolism of Rachitic Infants. (Bemerkungen zur der Arbeit von Dr. Caroline Towles: Untersuchungen über den Einfluss des Phosphorlebertrans auf den Stoffwechsel eines rachitischen Säuglings.) J. A. Schabad.

163. **Incubation of Measles.**—Hecker tabulates the findings in fourteen children whose blood was examined during the incubation period of measles. The temperature was found to vary widely even in the earliest stages and the blood showed pronounced reduction of white corpuscles, fully four and one-half days before the eruption and three and one-half days before Koplik's spots were manifest. Two or three days before the eruption the leukocyte count increased. In one of the cases the period of incubation was sixteen and in another twenty days. The tables confirm the resemblance between measles and serum sickness after the first injection, both a specific reaction, of the same type.

Zentralblatt für Chirurgie, Leipsic

May 20, XXXVIII, No. 20, pp. 693-724

165 Technic for Local Anesthesia. B. Hammer.

Zentralblatt für Gynäkologie, Leipsic

May 20, XXXV, No. 20, pp. 737-768

166 *Remarkable Resistance of the Peritoneum. (Seltene Widerstandsfähigkeit des Peritoneums.) S. S. Cholmogoroff.
167 Absorbing Power of Various Body Cavities. (Resorptionsvermögen diverser Körperhöhlen.) A. Czyzewicz.
168 Inefficacy of Local Chemical Means for Preventing Conception. (Experimenteller Beitrag zur Verhütung der Konzeption durch chemische Mittel.) E. Kraus.

166. **Resistance of the Peritoneum to Trauma.**—In the two cases reported the laparotomy wound after Cesarean section burst open without the patient's knowledge and the condition was not discovered until the dressings were changed the next day, but no symptoms of peritonitis followed in one case. The other patient died. Cholmogoroff knows of only twenty-three similar cases on record of complete bursting open of the laparotomy wound. It occurs without pain so that the patients seldom recognize that anything is wrong at the time. In the twenty-one cases in which the outcome is known, five of the patients died. After the peritoneum has been exposed to the air and to contact with a foreign substance, such as gauze or body linen, it seems to acquire a certain resisting power so that it may bear drying out and even lack of asepsis and considerable traumatism without reacting with diffuse peritonitis or ileus.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 23, XXXII, No. 62, pp. 659-666

169 Experimental Research on Action of Drugs on Heart. (Intorno all'applicazione del metodo cardiovolumetrico—fistola pericardica—allo studio dell'azione dei farmaci e delle sostanze chimiche in genere sul cuore.) A. Berti and A. Malesani.

May 25, No. 63, pp. 667-674

170 Treatment of Epilepsy with Nerve Tissue Extract. C. Trevisanello.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Annual Report of the Sanitary Commissioner with the Government of India for 1909. With Appendices and Returns of Sickness and Mortality Among European Troops, Native Troops and Prisoners in India for the Year. Paper. Price, 3 rupees. Pp. 147. Calcutta: Superintendent Government Printing, India, 1911.

Mental Mechanisms. By William A. White, M.D., Author of "Outlines of Psychiatry," Superintendent Government Hospital for the Insane, Washington, D. C. Nervous and Mental Disease Monograph Series No. 8. Paper. Price, $2. Pp. 151. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

Die palpablen Gebilde des normalen menschlichen Körpers und deren Methodische Palpation. Nach eigenen Untersuchungen an der Leiche und am Lebenden von Dr. Toby Cohn, Nervenarzt in Berlin. III Teil: Hals und Kopf. Paper. Price, 8 marks. Pp. 585, with 92 illustrations. Berlin: S. Karger, 1911.

Handbook of Diseases of the Eye. A Text-Book for Students and Practitioners. By Harry Caldwell Parker, M.D., Clinical Professor of Ophthalmology, Indiana University School of Medicine, Indianapolis, Ind. Cloth. Price, $2 net. Pp. 303, with 116 illustrations. Philadelphia: F. A. Davis Co., 1910.

Kurzgefasste chirurgische Operationslehre (Operationskurs). Für Studierende und Aertze. Von. Ad. Oberst, Assistent an der Chirurg. Klinik und Privatdozent für Chirurgie an der Universität Freiburg i. Br. Paper. Price, 7 marks. Pp. 198, with 232 illustrations. Berlin: S. Karger, 1911.

Refraction and Motility of the Eye. With Chapters on Color-Blindness and the Field of Vision. Designed for Students and Practitioners. By Ellice M. Alger, M.D., Adjunct Professor of Ophthalmology at the New York Postgraduate Medical School. Cloth. Price, $1.50 net. Pp. 376, with 122 illustrations. Philadelphia: F. A. Davis Co., 1910.

A Text-Book of Chemistry. For Students and Practitioners of Medicine, Pharmacy and Dentistry. By Edward Curtis Hill, M.S., M.D., Medical Analyst and Microscopist. Second Edition. Cloth. Price, $3.25. Pp. 659, with 114 illustrations. Philadelphia: F. A. Davis Co., 1911.

Internal Secretions from a Physiologic and Therapeutic Standpoint. By Isaac Ott, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. Cloth. Price, $1. Pp. 133, with illustrations. Easton, Pa.: E. D. Vogel, 1910.

Neurasthenia. By Gilbert Ballet, Professeur *agrégé* à la Faculté de Médecine de Paris. Translated from the Third French Edition by P. Campbell Smith, M.D. Third Edition. Cloth. Price, $3 net. Pp. 408. New York: William Wood & Co., 1911.

The House-Fly, Disease-Carrier. An Account of Its Dangerous Activities and of the Means of Destroying It. By L. O. Howard, Ph.D. Cloth. Price, $1.60 net. Pp. 312, with 35 illustrations. New York: Frederick A. Stokes Co., 1911.

Ueber Scharlach (der Scharlacherkrankung zweiter Teil). Von Dr. Dionys Pospischill, k. k. Primararzt, und Dr. Fritz Weiss, gew. Assistent der Abteilung. Paper. Price, 5 marks. Pp. 147. Berlin: S. Karger, Karlstrasse 15, 1911.

Year-Book of the Pilcher Hospital. For the Period from March 16, 1910, to March 31, 1911. Being the First Year of the Operation of the Hospital. Paper. Pp. 691, with illustrations. 145 Gates Avenue, Brooklyn, N. Y.

Psychiatrische Vorträge für Aerzte, Erzieher und Eltern. (Zweite Serie). Von Prof. Dr. G. Anton, Direktor der Klinik für Geistes- und Nervenkranke in Halle a. S. Paper. Price, 2 marks. Pp. 77. Berlin: S. Karger, 1911.

Three Thousand Years of Mental Healing. By George Barton Cutten, Ph.D. (Yale), President of Acadia University. Cloth. Price, $1.50 net. Pp. 318, with illustrations. New York: Charles Scribner's Sons, 1911.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by Sir John Batty Tuke, M.D., and James Ritchie, M.D. Volumes X and XI. Cloth. Edinburgh: Oliver & Boyd, 1911.

Handbuch der Biochemie des Menschen und der Tiere. Herausgegeben von Dr. Carl Oppenheimer in Berlin. Twenty-Eighth Instalment. Paper. Price, 5 marks. Pp. 553-712. Vienna: Gustav Fischer, 1911.

Joint Tuberculosis. By Leonard W. Ely, M.D., Consulting Orthopedist to the County Hospital, Denver. Cloth. Price, $2.50 net. Pp. 243, with 72 illustrations. New York: William Wood & Co., 1911.

Précis d'Electrothérapie et de Radiothérapie Oculaires. Par le Dr. A. Leprince (de Bourges). Paper. Price, 3 fr. 50. Pp. 316. Paris: Jules Rousset, 12 Rue Monsieur-le-Prince, 1911.

Annual Report of the Hospital and Outdoor Dispensary Attached to the College of Physicians and Surgeons of Calcutta. For the Year 1909. Paper. Pp. 13.

Studies in the Psychology of Sex. Vol. VI. Sex in Relation to Society. By Havelock Ellis. Cloth. Price, $3 net. Pp. 655. Philadelphia: F. A. Davis Co., 1911.

A List of Books on the History of Science, the John Crerar Library. January, 1911. Prepared by Aksel G. S. Josephson, Cataloguer. Paper. Pp. 297. Chicago, 1911.

Contributions from the William Pepper Laboratory of Clinical Medicine. University of Pennsylvania. (Reprints). No. 7. Philadelphia, 1909-1910. Paper.

Sixteenth Report of the Board of Health of the Town of Montclair, N. J. From Jan. 1, 1910, to Dec. 31, 1910. Paper. Pp. 67.

Annual Report of the Canton Hospital and the South China Medical College for the Year 1910. Paper. Pp. 35.

Calendar of the University of Adelaide. For the Year 1911. Cloth. Price, 2 shillings 6 pence. Pp. 453.

Report of the New York State Veterinary College for the Year 1909-1910. Paper. Pp. 220.

PROCEEDINGS OF THE LOS ANGELES SESSION

MINUTES OF THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT LOS ANGELES, CAL., JUNE 26-30, 1911

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 26

The House of Delegates met in the auditorium of the Armory, Los Angeles, Cal., at 10:15 a. m., and was called to order by the President, Dr. William H. Welch, Baltimore.

Dr. D. Chester Brown, Connecticut, presented a preliminary report of the Committee on Credentials. No objection being raised, the report of the committee was accepted.

The Secretary called the roll, and a quorum was present.

The next in order was the reading of the minutes of the Sixty-First Annual Session, which were approved.

Opening Address to House

President Welch then addressed the House of Delegates, speaking as follows:

"The creation of the House of Delegates as a relatively small but sufficiently representative body for legislative action and for the transaction of necessary business is unquestionably one of the greatest improvements which was introduced by the organization effected years ago. In contrast with the old day, effective action of the Association is now made easy, but the very readiness with which suggestions and recommendations from the most varied sources and of every degree of merit can now gain a hearing and legislation can be enacted, carries with it some measure of those possibilities of good and of evil which in an analogous situation are reflected in the hopes and the fears of the people when our federal, state and municipal legislatures are in session.

"So large and potential for good are the powers and responsibilities entrusted to the House of Delegates that too much emphasis cannot be laid on the duty of the constituent associations and sections to select as their representatives the best and wisest men available for the purpose, and such men should be willing at least to take their turn in serving in this capacity. Of the multitude of recommendations and proposals presented, only a relatively small number, even of commendable ones, can be adopted, and the selection of those most worthy requires much wisdom and careful consideration.

Among the considerations which should influence this choice and determine action are the relations of the end in view, however desirable in itself, to the scope and objects of the Association, the broad, national interest, the importance and the timeliness of the proposal, the possibility of obtaining in a reasonable time really valuable results with the men and the resources at command, the concentration of effort on promising projects once undertaken as contrasted with the dispersion of energy and of funds over too large an area and the avoidance of duplication of work already provided for by various other agencies, with which, however, our cooperation may constitute a most useful form of activity.

As regards matter within the special province of the House of Delegates, the methods most appropriate for the Association to follow and best calculated to secure in the long run enduring results have been well exemplified in the activities of some of the councils and special committees, and have consisted mainly in the thorough study and investigation of conditions and of remedies and in the education of the profession and the public by conferences, reports and published papers and pamphlets. Such are, in my judgment the most fitting and useful direction for the activities of the Association in matters relating to public health and medical and sanitary legislation, where it should be made clear that the medical profession has no interest different from that of the community in general, viz.: the preservation and promotion of the health of the people. We may expect, I believe, large and beneficial results from the work of the Council on Health and Public Instruction, constituted at the last annual session, along lines such as those indicated.

As President, I have recently received a letter from Major-General George W. Davis, chairman of the Central Committee of the American Red Cross, requesting that a committee of the American Medical Association be appointed to consult and advise with a committee of the American Red Cross as to the best arrangements to be made for medical relief in times of disaster. We should esteem it a privilege to cooperate with the Red Cross for such a humane purpose, and I therefore beg to submit to the Reference Committee on the Reports of Officers, with my approval, General Davis' letter which contains certain specific suggestions regarding the proposal.

I desire especially to call the attention of the House to an interesting suggestion, first publicly made, so far as I am aware, by the late Dr. Ellis of Maryland and endorsed by the Medical and Chirurgical Faculty of that state by a resolution referring it to this body. The suggestion is that in connection with the proposed celebration of the completion of the Panama Canal in 1915, there shall be suitable commemoration of the greatest triumph of modern times in the domain of preventive medicine. The sanitary problems in the construction of the canal, were, to say the least, not less difficult, and their triumphant solution constitute an achievement not less memorable, than the problems and the accomplishment of the engineer. It is the glory of American medicine to have contributed through Reed and Carroll and their colleagues the scientific discoveries—and through my predecessor in this office, Colonel Gorgas, the practical application of these discoveries—which will have made possible without large sacrifice of lives the completion of the stupendous undertaking to be celebrated in this state four years hence. This celebration will be neither complete nor worthy without the fullest recognition of the contributions of sanitary science to the successful completion of the isthmian canal. I venture the suggestion that an International Congress of Tropical Medicine, to be held in connection with the Panama-Pacific Exposition in 1915, would afford an opportunity worthily to commemorate the conquest over pestilential diseases on the isthmus and elsewhere in the tropics. I recommend that a special committee be appointed to consider the best mode of commemorating the sanitary work and achievements attending the construction of the isthmian canal, and that this committee be provided with the funds and the authority necessary to the attainment of the desired end.

After his address, President Welch announced the Reference Committees for this session.

Report of the Secretary

The Secretary presented his annual report, which was referred to the Reference Committee on Reports of Officers. It was as follows:

To the Members of the House of Delegates of the American Medical Association:

I submit herewith the secretary's report for the year 1910-1911:

MEMBERSHIP

The membership of the American Medical Association on May 1, 1910, was 34,176. During the past year 335 members have died, 222 have resigned, 462 have been dropped as not eligible, 1,849 have been dropped for non-payment of dues, and 48 have been removed from the rolls on account of being reported as "not found," making a total of 2,916 names to be deducted from the membership list. There have been added 2,700 names to the membership list, of which 2,294 were transferred from the subscription list. The membership of the American Medical Association on May 1, 1911, was 33,960, a net loss for the year of 216.

This would be discouraging without explanation. In their reports, the Trustees have frequently referred to the fact that membership was being recruited almost entirely from those who at first were listed as subscribers. In other words, until the last year, continued efforts were made to get those who were taking The Journal as subscribers and who were eligible to membership in the American Medical Association to have their names transferred to the membership rolls. For the past year, however, we have relaxed our efforts in this direction on account of the uncertainty of the final ruling of the Post-Office Department regarding the mailing of The Journal to members as such.

MEMBERSHIP OF STATE ASSOCIATIONS

The membership of the various constituent state associations, according to the records in the Secretary's office, May 1, 1911, is shown in the accompanying table:

Component Association in the State of	No. of Counties in State.	No. of Component Societies in State Assn.	Counties not Organized.	No. of Members Reported May 1, 1911.	No. of Members Reported May 1, 1910.	Number gained.	Number lost.
Alabama	67	67	..	1,676	1,738	..	52
Arizona	13	7	6	157	131	26	..
Arkansas	75	63	9	963	989	..	26
California	58	36	21	1,972	2,057	..	85
Colorado	60	25	29	822	811	11	..
Connecticut	8	8	..	841	803	38	..
Delaware	3	3	—	103	108	..	5
District of Columbia	..	..	..	550	548	2	..
Florida	46	24	22	341	339	2	..
Georgia	146	86	52	1,169	1,145	24	..
Idaho	23	4	6	124	116	8	..
Illinois[1]	102	95	3	5,616	5,404	212	..
Indiana	92	87	4	3,107	2,550	557	..
Iowa	99	97	1	1,961	2,081	..	120
Kansas	105	74	17	1,452	1,376	76	..
Kentucky	119	112	6	1,863	1,986	..	123
Louisiana	59	39	18	893	1,068	..	175
Maine	16	13	3	577	574	3	..
Maryland	24	22	2	1,122	1,107	15	..
Massachusetts[2]	14	18	..	3,392	3,302	89	..
Michigan	83	58	6	2,092	2,300	..	208
Minnesota	85	38	..	1,207	1,220	50	..
Mississippi	78	50	8	965	1,001	..	36
Missouri[3]	114	94	15	3,073	2,862	211	..
Montana	28	10	16	234	201	33	..
Nebraska	91	62	26	1,026	1,001	25	..
Nevada	14	6	8	89	59	30	..
New Hampshire	10	10	..	540	594	..	54
New Jersey	21	21	..	1,404	1,340	64	..
New Mexico	26	14	12	246	237	9	..
New York	61	57	3	6,885	6,755	130	..
North Carolina	98	87	4	1,137	1,141	..	4
North Dakota	46	14	5	400	376	24	..
Ohio[4]	88	87	1	3,866	3,934	..	68
Oklahoma	75	68	6	1,132	1,309	..	177
Oregon	34	12	2	445	391	54	..
Pennsylvania[5]	67	63	4	5,487	5,351	136	..
Rhode Island	5	5	..	357	367	..	10
South Carolina	41	40	..	760	740	20	..
South Dakota	64	9	7	265	341	..	76
Tennessee	96	63	33	1,400	1,253	157	..
Texas	243	143	77	3,145	3,080	65	..
Utah	27	6	21	195	210	..	15
Vermont	14	11	3	410	398	12	..
Virginia[6]	100	..	..	1,604	1,604	..	..
Washington	38	23	10	934	870	64	..
West Virginia	55	31	11	861	971	..	110
Wisconsin	71	55	2	1,820	1,730	90	..
Wyoming	15	5	10	122	123	..	1
Canal Zone	..	..	..	72	..	..	..
Hawaii	..	..	..	78	58	20	..
Phillippine Islands	..	..	..	103	95	8	..
Totals	2,917	2,016	489	71,118	70,146		

Note.—The number of members of the different associations stated in this table and the record of gain or loss in membership is in accord with the membership of the several associations as they were reported to the Secretary on the first day of May of 1910 and of 1911.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. Chicago (Cook County) Medical Society includes both Cook and Du Page counties.

2. Massachusetts is divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

3. There are two component societies in St. Louis County—the St. Louis City and the St. Louis County Medical Societies, each, however, covering definite territory.

4. This county was organized, but the society has recently been suspended.

5. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

6. Virginia has not adopted the plan of organization. Hence, strictly speaking, it has no component county societies. Members join the state society direct. Estimating the membership of the Virginia Medical Society as 1,604 for each year, the total membership of the organization would be 71,118, an increase over the number reported in 1910 of 972.

ASSOCIATE MEMBERSHIP

Last year the House of Delegates, on the recommendation of the Reference Committee on Constitution and By-Laws, made several modifications in the By-Laws which, if carried out, will interfere seriously with the scientific work of several of the Sections. Until the changes to which I refer were made, we had three classes of associate members, i. e., dentists, pharmacists and scientists, the latter being provided for as follows:

> "Representative teachers, students of the sciences allied to medicine, resident in the United States, and not eligible to regular membership, may become associate members of this Association on recommendation of the officers of the Section and on election by the House of Delegates."

Under the provision of the By-Laws, as modified last year, the last-named class of associate members seems to have been eliminated entirely. The present Section 7, Chapter 1, provides for associate members and includes dentists and pharmacists, but there is no provision whatever for the very class of men who help some of the Sections so much. In fact, if this provision is carried out, it will seriously handicap one or two of the Sections, as these Sections have developed as the result of the work of this class of associate members. The chairman of the Section on Pathology and Physiology wrote: "It will never be possible to enlist the support of physiologists with the heartiness that I should like to see until they are convinced . . . that they are among the 'ins' instead of the 'outs'."

Another very important point should be noticed: there is no definition of these associate members. Are they to pay dues and receive The Journal, as did the old associate, dental and pharmaceutical members? If so, it should be so provided. The old By-Law provided in the old Section 4, Chapter III, Book I, that these associate members "shall enjoy the same privileges as regular members, and shall be subject to the same conditions." The new By-Law contains no definition whatever, so that, to use a slang expression, the "associate" members are "up in the air" as to where they stand.

I appeal to you to restore the old conditions. This can be done by striking out the present "Book 1, Membership," as it appears in the appendix of the Handbook, and substituting that which was "book 1—Membership" prior to the meeting of 1910; except that the words "one of," which followed "retains" in the third line of Section 2, Chapter I of the old by-laws, have been omitted.

UNIFORM REGULATION OF MEMBERS AND TRANSFERS

Ten years have passed since the report of the Committee on Reorganization was adopted at St. Paul; yet the principles that this report emphasized as fundamental have not been carried into effect. I refer particularly to the plan for the transfer of membership from one component society to another, in any state, and the uniform system for recording membership in the various states. The St. Paul report emphasized the principle that when a physician joined his county society he became a member of the "organization;" that no matter where he might go, his membership should follow him. This has not been carried into effect. A member who moves is compelled to seek membership in the society at his new location as though he had never held membership in the organization. Such a condition exists in no other body, so far as I know. Whether it be a trades union, a fraternal order, or a church, a member retains his connection with the organization wherever he may be, and can be transferred without trouble, when he moves from one location to another. A Committee on Uniform Regulation of Membership was appointed in 1908; it made a preliminary report in 1909, and another last year. This year, it recommends that it be re-created, and empowered and directed to perfect a plan for the uniform regulation and transfer of membership. I urge that this recommendation be adopted, for some such plan is vital to effective organization. I am sure that the constituent state associations will give their loyal cooperation.

JUDICIAL COUNCIL

Another matter closely related to the above deserves careful consideration. A reading of the transactions reveals the fact that from the beginning questions of an ethical nature were continually presenting themselves to the association. It is also evident that those that were complex or difficult were seldom or never squarely met. At first such matters were referred to a committee appointed at the annual session, and known as the Committee on Ethics. Experience showed, however, that there was not time at the annual sessions to investigate many of the questions that came up, and that a temporary committee was not satisfactory. Hence, in 1874, a permanent, continuous body—the Judicial Council—was created. It was presumed, of course, that if necessary this Council would hold meetings in the interval between the annual sessions. Such meetings, however, would necessitate either that the Association should pay the expenses of the members, or that the individuals should pay their own expenses. The former was out of the question on account of lack of funds; the latter was not to be expected. And no such meetings were held.

In the reorganization ten years ago, the by-law relating to the Judicial Council was retained, and some of you have personal knowledge of the fact that a quorum at the annual meeting seldom materialized. For three years, 1904 to 1906, a certain case awaited action of the Council, and for three consecutive years a physician personally interested attended the annual sessions to appear before the Council without avail. As it seemed difficult to gather together at the annual session a quorum of the Judicial Council, the by-law was changed in 1907—this, as you know, making the Judicial Council a temporary body, to be appointed each year from the members of the House of Delegates present. The duties and powers of this body under the present by-law are so indefinitely stated that at the very next annual session the chairman of the Council informed the House of Delegates that it had nothing to report because "it is impossible for a case to reach the Judicial Council."

Thus, as a matter of fact, the Judicial Council—which should be one of the most important committees of the Association—has been a failure, and questions of great importance have not been met as they deserve. While the need of such a committee has always been evident, such need is certainly greater to-day than ever before.

Excepting one or two states, there is no control of membership by either the state or the American Medical Association. It is left absolutely with the component county society. As the latter is the portal of admission to the whole organization, the organization should have some check on who may and who may not be admitted. Complaints are made here and there of some excellent physicians who, for personal or other reasons, are kept out of the organization by the component societies. On the other hand, some component societies have admitted and retain as members those who should not be in the organization. The right of appeal, at least to the state society, should be provided for a physician who desires, but is refused, membership; the authority to see that the principles underlying membership are carried out by the county society should lie in the state and the national associations.

The questions of secret division of fees, contract practice, advertising, etc., should be met and given careful, judicious and deliberate consideration. All these, and similar matters belong to a body such as the Judicial Council is supposed to be.

I would, therefore, respectfully urge that the Judicial Council be re-created as a permanent body; that its functions should be made broader than they have been in the past; that it should be authorized to hold such meetings as it may deem necessary; that it be authorized to adopt such rules and methods of procedure as it deems best, to be approved by the House of Delegates; that the Secretary of the Association shall be, ex officio, the secretary of this Council; and that the board of trustees be requested to appropriate so much money as may be necessary to pay the expenses of the members, the last being of fundamental importance if the Council is to be a success.

"ORGANIZATION" AND THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Among the functions delegated to the Council on Health and Public Instruction last year is "Organization." Organization really belongs to the Secretary's work. It would therefore seem advisable to take the word "Organization" from Section 5, Chapter 9, pp. 19 and 20.

Respectfully submitted,
George H. Simmons, Secretary.

Report of the Board of Trustees

Dr. M. L. Harris, Chairman, read the Report of the Board of Trustees, which was referred to the Reference Committee on Reports of Officers. It was as follows:

To the Members of the House of Delegates of the American Medical Association:

After some months of unavoidable delay due to strikes, etc., the Association was able to move into its new building about the first of the year. The building is a model of construction, being as near fireproof and as perfect in its appointments as it is possible to make it. The Association, therefore, is to be congratulated on its beautiful new home and on the unexcelled facilities which it now possesses for carrying on its work.

However, while thus felicitating ourselves on the magnificence and the excellence of our possession we should not forget that the advantages which accrue therefrom entail on us obligations of like magnitude. To fail to make proper use of the great opportunities for good which are offered us would be a most flagrant dereliction of duty.

As the Association grows in strength and influence its responsibilities increase. These responsibilities rest not alone on the officers of the Association and on the committees but also on every member of this House of Delegates. Nor do these responsibilities cease on the adjournment of the annual session.

The members of this House are representative and influential men from every state in the Union and the Association needs their help and cooperation in furthering its aims not only here during the annual session but also throughout the year in their respective localities.

The House of Delegates in meeting assembled can pass resolutions condemnatory of such practices as the division of fees or the use of the public press for self-laudatory purposes which not only derogate from the honor and dignity of the individual but degrade the profession; or it can pass resolutions commendatory of such measures as tend to elevate the educational and ethical standards of the profession; but such resolutions will be productive of little lasting good unless each delegate take it on himself to carry the intent and spirit contained therein back to his own state society and from there to the local societies and cease not his labors until they reach and are approved by every individual member throughout the land.

It is the duty of this body to consider carefully all questions which have a material bearing on the welfare of the profession and of the people along health lines and sufficient time should be devoted to them so that when the conclusions are reached they will show they are the result of mature deliberation.

In an association as large as this and extending over such a large territory it is but natural that there should be honest differences of opinion among its members and a diversity of interests due to local conditions which have a legitimate basis in fact, but these differences should not be permitted to interfere with the accomplishment of the real objects of the Association nor should they embitter anyone toward those who are conscientiously and diligently striving to obtain for all the fruition of these objects.

That the accomplishment of some of these objects would injuriously affect certain interests outside of the profession which have profited by unscrupulous practices was self-evident and it was therefore expected that their opposition, both direct and indirect, would be provoked but the antagonism of such outside interests, whether directed against the Association or against any of its representatives, is harmless and can be easily withstood.

The harmful attacks, however, are those which have their origin within the Association—harmful because an attack from within is a part arrayed against the whole and the whole must certainly suffer as a result of the unharmonious action of its parts.

A sharp distinction should be made between an attack and an expressed difference of opinion. The former is an attempt to do violence, hence is always destructive in its tendency; the latter is an attempt to bring about a favorable change by showing wherein the thing sought to be changed is wrong, hence is constructive in its tendency; the former should be crushed, the latter encouraged.

The Association to-day is confronted by several problems which undoubtedly will give rise to differences of opinion as to their best solution.

One of these problems and one, too, which is worthy of the most earnest consideration by the members of this House of

Delegates is that of membership in this Association. Shall membership in this Association be extended so as to include all those who are members in good standing in a component society? What regulations governing membership shall this Association adopt? It will be remembered that a resolution dealing with this question was introduced in the last House of Delegates and referred to the Board of Trustees with the request that the question of the extension of membership be investigated by the Board and that it report back to the House of Delegates. The Board has submitted the question to the different state associations and, while it awaits the reports from the state associations, it believes the matter should receive thorough discussion in the House of Delegates at this time.

It is not expected that definite action on the matter shall be taken at this session but the various aspects of the subject should be presented and discussed in order that the delegates may become thoroughly familiar with them and thus be able to present the matter more intelligently to their several states.

Another matter of importance is that which relates to the subscription to The Journal by members. Subscription to The Journal is now a membership requirement. This of course would have to be changed if membership is extended as above mentioned. In addition to the regular journal the association is now publishing the *Archives of Internal Medicine* and the *Journal of Diseases of Children* and will soon begin publishing the *Archives of Surgery.*

As each member now receives a copy of The Journal it necessarily happens that duplicate copies are received by firms or families having two or more members. A number of letters have been received from such members asking to be relieved from paying for the superfluous copies. At present however, there is no provision made for such cases. Therefore, in order to meet this situation the Board of Trustees recommends that the By-Laws be so amended as to permit members under those circumstances to have their subscription applied to any one or more of the periodicals above mentioned.

While on the subject of membership attention is directed to a defect in our By-Laws which consists in the omission therefrom of definite rules governing appeals by individuals or by constituent societies from decisions of local societies to a tribunal of this body for definite and final adjudication. This tribunal should constitute in a sense a supreme court which should give final judgment on all matters affecting the constitutional rights of individuals and on matters of principle affecting the interests of the association.

Conditions are constantly arising in different parts of the country which show the need of such a tribunal and also the desirability of investing it with the authority to institute investigations on its own initiative under certain regulations.

It is true the By-Laws now provide for a Judicial Council, but it is not of a permanent character, has no initiative power and its functions are very indefinitely defined. The Board of Trustees, therefore, recommends that the By-Laws be amended to meet the defects mentioned.

ARCHIVES OF INTERNAL MEDICINE

No particular effort has been made during the past year to increase the circulation of the *Archives of Internal Medicine,* but it is very satisfactory. On Jan. 1, 1911, the circulation was 2,133, which shows a slight increase over last year.

Considering the fact that this journal is more technical than of practical value to the general practitioner, this circulation may be regarded as unusually good.

AMERICAN JOURNAL OF DISEASES OF CHILDREN

The first number of the *American Journal of Diseases of Children* was issued in January, 1911. On June 1 the paid circulation was over sixteen hundred—a remarkable showing for a special journal.

The Association button which was adopted by the House of Delegates last year on the recommendation of the committee which had the matter in charge, while very handsome and appropriate from the designer's standpoint, has been found to be impractical from the manufacturer's standpoint. It is therefore referred back to this body for reconsideration to see if a design can be presented which will meet the requirements of economical manufacture.

As has been customary in the past, there will be found appended to this report a complete and comprehensive statement by the auditors showing the financial status of the association for the year ending December 31, 1910.

Respectfully submitted,

Philip Mills Jones,
W. T. Sarles,
C. A. Daugherty,
W. T. Councilman,
W. W. Grant,
Frank J. Lutz,
C. E. Cantrell,
Wisner R. Townsend, Secretary.
M. L. Harris, Chairman.

Addenda to Trustees' Report

SUBSCRIPTION DEPARTMENT

The regular weekly issue of The Journal of the American Medical Association, from Jan. 1, 1910 to Dec. 31, 1910 inclusive, fifty-three issues, was as follows:

January 1	58,254		May 7	60,126	
January 8	55,942		May 14	55,133	
January 15	55,641		May 21	55,164	
January 22	55,176		May 28	55,966	
January 29	55,035				226,389
		280,048	June 4	55,510	
February 5	54,848		June 11	55,302	
February 12	57,023		June 18	55,308	
February 19	56,993		June 25	55,320	
February 26	57,109				221,440
		225,973	July 2	55,555	
March 5	57,143		July 9	55,644	
March 12	57,213		July 16	55,284	
March 19	57,027		July 23	55,621	
March 26	57,317		July 30	55,445	
		228,700			277,549
April 2	57,572		August 6	55,653	
April 9	57,771		August 13	55,679	
April 16	57,279		August 20	55,619	
April 23	57,251		August 27	55,732	
April 30	55,036				
		284,909			222,683
September 3	55,888		November 5	57,260	
September 10	55,799		November 12	57,223	
September 17	55,750		November 19	57,109	
September 24	55,784		November 26	57,236	
		223,207			228,828
October 1	55,542		December 3	59,131	
October 8	55,966		December 10	59,321	
October 15	55,975		December 17	58,581	
October 22	57,019		December 24	58,663	
October 29	57,018		December 31	58,684	
		281,520			294,480
Total issue for twelve months					2,995,726
Weekly average					56,523

The total number of copies issued during 1909 was 2,878,799; thus there was an increase during the year of 116,927 copies.

Percentage of Physicians Receiving The Journal

This table gives the number of physicians (based on the second edition of the American Medical Directory) in the United States, receiving The Journal and the approximate percentage in each state. Copies to physicians in the United States Army, United States Navy, Marine-Hospital Service, etc., are omitted:

State.	Number Receiving Journal.	Physicians in State 2d A. M. A. Dir.	Approx. per cent. 2d A. M. A. Dir.
Alabama	642	2,287	28.
Arizona	140	246	56.9
Arkansas	611	2,535	24.1
California	2,014	4,313	46.6
Colorado	787	1,690	46.5
Connecticut	634	1,424	44.5
Delaware	84	220	38.1
District of Columbia	528	1,231	42.9
Florida	341	786	43.3
Georgia	742	2,887	25.7
Idaho	179	343	52.1
Illinois	5,047	9,744	51.7
Indiana	1,822	5,306	34.3
Iowa	1,760	3,624	48.5
Kansas	1,290	2,650	48.6
Kentucky	1,090	3,708	29.3
Louisiana	757	1,798	42.1
Maine	390	1,198	32.5
Maryland	1,037	2,012	51.5
Massachusetts	2,357	5,577	42.2
Michigan	1,667	4,109	40.5
Minnesota	1,330	2,204	60.3

Mississippi	464	2,054	22.5
Missouri	2,446	6,332	38.6
Montana	229	417	54.9
Nebraska	779	1,776	43.9
Nevada	82	177	46.3
New Hampshire	285	679	41.9
New Jersey	1,160	2,455	47.2
New Mexico	173	367	47.1
New York	4,888	14,117	34.4
North Carolina	550	1.761	31.2
North Dakota	344	552	62.3
Ohio	2,877	7,838	36.9
Oklahoma	716	2.703	26.4
Oregon	398	782	50.8
Pennsylvania	4.478	11,056	40.5
Rhode Island	326	720	45.2
South Carolina	431	1.141	37.7
South Dakota	350	607	57.6
Tennessee	814	3.303	24.6
Texas	1,658	5.789	28.6
Utah	240	359	67.1
Vermont	222	663	33.4
Virginia	833	2.215	37.6
Washington	843	1,404	60.0
West Virginia	614	1.608	38.1
Wisconsin	1,366	2,518	54.2
Wyoming	101	202	50.

The following table shows the number of Members and Subscribers for each year, commencing with 1900:

	Members	Subscribers
January 1, 1900	8.445	4,633
January 1, 1901	9,841	8,339
January 1, 1902	11,107	10,795
January 1, 1903	12,553	12,378
January 1, 1904	13,899	14,674
January 1, 1905	17.570	15.698
January 1, 1906	20,826	17,669
January 1, 1907	26,255	20,166
January 1, 1908	29,382	20,880
January 1, 1909	31,999	18.983
January 1, 1910	33,032	19.832
January 1, 1911	33,540	20.504

The above does not include the ex-officio members, as. for instance, the officers of the Medical Department of the Army and the Navy, and the Marine-Hospital Service, since THE JOURNAL does not go to them as individuals. Neither does it include honorary members, exchanges, complimentary copies to libraries, agents, advertisers, etc.

On January 1, 1910, there were 53,729 names on the mailing list and on January 1, 1911, 54,957, showing an increase in the mailing list for the year of 1,228. However, 11.706 additional names were placed on the mailing list. and 10.276 were discontinued on account of death, ineligibility to membership, resignations, non-payment of dues, subscriptions and voluntary discontinuances.

Treasurer's Report

REPORT OF THE TREASURER OF THE AMERICAN MEDICAL ASSOCIATION FOR THE YEAR ENDING DEC. 31, 1910

IN FIRST TRUST AND SAVINGS BANK

RECEIPTS

Jan. 1, 1910—Certificates of deposit at 3 per cent.	$100,000.00	
Feb. 10, 1910—Received from the Editor and General Manager, and placed on certificate deposit, 3 per cent.	40,000.00	
May 11, 1910—Received from the Editor and General Manager, and placed on certificate deposit, 3 per cent.	30.000.00	
		$170,000.00

DISBURSEMENTS

Jan. 17, 1910—Transferred to First National Bank, checking department	$ 45.000.00	
Oct. 10, 1910—Transferred to First National Bank, checking department	45,000.00	
Dec. 10, 1910—Transferred to First National Bank, checking department	15,000.00	
Dec. 17, 1910—Transferred to First National Bank, checking department	25,000.00	
Dec. 31, 1910—Certificate of deposit in First Trust and Savings Bank, date Dec. 9, 1910	40,000.00	
		170,000.00

IN FIRST NATIONAL BANK

RECEIPTS

Jan. 1, 1910—Balance in First National Bank	$ 8,340.72	
Interest on checking account, 12 months	149.00	
Interest on certificates of deposit First Trust and Savings Bank	4,218.75	
June 17, 1910—Transferred from First Trust and Savings Bank	45,000.00	
Oct. 10, 1910—Transferred from First Trust and Savings Bank	45,000.00	
Dec. 10, 1910—Transferred from First Trust and Savings Bank	15,000.00	
Dec. 17, 1910—Transferred from First Trust and Savings Bank	25,000.00	
Interest on 54 $1,000 bonds at 4 per cent.	2,160.00	
		144,868.47

DISBURSEMENTS

June 17, 1910—Paid requisition Building Account	$ 50,000.00	
Oct. 10, 1910—Paid requisition Building Account	50,000.00	
Dec. 12, 1910—Paid requisition Building Account	20,000.00	
Dec. 31, 1910—Balance in First Nat'l Bank	24,868.47	
		144,868.47

DEC. 31, 1910, PROPERTY OF AMERICAN MEDICAL ASSOCIATION IN HANDS OF TREASURER

Cash balance in checking account First National Bank			$ 24,868.47
Certificate of Deposit at 3 per cent. in First Trust and Savings Bank			40,000.00
Bonds in care First Trust and Savings Bank			
	Cost.	Par Value.	
5–1000 bonds U. P. Ry., 1st 4s.	$ 5.207.50	$ 5,000.00	
5–1000 bonds Erie Ry., 1st 4s.	4,932.50	5,000.00	
10–1000 bonds Reading Cen. 1st 4s	9,602.50	10,000.00	
14–1000 bonds Chicago Sch. 1st 4s	15,168.13	14,000.00	
10–1000 bonds A. T. & S. F. 1st 4s	9,521.25	10,000.00	
10–1000 bonds B. & O. Ry. 1st 4s	9,800.00	10,000.00	
	$54,231.88	$54,000.00	54,000.00
			$118,868.47

Respectfully submitted,
FRANK BILLINGS, Treasurer.

Auditor's Report

MARWICK, MITCHELL & CO., CHARTERED ACCOUNTANTS
79 WALL STREET

NEW YORK, Jan. 31, 1911.

To the Board of Trustees of the
American Medical Association, Chicago, Ill.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended Dec. 31, 1910, on which we now submit our report, together with the statements detailed in the index appended hereto.

We examined the securities representing the investments of the Association and counted the cash on hand. The cash in banks was verified by certificates from the bankers.

The disbursements were vouched and found in order and a satisfactory test of the revenue of the Association was made.

The balance sheet now submitted is, in our opinion, a full and fair statement of the financial position of the Association as at Dec. 31, 1910, and as shown by the books; subject to the qualification that no provision has been set aside for accrued taxes, and subscriptions and memberships paid in advance, which are partially offset by unpaid subscriptions and memberships, earned but not included in the accounts.

The following is a comparative condensed balance sheet as at Dec. 31, 1910 and 1909:

	DECEMBER 31			
Assets:	1910	1909	INCREASE	DECREASE
Property and Plant	$288,833.66	$173,081.86	$115,751.80	....
Biographical Information	1,546.83	....	1,546.83	....
Investments	94,231.88	154,231.88	....	$60,000.00
Current and Working	64,948.87	71,688.31	....	6,739.44
Prepaid Accounts	1,072.32	460.11	612.21	....
Total Assets	$450,633.56	$399,462.16	$ 51,171.40	....
Liabilities	2,104.18	2,926.95	....	$ 822.77
Surplus	$448,529.38	$396,535.21	$ 51,994.17	....

The increase in surplus, $51,994.17, represents the net income for the year under review, particulars of which are recorded in Exhibit "B."

During the year under review depreciation aggregating $47,306.83 has been written off the property accounts. Of this, $16,292.66 applies upon the new buildings and the machinery, plant, etc., while the remainder, $31,014.17, is upon the old building, which is not now used in connection with the operation of the business. After the application of this latter sum the old building, including the site, appears in the accounts at $42,000.00.

We are pleased to report that the records of the Association are maintained in a careful and efficient manner.

We desire to record our appreciation of the courtesies extended to us during the course of our examination. Yours truly,

MARWICK, MITCHELL & CO., Chartered Accountants.

EXHIBIT "A"

BALANCE SHEET AS AT DEC. 31, 1910

ASSETS

Property and Plant:		
Real Estate and Buildings		$226,657.65
Machinery		38,822.55
Type and Metal		11,179.31
Furniture and Fixtures		8,477.68
Laboratory		1,015.60
Stereotype Plant		1,495.26
Library		1,185.61
Total Property and Plant		$288,833.66
Biographical Information		1,546.83
Investments:		
Bonds at Cost (Schedule "1")	$54,231.88	
Certificates of Deposit	40,000.00	
Total Investments		94.231.88

Current and Working Assets:			
Material and Supplies as per Inventory		8,289.04	
Accounts Receivable:			
Advertising	$19,794.02		
Books	1,199.00		
Reprints	893.10		
Directory	130.95		
Jobbing and Miscellaneous	2,547.10	24,564.17	
Bills Receivable		132.65	
Cash in Banks and on Hand:			
The First National Bank of Chicago	$24,868.47		
Continental and Commercial National Bank of Chicago	4,944.52		
Cash on Hand	2,100.02		
Office Fund	50.00	31,963.01	
Total Current and Working Assets			64,948.87
Prepaid Accounts:			
Insurance		$ 247.77	
Unissued Publications		700.17	
Los Angeles 1911 Session		124.38	
Total Prepaid Accounts			1,072.32
Total			$450,633.56

LIABILITIES

Miscellaneous Accounts Payable		$ 132.78
Advance Payments on Publications		1,971.40
Surplus:		
As at Dec. 31, 1909	$396,535.21	
Net Income for Year ended Dec. 31, 1910	51,994.17	448,529.38
Total		$450,633.56

EXHIBIT "B"

Income Account for the Year Ended Dec. 31, 1910

Revenue:		
Membership Dues		$ 51,597 38
Journal Subscriptions		207,974.45
Journal Advertising		164,492.72
St. Louis Session		11,304.15
Jobbing		4,750.52
Books		2,531.33
Reprints		2,487.07
Physicians' Manual		764.42
New and Nonofficial Remedies		317.62
Buttons		294.92
Binders		175,60
Waste Paper, etc.		3,652 57
Total		$450,342.75
Less Archives of Internal Medicine		37.28
Gross Revenue		$450,305.47
Expenses:		
General and Operating Expenses (Schedule "2")	$302,279.94	
St. Louis Session	11,968.89	
Provision for Depreciation (Schedule "3")	16,292.66	330,541.49
Net Revenue		$119,763.98
Other Income:		
Interest:		
On Bonds	$ 2,160.00	
On Treasurer's Account	4,367.75	
On Bank Balance	1,076.56	
	$ 7,604.31	
Loss on Bad and Doubtful Accounts and Notes less Recoveries	1,071.22	6,533.09
Gross Income		$126,297.07
Deductions from Income:		
Association Expenditures (Schedule "4")	$ 40,350.34	
Second Edition Directory	2,938.39	
Depreciation on old Building not now used in operations of business	31,014.17	74,302.90
Net Income		$ 51,994.17

SCHEDULE "1"

Bonds as at Dec. 31, 1910

No.	Description and Particulars	Par Value	Cost
5	Atchison, Topeka & Santa Fe Ry. Co. 4 per cent. 100-year gold bonds	$ 5,000.00	$ 4,988.75
5	Erie Railroad Co. 4 per cent. 100-year gold bonds	5,000.00	4,932.50
5	Baltimore & Ohio Ry. Co. 4 per cent. first mortgage	5,000.00	5,032 50
5	Reading Company 4 per cent. general mortgage	5,000.00	4,870 00
5	Union Pacific Railroad Co. 4 per cent. first mortgage	5,000.00	5,207.50
14	City of Chicago 4 per cent. school bonds.	14,000.00	15,168.13
5	Reading Co. and the Philadelphia & Reading Coal and Iron Co. 4 per cent. general mortgage, par value $1,000.00 each, at 94½	5,000.00	4,732.50
5	Atchison, Topeka & Santa Fe Ry Co. 4 per cent. first mortgage bonds, payable April and October, principal due 1995, Nos. 32785, 35162, 40517, 40516 and 40515, par value $1,000.00 each, at 90½	5,000.00	4,532.50
5	Baltimore & Ohio Ry. Co. 4 per cent. first mortgage bonds, payable April and October, principal due 1948, Nos. 53591, 53594, 53593, 34986 and 34987, par value $1,000.00 each, at 95	5,000.00	4,767.50
	Total	$54,000.00	$54,231.88

SCHEDULE "2"

General and Operating Expenses for the Year Ended Dec. 31. 1910

Pay-roll		$120,172.98
Materials and Supplies:		
Paper	$ 87,778.94	
Ink	3,253.14	
Electrotypes	3,070.81	
Binding	141.25	
Miscellaneous Supplies	4,979.68	99,223.82
Editorials, News and Reporting		8,891.05
Postage:		
Second Class	$ 22,130.16	
General	10,825.13	32,955.29
Commissions:		
Journal	$ 8,502.33	
Buttons	265.09	
Collection Commission	2,900.34	11,667 76
Plant:		
Repairs and Renewals	$ 2,077.54	
Power	2,293.31	
Light	2,954.73	
Fuel	1,116.54	
Building Maintenance	236.22	
Supplies	2,576.27	11,254.61
Insurance and Taxes		2,956.83
Discount		4,364.62
Express and Cartage		1,619.54
Agents' Salaries		890.00
Exchange		1,228.65
Legal		983.52
Office Printing and Stationery		1,951.37
Office Supplies		592.26
Telephone and Telegraph		340.23
Journals Returned		43.65
Traveling Expenses		392.65
Complimentary Reprints		192.65
Miscellaneous		2,558.46
Total		$302,279.94

SCHEDULE "3"

Provision for Depreciation for the Year Ended Dec. 31, 1910

Classification	*Amount*
Building—New	$ 10,000.00
Machinery	4,313.62
Furniture and Fixtures	663.45
Type	427.98
Metal	380.55
Factory Fixtures	228.24
Stereotype Plant	166.14
Laboratory Equipment	112.68
Total	$ 16,292.66

SCHEDULE "4"

Association Expenditures for the Year Ended Dec. 31, 1910

Association	$ 9,970.32
Organization	7,882.30
Medical Education	5,194.37
Medical Legislation	2,799.05
Pharmacy and Chemistry	8,756.32
Health and Public Instruction	3,220.64
Educational	1,796.45
Defense of Medical Research	730.89
Total	$ 40,350.34

Report of the Council on Health and Public Instruction

Dr. Henry B. Favill, Chicago, Chairman, read the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Medical Legislation. The report was as follows, including all the subcommittees of the Council:

To the Members of the House of Delegates of the American Medical Association:

This Council was created at the 1910 session, as the result of the report of a committee appointed at the 1909 session at Atlantic City. The standing Committee on Medical Legislation, the Board of Public Instruction on Medical Subjects, the Council on Defense of Medical Research and the Committee on Organization were merged in this council, to which was added the Committee on Uniform Regulation of Membership, the Committee on Visual Standards of Pilots, the Public Health Education Committee, the Committee on Prevention of Blindness and the Committee on Postgraduate Study Work. The first meeting of the Council was held in Chicago Friday, July 8, 1910, and the term of service of the members was determined by lot as follows: Dr. Henry B. Favill to serve until 1911; Dr. W. B. Cannon, 1912; Dr. J. N. McCormack, 1913; Dr. Henry M. Bracken, 1914; Dr. W. C. Woodward, 1915. Dr. Henry B. Favill was elected chairman and Dr. Frederick R. Green was nominated to the trustees as secretary, which nomination was confirmed by the Board of Trustees. The following bureaus were established, with one member of the council in charge of each: Legislation, Dr. W. C. Woodward; Organization, Dr. J. N. McCormack; Publicity, Dr. Henry B. Favill; Protection of Medical Research, Dr. W. B. Cannon; Public Health, Dr. H. M. Bracken. Inauguration of the work of the Council was necessarily deferred until after the October meeting of the Board of Trustees, October 21, at which time an appropriation was made for the use of the Council. This report, therefore, really covers only the seven months from Nov. 1, 1910, to June 1, 1911.

The work of the Council will be taken up under the following heads: (A) Work of the various bureaus subordinate to the Council; (B) Work of the various sub-committees subordinate to the Council.

A. WORK OF THE COUNCIL AND ITS BUREAUS

(1) BUREAU OF ORGANIZATION

The organization work of the Council has been, as heretofore, in charge of Dr. J. N. McCormack. During the past year, Dr. McCormack has held meetings and delivered public addresses as follows: October 3-31, Oklahoma. Public meetings were held in twenty-nine cities of the state at which Dr. McCormack delivered an address on public health. Meetings of the county medical society were also held in each city which Dr. McCormack visited, at which meetings he talked to the local medical profession on medical organization. New Mexico, November 2-13. Addresses were made to the public and the profession in eight cities. From November 14 to 28, ten meetings were held in Arizona. December and January were passed in Washington. On January 21, Dr. McCormack began a series of meetings in North Carolina, speaking at ten cities in the state. February 12-26 was devoted to Georgia, fourteen meetings being held; from April 24 to May 10, ten meetings were held in South Carolina. On May 11, Dr. McCormack attended the annual meeting of the Florida State Medical Association and delivered a public address at Tallahassee. On May 16, he addressed a large meeting in Buffalo, May 17, Niagara Falls, May 18, Albany, May 22, Bridgeport, Conn., and May 24, Winchester, Va. On June 10, he began a tour of Texas, speaking at ten cities from June 10 to 21. During the year Dr. McCormack has visited ninety-seven cities in eleven states and has delivered addresses in each.

The great value of Dr. McCormack's work as a means of instructing and enlightening both the profession and the public is too well known to require comment. Careful preparation for these meetings were made beforehand in accordance with the plan followed for the past five years, and in practically all instances large and enthusiastic audiences, composed of representative citizens of the community, have benefited by Dr. McCormack's work. The value of these meetings in educating public sentiment is becoming every year more apparent. The attitude of the public is shown not only by the large attendance but also by the appreciative newspaper comments and editorials which have appeared in the local press. It is also noticeable that the public support and the newspaper commendation given to Dr. McCormack's work has been greater in those states in which he has spoken a second time than in those in which he has made his first appearance. The public is eager to be enlightened on sanitary and public health matters and is showing increased appreciation of the efforts of the Association in this direction. The Council is considering the advisability of putting a number of speakers in the field, as the work to be done is far too great for the strength of one man.

(2) BUREAU ON PROTECTION OF MEDICAL RESEARCH

The Bureau for the Protection of Medical Research has continued the publication of articles and pamphlets, written by authorities, and giving reliable information about animal experiments. During the past year the following pamphlets, in addition to the thirteen previously reported, have been published:

Animal Experimentation in Relation to Practical Medical Knowledge of the Circulation. Joseph Erlanger.
The Relation of Animal Experimentation to Our Knowledge of Plague. George W. McCoy.
Medical Control of Vivisection. Walter B. Cannon.
Immunology: A Medical Science Developed Through Animal Experimentation. Frederick P. Gay.
Obstetrics and Animal Experimentation. J. Whitridge Williams.
Some Characteristics of Antivivisection Literature. Walter B. Cannon.
Animal Experimentation in Relation to Epidemic Cerebrospinal Meningitis. Charles Hunter Dunn.
The Value of Animal Experimentation as Illustrated by Recent Advances in the Study of Syphilis. John W. Churchmann.

There has been a considerable demand for these and for previously published numbers of the series, so that reprinting some of the pamphlets has been necessary.

By diffusing literature, by speaking at public meetings, and by appearing at legislative hearings, members of the bureau have helped toward a better understanding of the methods and purposes of animal experimentation and have resisted attempts to secure hostile legislation. The only states in which serious efforts were made this year to enact bills opposing laboratory investigation were Pennsylvania and New York.

The plan of the bureau to control laboratory procedures, in a manner satisfactory to reasonable people, by regulations adopted by the corporate bodies which include the laboratory workers, has been given wide publicity during the year. Favorable comment on the precautions thus taken to prevent unnecessary discomfort in animals used for experimentation has been made both in the daily press and in influential weekly publications.

The plans for the establishment of a society of laymen for the promotion of medical research, mentioned a year ago, have not gone further, though an attempt may be made during the next few months to form such an organization.

A large number of copies of the twenty pamphlets prepared by the Bureau for public distribution have been circulated. Copies have been sent to members of legislative committees for distribution to members of state legislatures, as well as to several educational institutions for distribution to students.

(3) BUREAU ON MEDICAL LEGISLATION

When the annual convention of the Association adjourned at St. Louis, in June last, it was hoped that before Congress met in the following December the special committee created by the Association for that purpose might have formulated a bill for the organization of the federal health services that would receive the unqualified support of all persons interested in the conservation and improvement of the public health. The organization of that special committee was, however, delayed, and whatever it has done with respect to federal sanitary organization the Council has been compelled to do without the advantage of such light as that committee's labors might have thrown on the subject. The Sixty-First Congress adjourned without anything having been accomplished, but fortunately no obstructive legislation was enacted. On the opening of the Sixty-Second Congress, the very first bill to obtain a place on the Senate Calendar was A Bill to Establish a Department of Health, and for other purposes, which was introduced by Senator Owen. As, however, Congress, in special session now in progress, is not taking up any general legislation except that for the consideration of which the session was convened, no action has yet been taken with respect to this bill except to refer it to the proper committee. The Council deems it proper here to call attention to the debt which the medical profession and the public owes to Senator Owen for his efforts on behalf of an improved federal health organization. Not only has he identified himself with all efforts that have been made to improve that branch of the federal government, taking the initiative himself whenever that seemed to be the most effective way of proceeding, but it was through his initiative and effort that the Senate provided increased compensation for the commissioned officers in the existing Public Health and Marine-Hospital Service. Unfortunately, however this measure failed in the House of Representatives.

State Legislation

During the past winter the legislature has been in session in thirty-six states. A large number of bills were introduced dealing with public health, vital statistics, the regulation of the practice of medicine and the establishment of sectarian boards. The following summary only includes the more important measures adopted or defeated:

Alabama:—The medical practice act was amended making it unlawful for physicians to advertise so as to mislead the public.

Arkansas:—The public health bill, prepared by the Arkansas Medical Society establishing a state department of health, has become a law. The model vital statistics bill of the American Medical Association was incorporated in this bill. A bill was also passed to consolidate the medical college of the University of Arkansas and the College of Physicians and Surgeons and turn these two schools over to the board of trustees of the State University.

Connecticut:—Two optometry bills and an antivivisection bill failed to pass.

Illinois:—A bill to abolish common drinking-cups and a bill to amend the medical practice act became laws. The vital statistics bill failed to pass. A number of optometry and osteopathic bills also failed to pass.

Iowa:—Bills to make appropriations for free distribution of antitoxin and for vital statistics, to authorize the sterilization of criminals and to require the disinfection of premises occupied by tuberculous patients became laws. The osteopathic bill and the bill to reorganize the state board of health were defeated.

Kansas:—The model vital statistics bill become a law.

Maine:—A revised medical practice act was passed and an osteopathic bill was defeated.

Michigan:—A bill to require the recording of all cases of tuberculosis and a Sane Fourth of July bill became laws. A chiropractic bill was defeated.

Missouri:—An optometry bill was defeated.

Nebraska:—A number of bills to make liberal appropriations for state institutions were passed.

New Hampshire:—A bill to consolidate the three existing medical boards failed to pass, also an osteopathic bill. The optometry bill and a bill to abolish the common drinking cup became laws.

North Dakota:—A new medical practice act was passed.

Oklahoma:—An optometry bill was passed.

Pennsylvania:—An optometry bill was defeated and a bill to provide for a single board of medical examiners is still under consideration.

Texas:—The sanitary code drafted by the state board of health and incorporating the model vital statistics' bill was enacted as a part of the statutes.

Utah:—A new medical practice act was passed, also a bill to require the reporting of all cases of ophthalmia neonatorum.

The Council, through its Bureau of Medical Legislation, has cooperated with the state legislative committees, sending them information and material whenever requested. Particularly valuable in this work has been the special optometry number of the bulletin prepared by a committee consisting of Drs. J. C. Bossidy, George W. Gay and James Thorington. This bulletin was issued under date of Nov. 15, 1910, and large quantities of it were distributed to members of committees in states in which optometry bills were introduced.

At the request of the Council, the attorneys for the Association have prepared an exhaustive brief on "Chiropractic," which was prepared originally for the assistance of the secretary of the Michigan State Board of Medical Examination and Registration. This brief contains a carefully considered legal argument based on supreme court decisions, to the effect that Chiropractic is the practice of medicine and that the followers of this cult are amenable to the medical practice laws. Copies of this pamphlet have been sent to the secretaries of all state examining boards and in a number of instances to the counsel of the board as well.

The compilation and abstracting of supreme court decisions on medical practice acts has been practically completed and the matter is now in the hands of the printer. It is hoped that in a short time a digest of over three hundred supreme court decisions can be issued for the guidance and assistance of the officers of medical examining and licensing boards. As soon as this volume is completed it is the intention of the secretary to prepare a similar volume on supreme court decisions on public health laws. Such a work is badly needed and will be of great assistance to state and municipal health officers.

The organization of the National Legislative Council and of the National Auxiliary Legislative Committee has been maintained and the bureau has been in constant communication with members of these two bodies in the different states.

On February 28 and March 1 and 2, the Annual Conference on Medical Legislation was held in conjunction with the Council on Medical Education. The first day of the session was devoted to medical education, the second day to a joint conference on state regulation of the practice of medicine and the third day to the annual meeting of the National Legislative Council. The attendance at this joint conference was gratifying, 158 being registered as in attendance.

(4) BUREAU ON PUBLIC HEALTH

While all the work of the Council has been indirectly of value to public health, no new work in this direction has been taken up as yet.

(5) BUREAU ON PUBLIC INSTRUCTION

Probably the most important new line of work taken up by the Council has been the preparation and distribution of regular bulletins to the newspapers of the country on public health matters. A selected mailing list has been compiled, composed of (a) daily newspapers having a circulation of 3,000 or over—888; (b) daily newspapers having a circulation of under 3,000—1,230; (c) selected weekly newspapers in counties in which no daily is published—1929; (d) religious—127; (e) agricultural—229; (f) educational—73; (g) labor—218; (h) fraternal—87; (i) miscellaneous—37; total—4,818. Since the first of January regular weekly bulletins have been sent out, comprising originally the first list compiled, viz., that of dailies of over 3,000 circulation and later of both the lists of dailies as well as occasional bulletins to selected class publications. Previous to the first of January a number of bulletins were sent out, as experiments, on the following topics: "Typhoid Fever in Milwaukee," "Vital Statistics a Business Asset," "Fourth of July Injuries" (an abstract of the eighth annual summary of Fourth of July injuries reported in The Journal for Sept. 3, 1910, as well as a reprint of the entire article, the latter bulletin being given wide circulation). An idea of the scope of the work since the first of January can be gained from the following titles of bulletins sent out:

January 6—Typhoid Fever in Des Moines.

January 13—Consumption-Cure Fakes.

February 3—Prevention of Fourth of July Tetanus; Nature's Creation, a Consumption-Cure Fraud.

February 10—Need of Caution in the Use of Salvarsan; Advertising Salvarsan to the Public; The Truth About "606."

February 25—Weak Medical Schools as Nurseries of Medical Genius.

March 24—Occupational Diseases; Professor Vincent and Higher Educational Standards; Vaccination and Small-Pox in Japan; Announcement of the Prize Cartoon Contest.

April 1—Compressed-Air Illness and Its Prevention; Sex Instruction in the Schools; Hygiene in the Army on the Border; Proportion of Physicians to Population in the United States.

April 8—White Phosphorus; State Responsibility in Medical Education; Vaccination in the Philippines; Governor Osborn for Honest Advertising; Ministers Demand More Rigid Laws; A German View of American Medical Schools.

April 15—Individual Liberty and the Public Welfare: Sociology in Medicine; Factors in Railway Accidents; Commercial Untruthfulness; Animal Experimentation by Clergyman Scientist; Uniformity in Death Certificates; The Reformed Almanac as a Health Evangelist.

April 21—Some Problems of School Inspection; Money for Medical Education; A New Owen Bill; Applied Ethics in Journalism; Founded on Falsehood. (A comment on a case before the United States Supreme Court involving the National Food and Drugs Act.)

April 28—Lead Poisoning in Illinois (an article based on the work of the Illinois Commission on Occupational Diseases. This bulletin was sent to all the labor journals of the country).

April 28—Public Health Personnel Bills; Self-Supporting Cripples; Universities as Object Lessons in Hygiene.

May 12—President Taft's Message to Physicians; Life-Saving Abroad and Life-Wasting at Home; Public Hygiene and Private Practice; The President Versus *Life;* Human Fallibility; Child Welfare Exhibits; Saccharin, an Adulterant.

May 12—Man Suffering from Glanders Recovers; The Rockefeller Commission for the Eradication of Hookworm Disease.

May 19—The Wisconsin Pure Food Law Not Emasculated; The Use of Orange-Red Underclothing in the Tropics; The Problem of Pure Milk; Making Room for City Parks; Free Dispensaries for Hookworm Disease.

May 19—Benzoate of Soda Forbidden in Prussia; Magic Foot Drafts, a Fake; Tucker's Asthma Specific a Dangerous Cocain Mixture.

May 26—State Medical Examining Board Examinations in 1910 (a summary of the Annual State Board Number of The Journal, containing the statistics compiled by the Council on Medical Education and a classified list of colleges arranged according to percentage of failures); The Opium Problem, Oriental and Occidental; The Plague; To Save the Babies; Progressive Medical Legislation; Nostrum Promoting as Short-Story Material; Mud Therapy; The Educational Function of Hospitals; A Good Doctor.

The most gratifying feature of the Press Bulletin service has been the readiness with which newspaper editors have utilized the material sent them. There has been a marked increase in the number of newspapers using such matter, even in the five months that the Press Bureau has been in operation. Appreciative and encouraging letters received from many editors indicate that the time is ripe for such a movement.

The question of preparing short articles on public and personal health matters, for distribution to newspapers, is also under consideration. There are a number of practical difficulties to overcome, but it is hoped that plans can be devised during the coming year by which the press of the country can be supplied with sound, up-to-date scientific matter on hygiene, prepared for popular understanding.

COOPERATION WITH STATE BOARDS OF HEALTH

It seemed obvious to the Council that in inaugurating plans for public education it should carefully avoid encroaching on fields already occupied by existing health agencies, either state, municipal or philanthropic, and that its work should rather consist of developing new fields and cooperating with and coordinating existing health agencies. One of the most common and effective methods of public education is the distribution of pamphlets containing matter adapted for popular comprehension regarding disease and its prevention. In order to ascertain exactly what was being done in this direction by state boards of health a circular letter and a blank form was sent to each state board secretary on April 26, asking for information regarding the number of pamphlets published by the board and the number of each distributed to the public. Replies received from all except Florida, Georgia and South Dakota show that thirty-four state boards are distributing material in some form to the public and that many boards are sending out large quantities of pamphlets on many subjects. A summary of the reports received follows:

Public Education Pamphlets Issued by State Boards, Arranged by States

Alabama.—No pamphlets issued at present.

Arizona.—No pamphlets issued.

Arkansas.—Board just reorganized; no pamphlets issued.

California.—Tuberculosis, meningitis, care of infants, small-pox, vaccination, malaria, diphtheria, pure food, flies, hookworm, scarlet fever, measles, sex hygiene, poliomyelitis, ophthalmia neonatorum, common drinking cup, adenoids, school hygiene, whooping-cough, pneumonia, cancer, bubonic plague, municipal problems, sewage disposal, tropical diseases.

Colorado.—No pamphlets issued.

Connecticut.—Circulars and bulletins issued, subject not specified.

Delaware.—No pamphlets issued.

District of Columbia.—Tuberculosis, flies.

Florida.—No report.

Georgia.—No report.

Idaho.—Tuberculosis, flies, measles, poliomyelitis, whooping-cough, typhoid, sanitary privies.

Illinois.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, flies, scarlet fever, measles, poliomyelitis.

Indiana.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, pure food, flies, scarlet fever, measles, sex hygiene, poliomyelitis, ophthalmia neonatorum, common drinking cup, adenoids, school hygiene, whooping-cough, pneumonia.

Iowa.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, pure food, flies, scarlet fever, poliomyelitis, common drinking cup, pneumonia, typhoid, pollution of streams, pure milk, tuberculosis among dairy herds, sanitary bakeries, cats as carriers of disease, two-wheeled push carts.

Kansas.—Tuberculosis, care of infants, vaccination, diphtheria, pure food, flies, scarlet fever, measles, poliomyelitis, ophthalmia neonatorum, common drinking cup, whooping-cough, typhoid, pure drugs, water and sewage.

Kentucky.—Tuberculosis, small-pox, diphtheria, scarlet fever, ophthalmia neonatorum, typhoid.

Louisiana.—Tuberculosis, care of infants, vaccination, pure food, flies, hookworm, common drinking cup, adenoids, school hygiene, care of teeth, sanitary privies, sanitation of buildings (6) disinfectants, dairies, habit-forming drugs, health hints, condensed milk.

Maine.—Pamphlets, subjects not specified.

Maryland.—Tuberculosis, care of infants, vaccination, malaria, diphtheria, pure food, flies, scarlet fever, measles, sex hygiene, poliomyelitis, ophthalmia neonatorum, whooping-cough, pneumonia, typhoid.

Massachusetts.—Tuberculosis, poliomyelitis, ophthalmia neonatorum, common drinking cup.

Michigan.—Tuberculosis, meningitis, care of infants, small-pox, vaccination, diphtheria, pure food, scarlet fever, measles, common drinking cup, adenoids, school hygiene, whooping-cough, pneumonia, cancer, typhoid, resort sanitation, rabies, spitting, tetanus, treatment of the drowned.

Minnesota.—Tuberculosis, small-pox, vaccination, diphtheria, flies, hookworm, scarlet fever, measles, municipal lodging houses.

Missouri.—No pamphlets issued.

Montana.—Tuberculosis, small-pox, vaccination, diphtheria, flies, scarlet fever.

Nebraska.—No pamphlets issued.

Nevada.—No state board of health.

New Hampshire.—Tuberculosis, diphtheria, flies, scarlet fever.

New Jersey.—Tuberculosis, small-pox, vaccination, malaria, diphtheria, pure food, flies, measles, ophthalmia neonatorum, contagious diseases of animals, transporation of the dead, anthrax.

New Mexico.—No pamphlets issued.

New York.—Tuberculosis, meningitis, small-pox, vaccination, diphtheria, flies, scarlet fever, measles, poliomyelitis, common drinking cup, school hygiene, whooping-cough, cancer, typhoid.

North Carolina.—Tuberculosis, malaria, flies, hookworm, typhoid, sanitary privies, septic tanks, sanitary care of water-sheds.

North Dakota.—Tuberculosis, care of infants, flies, poliomyelitis, typhoid, slaughter-houses, ventilation, hygiene of the eye and ear, spitting, pure ice.

Ohio.—Tuberculosis, care of infants, small-pox, vaccination, diphtheria, scarlet fever, ophthalmia neonatorum.

Oklahoma.—Tuberculosis, care of infants, small-pox, vaccination, pure food, flies, measles, poliomyelitis, ophthalmia neonatorum, common drinking cup, whooping-cough, pneumonia, typhoid.

Oregon.—Tuberculosis, small-pox, vaccination, pure milk, rabies, slaughter-houses, meat inspection.

Pennsylvania.—Tuberculosis, care of infants, small-pox, vaccination, flies, poliomyelitis, school hygiene, bubonic plague, rabies, cancer, board of health work, water-supply, general health pamphlets.

Rhode Island.—Subjects of pamphlets not specified.

South Carolina.—Tuberculosis, vaccination, measles, diphtheria, flies, hookworm, scarlet fever, measles, poliomyelitis, common drinking cup, whooping-cough, typhoid, school inspection, pellagra, clean-up day.

South Dakota.—No pamphlets issued.

Tennessee.—Tuberculosis, small-pox, vaccination, malaria, pure food, flies, hookworm, scarlet fever, measles, poliomyelitis, ophthalmia neonatorum, common drinking cup, adenoids, school hygiene.

Texas.—Small-pox, diphtheria, scarlet fever.

Utah.—Tuberculosis, meningitis, care of infants, vaccination, diphtheria, pure food, scarlet fever, poliomyelitis, common drinking cup, school hygiene, whooping-cough, pneumonia, typhoid.

Vermont.—Tuberculosis, diphtheria, pure food, scarlet fever, measles, ophthalmia neonatorum, common drinking cup, whooping-cough.

Virginia.—Tuberculosis, care of infants, vaccination, diphtheria, flies, hookworm, scarlet fever, measles, school hygiene, whooping-cough, cancer, typhoid, pure water, sanitary privies, summer troubles.

Washington.—Tuberculosis, small-pox, flies, poliomyelitis, typhoid.

West Virginia.—Tuberculosis, small-pox, diphtheria, pure food, scarlet fever, measles.

Wisconsin.—Tuberculosis, care of infants, small-pox, diphtheria, flies, scarlet fever, poliomyelitis, ophthalmia neonatorum, common drinking cup.

Wyoming.—Tuberculosis, meningitis, small-pox, diphtheria, pure food, scarlet fever, measles, typhoid.

Public Health Pamphlets Issued by State Boards, Arranged by Subject

Tuberculosis.—California, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Jersey, New York, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, Wyoming.
Total number of states, 33.
Estimated number of pamphlets issued in 1910, 600,000.

Meningitis.—California, Michigan, New York, Utah, Wyoming.
Total number of states, 5.
Estimated number of pamphlets issued in 1910, 5,000.

Care of Infants.—California, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, North Dakota, Ohio, Oklahoma, Pennsylvania, Utah, Virginia, Wisconsin.
Total number of states, 16.
Estimated number of pamphlets issued in 1910, 100,000.

Small-Pox.—California, Illinois, Indiana, Iowa, Kentucky, Michigan, Minnesota, Montana, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, Tennessee, Washington, West Virginia, Wisconsin, Wyoming.
Total number of states, 19.
Estimated number of pamphlets issued in 1910, 70,000.

Vaccination.—California, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Minnesota, Mississippi, Montana, New Jersey, New York, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Vermont.
Total number of states, 21.
Estimated number of pamphlets issued in 1910, 110,000.

Malaria.—California, Maryland, Mississippi, New Jersey, North Carolina, South Carolina.
Total number of states, 6.
Estimated number of pamphlets issued in 1910, 39,000.

Diphtheria.—California, Illinois, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Jersey, New York, Ohio, South Carolina, Tennessee, Utah, Vermont, Virginia, West Virginia, Wisconsin, Wyoming.
Total number of states, 23.
Estimated number of pamphlets issued in 1910, 190,000.

Pure Food.—California, Indiana, Iowa, Kansas, Louisiana, Maryland, New Hampshire, New Jersey, Oklahoma, Tennessee, Vermont, West Virginia, Wyoming.
Total number of states, 13.
Estimated number of pamphlets issued in 1910, 135,000.

Flies.—California, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Mississippi, Montana, New York, North Carolina, North Dakota, Oregon, Oklahoma, Pennsylvania, South Carolina, Tennessee, Utah, Virginia, Washington, Wisconsin.
Total number of states, 24.
Estimated number of pamphlets issued in 1910, 260,000.

Hookworm.—California, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia.
Total number of states, 7.
Estimated number of pamphlets issued in 1910, 160,000.

Scarlet Fever.—California, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Mississippi, Montana, New Hampshire, New Jersey, New York, Ohio, Oregon, South Carolina, Tennessee, Vermont, Virginia, West Virginia, Wisconsin, Wyoming.
Total number of states, 23.
Estimated number of pamphlets issued in 1910, 180,000.

Measles.—California, Idaho, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Mississippi, New Jersey, New York, Oklahoma, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, Wyoming.
Total number of states, 19.
Estimated number of pamphlets issued in 1910, 120,000.

Sex Hygiene.—California, Indiana, Maryland.
Total number of states, 3.
Estimated number of pamphlets issued in 1910, 9,000.

Poliomyelitis.—California, Idaho, Illinois, Indiana, Iowa, Kansas, Maryland, Massachusetts, Minnesota, New York, North Dakota, Oregon, Oklahoma, Pennsylvania, South Carolina, Tennessee, Utah, Washington, Wisconsin.
Total number of states, 19.
Estimated number of pamphlets issued in 1910, 100,000.

Ophthalmia Neonatorum.—California, Indiana, Kansas, Kentucky, Maryland, Massachusetts, New Jersey, New York, Ohio, Oklahoma, Oregon, Tennessee, Vermont, Wisconsin.
Total number of states, 14.
Estimated number of pamphlets issued in 1910, 45,000.

Common Drinking Cup.—California, Indiana, Iowa, Kansas, Louisiana, Massachusetts, Michigan, Minnesota, Oklahoma, Oregon, South Carolina, Tennessee, Utah, Vermont, Wisconsin.
Total number of states, 15.
Estimated number of pamphlets issued in 1910, 160,000.

Adenoids.—California, Indiana, Louisiana, Michigan, Tennessee.
Total number of states, 5.
Estimated number of pamphlets issued in 1910, 15,000.

School Hygiene.—California, Indiana, Louisiana, Michigan, Minnesota, New York, Oregon, Pennsylvania, Tennessee, Utah, Virginia.
Total number of states, 11.
Estimated number of pamphlets issued in 1910, 150,000.

Whooping-Cough.—California, Idaho, Indiana, Kansas, Maryland, Michigan, New York, Oklahoma, South Carolina, Utah, Vermont, Virginia.
Total number of states, 12.
Estimated number of pamphlets issued in 1910, 100,000.

Pneumonia.—California, Indiana, Iowa, Maryland, Michigan, Oklahoma, Utah.
Total number of states, 7.
Estimated number of pamphlets issued in 1910, 30,000.

Cancer.—California, Michigan, New York, Pennsylvania, Virginia.
Total number of states, 5.
Estimated number of pamphlets issued in 1910, 18,000.

Typhoid.—Idaho, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, New York, North Carolina, North Dakota, Oregon, Oklahoma, Pennsylvania, South Carolina, Utah, Virginia, West Virginia, Wyoming.
Total number of states, 18.
Estimated number of pamphlets issued in 1910, 220,000.

Bubonic Plague.—California, Pennsylvania.
Total number of states, 2.
Estimated number of pamphlets issued in 1910, not known.

In addition to the list of subjects submitted, the following pamphlets are also issued by one or more boards:

Municipal Problems, Sewage Disposal, Tropical Diseases, Sanitary Privies, Pollution of Streams, Pure Milk and Dairies, Tuberculosis Among Dairy Herds, Sanitary Bakeries, Cats as Carriers of Disease. Two-Wheeled Push-Carts, Pure Drugs, Care of the Teeth, Sanitation of Buildings, Disinfectants, Habit-Forming Drugs, Condensed Milk, Resort Sanitation, Rabies, Spitting, Tetanus, Treatment of the Drowned, Lodging-Houses, Contagious Diseases, Diseases of Animals, Transportation of the Dead, Anthrax, Septic Tanks, Sanitary Care of Water-Sheds, Slaughter-Houses, Ventilation, Hygiene of the Eye and Ear, Pure Ice, School Inspection, Pellagra, Summer Troubles.

Summary

Total number of states issuing pamphlets for public...	36
Total number of subjects....	38
Total number of pamphlets distributed in 1910 (estimated) .	2,800,000

As a means of cooperating with the existing state and municipal health organizations, the Council has under consideration the preparation of a standard series of public health pamphlets by recognized authorities, such pamphlets to be printed in the Association office and supplied to state and municipal boards of health, philanthropic organizations and others at cost. The preparation and standardization of these pamphlets by the Association, and their publication in large quantities, will enable us to furnish them at a lower figure than they could possibly be obtained from any other source, thus enabling health officers and boards to secure a larger amount of material for the same amount of money than could otherwise be obtained. The Council plans to have prepared during the coming year a series of at least twenty pamphlets on public health similar to the excellent series prepared and issued by the Bureau on Protection of Medical Research.

LEGISLATION REGARDING CORONERS

At the St. Louis session a resolution regarding the office and duties of coroners was referred by the House of Delegates to the Council, with instructions to inquire into the medical and legal aspects of the question and as to the advisability of legislation separating the medical from the judicial functions of the coroner's office. The secretary has communicated with the secretaries of the various state boards of health and has secured a considerable amount of data on this question but the Council is not yet prepared to submit a report and requests further time for consideration.

B. REPORTS OF SUBORDINATE COMMITTEES

In addition to the work enumerated above, the Council presents herewith the reports of the chairmen of the committees which by act of the House of Delegates or by order of the Board of Trustees have been placed under the Council. On account of their importance these reports are submitted verbatim and the Council bespeaks for them the careful consideration of the House of Delegates. The report of the Committee on Uniform Regulation of Membership is of special importance at this time. The report of the Woman's Public Health Education Committee shows the work done through this valuable agency for public education. The report of the Committee on Visual Standards of Pilots is one of progress. The reports of the Committee on Prevention of Blindness and of its subcommittees show the enormous development of this work in the past four years under the able leadership of Dr. Lewis. The Council asks that these various reports be referred to the appropriate reference committees and that such criticisms and suggestions be made as will enable the work in all of its departments to be greatly advanced during the coming year.

In concluding this report of its organization and of its first year's work, the Council desires to put on record an avowal of its clear realization of the importance, both to the profession and to the people, of the work assigned to it and to the possibilities of such work for good. And realizing the enormous opportunities for service that the Association has placed within its grasp, the Council necessarily realizes fully its responsibility to the Association for the proper discharge of the trust that the Association has placed on it. By carefully planned and continuous effort, the Council hopes to direct and educate public opinion in favor of such wise, fair and effective measures as may be needed to improve the physical welfare of the people and to improve the status of the medical profession.

Respectfully submitted,

Henry B. Favill, Chairman.
Joseph N. McCormack.
Henry M. Bracken.
William C. Woodward.
Walter B. Cannon.
Frederick R. Green, Secretary.

REPORTS OF SUBCOMMITTEES COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Report of the Public Health Education Committee

To the Council on Health and Public Instruction:

The report of this, our second year of committee work, should be read as a continuation of last year's report, for what has been done this year is an outgrowth and natural sequence of that previously accomplished.

The various county medical societies, which last year appointed committees to work with the local divisions of the Public Health Education Committee, have continued and enlarged their work this year, and the number of county medical societies to form such committees has greatly increased.

Public health education, as represented by the state divisions of our committee, has also been made part of the regular work of Pennsylvania, and a number of other state societies.

This step is of great importance to the American Medical Association, because the continuation of the work is thereby assured, and as it grows in every community it will be recognized as a national medical philanthropy, and will put the American Medical Association in the position of making its organization of the greatest service to humanity, by putting before the people gratuitously the knowledge which insures health, and thereby increases not only their personal happiness, but raises the standard of their efficiency in the community.

The criticism is constantly made, not only by the laity, but even by members of our profession, that physicians do less than any other class of people in the present world-wide social evolution for higher standards of living.

Colleges, churches, settlements, prison reform associations, the Consumers' League, the Young Men's and the Young Women's Christian Associations, the antituberculosis societies, the Child Hygiene organization and all the other movements of the last thirty years are credited to public-spirited members of the laity, whereas as a matter of fact physicians are among the most active and effective workers in all these and many other constructive lines of activity. Among the public-spirited professors, who is more active than Dr. Richard Cabot of Boston and Dr. Elizabeth B. Thelberg of Vassar? No one contributes more generously to settlement work than Dr. Ira Wile and Dr. Antonio Stella of New York City and Dr. Amelia Dranga of Pittsburg. No one was more active in restoring San Francisco to a healthy condition after the earthquake and plague than Dr. Adelaide E. Brown.

In prison reform no one works with broader vision nor greater earnestness than Dr. Annie S. Daniel and Dr. Jane E. Berry of New York City. Back of all the health work of the Consumers' League stands Dr. Mary Bissell; and the directing mind of all the health protection that benefits young girls through the Young Women's Christian Association, is that of Dr. Anna L. Brown.

In school hygiene no one has done more than Dr. Luther Gulick of New York City, and no one has worked more effectively for child hygiene than Dr. Caroline Hedger of Chicago and Dr. Sarah T. Mayo of New Orleans. The most difficult and far-reaching sociologic movement for health that has ever been put forward has had for its leader Dr. Prince A. Morrow. No one has done so much for the prevention of blindness as Dr. F. Park Lewis.

The antituberculosis work is led by Dr. Farrand and the money for the first county hospital for tuberculosis in New York State was raised by Dr. Mary Gage-Day. For every physician we have mentioned we could name hundreds who are doing equally good work in practically every state. The able health work done through federated clubs is planned and directed by women physicians, as Dr. Elizabeth Kane in Tennessee, Dr. Ellen L. Stevens in Florida, Dr. Jennie McGowan in Iowa, Dr. Viola Coe in Oregon and Dr. Frederika Phillips in Seattle, Washington; but all of these are regarded by the public as individual and more or less isolated instances. Therefore, it seems to us of the utmost importance, from a national standpoint, to have a committee which registers the work done gratuitously for social and physical health in the United States by physicians.

The report of our committee shows only a small part of the educational work done by men and women physicians throughout the country; for a great many public-spirited members of our profession had been carrying on such work for years before our committee began its organized activity, and a great deal is now being done independent of our committee, but the report shows physicians bringing together the fruits of their experience and putting it into systematic form, extending and developing the work through comradeship of effort, and placing on record in concise form the experience and needs of one community which may contain helpful suggestions for the work in another community.

Last year our committee reported 2,250 lectures given to 102.575 people, this year over 2,800 lectures have been given to more than 230,623 people, and beside the educational work in lectures valuable work has been done along other lines for the prevention of disease, as you will find by reference to the individual reports, submitted herewith. For instance Dr. Frances Bradley, state secretary for Georgia, reports:

We have secured from Governor Brown the appointment of an Annual Health Day, the fourth Friday in March, to be observed throughout the state by all schools, women's organizations and other orders, by means of lectures, stereopticon slides, charts, etc., in some cases by exhibits on hookworm, tuberculosis, value and care of milk and kindred subjects.

Through the state federation we have secured the appointment of two "cleaning-up days," one each in April and October.

We have secured from various railroads the promise to install sanitary drinking cups in every train running through Georgia.

We have secured equipment for two open-air schools, to begin in September.

We have added materially to the number and efficiency of our play-grounds.

We have at last broken into our sacred public-school system with popular lectures by physicians of the state on matters of hygiene and sanitation.

We have been instrumental in securing medical inspection of schools, in one or two places, by cooperating with the Rockefeller Commission for Hookworm Investigation in this state.

Through the cooperation of the Fulton County Medical Society we have had a course of open meetings, four in number, under the auspices of that body and the State Federation of Women's Clubs, in which the general public participated.

For the coming year we propose to increase the present work and, in addition, to establish for rural districts traveling libraries on hygiene and sanitation.

We plan to secure an appropriation from the legislature for the extension of education for farmers' wives, especially along the lines of hygiene and sanitation.

We shall have attractive rest rooms and sanitary wagon yards in every town in the state for farmers and their families.

Extension of civic work and public health education among the colored race will also receive careful attention another year.

The following extracts from letters received during the year from Dr. Bradley are typical of those from other state secretaries:

December 5: We had our first meeting Saturday evening between the Fulton County Medical Society and the State Federation of Women's Clubs. It was the success of the season. The assembly room of the Carnegie Library, where our county medical society meetings are held, could not hold the crowd, so we will have to have a larger place for the next lecture, which will take place early in January. This week a lecture with lantern-slides of local conditions will be given in Whittier Mills, where they have 1,200 operatives, as we wish to carry the work to those who need it most.

A series of open meetings is being given under the auspices of the Fulton County Medical Society and the Georgia Federation of Women's Clubs.

January 25: The little towns of Georgia are clamoring for help! The work in Atlanta is doing famously! There is a tremendous opportunity for raising the health standard. We are doing extensive work in the cotton factories, where the work is greatly needed.

February 4: Our second meeting totally eclipsed the first. There was not even standing room! Must rent bigger quarters! I am going to half a dozen adjacent towns this month, to schools, clubs, etc.

A letter from Dr. Hainer of Sioux Falls, S. D., reported that in Sioux Falls the medical society was very willing to cooperate with our committee, and that Dr. H. M. Freiburg of Watertown and Dr. J. G. Parsons of Sioux Falls were very actively interested in helping with the work.

In North Carolina, in order to get a valuable series of articles on the prevention of disease, prizes were given for the best essays written on public health subjects.

In Kalamazoo in the summer months the work of the Public Health Education Committee was kept before the minds of the people by brief articles in the daily press on health topics, appropriate to the season.

In Iowa last year Dr. Kinner, our county chairman for Dubuque, started, as a piece of committee work, the playground movement which has resulted in one of the finest and most perfect playground systems in America.

In Hawaii a "Conservation Day" has been arranged for, a certain day being set aside in various colleges, schools, settlements and church societies for the consideration of the conservation of health.

In Ohio the moving picture show is being advocated as a means of teaching the people in regard to "Insects and Disease," "Tuberculosis," etc.

The Ohio division of our Medical Literature Subcommittee is carefully selecting a few books to recommend, to form what they term a citizens' shelf.

In New York leaflets in Polish, Italian, Yiddish and German, on "Prevention of Tuberculosis," have been distributed, by our county chairman, to the residents of the city speaking these languages, and we have been active in promoting the use of bubble fountains and of individual drinking cups and individual paper towels in schools, also in promoting a more hygienic condition of public conveyances—having secured in New York City a more adequate ventilation of the crosstown street car lines, and made education so popular, that one woman asked for a book on tuberculosis to take home to read to her husband in the evenings.

In Washington State, as the result of a talk given by our state secretary—telling the plans and scope of our work—the Century Club set apart a day—called "Doctor's Day" and invited other clubs and the public to a most successful meeting.

They have determined to make this "Doctor's Day" an annual event.

The committee work is conducted by the members of the Central American Medical Association Committee who appoint state secretaries; these further subdivide the work by appointing county chairmen. In five large cities we have especial city secretaries.

There are at present 9 members of the central committee, 45 state secretaries and 238 county chairmen, besides assistant secretaries, and members of subcommittees. All are members of the American Medical Association and serve entirely gratuitously; there are over 300 officers in our committee, and with each of these, at a conservative estimate, six other physicians are associated, making in all a total of no less than 1,800 members of the American Medical Association who during the last two years have, as a definite and organized piece of work, carried forward this American Medical Association campaign of health education. It is following this year the same lines as last in Arizona, Arkansas, California, Colorado, Connecticut, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Nebraska, New Jersey, New Hampshire, New Mexico, New York, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, Wisconsin and Wyoming; also in Alaska, District of Columbia, Hawaii and Panama. Work was begun under the committee this year in Alabama, Nevada, North Carolina, Vermont, and West Virginia.

The plan of work used in all states includes the use of a leaflet, the name of the committee officer distributing it being written in the blank space.

The gratifying development of our committee work is in large part due to the progressive and at the same time conservative manner in which it has been carried forward. In Panama, for instance, at the beginning of the work last year Dr. William C. Gorgas, who was then President of the American Medical Association, presided at the first meeting, held under the auspices of our committee, and expressed his entire approval and hearty endorsement of the campaign to be conducted by members of the American Medical Association for the lessening of disease through education.

The physicians who have been asked to represent the committee in each locality have been selected on recommendation of their county medical societies or state health officers.

The general recognition, on the part of the public, of the importance of systematic teaching on the prevention of disease is shown by the impetus our committee has definitely given to health education; for instance, in Ohio and many other states. Last year in New York City, ours was the only course of lectures; this winter there have been six courses, arranged by scientific and social groups, many of the topics and speakers being the same as in our course last winter, as you will see by reading the separate report for the County of New York, herewith submitted.

Mrs. M. W. Barry of North Texas College and secretary of the Education Department of the National Federation of Women's Clubs, wrote asking our cooperation regarding educational work in the federation, also requesting a bibliography on sex hygiene suitable to be placed in the hands of mothers and teachers, and a list of our committee officers. Later she wrote that she had sent to each chairman on the Federation Education Committee the names and addresses of the state secretaries of the American Medical Association Public Health Education Committee.

The helpful results of our two years of committee work have been widely distributed, as the following examples will show:

Dr. F. Park Lewis, chairman of the American Medical Association committee on Prevention of Blindness, Miss Louisa Lee Schuyler and Miss Caroline C. Van Blarcom, the executive secretary of the National Committee for the Prevention of Blindness under the Russell Sage Foundation, conferred with the chairman of the American Medical Association Public Health Education Committee regarding an extension of their work, and were advised to provide many duplicates of the one set of lantern slides they then had for illustrations, and also to have a leaflet made to accompany these, giving the most important statistics and data bearing on their work. An official circular letter was written putting them in touch with the state secretary and county chairmen of our committee in all states and the officers of our committee were urged to lay stress on this subject in the educational campaign they were conducting. This was done in the most cordial spirit, and individual instances will be found in the reports of our New York and Tennessee state secretaries.

The secretary of the Health Department of the National Y. W. C. A. writes that the interest of their members in health education is rapidly increasing through our active cooperation. We also put her in touch with all our state secretaries and county chairmen, for we are very glad to help her arouse in the 193,000 women in their national Y. W. C. A. a conscience regarding the duty of being well.

A glance through the detailed reports submitted herewith will show the service we have rendered to the cause of social hygiene and the activity of our committee on general health education in mothers' clubs and federated women's clubs throughout the country. In New York the president of the New York City Mothers' Club said that the only reason they had no individual lectures on health was that the lectures under our committee at the New York Academy of Medicine were so practical that they all went there to hear them each week.

One of the best pieces of work begun by our committee last year under Dr. S. Josephine Baker and continued this year by Dr. Belle J. McDonald, the New York Secretary of our Subcommittee on Affiliated Public Health Work, was a number of letters written to the boards of health in each state and the tabulation of their answers submitted as the report of that subcommittee. This is of especial value as we wish to have our committee members in each state work in close touch with the boards of health, avoiding duplication of effort, and educating the public to the importance of cooperation in health matters.

Our Subcommittee on Medical Literature has compiled a bibliography, herewith submitted, of books and papers which will be found useful as a reference list by those who wish information on the prevention of diseases; the list is a compilation of data sent from forty states by members of this subcommittee. It is of course not an exhaustive list, but its usefulness is increased by being concise.

There is so much demand for a list of reliable sources of information that the hygiene committee of the New York City Federation of Women's Clubs asked permission to reprint, for local distribution, the one compiled by our committee, and have done so at their own expense.

A number of libraries, among them the Library of Pratt Institute, Brooklyn, has offered to make a special point of having for circulation the books recommended by our committee.

We have received very great assistance from many libraries in the free use of their halls for lectures, and the Library Committee of the New York Academy of Medicine took the trouble to put on a table in the room adjoining the lecture hall, all the standard books bearing on the topic of the day, so that teachers and others who were present could see the type of books and make a list of such as they wished later to come to the library and read.

We do not have any literature for distribution because such organizations as the Tuberculosis League, the Pure Food Committee of the Consumers' League, the Special Committee for the Prevention of Blindness, etc., have very practical leaflets for which they are anxious to increase their avenues of distribution; we have therefore thought it best to recommend to each of our county chairmen that she cooperate with those working for the betterment of health locally, by carefully selecting such leaflets as are of educational value and free from all advertisement, allowing these to be used in connection with our committee work, whenever the organizations printing the same wished this done.

We are gradually collecting a set of reprints of separate lectures given in the various series in each state, with a view to eventually selecting from these a number which will be valuable to have reprinted in large numbers for general distribution, without giving the names of the authors.

The subcommittee on cooperation, of which Dr. Phoebe M. Van Voast is New York City Secretary, has rendered valuable service in writing to the secretaries of all associations and organizations doing work along lines similar to ours and keeping in touch not only with their routine methods, but answering requests to have our committee officially represented at their congresses and conventions, this being done at state meetings of the boards of health, at conferences of charities and corrections, at the meeting of the American School Hygiene Association and the meeting of the National Education Association, etc., a member of the committee living in the state where the conference is held acting as delegate.

The National Education Association which meets in San Francisco in July, 1911, has asked to have printed for distribution to their members at that time, a list of our committee officers and the topics recommended in our plan of work leaflets, in order that their association and ours may act together throughout the country.

The Committee on Cooperation has answered the many requests which have come to us for copies of our annual report and reqests for information regarding opportunities for local and national cooperation, as for instance a recent letter from the Canadian Household Economic Association of Toronto, which is working with the Conservation Commission of Canada and the National Council of Women; also a request for data from Appleton & Co., the editors of the American Year-Book, and others who compile compendiums of what is being done throughout the United States along various constructive lines.

In submitting this report we regret that we cannot give a full statement of all the work which has been done by those who have so generously given of their time and knowledge, for it has meant a great deal of public spirit on the part of physicians whose lives are filled with the exacting demands of laboratories, and private and hospital practice.

Respectfully submitted,
ROSALIE SLAUGHTER MORTON, Chairman.
M. ALICE ASSERSON, Secretary.

REPORT OF THE COMMITTEE ON UNIFORM REGULATION OF MEMBERSHIP

To the Council on Health and Public Instruction:

This committee was appointed in accordance with the recommendation of the Secretary made in his report for 1908 at the Chicago session. In this report, the secretary emphasized the difficulty in enforcing the By-Laws of the Association regarding membership, transfers, etc., owing to the conflict existing in the By-Laws of the different state associations. The secretary also emphasized the necessity of uniformity in the essential provisions regarding membership and the great saving in money and time and the increase in administrative efficiency which would follow an adjustment of existing discrepancies. In accordance with the recommendation of the secretary, a committee of three was appointed with instructions to report at the next annual session. At the Atlantic City session in 1909, this committee presented an extended report, tabulating the conditions which exist in the various state associations and showing the importance of systematizing our present haphazard and confused methods of regulating membership. The committee recommended that it be continued for another year. On the day following the presentation of this report, the House of Delegates referred to this committee a resolution presented at the Chicago session by Dr. W. H. Sanders and referred to the Committee on Organization. This resolution referred to the revision of the Constitution and By-Laws of the American Medical Association. As the Committee on Organization had not done any work on this subject during the year it recommended that the resolution be referred to the Committee on Uniform Regulation of Membership, which recommendation was concurred in by the House.

At the St. Louis session in 1910, this committee presented a report consisting of three parts. The first consisted of recommendations for changes in the Constitution and By-Laws of the American Medical Association; the second consisted of recommendations regarding amendments to the Constitution and By-Laws of county and state societies governing disciplining of members; the third contained the recommendations regarding the uniform regulation of membership, the original purpose for which the committee was constituted. In this report, the committee renewed its recommendation of the previous year (1) that all state associations be requested to make their fiscal year conform to the calendar year and that component county societies be requested to adopt the same rule; (2) that all county and state societies be requested to adopt by-laws providing that membership shall continue only for the year for which dues are paid; (3) that the roll for each county and state society be made up each year to include as members in good standing only those who have paid their dues for the current year on or before a certain date; (4) that dues be pro-rated for fractions of a year and (5) that the committee be continued and instructed to prepare a complete system of books, blanks and regulations for the use of county and state societies and the American Medical Association for submission to the House of Delegates. This report was referred to the Reference Committee on Amendments to the Constitution and By-Laws. This committee, on the second day, submitted a report embodying modified amendments to the Constitution and By-Laws and making certain recommendations regarding the remainder of the report on Uniform Regulation of Membership. The House postponed consideration of the amendments to the By-Laws until the next day, at which time they were discussed, modified and adopted, but the remainder of the report, including the recommendations referred to the committee was not acted on; instead a supplementary report of the reference committee was adopted simply recommending that the committee be continued.

The committee begs again to call the attention of the House of Delegates to the vital and urgent importance of the adoption of a systematic plan for the regulation of membership. In the report of the Committee on Organization, made at the St. Paul session in 1901, the advantages of uniform membership provisions and for a plan by which members moving from one state to another could transfer their membership from one society to another without a break in membership, was emphasized, in fact this is one of the most important subjects discussed by the committee. Furthermore, in the uniform card system made up by the Committee on Organization in 1902, a recommendation for adoption of permanent record cards and transfer cards was provided. It is perfectly obvious that no adequate system of membership can possibly be devised unless county and state societies observe uniformity regarding the general principles of membership regulation. If each society follows its own fancies regarding the beginning and termination of the fiscal year, the length of residence necessary for eligibility, etc., no transfer system is possible. Furthermore, if a county society has the right to disregard a transfer card issued by another county society to a member in good standing and to refuse a member bearing such a transfer card membership in the society of the county to which he goes, then it is equally clear that any system of uniform regulation is impossible. It is becoming more and more evident, as your committee has repeatedly urged, that this is one of the most important questions which the organization has to consider. It is to-day causing much unnecessary expense to county, state and national organizations; what is far more important, it has resulted in dissatisfaction and alienation on the part of individual members on account of fancied injustices which are unavoidable under existing conditions and which the executive officers of the different parts of the organization cannot avoid. For instance, if a physician in good standing in one county society removes into the jurisdiction of another county society taking with him a transfer card properly made out, and if the county society into whose jurisdiction he moves, for any reason, denies him membership, he has at present no recourse, while the secretary of the American Medical Association is placed in a position where he must either drop the member's name from the list of members of the American Medical Association, which may work an injustice to the member, or continue to carry him as a non-resident member of the county from which he moved, regardless of the action of the county society in whose jurisdiction he resides. This is an injustice to the county society and is a palpable infringement on the right of the county society to regulate its own membership matters. Yet it is impossible under present conditions to avoid the perpetration of an injury of the rights of someone concerned.

The relative jurisdiction of county, state and national bodies, as well as a clear-cut and definite method of regulating membership, including the transfer of membership from one component part of the organization to another, should be carefully worked out and then put in force in all parts of the organization.

The experience of the committee in the past three years leads us to believe that this work cannot properly be done through correspondence or by attempts to modify the By-Laws or frame recommendations during the rush and excitement of the annual sessions. It is a matter which should be taken up deliberately and given careful consideration. Prominent and representative executive officers in various county societies, as well as of state societies, should be called into consultation and asked to aid by criticisms and suggestions. The report of the committee should be carefully drafted long enough in advance of the annual session to admit of its being sent to a large number of members and officers for criticisms, and when presented to the House of Delegates as the finished product, the results of the deliberations of the committee should not be nullified without the strongest reasons for such action.

In view of the experience of the last three years, your committee has refrained from any further practical recommendations, believing that in spite of the best of intentions, it has not pursued the wisest method in attempting to investigate this question. With a view to getting on the right track, the committee makes the following recommendations:

We recommend that the present committee be continued, or if the House of Delegates sees fit, that a new committee of seven state secretaries be constituted;

That the trustees be requested to appropriate a sufficient amount to enable this committee to hold at least two meetings at the headquarters of the Association in Chicago;

That to this committee be referred the two previous reports of our committee together with their recommendations and that the committee be instructed to take up the entire question of membership in county, state and national organizations with their relationship to each other, including qualifications for admission to membership, fiscal year, membership transfers, method of reporting and recording membership by secretaries of county, state and national bodies, together with the formulation of a complete system of cards, blanks, reports and forms, with a view to unifying the membership of the entire organization on a fair, equitable and systematic basis.

We recommend that this committee be instructed to hold at least two meetings to secure criticisms and opinions from any members or officers of the organization, that may be needed, and, if possible, to present to the House of Delegates at the next annual session a complete plan regarding the regulation of membership throughout the entire organization.

Respectfully submitted.
THOMAS MCDAVITT, Chairman.
W. R. STEINER.
J. H. J. UPHAM.
FREDERICK R. GREEN.

REPORT OF THE DIRECTOR OF POSTGRADUATE STUDY

To the Council on Health and Public Instruction:

I submit herewith a report of the work of the course of postgraduate study for the fourth year. The course as originally planned consisted of a cycle of four years, hence this is the last year of the first cycle. It is expected that the course for the next cycle will follow in a general way that of the first, but as we profit by the experience of this cycle the subject matter for the next four years will require modification and certain changes, if the interest of the societies is to be maintained.

The outlines for this year were printed and ready for distribution by August 1, 1910, and a large number of the societies which had been following the course before were ready for the work by September 1. The outlines distributed for the year were in the form of the Warren County (Ky.) Medical Society programs, most of the societies using them by filling in the names of the teachers for the different topics.

The increase in number of societies and in interest in the work was rather marked for the first three years. During the fourth year the course has not been lacking in interest, for many of the societies familiar with the work have continued it in a systematic way during this year, but the number of new societies has not been so great as heretofore. In our opinion the cause for this failure to get the usual number of new societies to take up the course is that Dr. McCormack has not been able in his work to visit as many societies as has been his custom. We note further that most of the new societies taking up the work during this year have been those visited by Dr. McCormack, showing, as we have suggested heretofore, that one familiar with the plans and details of the course can much more easily and readily arouse an interest and enthusiasm in the local societies.

A number of secretaries have written already to know what is to be done with the work for next year, as they are anxious to continue some systematic course of study, recognizing in this plan one of the best means of maintaining interest in the local county society, the unit in our organization.

Very respectfully,
JOHN H. BLACKBURN, Director.

REPORT OF THE COMMITTEE ON VISUAL STANDARDS FOR PILOTS.

To the Council on Health and Public Instruction:

The committee to confer with the Department of Commerce and Labor with a view to obtaining the adoption of suitable standards for the examination of the eyes of navigators operating under federal law begs leave to report that, after a conference with the secretary of the department, at which the Board of Supervising Inspectors of the Steamboat Inspection Service was present, the Department of Commerce and Labor has adopted the recommendations of your committee with one slight modification, and after July 1 of this year all navigators under the control of that department will be examined by the standards which your committee submitted to them. The text of the resolution adopted by the Board of Supervising Inspectors of the Steamboat Inspection Service at the meeting of January, 1911, is as follows:

> *Resolved*, That it is the sense of the Board of Supervising Inspectors of Steamboats, after a careful consideration of the recommendation of William Campbell Posey, M.D., of Philadelphia, Pa., pages 17, 18 and 19, that it be made the basis of an examination required to determine the fitness of any applicant for license as master, mate or pilot, and that the Board of Supervising Inspectors request the U. S. Marine-Hospital Service to make Dr. Posey's recommendations the standard of this examination, with the exception that the examination be required only on the issue or renewal of license, that is to say, every five years.

The committee is highly gratified at the adoption of the standard, for it insures a requisite degree of vision and color-sense in all navigators under the control of the federal government. As was stated in the address of the chairman of the Section on Ophthalmology at the meeting of the Association last year, the more than 4,000 annual examinations of the eyes of masters, mates and pilots in the mercantile marine have hitherto been made in a more or less haphazard manner, the Department of Commerce and Labor having failed to establish any fixed standard of vision, to govern the officers of the Marine-Hospital Service in making the tests.

The standards of visual acuity which were submitted by your committee were determined on after a careful study of foreign standards and after due consideration of the minimum degree of vision a candidate may have and yet be a safe pilot under all conditions of weather. The manner of carrying out each test is fully described in the instructions also submitted with the standards, for the purpose of uniformity and in order that all examining officers may know that they are complying exactly with the orders of the department.

The tests for color are also explained very explicitly and the rules of procedure elaborated so carefully that the examiners need no longer have recourse to a manual on color sense. Under the present laws, candidates for license need pass but the one test, *i. e.*, that on entrance, while under the standards they must submit to reexamination every five years. This enactment will prevent the continuance of navigators in the service whose vision or color-sense may have deteriorated by age or disease.

At the request of the Marine-Hospital Service, a standard of hearing was also submitted by your committee, as no directions for making the test of this special sense had hitherto been specified by the Department of Commerce and Labor.

In requesting the acceptance of its report, the committee would venture to suggest to the House of Delegates that it extend the thanks of the American Medical Association to the present secretary of the Department of Commerce and Labor, the Hon. Charles Nagel, for his interest in the work of the committee and for his aid in securing the adoption of the standards.

Although the adoption of the standards of your committee insures the proper examination of the eyes and hearing of navigators operating under federal law, there will be still a large number of navigators in the United States who will continue to ply their vocation without adequate test of their visual and aural capacity. The committee refers to the large number of branch or state pilots who have charge of the pilotage of all ships in our waters bound to or from foreign ports. By an act of Congress of Aug. 7, 1789, jurisdiction over these pilots was given to the various states, and they are amenable only to state law or municipal regulation and the federal government exercises no control over them.

As was pointed out by the chairman of the Section on Ophthalmology in the address referred to above, investigation revealed that with but few exceptions the commissioners in the various states had failed to enact any definite visual requirements, and that the question of the sight of pilots was left to the pilots themselves; and in no state were visual standards or tests proper or adequate.

It is the desire of your committee, therefore, that it be continued for another year for the purpose of obtaining if possible the enactment of proper federal or state laws to control the examination of this large body of men.

Respectfully submitted,
WILLIAM CAMPBELL POSEY, Chairman.
CHARLES H. WILLIAMS.
WILLIAM H. WILMER.

Philadelphia, May 22, 1911.

REPORT OF THE COMMITTEE ON PREVENTION OF BLINDNESS

To the Council on Health and Public Instruction:

Your Committee on the Prevention of Blindness organized its work by the appointment of a series of subcommittees as follows:

Ophthalmia Neonatorum: F. Park Lewis, Chairman, J. Clifton Edgar, F. F. Wesbrook.

Toxic Amblyopia: George E. de Schweinitz, Chairman, Thomas B. Holloway.

Wood Alcohol Amblyopia: Casey A. Wood, Chairman.
Trachoma: John Green, Jr., Chairman.
Congenital Blindness: Clarence Loeb, Chairman.
Hygiene of the Eyes: William Campbell Posey, Chairman.
Industrial Conditions Affecting the Eyes: Mark D. Stevenson, Chairman.

The reports which they were able to make are merely preliminary, but they indicate how broad and how important this work is.

In the development of this work, an effort was made to correlate the labors of all like organizations in order that the largest results might be obtained with the minimum expenditure of energy. It was realized that the furtherance of any great movement for sight-saving demands the united efforts of educationalists, physicians, health officers, social workers, and indeed of all cases of people interested in the problems of general sanitation. To that end, the subject of the conservation of vision was brought before the teachers of the country at a meeting in Boston last year of the National Educational Association and a committee was appointed. This committee consists of an illuminating engineer, a psychologist, a book-publisher, a school-man and an ophthalmologist. Their first report will be made this year in San Francisco.

Perhaps the most important movement during the past year for the conservation of vision and the prevention of blindness was held under the auspices and through the courtesy of the Russell Sage Foundation, in the rooms of its board of directors in December, 1910. At that time a national association was formed largely designed to supplement the work already being done under the direction of the committee on prevention of blindness of the Russell Sage Foundation. The purpose of this association is:

> To collect and standardize existing information on all subjects pertaining to the use and care of the eyes.
>
> To secure the investigation of subjects on which present knowledge is incomplete or contradictory.
>
> To promulgate knowledge relating to the conservation of vision.
>
> For the purpose of carrying out these objects in the most thorough and effective manner the work of the Association has been divided into six different departments, as follows: Department of Diseases and Defects of the Eye, Educational Department, Industrial Department, Department of Statistics and Information, Department of Publicity, and Department of Legislation.
>
> Each department is conducted by a director, with a staff of five or more associates, and such special assistants or committees as may be expedient. All of these departments work under the general direction of the board of managers and the cooperation of the general secretary. All existing associations and committees engaged in similar or collateral lines of work are brought into active participation through representation in the various departments.
>
> Membership in the association is open to everyone interested, either for themselves or for the good of others, in the objects set forth.
>
> The association invites the assistance and cooperation of all who are interested in the various phases of the work of conserving eyesight. In return for such cooperation it offers every assistance in its power, whether for the personal good of the individual member or the work of extending the benefits to others.
>
> The association is neither charitable nor philanthropic in spirit, but strictly humanitarian, believing that a sound mind in a sound body is the birthright of all, and that to insure every individual coming into his natural inheritance is but an act of common justice.

A CONSERVATION OF VISION DAY

In order that the work which is so rapidly progressing under the various state commissions, associations, health boards, medical and educational committees and other bodies may be crystallized in one effective effort, it is proposed that a special day in October, 1913, be chosen as a "Conservation of Vision Day," and that all of these forces combine in emphasizing the practicability and importance of sight-saving.

Such a movement fixing public attention in every city and state on the various phases of unnecessary blindness, with actual demonstrations of the best methods of lighting the home, the school and the work-room, of avoiding accidents, of protecting working men in factories and shops, would do more to develop a popular understanding of the hygiene of the eye and the means to be adopted for its protection than would volumes of scientific treatises.

Your committee recommend that such a day be selected, and that the states and cities be invited to join in the development of such a popular movement. They would recommend that the work as outlined in the valuable reports of the subcommittees be continued; that the American Medical Association Committee on Hygiene and Sanitation approve of a uniform law for the control of ophthalmia neonatorum, and that its enforcement be urged on the health authorities in every state and of every city in the country. In that way, that for which we have been struggling would become an accomplished fact and our country would have the proud satisfaction of being the first to abolish this destructive plague.

Respectfully submitted,
F. Park Lewis, Chairman.

Report of the Subcommittee on Ophthalmia Neonatorum

To the Committee on Prevention of Blindness:

In 1906 it was urged that the blindness resulting from birth infections which contributed one-quarter to the entire population of our schools and asylums for the young blind—which was causing misery beyond estimate and which demanded an annual sacrifice of millions of dollars—was cruel and unnecessary, and that this prodigal waste of human power and human resource must be stopped.

This unending destruction of the eyes of new-born babies which had gone on from time immemorial was and is an anachronism, totally out of harmony with the methods, the aims and the possibilities of modern sanitation. This is a problem so well understood and so simple that it requires for its solution merely that it should be known and that the things necessary to check its ravages once and forever should be done. It seemed, then, that the deplorable losses which we suffer were due to the neglect, to the indifference, or to the carelessness of individuals who omitted the simple well-known precautions required for the prevention of infections, or who failed to appreciate the imperative necessity of immediate and adequate treatment after infections had occurred.

It soon became evident, however, that it was not the simple, ignorant, unclean midwife who ministered to the women of her class, nor was it the poor overworked doctor who was primarily responsible for these deplorable losses, although under the hands of both of these the eyes of the children of the nation were being put out. Primarily and essentially the responsibility rests on society—which in its last analysis means every individual who knows what should be done, and whose influence would aid in the protection of these helpless babies.

Your committee, therefore, undertook to bring the force of society together in order that the augmented power of cooperative endeavor might be obtained. Naturally and properly, the organization necessary for the development of this movement began in our own splendidly organized Association. It was primarily a problem in obstetrics, because the first and most essential treatment devolved on the attendant on the mother; in ophthalmology because it had to do with the care of the eyes; and of public health because it was a communicable disease and because the resultant blindness made its victim in a vast proportion of cases a public charge.

State committees were, therefore, appointed and were charged with the duty of carrying out in the several states a general policy which might be determined by the Association itself. In the furtherance of this plan of coordination, the subject of the control of ophthalmia was then exhaustively taken up with the American Public Health Association, the state and provincial boards of health and the obstetric and gynecologic societies. All of these gave the movement their most hearty and unqualified support.

Then it was that the importance and the practicability of the movement appealed to the directors of the Russell Sage Foundation and the movement became an organized campaign. It was seen at once that the basic necessity in the control of this destructive plague of birth blindness was education—broader, more comprehensive, more popular than had ever been undertaken before. The mothers of the land must be made to realize the peril that menaces their babies, then will there be little doubt that the maternal instinct will secure protection for them. Doctors and midwives must be specifically shown what should be done and the boards of health must see that these instructions are done, if the force of the law needs to be invoked in order that this end may be secured. The importance of right methods of managing the toilet of the new-born child and the necessity of scrupulously exacting care on the part of those who are in attendance on the parturient woman must not only be emphasized, but the detailed methods must be described and repeated so frequently that they become automatically a part of the routine of procedure in every case.

It is not enough that the accredited prophylactic be gratuitously distributed by the health department of the state so that the silver salt need never be lacking, but it should be accompanied by brief but lucid descriptions of ophthalmia neonatorum telling with exact detail to what it is due, how it may be avoided, and of the imperative necessity of right and immediate treatment as soon as infection shall have taken place. A pamphlet on this subject should be regularly issued by every state health board in the United States as a part of its routine work. Then ophthalmia neonatorum should be made everywhere a reportable disease and the best physicians should lend their influence and support in developing a sentiment that will compel the attendant on every case, whether midwife or doctor, to comply with the law in reporting it promptly to the department of public health. Only in this way can eyes be saved that would otherwise be lost.

In Indiana and Dakota, laws have been enacted which make any claims for services on the mother illegal unless the question whether or not a prophylactic has been used, has been answered by the attendant. While the necessity of some vigorous measure is recognized on all sides, it is very doubtful that this is the best way of getting at it and indeed the constitutionality of such a law has been questioned. It deprives the attendant of the right to receive remuneration for what he has done as a penalty for a neglect of another duty which he has omitted. It would seem better if the reporting of births and of existing cases of ophthalmia neonatorum were required by law under penalty and then if the failure to observe the requirements of the law were rigidly and actively prosecuted and the results widely published, it would place the department of health in a position to take the right measures for the protection of babies' eyes at the right time.

This method has been adopted in Cleveland, Ohio, with most gratifying results:

> On Jan. 1, 1911, the board of health of the city added ophthalmia neonatorum to the list of infectious diseases to be reported by physicians.
>
> During the months of December, 1910, and January, 1911, the State Board of Registration, through its representative, Dr. A. P. Hammond, arrested twenty-four midwives for unlawful practice. The Society for the Blind caused the arrest of four others for failure to report sore eyes. In a majority of these cases convictions were secured and fines imposed, the fines in some cases being remitted on the condition that the midwife should not practice until such time as she should be able to qualify under the laws of the state.
>
> In December, 1910, the State Board of Health and the State Commission for the Blind jointly began the free distribution to registered midwives and physicians of an outfit containing a prophylactic for ophthalmia and accompanied by a circular giving directions for the care of the eyes.
>
> The object of the committee in its campaign against careless practice of midwives was educational. It has been that and more. It has resulted in the saving of sight to a score of babies. Following the publicity in the newspapers of cases of blindness resulting from neglect of midwives there have been reported to some one of the affiliated organizations represented on the committee thirty-eight cases of ophthalmia in children under 5 years of age. In seven of these the disease had run its course and four were totally blind, while three were partially so. In the remaining thirty-one the disease was still active, and of this number twenty-three have been treated in time and the sight has been saved, six have died from other causes, one is still under treatment and one has lost the sight of one eye.

In Boston the policy of securing the reporting of all cases by prosecuting those failing to do so began in September, 1910. In August, ten cases had been reported; in October after prosecution the number jumped to twenty. The effect of the prosecution had been forgotten in November. Then three other prosecutions were instituted and immediately the reports of cases began to come in to the health board from every side. There were fifteen in December, thirty-four in January, ninety-six in February, while in March the number had reached 118. It becomes perfectly evident, therefore, that ophthalmia neonatorum can be stopped if efforts are made to stop it. Where the power rests in the health board, prosecutions should be instituted and results published broadcast. Where the power does not rest in the board of health, it should be secured.

RECENT PROPORTION OF NEW ADMISSIONS IN SCHOOLS FOR THE BLIND WHO HAVE LOST THEIR SIGHT FROM OPHTHALMIA NEONATORUM—1910

States	New Admissions	O. N.	Per Cent.
Alabama	18	4	22.2
California	..	..	....
Colorado	8	4	50.0
Connecticut	9	1	11.1
Iowa	15	5	33.3
Indiana	..	..	....
Maryland	..	..	....
Massachusetts	42	9	21.4
Minnesota	14	3	21.4
Mississippi	..	..	....
Missouri	26	4	15.4
Montana	9	2	22.2
Nebraska	..	..	....
New Mexico	14	6	42.8
New York	27	6	22.2
North Carolina	59	11	18.6
Ohio	33	8	24.2
Pennsylvania	32	12	37.5
W. Pennsylvania	29	7	24.1
Tennessee	..	..	....
Texas	..	..	....
Wisconsin	16	2	12.5
Nova Scotia	..	..	....
Ontario	..	..	....
Totals	351	84	23.9

In this connection the following recent reports show the comparative value of hospital prophylaxis:

PROPHYLAXIS AS USED IN HOSPITALS

Hospitals	Total births	Cases O. N.	Primary Infections	Secondary Infections	Prophylactic
Society Lying-In, New York	5,683	265	(Not kept separate)		S. N. 1%
Univ. of Pa. Maternity	240	0	0	0	S. N. 1%
Manhattan Maternity	1,314	5	5	..	Ag_2NO_3 1%
Jewish Maternity, New York	1,017	2	2	..	Argyrol 10% or S. N. 1%
Sloane Maternity, New York	1,810	66	18	48	Argyrol 20%
Boston Lying-In	828	7	7	..	Argyrol 25%
Dr. I. L. Hill's Maternity	999	1	0	1	S. N. 1%
Johns Hopkins	407	0	0	0	S. N. 2%

(Used 1 per cent. silver and argyrol preparations. Best results with silver 1 per cent.)

RESULTS OF PROPHYLACTIC

University of Pennsylvania Maternity: No infections.
Manhattan Maternity: But five cases of O. N. in confinements.
Jewish Maternity, New York: Good; both cases cured.
Sloane Maternity, New York: Good; very little reaction.‡
Boston Lying-In: Seven cases, showing positive smears, and no secondary infections.
Johns Hopkins: Excellent results.

MARCH, 1911.—PROPORTION OF PUPILS BLIND FROM O. N. TRACHOMA, ACCIDENTS AND WOOD ALCOHOL IN SCHOOLS FOR THE BLIND IN THIS COUNTRY

State	Total Pupils in School	Total O. N. No.	Total O. N. %	Total Trachoma No.	Total Trachoma %	Total Accidents No.	Total Accidents %	Total Wood Alcohol No.	Total Wood Alcohol %
Alabama	89	13	20.2	..	....	5	5.6	.	...
Connecticut	43	10	23.2	..	....	8	18.6	.	...
Iowa	140	50	35.7	8	5.7	15	10.7	3	2.1
Massachusetts	297	90	30.3	..	....	28	9.4	.	...
Mississippi	53	6	11.3	1	1.8	5	9.4	.	...
Missouri	93	20	21.5	7	7.5	14	15.0	.	...
Montana	28	5	17.8	..	....	5	17.8	.	...
Nebraska	61	18	29.5	2	3.2	5	8.2	.	...
New York	152	38	25.0	..	....	14	9.2	1	0.6
North Carolina	313	34	10.3	..	....	25	7.9	.	...
New Mexico	34	18	52.9	10	29.4	3	8.8	.	...
Ohio	250	73	31.2	7	2.8	19	7.6	.	...
Pennsylvania	203	35	41.3	1	0.5	18	3.8	.	...
W. Pennsylvania	130	40	30.8	1	0.8	7	5.3	1	0.8
South Dakota	32	..	....	..	...	5	15.6	.	...
Virginia	11	3	27.2	..	...	3	27.2	.	...
Wisconsin	89	8	8.9	1	1.1	7	7.8	.	...
17 schools	2,018	521	25.3	38	1.8	186	9.2	5	0.2

Respectfully submitted,

F. Park Lewis, Chairman.
J. Clifton Edgar.
F. F. Wesbrook.

Report of the Subcommittee on the Toxic Amblyopias Exclusive of Methyl Alcohol

To the Committee on Prevention of Blindness:

Your committee includes under the term "toxic amblyopias" all such amblyopias as are caused by the influence of toxic substances introduced from without into the system, and makes no reference to the defects of vision which arise from autointoxication. It is not necessary in presenting this preliminary report to make a distinction between the words amblyopia and amaurosis, inasmuch as they are etymologically synonymous, both signifying dimness of vision, although in literature it is customary to apply the term amblyopia to obscurity of vision and amaurosis to more or less complete loss of vision.

Poisons under the conditions named may directly affect the optic nerve, directly affect the ganglion cells of the retina and produce an ascending degeneration of the optic nerve fibers, directly affect the retinal tissue, produce dulled vision when ordinary examinations do not reveal retinal or optic nerve lesions, influence vision by an action on the iris and the uveal tract generally, and finally, cause various or irregular ocular symptoms, not always associated with marked depreciation of visual acuteness.

The degree of the visual defect may vary from complete blindness, that is to say, the abolition of the perception of light (which is rare), to very slight disturbances of vision, such, for example, as are occasioned by mydriasis or cycloplegia. In this preliminary report, however, and with the time at the committee's disposal, it is not possible to take up a discussion of the relation of the degree of the visual defect to the character of the poisonous agent.

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‡ Smears are taken from every discharging eye and examined for gonococcus. In all these sixty-six cases the gonococcus was found but once. The vast majority (forty-eight) were late infections with organisms other than the gonococcus. These do not seem to be prevented by any silver salt, and most of them were slight. All discharging eyes, no matter what the organism, are counted as cases of ophthalmia neonatorum. As stated above, the gonococcus was demonstrated but once in the whole series. No eyes were lost and no opacities or other abnormalities noted on discharge.

1. In order to gain some idea of the frequency of toxic amblyopia, exclusive of methyl-alcohol poisoning, in America, the medical literature pertaining to this subject from January, 1904, to August, 1910, was examined, and 249 references were tabulated. These references may be divided into those which are general; that is to say, references to papers which, in general terms, discussed the toxic action of various poisons on the human system without specific record of ocular complications, and direct references; that is to say, those which discussed the effect of toxic agents on the visual apparatus. Of the 249 papers which appeared during the years named, 211 belong on the general references, as already defined, and thirty-eight to the direct references. In the present communication no discussion of these general papers will be attempted, so that we deal only with thirty-eight communications bearing on this topic. Of these, nineteen describe intoxication amblyopia, and by this term is meant an amblyopia which is caused either by ethyl alcohol or by some substance in which ethyl alcohol is the active agent, or by tobacco, or by the combined effect of these two substances; four, lead amblyopia; five, quinin amblyopia; one, antipyrin amblyopia; two, iodoform amblyopia; one, coffee amblyopia; one, formaldehyd amblyopia; one, salicylate of sodium amblyopia; one, an amblyopia caused by the injection of protargol into the lacrimal sac; one, ptomain-poisoning amblyopia; and two, amblyopia of indefinite etiology.

Naturally, this comparatively small number of cases does not give any adequate idea of the frequency of toxic amblyopia in this country, because, in the first place, many of the papers describe more than one case, and in the second place, only the cases which have found their way into medical literature are here recorded. It does give, however, an idea of the substances which most frequently are the causes of the so-called toxic amblyopia, in so far as our own country is concerned.

2. In order to pursue the question of the frequency of the visual defects from these causes another examination was made, to-wit: The reports of eleven hospitals were examined as to the number of patients applying in the out-patient departments for relief of various ocular defects during various years: One year in one, three years in four, four years in one, five years in four, and six years in one.

The total number of eye patients recorded in these eleven hospitals during these years was 471,975, and among these 523 sought relief from a visual defect depending on the ingestion or action of some toxic substance. It is, however, not possible to tell from these reports what exactly the toxic substance was, as almost without exception the records fail to classify their toxic amblyopias; that is to say, there is no way of telling whether the toxic visual defect was due, for example, to alcohol-tobacco, to quinin, or to any other poisonous agent, although it may be assumed that in the large majority of cases tobacco and alcohol were the offending substances. If we may assume that this is correct, and we think we may, the chief cause of toxic amblyopia in this country furnishes about one patient to every thousand patients who apply for relief in our eye dispensaries. In this respect the statistics of our ophthalmic institutions indicate that tobacco-alcohol amblyopia is much less frequent in this country than, for example, in Great Britain. For instance, during ten years in one hospital in England, among 12,644 out-patients, 153 had tobacco amblyopia, while in an American hospital among almost exactly the same number of patients, not distributed, however, over so many years, that is to say, 12,280 patients, only thirteen cases of amblyopia from tobacco toxemia are recorded.

This again, however, does not give us any true idea of the frequency of this amblyopia in our own country, because it leaves out of consideration the many patients in better walks of life who suffer from this difficulty, and who apply for relief in private offices. In one office in which the records of 1,500 patients were examined, five came on account of tobacco amblyopia, or nearly five times as many as are recorded in the large statistical material which we have quoted from the various hospitals. It is the committee's hope in a future report to ascertain by a more elaborate investigation exactly the relationship of this amblyopia to the frequency of ocular disease as it occurs in so-called private patients, but with the figures thus far recorded we think we have shown that this and other toxic amblyopias, again exclusive of methyl-alcohol poisoning, deserve the investigation which has been entrusted to the committee organized by the American Medical Association. The committee feels that it is necessary to point out the lamentable inaccuracies of many hospital reports in so far as they fail to give a just idea of the relative frequency of the various toxic amblyopias. Not only is there a failure for the most part to distinguish between those which are due, for example, to tobacco and alcohol, and those which are due to other toxic agents, but not infrequently a certain number of cases are accredited simply to amblyopia, and it is impossible to tell whether this amblyopia was a toxic one, or, for example, a congenital amblyopia. More than this, we have omitted from our count all cases accredited to retrobulbar neuritis, because we could not ascertain whether this retrobulbar neuritis was due to some toxic agent, like alcohol or tobacco, or to some infection.

The committee, therefore, in concluding this preliminary and necessarily unsatisfactory report, makes an appeal to those who have charge of hospital statistics that in the future an endeavor shall be made to increase the accuracy of the records.

G. E. de Schweinitz.
T. B. Holloway.

Report of the Subcommittee on Blindness Produced by the Ingestion of Methyl or Wood Alcohol

To the Committee on Prevention of Blindness:

Since the account published (Poisoning by Wood Alcohol, The Journal A. M. A., 1904, xliii, 972, 1058, 1117, 1213, 1289) by the late Frank Buller and myself on this form of intoxication, cases of complete or partial blindness from the ingestion of the various forms of "deodorized" or "purified" wood alcohol are of less frequent occurrence. This result is partly due to the widespread discussion of the subject and to the publicity given to the fact that "Columbian spirits" and other forms of "deodorized" methyl alcohol are deadly poisons and not in any sense safe substitutes for ethyl, or grain, alcohol. But far more effective than these influences has been the introduction into this country of a harmless, cheap, tax-free commercial agent known as "denatured" alcohol. In a paper contributed at the end of 1906, to the *British Medical Journal*, I predicted that when the provisions of our "denatured" alcohol bill are carried into effect we shall, as in England, hear no more of wood alcohol poisoning and its annual tale of victims.

This prognostication is, however, only in part justified because we continue to have occasional examples of death, as well as toxic amblyopia and amaurosis either from the drinking of "deodorized" wood alcohol or from its inhalation (mixed with unbreathed air) by varnishers and painters.

In addition to the list of over 300 cases of blindness and death occurring in the United States from the drinking and inhalation of methylated spirits detailed in various journals by myself, a number of toxic cases have been reported by others. For example, Gruening has quite recently (*Archives of Ophthalmology*, July, 1910) given the histories of two more. In the first case blindness was the result of drinking a large quantity of adulterated wine. Both optic discs showed excavations resembling those of glaucoma without tension. In the second case blindness was the result of drinking whiskey, an analysis of which showed from 24 to 43 per cent. of methyl alcohol. In this case there was probably chronic methyl alcohol poisoning with an acute exacerbation. Ophthalmoscopic examination showed the optic nerves to be white, with veiled edges and sheaths of connective tissue surrounding the veins and arteries.

Still more recently two cases of poisoning from the inhalation of varnish fumes have been reported which are so typical—especially from the ocular standpoint—of wood alcohol intoxication that one can be almost certain of the diagnosis from the symptoms alone.

In a correspondence with Dr. Henry R. Hopkins who attended the unfortunates and Dr. Blaauw, the ophthalmologist who examined the survivor, there can be no reasonable doubt but that both victims are examples of this well-known cause of blindness. I submit an extract from a Buffalo newspaper that tells the story:

> Varnishing the inside of a beer vat seems in itself a harmless enough form of employment, but the report of Dr. Henry R. Hopkins, given before the Buffalo Academy of Medicine, would prove conclusively that the reverse is true. This report covers a most interesting case and one which will hardly fail to attract the attention of health authorities throughout the state and bring immediate results in the enactment of remedial legislation.
>
> According to the report as given by Dr. Hopkins, he and Dr. Greene were called on last week to attend the case of two men who had been stricken simultaneously after working as beer vat varnishers in a local brewery. One of these men, Joe Michael, of 422 Madison Street, survived but a short time after finishing his work. His fellow workman, one Lang, residing in Riley Street, has since been stricken totally blind, and with small hope of ever recovering his sight.
>
> In his report Dr. Hopkins said that death in the one instance and total blindness in the other resulted undoubtedly from the breathing of the fumes of wood alcohol, this being one of the predominating ingredients used in the varnish for beer vats. In fact, so strong are the fumes that while these huge vats are being varnished it is necessary to employ a watchman, to keep all lighted cigars and cigarettes without the danger zone—ten feet in most instances.

> The case in point is a particularly sad one, as both men have families and were in the prime of young manhood, and the wife of one about to become a mother.
>
> After the meeting of the society Dr. Hopkins was asked by a *Truth* reporter how he thought the dangers of such employment were to be obviated. This he believed could be effected by the substitution of "denatured" alcohol for wood alcohol, which he believes could be made quite as effective as a varnish ingredient as the other and partaking of none of the danger to human life present in the wood variety. There were on record, he said, seventeen cases of death and total blindness as a result of the breathing of the fumes of wood alcohol, these cases being mostly among varnishers of beer vats.
>
> This is a matter that should immediately enlist the attention of Health Commissioner Fronczak to the end that legislation which will protect this form of labor from the evils above outlined may be enacted. We believe, with the learned doctor, that this can be done by the substitution of denatured for wood alcohol; at any rate, the matter calls for prompt and thorough investigation and effective action.

When we know that England and Germany annually use millions of gallons of a cheap, commercial grain alcohol that has all the advantages of purified wood alcohol, without a single instance of death or blindness among those that work with it, and since our cheap "denatured" alcohol exactly corresponds to the tax-free foreign methylated spirits, there seems to be no valid reason for the employment of this poisonous "deodorized" wood alcohol, which is a continual menace to the health, eyesight and life of our citizens. Furthermore, I am reliably informed that our harmless and effective denatured alcohol can be put on the market as cheaply as Columbian spirits, Cologne spirits, eagle spirits or any other variety of "deodorized" wood alcohol. Practically, deodorized wood alcohol is a dangerous and virulent poison masquerading as a useful and comparatively innocuous household agent, pretending to be "just as good as" grain alcohol. As a matter of fact, it lies in wait to destroy the eyesight, perhaps the life, of those who use it.

As before stated, an effective plan for driving out of the market the poisonous wood alcohol and its deodorized derivatives is to remove all the objections, mostly begotten of ignorance, to the use of "denatured grain alcohol" in the arts and trades, and by the public generally.

In a necessarily limited and imperfect fashion I have been carrying on an investigation of the reasons why our people have not fully taken advantage of "denatured" alcohol instead of using the deleterious wood alcohol and I find that apart from the fact that it takes time to displace an article to which the public has been long accustomed, the dangers of using wood alcohol are as yet imperfectly understood, even by those who habitually employ some form of alcohol in their business. I refer not only to the family use (in small quantities) for fuel and for cleaning, and to the painter and varnisher, but to the larger consumption of wood alcohol in the arts and sciences —to the paint, soap, varnish, piano, whip, drug, gunpowder, hat and other manufacturers—who ought to be fully acquainted with the poisonous qualities of the one agent and the harmless character of the other. I find that there are objections—technical and other—to the employment by some of the trades and manufactories of "denatured" alcohol as a substitute for methyl spirits. So far as my investigations have gone these objections can and ought to be removed.

The bill that established denatured alcohol provided for a denaturant that might vary with the needs of various arts and trades. In Germany, denaturization is "complete" or "incomplete" (*The Automobile*, Oct. 26, 1906), according to the purpose for which the spirit is to be used. "Complete denaturization is accomplished by adding to every 100 liters (26½ gallons) of alcohol 2½ liters of 'standard denaturizer' made of 4 parts of wood alcohol, 1 part of pyridin (a nitrogenous base obtained by distilling bone oil or coal tar), and 50 grains to each liter of oil of rosemary or lavender. A slightly different method consists of adding to every 100 liters of alcohol 1¼ liter of the 'standard denaturizer' and two liters of benzol. During the year 1903-4 a total of 26,080,505 gallons of alcohol denaturized by these processes were used for heating, lighting and commercial purposes in Germany.

"Incomplete denaturization is employed where the alcohol is to be used for special purposes for which the completely denaturized spirit would be unsuitable. The process is such as to render the spirit unfit for drinking, and varies according to the purpose for which the spirit is to be employed. For instance, for the manufacture of varnishes and inks, the alcohol is denaturized by the addition of oil of turpentine or of animal oil.

"Alcohol for the manufacture of soda soaps is denaturized with castor oil. Denaturized alcohol is used in the manufacture of celluloid and pegamoid. Alcohol for the manufacture of ethers, aldehyde, argacin, white lead, bromo-silver, gelatins, photographic papers and plates, electrode plates, collodion, salicylate acid and salts, aniline chemistry, and for a great number of other purposes, is denaturized by the addition of sulphuric ether, benzol, oil of turpentine, or animal oil."

In view of the facts just related I would suggest that your committee authorize this subcommittee to make a further investigation of the subject; (1) to inquire of those most competent to inform us the reasons for the partial failure to accept "denatured" alcohol as a substitute for the poisonous product, (2) to devise ways and means for the removal of the obstacles to the general use of "denatured alcohol," (3) to enforce the use of the poison label on all retail packages of wood alcohol, both impure and "deodorized", (4) to disseminate a wider knowledge of the poisonous character of every form of methyl alcohol, and (5), finally, to procure such legislative action as will prohibit the manufacture or sale of every form of "purified" or "deodorized" methyl alcohol.

All of which is respectfully submitted.

Casey A. Wood, Chairman.

Report of the Subcommittee on Blindness from Trachoma

To the Committee on Prevention of Blindness:

Trachoma is a disease of great antiquity. We are assured by Hirschberg that it existed fully 3,000 years ago. Greek and Roman medical writings contain allusions to this disease and describe its blighting effect on vision. Cicero, Pliny and Horace are said to have been victims of the malady.

It is certain that the disease existed then, as now, in endemic form, in many localities, and, indeed, where the conditions were favorable, it overran entire countries, *e. g.*, Egypt. From Egypt it was imported into the continent of Europe early in the nineteenth century by Napoleon's soldiers and rapidly became disseminated. Wherever conditions were favorable, it gained a foothold and is to-day endemic in many localities.

Trachoma was brought to the United States by European immigrants coming from infected localities. It is, then, speaking from the standpoint of the United States, an "alien" disease.

RELATION OF TRACHOMA TO DEFECTIVE VISION AND BLINDNESS

The most frightful results of trachoma are to be seen in Egypt, where much the largest proportion of blindness is attributable to this cause. According to Snyder (*Ohio State Medical Journal*, March 15, 1909), 60 per cent. of all blindness in Europe is caused by trachoma. In Russia and the Baltic provinces, 96 per cent. of all trachoma patients become "more or less blind." Clark (Report on Trachoma, U. S. P. H. & M.-H. Ser., 1907) states that "75 per cent. of untreated cases of trachoma result in blindness." Even when the disease stops short of producing complete blindness, it seriously interferes with the workability of the eyes. J. W. Schereschewsky (Report on Trachoma, U. S. P. H. & M.-H. Ser., 1907), writing on this point says:

> It is astonishing to what degree slight alterations in the corneal tissues, as the result of trachoma, may reduce the sight. Even slight haziness may reduce the vision to one-tenth of normal. Pressure of the thickened lids and a macerating influence of the trachomatous secretions may so soften the corneal tissues and alter the corneal curvature that high degrees of irregular astigmatism, not susceptible to correction by glasses, are encountered.
>
> The menace to the vision in any untreated case is very real, even in cases initially mild, as subsequent exacerbations may induce a train of destructive corneal lesions. Trachoma decreases not only the economic efficiency of the sufferer, but that of the race or people as a whole, among whom it is prevalent. A person afflicted with trachoma is not on a par of productive capacity with a healthy individual. As the earning capacity of the victim decreases he must needs satisfy himself with a lower standard of existence, thereby not only exposing himself, but others who are dependent on his efforts, to those conditions of increasing poverty, filth and unhygienic surroundings which are known especially to foster the disease and to facilitate its distribution. In this manner the vicious circle is completed.

TRACHOMA IN THE UNITED STATES

Up to 1897, immigrants afflicted with trachoma were permitted to enter the country without let or hindrance. In this year, the disease was classed under the head of "dangerous contagions" by the United States Public Health and Marine-Hospital Service, thus making mandatory the deportation of aliens so afflicted under section 2 of the immigration laws. It was further specified that a steamship company permitting an immigrant with developed trachoma to embark must pay a fine of $100 and bear the expense of deportation. The steamship companies have learned by experience that it is not good business policy to book victims of trachoma and so have instituted a rigorous inspection of the eyes of all immigrants about to embark. At Italian ports, medical officers of the Public Health and Marine-Hospital Service are on duty and detect practically every case of trachoma among prospective immigrants.

The laws now operative seem adequate to prevent the entry of all but a small number of trachoma victims. It is impossible to say how many immigrants with trachoma were permitted to enter the country prior to the act of 1897, but judging from the number annually deported for this cause since the law went into effect, the former number must have been large. We may gain some idea of the probable annual importation of trachoma prior to 1897, by referring to the last (1910) annual report of the Commissioner-General of Immigration, which shows that 6,400 subjects of trachoma were debarred from embarking, 2,600 were debarred from landing and deported, and ten were deported having developed trachoma within three years of landing.

Prior to 1897 immigrants with trachoma, in common with their fellows not so afflicted, distributed themselves far and wide throughout the United States, some remaining in the port of arrival, others finding their way to inland cities, still others to rural communities of the west and south. Wherever conditions were favorable (bad housing, overcrowding, lack of ventilation, uncleanly habits), the disease, spreading from the original source, soon gained a foothold in the community. One frequently hears how "red-sore eyes" ran through a village school, scarcely sparing a single pupil. Or the invasion was more insidious until many, perhaps the majority, of people in a township were affected. Untreated, or inadequately treated, many of these unfortunates passed through all the wretched early stages of thickened lids, pannus, corneal ulceration, and finally, after years of suffering and partial industrial incapacity, emerged with scarred and incurved lids, nebulous corneas and greatly diminished vision.

LOCALITIES IN WHICH TRACHOMA IS KNOWN TO BE ENDEMIC

Many of the towns of southern Illinois are veritable hotbeds of trachoma. Northern Arkansas is seriously infected. The following excerpt from the twenty-first biennial report of the Arkansas School for the Blind indicates how serious is the menace to sight from trachoma in this state:

> The condition in Arkansas shows a larger proportion of pupils in school with trachoma than from all other causes, and a larger per cent. than is shown to exist in other states. The northeastern and northwestern portions of the state constitute the principal areas of infection. The eastern and southern portions are almost entirely free as far as shown by our records. In the Arkansas school the number of pupils enrolled, 1908-10, was 199 white and twenty-eight colored. The number of cases of trachoma and blindness caused from trachoma was 115. Careful investigations reveal the fact that there has never been a case of trachoma in the colored department in the twenty-two years of its existence.

The New Mexico Institute for the Blind reports that of fifty-eight new cases of blindness admitted within the last five years, 8 per cent. were blind from trachoma. The Connecticut School for the Blind reports that in the past five years thirty-three children were admitted to the school department, of which there were two known cases of defective sight from trachoma. Information on this point was sought from the blind schools of California, Georgia, Kentucky, Louisiana, Minnesota and Oregon in the hope that the figures obtained would be a fair index of the trachoma situation in widely separated parts of the country. At present writing (March 28, 1911) none of the above named schools has replied to my letter of inquiry.

Dr. J. A. Stucky, of Lexington, Ky., who recently made a journey into the heart of the mountain regions of eastern Kentucky, makes the following report:

> I found that in families where there were children it was an exception to find only one case of diseased eyes. In one instance seven out of the nine children were unable to attend school on account of trachoma. Such cases as these are not allowed to attend our schools, and yet in the mountains they are not considered infectious or dangerous, but just "sore" eyes. A solution to the problem in the mountains is the same as in the state—the question of education. Many of those who need surgical treatment and hospital care have not the financial means to obtain these. The county in which they live contains no institution where they can be cared for without personal expense and the county treasury contains no funds to provide for even the hospital care elsewhere.

EFFORTS, LEGISLATIVE AND SOCIAL, DIRECTED AGAINST TRACHOMA

Since 1905 Pennsylvania has classified trachoma with twenty-six other diseases as "contagious" and these are made reportable to the health authorities. In 1909, Philadelphia passed an ordinance requiring the reporting of all cases of trachoma, with residence and personal data of those affected, and the disinfection of a room or house which has harbored a trachoma patient. The city ophthalmologist visits the patient and advises the proper course to pursue. Since 1905, New York has maintained a "trachoma hospital" and two trachoma dispensaries.

The problem of the trachoma child is a serious one. Debarred by the inspector from school, he is in danger of losing all chance for education during the only years in which education is possible. London has met this problem in the schools by establishing the so-called trachoma homes under the auspices of the Metropolitan Asylums Board. These homes comprise a central administration building and separate houses under the charge of a house mother, each house lodging twelve children. Living thus under excellent hygienic conditions, and adequately treated by specialists, these children pursue their education without interruption during the period of cure.

The outlook for the city dweller afflicted with trachoma is none too brilliant. In ninety-nine cases out of one hundred, his economic condition is such that it is practically impossible for him to spare the time necessary to receive a prolonged course of treatment. But at least the city dweller with trachoma has the opportunity of skilful care. Not so his country-cousin, affected with the same disease. The latter, untreated, or improperly treated, by well-meaning but unskilled country practitioners, is almost always doomed to a long period of pain, wretchedness and partial industrial incapacity. By the time the disease has worn itself out vision is seriously impaired or entirely lost.

Many of our states, at least those in which trachoma is endemic, should follow the example of New York by establishing trachoma dispensaries in different parts of the commonwealth and a centrally located trachoma hospital.

Respectfully submitted,

John Green, Jr.

Report of the Subcommittee on Congenital Blindness

To the Committee on Prevention of Blindness:

Your Subcommittee on Congenital Blindness desires to make the following report, which should be received as only a partial, preliminary one. The subject is so vast, and the data are so scattered, that it has been possible to review the literature of only the last four years, viz., 1907 to 1910, inclusive, together with references contained therein to previous years. The facts collected have been arranged in the subjoined table, where the attempt is made to show graphically the different ocular lesions which justly may be called congenital. No condition is included unless the proof that it was congenital seemed sufficient. Only a brief abstract of the extensive literature is given.

From the statistics of Poland and Galicia, it is seen that from six to seven in every 10,000 inhabitants are blind. This agrees with Paly in regard to the blind of Switzerland (7.22 per 10,000). Out of 4,443 blind in Galicia, 1,057 cases were congenital (or 23 per cent.). In twenty-nine inmates of the Klarschen Blinden Anstalt, six (or 21 per cent.) were congenitally blind. These high percentages are found, however, only when the proportion of congenitally blind to blind patients is estimated. The ratio of congenital blindness to general ocular lesions is very much smaller. Out of 10,000 eye patients treated at Krain only thirty-four were congenitally blind. Out of 130,423 eye patients treated at thirty-two of the German, Austrian and Dutch eye clinics in 1907, only 610 were congenitally blind (about five to 1,000). Out of 159,313 patients treated at practically the same institutions in 1908, only 594 (about four to 1,000) were congenitally blind. So, it may be said that about 0.5 per cent. of all eye patients suffer from some form of congenital blindness, as shown in the table below. If the number of cases reported is taken as the standard by which to judge the relative frequency of each lesion's occurrence, the list will be headed by microphthalmos, followed closely by aniridia and by coloboma of the iris. Anophthalmos and the different forms of cataract also rank high. Most infrequent are the tumors, especially the teratomas.

In reviewing the lesions enumerated, it will be seen that they fall into two classes: (1) Those which, like medullated nerve-fibers in the retina, cyclopia, albinism, etc., are by their very nature congenital, and cannot be confused with postnatal diseases; (2) those in which only the history of an exact microscopic examination will allow the diagnosis of congenital or postnatal lesion, *e. g.*, cataract, dacryocystitis, staphyloma corneæ, etc. The latter class may be subdivided into two classes: (a) those where the element of time is the only distinguishing feature, *e. g.*, teratomata, staphyloma corneæ, etc., and (b) those where the fundamental lesion is the same but where the congenital varieties assume forms rarely seen arising postnatally, and where, consequently, the diagnosis of congenital can usually be made even when the patient is not seen immediately after birth, *e. g.*, lamellar cataract, colobomata, anophthalmos, etc.

The second fact to which it is desired to call attention is that, although these lesions have been classified as separate ones, it by no means follows that they are so found. On the contrary, a congenital lesion of the eye is very frequently associated with other congenital lesions either of the eye or of some other organ. Mention might be made of the frequent association of microphthalmos with orbito-palpebral cysts, or of albinism with deafmutism. Coloboma of the chorioid frequently accompanies on the one hand coloboma of the iris, and on the other coloboma of the optic nerve. Mention has been made of atrophy of the optic nerve accompanying tower-skull. This is not a true congenital lesion of the optic nerve, but as the explanation has been given that the atrophy follows a congenital narrowing of the optic foramen with pressure on the nerve, it was included. With equal justice, the glaucoma which so often follows aniridia might have been included, since the initial stage of the glaucomatous status is frequently overlooked and may well be congenital.

No attempt will be made in this report to discuss the etiology of the congenital lesions, nor their tendency toward heredity. A special and very extensive report would be needed to do justice to these phases of the question. With these few preliminary remarks, a diagram of the congenital lesions of the eyes is herewith submitted.

CONGENITAL LESIONS OF THE EYE

A. Physiologic. B. Pathologic.

A. PHYSIOLOGIC

(a) Alexia. (b) Amblyopia. (c) Color Blindness.

B. PATHOLOGIC CONGENITAL LESIONS

I. Lids:

(a) Ablepharia, (b) Insufficiency, (c) Coloboma, (d) Hypertrophy, (e) Epicanthus, (f) Symblepharon, (g) Ankyloblepharon, (h) Blepharophimosis, (i) Dermal Oculopapebral Bridge, (j) Ectropion, (k) Entropion, (l) Albinismus Ciliarum, (m) Trichiasis, (n) Distichiasis, (o) Supernumerary Eyebrows, (p) Cyst, (q) Elephantiasis, (r) Angioma, (s) Nevus Pigmentosus, (t) Dermoid, (u) Neurofibroma.

II. Lacrimal Apparatus:

(a) Absence of Canaliculus, (b) Defective Development of Canaliculus, (c) Stenosis Nasal Duct, (d) Dacryocystitis.

III. Conjunctiva:

(a) Protrusion of Conjunctival Sac Through Palpebral Orifice, (b) Ophthalmia, (c) Cyst, (d) Dermoid, (e) Lipodermoid, (f) Hemangioma, (g) Lymphangioma, (h) Pigmentation.

IV. Episcleral Tissue:

(a) Nevus, (b) Tumors.

V. Bulbus Oculi:

(a) Anophthalmus, (b) Cryptophthalmus, (c) Microphthalmus, (d) Buphthalmus, (e) Cyclopia, (f) Exophthalmus, (g) Cystic Degeneration, (h) Meningocele, (i) Coloboma, (j) Dermoid, (k) Lipochondroadenoma.

VI. Cornea:

(a) Microcornea, (b) Megalocornea, (c) Staphyloma, (d) Sclerophthalmia, (e) Opacities, (f) Melanosis, (g) Defects Descemet's Membrane, (h) Dermoid, (i) Teratoma.

VII. Sclera:

(a) Cyst, (b) Coloboma, (c) Pseudocoloboma, (d) Staphyloma, (e) Peripapillary Ectasia, (f) Negroid Sclerotics, (g) Cyanosis.

VIII. Aqueous Chamber:

(a) Movable Body, (b) Pigment.

IX. Lens:

(a) Ectopia Lentis, (b) Lenticonus, (c) Coloboma, (d) Pigment on Ant. Lens Capsule, (e) Complete Cataract, (f) Incomplete Cataract, (g) Anterior Polar Cataract, (h) Lamellar Cataract, (i) Posterior Polar Cataract, (j) Posterior Pyramidal Cataract, (k) Film-Like Cataract.

X. Vitreous:

(a) Panophthalmitis, (b) Pseudoglioma, (c) Persistent Canal of Cloquet, (d) Persistent Hyaloid Artery, (e) Persistent Vitreal Vessels, (f) Persistent Vitreal Bands, (g) Teratoma.

XI. Iris:

(a) Albinismus, (b) Heterochromia, (c) Ectropion Strati Pigmenti Iridis, (d) Coloboma Iridis Profundum, (e) Coloboma Stromæ Iridis, (f) Coloboma Iridis Totale, (g) Aniridia, (h) Pseudocoloboma, (i) Persistent Pupillary Membrane, (j) Corectopia, (k) Dyscoria, (l) Polycoria, (m) Atrophia Iridis, (n) Absence Sphincter Iridis, (o) Cyst, (p) Nevus.

XII. Corpus Ciliare:

(a) Hypertrophy, (b) Cyclitis.

XIII. Chorioid:

(a) Albinisms, (b) Ectropion Uveæ, (c) Coloboma, (d) Nevus.

XIV. Retina:

(a) Albinismus, (b) Coloboma Pigmenti Retinæ, (c) Coloboma Retinæ, (d) Coloboma Maculæ, (e) Conus, (f) Ectasia, (g) Neuroepithelial Invagination, (h) Incomplete Development Outer Nuclear and Outer Reticular Layer, (i) Persistent Medullated Nerve Fibers, (j) Cyanosis Retinæ, (k) Hemorrhage.

XV. Nervus Opticus:

(a) Aplasia, (b) Coloboma, (c) Coloboma Vagi, (d) Holes in Nerve, (e) Grooves, (f) Atrophy with Tower-Skull, (g) Hemorrhage, (h) Pigment, (i) Medullated Nerve Fibers.

XVI. Muscles and Nerves:

(a) Hippus, (b) Ophthalmoplegia Interna, (c) Ophthalmoplegia Externa, (d) Nystagmus, (e) Strabismus, (f) Retraction Superior Rectus, (g) Abnormal Insertion Internal Rectus, (h) Defects of Abduction Associated with Retraction Globe, (i) Contraction of Eyelid in Association with Movements of Jaws, (j) Blepharospasm, (k) Retraction Levator Palpebræ, (l) Ptosis.

XVII. Orbita:

(a) Exostosis, (b) Cyst, (c) Teratoma, (d) Dermoid, (e) Endothelioma Intravasculare, (f) Sarcoma, (g) Angiofibroma, (h) Angioma.

A. PHYSIOLOGIC

Though *Alexia* may be an acquired condition, it is also congenital. An interesting history is reported by Stephenson of six cases in one family. There is also a true amblyopia congenitalis, which v. Sicherer suggests may be caused by a previous unsuspected congenital retinal hemorrhage, which has been absorbed and has left no gross changes in the fundus. Whether color blindness is a true congenital lesion, or whether all children are color blind at birth, and this condition persists in certain individuals or groups of individuals, will probably never be decided.

B. PATHOLOGIC

I. Lids: *Symblepharon* and *Dermal oculopalpebral bridge* might have been placed with greater justice under the heading of CONJUNCTIVA, while *Ptosis* could be considered a LID affection instead of being classed with the other NEUROMUSCULAR lesions. *Cysts* of the eyelids occur in either the upper or lower lid and very frequently accompany *Microphthalmus*. By *Entropion* is meant not the temporary form so frequently found in infants, but the permanent form requiring active measures for its relief.

II. Lacrimal Apparatus: The *Dacryocystitis* of the new-born is usually of postnasal origin. However, it may arise congenitally as Zentmayer and Fejér report. Mayou has written a very interesting paper describing the condition of the *nasal duct* in *lacrimal abscesses* of the new-born. It may be very small and partly occluded by the inferior turbinate, or it may be filled with débris at birth, or it may be non-patent or only partly so. The *canaliculus*, especially the lower one, may be absent or undeveloped.

III. Conjunctiva: *Ophthalmia neonatorum* is not a true congenital affection, as the infection takes place usually during the act of delivery, and the inflammation does not appear until later. However, Rivaud-Landrau reports a case of *purulent ophthalmia* in the fetus, and there are doubtless many more reported.

IV. Episcleral Tissue: In reporting a case of primary epibulbar melano-sarcoma, Gross states that it developed from a congenital *pigmented nevus*.

V. Bulbus Oculi: The diagnosis of *Anophthalmus* should be made only after a very diligent search for a rudimentary eye, as the case is frequently one of *Cryptophthalmus*. The diagnosis of *Microphthalmus* is frequently made, when what is really meant is a rudimentary eye. *Buphthalmus* is sometimes used to refer to an enlargement of the entire eye and sometimes only to a condition of *megalocornea*. *Cyclopia* and *meningocele* are usually found in fetuses. *Exophthalmus* may be unilateral or bilateral.

VI. Cornea: Peters reports an interesting *Defect in Descemet's membrane*. Collins in discussing *Staphyloma corneæ* claims that its etiology is the defective development of Descemet's membrane. Holloway gives a long review of the subject of *Melanosis corneæ*, while from the numerous histories of congenital *opacities of the cornea*, the case of McNab has been selected as at the same time illustrating the heredity of the lesion.

VII. Sclera: The most interesting congenital lesions of the sclera are the pigmentation known as *Negroid sclerotics* and the *Cyanosis* of the sclera, caused by an abnormal thinness of the scleral wall, allowing the deeper, pigment layers to shine through. *Coloboma scleræ* is reported as *Coloboma oculi*.

VIII. Aqueous Chamber: As congenital anomalies, *Pigment masses* and a *Movable body* in the aqueous have been reported. However, every anomaly of size of the cornea is reflected in the depth of the anterior chamber.

IX. Lens: The literature dealing with congenital *Cataract* is very extensive. The following forms have been reported: *incomplete, complete, anterior polar, posterior polar, lamellar, posterior pyramidal* and a *film-like cataract*. Another fairly frequent lesion is *ectopia lentis*, where the lens may also be cataractous and shrunken, or a *coloboma* may be present.

X. Vitreous: The most frequent congenital lesions affecting the vitrous are persistent remnants of fetal structures, such as the *Hyaloid artery* and the *Canal of Cloquet*. However, a case of *panophthalmitis* has been reported.

XI. Iris: *Albinism* may show itself as part of a complete ocular albinism, or as a local condition. *Heterochromia* may be acquired, but is frequently a congenital condition. It varies in extent from a small sector in one eye to complete color differences in the two eyes. *Coloboma iridis* varies in extent from a deficiency of either the pigment layer or the stroma, to the total absence of a large sector of the iris. There may be a bridge of stroma across the coloboma. On the other hand, the loss of iridal tissue may be so great as to constitute a complete *aniridia*, or it may be so small as to be limited to an absence of the sphincter iridis. The pupil may be *ectopic, distorted* or *multiple*. The *polycoria* may take one of four forms according to Collins: (a) Normal pupil divided by a persistent pupillary membrane, (b) Coloboma with a bridge, (c) congenital iridodialysis, or (d) intact pupil, with iris openings not reaching ciliary margin. Numerous cases of *Persistent pupillary membrane* have been reported, each one assuming a different form from the others.

XII. Corpus Ciliare: Only two congenital lesions of the ciliary body have been reported, viz., *hypertrophy* and *cyclitis*.

XIII. Chorioid: The lesions of the chorioid may or may not accompany lesions of other structures, e. g., the iris, optic nerve or retina.

XIV. Retina: *Medullated* nerve fibers may be found radiating from the disc, or isolated in the retina. *Coloboma* may vary from defect of the pigment to absence of all layers. Especially is this latter found in the *macula*. This may be the result of an intra-uterine hemorrhage. *Cyanosis retinæ* due to engorged retinal vessels has been reported.

XV. NERVUS OPTICUS: *Coloboma* may involve the *sheath* alone or the *whole nerve*. It may be accompanied by a *conus*, or may take the form of a *hole* in the disc. *Grooves* of the disc have been reported, varying in size, shape and position. Congenital *pigmentation* of the disc is not so very rare, and may take varied appearances.

XVI. MUSCLES AND NERVES: There may be a complete or incomplete *ophthalmoplegia interna* or *externæ*, though the incomplete external variety is the most common. *Ptosis* is especially frequent. *Nystagmus* also occurs frequently. A curious congenital anomaly is the *simultaneous movements of the upper lid and jaw*.

XVII. ORBITA: The congenital lesions of the orbit are *new growths, exostoses* or *cysts*.

Respectfully submitted,

CLARENCE LOEB.

REPORT OF THE SUBCOMMITTEE ON HYGIENE OF THE EYES

To the Committee on Prevention of Blindness:

In compliance with your request to organize a committee to study the effect of various forms of artificial illumination on the eye, I beg leave to report that such a committee has been formed and, after considerable deliberation, has decided on a definite plan of procedure. We have been most fortunate in obtaining the consent of a number of distinguished physicists and illuminating engineers to serve on the committee and an agreement has about been consummated with the Illuminating Engineering Society whereby we will have the full cooperation of this large and powerful organization.

Several of the large electric lighting and gas illuminating companies have also manifested their willingness to give us whatever aid we may desire, so that it is the opinion of your chairman, that the investigations which the committee will carry on promise to be productive of most excellent results.

After considerable discussion, it has been decided that the first investigations should be along practical lines, and our plans are as follows: The physicists and engineers on the committee will determine on a number of standard lights, that is to say they will furnish the ophthalmologists with some four or six sets of gas and electric lights, of which they have ascertained all the physical characteristics. These lights will then be installed in large rooms where a considerable number of people, a hundred or more, are engaged in some form of labor which requires prolonged and accurate use of the eyes. It shall then be the duty of the ophthalmologists on the committee to make a careful test of the eyes of all those who will be subjected to each form of illumination, both before the trial begins, and a second test some months later. The ophthalmologists will employ all the tests which are in common use in the functional examination of the eyes and in addition, a number of other tests which the physicists and physiologists on the committee will suggest to them.

It is the intention to exhibit the standard lights in a variety of ways, so that some idea may be obtained of the effect of the so-called direct and indirect forms of illumination.

By experimenting with a large number of subjects and noting the average result, it is thought that more valuable and accurate deductions will be obtained, than if the effect of the various forms of illumination was studied on the eyes of single individuals.

It is not the intent of the committee at this time to concern itself with the question of school hygiene, but it is hoped that the investigations may develop much which may be of value in that important subject. The committee is therefore desirous of keeping in touch with the committee from the National Educational Association which is making observations along these lines and wishes to assure that organization of full cooperation.

The actual work of investigation will begin early in the autumn, as it is hoped by that time that the scientists on the committee will have determined on the standards which they desire to have tested.

The committee consists of:

Dr. Louis Bell, 120 Boyleston Street, Boston.
Percy W. Cobb, National Lamp Association, Cleveland.
Mr. E. L. Elliott, Illuminating Engineering Pub. Co., 15 West Thirty-Eighth Street, New York.
Prof. Arthur W. Goodspeed, University of Pennsylvania, Philadelphia.
Dr. George Ross Green, 1000 Chestnut Street, Philadelphia.
Dr. Herbert E. Ives, 4503 Hough Avenue, N.-E., Cleveland.
Dr. Edward Jackson, 1434 Glenarm Place, Denver.
Mr. Preston S. Millar, 29 West Thirty-Ninth Street, New York.
Mr. Charles F. Scott, Westinghouse Electric and Mfg. Co., Pittsburg.
Dr. William Sweet, 1205 Spruce Street, Philadelphia.

Respectfully submitted,

WILLIAM CAMPBELL POSEY, Chairman.
CHARLES O. BOND, Secretary.

REPORT OF THE SUBCOMMITTEE ON INDUSTRIAL CONDITIONS

To the Committee on Prevention of Blindness:

Space forbids a comprehensive consideration of this broad subject. A complete catalogue of the various trades and industries in which accidents, even preventable accidents, causing partial or complete blindness of one or both eyes, although suggestive, would be of little service and would necessarily include nearly all the causes of accidents in general. Consideration will therefore be limited to the following:

1. Common accidents to the eye in foundries, machine shops, mills, and in the building trades, domestic, agricultural and military pursuits, which can be greatly prevented by various known means, as in iron workers, mechanics or weavers.

2. Accidents occurring while handling high explosives as in clay manufacturing, quarrying, mining and railroad construction.

3. Accidents due to bursting of locomotive oil and water gauges, bottles and syphons in bottling.

4. Accidents due to scalds or caustics or exposure to irritating gases and fumes as from hot fluids, molten metals, lime, corrosive acids or alkalis entering the eye-sac.

5. Diseases due to excessive light or heat, e. g., in electric welders, steel smelters, and in those melting or annealing glass.

6. Diseases due to working in certain poisonous gases and fumes, dusts or substances, bisulphids of carbon, lead, etc.

7. Diseases due to occupations requiring prolonged and peculiar use of the eyes, e. g., nystagmus in miners.

1. COMMON ACCIDENTS IN MILLS, TRADES, ETC., WHICH CAN BE GREATLY PREVENTED

These include blows from blunt force and wounds of all description, incised, punched, lacerated and contused, occurring from the use of tools or caused by foreign bodies of all kinds, magnetic or non-magnetic, retained or not within the eye. Ordinary domestic injuries, in addition to the above, include scratches of the conjunctiva or cornea and wounds from knives, scissors, forks, useless air guns, fireworks, improperly carried umbrellas, etc.

Blows from blunt objects on the eye or its surroundings may cause ecchymoses and swelling of the lids, fractures of the orbit, ecchymoses and hematomata of the conjunctiva or orbit, rupture, concussion or dislocation of the eye-ball, rupture or paralysis of the muscles, rupture of or pressure on the optic nerve by hematomas, aneurysms or fractured bones. In addition the iris may be torn, the lens dislocated and the various structures within the eye injured. The base of the skull may be fractured and traumatic exophthalmos or the pulsating variety result.

Small particles are very likely to become lodged in the cornea of workmen of various trades, especially of the iron and steel trades. This is very common in the eyes of grinders, especially dry grinders who do not use a wet stone, small particles of the metal being ground off the stone or emery wheel used. Close examination with a magnifying glass or loupe of the cornea, often peculiarly insensitive, will usually show large numbers of minute scars, sometimes so numerous as to dull the cornea and affect the vision. Fans, making air currents, so as to pull or blow the particles away from the eyes are very important in many trades, also to prevent the inhalation of foreign particles or various noxious gases, thus securing better ventilation and benefiting the general health. Various shield devices, solid and adjustable, are now on the market. They are very generally used by the United States Steel Company and are exhibited in the American Museum of Safety in New York of which Dr. Tolman is in charge. These shields are placed on grinding wheels, circular saws, lathes and many forms of rapidly revolving machinery, helping to prevent particles flying into the workman's face and are a safeguard against accidents in case the revolving parts should break. Recently much has been done to prevent revolving wheels, etc., from breaking by the use of proper compressible washers, larger than the flanges, making proper application and distribution of pressure to a large space on the side of the straight-sided wheels. The flanges are more than one-half the diameter of the wheel and bear only at their circumference on a flat surface. The caliper rest is adjusted as close to the wheel as possible, lessening the danger of the material being caught between the wheel and the rest. Large protecting glasses or the worker's own lenses, if he requires any, are also of much service in preventing particles getting into the eyes, as well as for saving the eyes from more dangerous accidents from large flying particles. Glass protectors are also made surrounded by wire gauze as in goggles. Unfortunately they get dirty and marked with the frequent blows from flying particles so that the workmen, unwilling to accept such pressing testimony of their use, too often lay them aside.

Injuries from these small flying particles may be slight or serious. Sometimes small particles puncture the coats of the eye-ball and unless removed, especially if metal, endanger both eyes by causing sympathetic inflammation, which according to Magnus is the cause of from 4 to 4.5 per cent. of total blindness. In some cases infection results, giving rise to dangerous ulcers which sometimes destroy partially or wholly the eyesight or even the eye-ball. Serious accidents to other parts of a workman or even other workmen sometimes occur because an operator getting something into his eyes cannot see sufficiently to manage machinery. The opportunities for slight or severe eye injuries in iron and steel workers are multitudinous and occur in all branches of the work, light or heavy.

Many of these accidents occur in chipping, fettling or dressing rough edges of castings, ingots and even large armor plates. These chippings are very brittle and sharp and fly about, often bounding from objects which they strike. They are caused by one or two strikers hitting a chisel held against the offending part by another man. Not only particles are likely to fly from the metal struck but from either end of the chisel or from the hammers of the strikers. S. C. Ayers pointed out that cheap hammers and chisels of poor quality are frequent causes of eye accidents in mechanics. Care is taken in some shops to examine carefully and regularly these tools to prevent accidents. Pneumatic chippers are safer. Passersby and other workers may be protected by chiseling against a wall or a screen covered with canvas or burlap which will hold the flying particles and not reflect them. Brick cleaners should take similar precautions.

Burning sparks and flashes are common from molten metal running into molds, in great or small forgings, by hand, steam or hydraulic hammers. When there is great heat glass protectors to the eyes are of little service, but good safe protectors of wire gauze covering both eyes and face, especially those with asbestos over mouth and neck, are useful. Rusting may be provided against by making the frames of galvanized iron or aluminum wire.

Coal miners are likely to be injured by small particles of coal or splinters from the pick point becoming embedded in the cornea, abrading its surface or cutting it. Such injuries are particularly likely to become septic. Agriculturists often meet with eye accidents in threshing, chaff cutting, hedging, in distributing artificial fertilizers and by the entrance into the eye of spears of grains and grasses, twigs and leaves, also from insects and their stings. These injuries are usually produced by vegetable substances, straw, beards of wheat, etc., and are likely to become infected. Cowhorns, claws and kicks from animals cause many accidents. Special forms of affection result in taking care of some plants, as ophthalmia among hop pickers, due to entrance of fine, thin hairy-like processes from the hop leaves. Dusty labor is likely to cause troublesome eye conditions, as in sawmills from flying sawdust and knots, at threshings, in handling coal and ashes, in flour mills and from fine particles of copper off trolleys, but the eyes can be greatly protected by proper goggles.

Stone masons, grindstone makers, quarrymen, bricklayers and stonebreakers can partially protect their own eyes by proper protectors and should be more careful to dress their work against some wall where passersby will not be so likely to be injured. Wire drawing where great tension is placed on the wire causes accidents from breaking or slipping of the wire which backlashes and may strike some one. In weaving there is great danger of a flying shuttle striking the eye but many patterns of guards are now on the market to prevent this. Some are known as wing guards, consisting of a wire screen or canvas placed between the looms, others provide means to prevent the shuttle from rising. The military man and sportsman are subjected to the danger of small and large shot and bullets, shell explosions, sword and bayonet injuries and explosions of various kinds.

There are various processes involving exposure to irritating dusts, as to the dust of graphite in the manufacture of stove polish, bronze powder, while bronzing in lithographing, in all processes of grinding, glazing or polishing, and while talc (soapstone) dusting in rubber manufacturing. In sorting, dusting, cutting or grinding rags, and in cutting, boring, turning, planing, facing, doming, grinding or polishing pearl shell, dust is also likely to get into the eyes. Everywhere in the air volcanic and meteoric dust is present, the latter consisting of tiny spherical shot-like pellets, 1/200-1/500 of an inch in diameter. The flinty shells of diatoms, tiny plants, and dust from sandstones and deserts often get into the eyes. The pollen of plants as from pine trees, scales from the wings of butterflies and other insects, really hairs as from caterpillars, also get into the eyes.

2. ACCIDENTS WHILE HANDLING HIGH EXPLOSIVES AS IN QUARRYING, MINING AND RAILROAD CONSTRUCTION

Blasting in mining, quarrying, etc., causes a large number of accidental injuries. These accidents are particularly likely to destroy both eyes, removing the earning capacity of the individual and possibly throwing him on the community for support. Powder grains are often embedded in the eye-balls, lids or face. Most high explosives unlike gunpowder are not exploded by simple ignition but require an exploder. Poor fuses or explosives, possibly frozen, with improper loading cause premature blasts or misfires. Accidents usually occur from drilling these "missed holes," striking an unexploded piece of explosive or cap packing with a metal instead of a wooden tamping rod, carelessness with cigar ashes, hot candle grease or in handling the explosives. Donovan (THE JOURNAL A. M. A., Aug. 5, 1905) states that blasting injuries with few exceptions result from want of care on the part of the patient, his associates or his predecessors at work. Large quantities of explosives, whether solids, liquids or gases, should not be stored in any one place especially in thickly settled communities. Greater care in proper insulation of electric wiring in such regions and the prevention of the possibility of sparks by short circuiting should be observed. Licensing of "powder men" and better government inspection of the manufacture, storage and sale of explosives would be helpful.

3. ACCIDENTS DUE TO BURSTING OF WATER GAUGES, BOTTLES AND SYPHONS IN BOTTLING

Gauges on every description of steam boiler frequently break, injuring by flying pieces of glass, or scalding by the steam or hot water. The slowly soluble gauges are worn by the friction of the moving fluids within and may be protected by surrounding them with wire netting or plate glass protectors open at the back so that the direction of an explosion may be controlled. The chief danger comes when putting in a new glass after one is broken. On turning the hot water into the cool glass it suddenly breaks. The United States Steel Co. has swinging wire protectors that may be placed in front of these gauges until the glass has been warmed and tried when the protector is swung out of the way so that the gauge can be more readily seen by the engineer at a distance. These accidents occurring to engineers who require a high degree of visual acuity greatly lessen their earning capacity and at the time of the accident may endanger many lives and much valuable property.

In the manufacture of aerated waters and in bottling beverages of nearly all kinds, the frequent bursting of bottles and syphons is very dangerous to the eyes. The bottles are cleaned, filled, corked and wired by machinery and in all the various processes and inspections which are necessary, there is danger of the bottles bursting. The dangerous trades committee of England, 1896, recommended that all bottlers, wirers, sighters and labelers while at work should be provided with face guards, masks or veils of wire gauze. They also recommended the providing of gauntlets for the arms and the fencing with wire gauze of all machines for bottling, to prevent fragments of bursting bottles striking any workers.

4. ACCIDENTS DUE TO SCALDS OR CAUSTICS OR EXPOSURE TO IRRITATING GASES AND FUMES

Scalds or burns usually involve the eyelids, the deeper burns affecting the eye generally resulting from explosions as in preventable Fourth of July accidents. Powder burns should be treated with hydrogen peroxid, afterward applying 5 per cent. boric or other simple ointment. Powder grains or other foreign bodies in the cornea require the use of a local anesthetic and spud. Burns in masons, plasterers and bricklayers caused by lime, especially unslaked lime, CaO, sometimes result in destruction of the cornea and frequently in traumatic pterygia and adhesions between the eyelids and globe and, because of chemical combination with substances in the cornea, produce permanent opacities. When unslaked lime gets into the eye it should be wiped out by a dry clean cloth or washed out with liquid petrolatum, castor or olive oil. If this is not done at once the lime will soon be slaked by the tears and then large quantities of water can be used to help remove it. Besides causing actual destruction, lime and cement have irritating qualities sometimes occasioning conjunctivitis and even ulceration of the cornea with loss of vision in those who work constantly with these substances. There are also various caustics employed as in the manufacture of chemicals, alkalies and acids. Proper, clearly worded signs giving warning of the dangers from careless handling of caustics in shops and schools, would lead to greater care being exercised. In accidents caused by unslaked lime and certain corrosive fumes, workmen should pour liquid petrolatum, olive or even castor oil (quantities of which should be kept handy in certain trades) into the eye. Ammonia burns should be treated immediately by profuse irrigations with water according to Pichler. (Cauterization of the Eye and Epidermis by Ammonia, *Zeitschr. f. Augenh.*, April, 1910. xxiii, 297.) For workmen compelled to use certain acids or alkalies proper neutralizing washes should be supplied so that fellow workmen, properly instructed, may use them at once. After burns of the cornea by acids, H. Guillery ("Chemical and Clinical Investigations on Cauterization of the Cornea," *Archiv für Augenheilkunde*, lxv, 139) advises bathing the eyes with 0.5 per cent. solution of hydrate of potash and claims that the opacities from lime may be partially cleared by the use of a 10 per cent. solution of chlorate of ammonia with 0.1 per cent. tartaric acid. For lime burns Würdemann advises copious washings with cold water and the use of 3 to 10 per cent. solution of ammonia chlorid, the calcium being dissolved and carried away. Any mildly acid solution may be used for recent burns with alkalies. H. Schmidt asserts that corneal burns from acids are likely to cause opacities of the lens. (*Zeitschrift f. Augenh.*, March, 1910, xxiii, 341). Exposure to irritating gases and fumes takes place chiefly in gassing in textile factories, singeing in print works, in bleaching and dyeing works and in dipping metals in acid solutions.

5. DISEASES DUE TO EXCESSIVE LIGHT OR HEAT, E. G., IN ELECTRIC WELDERS, STEEL SMELTERS AND IN THOSE MELTING OR ANNEALING GLASS

Metal polishers and buffers brightening surfaces, which they must closely watch, often suffer with hyperesthesia of the retina. This can be relieved by proper lenses or colored glasses. Excessive heat and light are met with in iron and steel works. Men can watch a furnace until the temperature is up to 2,000 F. but before it gets to 3,000 F. colored glasses should be worn. In working with cast iron, 1,800-2,000 F., the men take few precautions; with molten metal, 2,700-2,800 F., deep blue glasses are necessary. With Bessemer metal, 3,000-3,200 F., the process is completed in about twenty minutes and only one man needs to watch the metal which he does with a spectroscope about thirty feet distant. The Siemons process takes ten hours and all the men, wearing colored lenses, make observations frequently. If some of these hot furnaces are looked into without lenses it is several minutes before the eye can see ordinary objects again. Some men seem to have surprising immunity from bad results in dealing with these white hot furnaces, others cannot endure them and must change their work. Snell doubts the greater frequency of cataract in glass blowers and iron workers than in others, although both are subjected to great heat and consequent loss of moisture. Herbert Parsons and Marcus Gunn in 1908 visited some of the important glass works in England to gather statistics of industrial diseases for the framing of the Workmen's Compensation Act. They state that bottle makers have a characteristic form of cataract, typically, a dense well defined disk of opacity in the center of the posterior cortex. Often slight opacities surround this posterior cortical disk. Excessive heat and bright light are said to be the causes but the Germans claim that heat is the most important cause. Weyl mentions, besides glass blowers, fire workers, puddlers, blacksmiths, bakers and cooks.

Great care is required to avoid very strong light flashes before the eyes as in short circuits and electric welding. In the latter large shields are worn in the center of which are four alternate layers of blue and red glass. Helmets and screens with four or six layers of red and green glass are often used. The temperature in electric welding goes as high as 7,000 F., but the question of whether it is the heat or the chemical rays that act so harmfully has not been settled. If the eyes catch the light they are affected at once but chiefly some hours after. They feel swollen as if filled with burning sand and the pain is usually very severe, the lids are swollen and there is much lacrimation. Intense light as from electric and vapor lamps, from exposure to snow or after observing an eclipse, frequently causes a superficial ophthalmia and may affect the lens and retina. Schanz and Stockhausen found that the superficial irritation could be prevented by a screen of Euphos glass which absorbs ultra-violet rays. W. H. McMullen (*Ophthalmic Review*, April, 1910) claims that this could be done with plain glass which absorbs rays of wave length less than 300 mikrons. He thinks opacities in the lens result when the wave lengths are between 300 or 400 mikrons but that the rays of greater length as well as the short cause the retinal changes. Würdemann states that electric light flashes or lightning may cause cataract and by being focused on the macula destroy the central retinal elements.

6. DISEASES DUE TO WORKING IN POISONOUS GASES AND FUMES, DUSTS OR SUBSTANCES

Dinitro-benzol is largely employed in making explosives. During the various processes of its manufacture fumes are given off which affect vision. These can be lessened by properly covering the mixtures and by the use of fans and exhaust apparatus. Respirators and glasses are used. The general circulatory and nervous effects are fully described by Snell (*British Medical Journal*, Vol. i, 1892) and he outlines many excellent suggestions for preventing deleterious effects in manufacturing this substance. Bisulphid of carbon, formerly much used in vulcanizing rubber, caused impaired eyesight but this process has been so greatly modified that it is now of little importance in causing ocular lesions. Toxic amblyopias due to tobacco, ethyl alcohol and wood alcohol are to be considered by my associates on this committee.

The eye affections formerly attending the manufacture of iodoform have by care been eliminated. A few cases of eye involvement have been reported in dye factories from handling the various coal tar preparations. Arsenic from wall paper, artificial flowers and paris green, paper hangings and paintings, also when used for medical or cosmetic purposes, according to Casey Wood has caused various visual disturbances. Painters, plumbers, electrotypers, filecutters and many others, through handling lead, are likely to get chronic lead-poisoning causing central and peripheral affections of sight, various paralyses, retrobular neuritis, etc. Lead-poisoning is also found among those manufacturing white, yellow, orange and red lead, lead pipe, solder and plumbers' supplies and in cutting metal articles composed of lead or lead and tin; in grinding lead paint, making storage batteries, cleaning or handling printing type and in glazing in pottery establishments. Poisonous gases and fumes are found in shoe cement, japanned or patent leather and rubber manufacturing where the mixtures containing naphtha are sometimes allowed to remain in uncovered containers and proper ventilation is not insisted on. Poisonous gases are also formed in certain lead processes.

7. DISEASES DUE TO OCCUPATIONS REQUIRING PROLONGED AND PECULIAR USE OF THE EYES

Nystagmus in miners, due to their peculiar way of looking at their work, is fully described by Snell. He states that treatment consists in changing the kind of work. After relief the miner can return to his work if the head can be kept straight and the eyes are not often turned upward. Snell mentions several other occupations which he has thought might cause nystagmus.

PROPHYLACTIC MEASURES

In the effort to decrease blindness from industrial accidents the following considerations should be kept in mind:

A. The importance of prompt and skilful first aid and means by which it can be secured.

B. The more general use of well known aids to the physician, hospital, Roentgen ray, proper antiseptics, etc.

C. Why the public should be interested.

D. How to secure the cooperation of the employer in the prevention of accidents and diseased conditions arising in the various industries.

E. How to interest and secure the active cooperation of the employee in the same cause or crusade.

A. THE IMPORTANCE OF PROMPT AND SKILFUL FIRST AID AND HOW IT CAN BE SECURED

The importance of prompt and skilful first aid can scarcely be realized by those who do not treat many injured eyes. In factories and work shops, especially in the iron and steel industries, small particles of iron, emery or other stone very frequently strike and become embedded in the cornea. This is so frequent that the corneæ of many of these workmen studded with small scars, more or less reducing visual acuity, especially if located in the central zone, acquire a certain degree of insensitiveness. The workman's usually quick recovery begets carelessness and fellow workmen without any knowledge of necessary surgical cleanliness, but nevertheless with a certain skill, remove the offending foreign body. This is done with dirty hands decorated with unclean finger nails and by filthy crude instruments, such as a foul handkerchief or toothpick possibly removed from a never germ free mouth, blade of a pocket knife, blunt lancet, pin, tongue, etc. Snell found many of these instruments were free from dangerous infections. The wonder is that more infectious ulcers do not occur, but the foreign bodies are frequently sterilized by heat before entering the eye-sac. The improper use of poultices and of flax seed or eye stones destroys many eyes. Without the proper use of local anesthetics, good control of light and magnifying loupe, the removal of the small and more deeply embedded particles, sometimes projecting into the anterior chamber, is attended with great difficulty and danger; the eye not being easily controlled or seen, much precious tissue is often unnecessarily scraped away in futile efforts to dislodge the offending particle. No antiseptic is employed to weaken or destroy at least partially the infectious germs, often carried into the eye by the foreign body, and no eye-wash is supplied to secure greater cleanliness afterward. Ophthalmias, iritis, infected ulcers, with resulting scars, partial or total blindness and even loss of the eye and sometimes of the fellow eye occasionally follow such unskilled attempts to remove simple foreign bodies. When the eye-ball has been punctured, especially if the eye-sac has already been infected from a tear-sac infection or other cause, infections of the interior of the eye will frequently result without early trained attendance.

Snell supplied some of the more expert workmen in Sheffield with iridium-platinum bent pointed spuds the points of which are sterilized in the flame of a spirit lamp before use. No one but a surgeon or trained nurse, however, can understand the details of keeping an instrument clean, presuming that it was clean to begin with. The loss of time due to unnecessarily severe inflammations, the impaired usefulness of valuable employees has brought about the rule in several shops, that no workman shall attempt to remove foreign bodies from the eyes of fellow workmen, and that employees so injured shall be sent to a competent surgeon at once. First aid before the surgeon can be secured usually should be limited to the early use of oils or neutralizing washes after burns from lime or chemicals and to covering the injured eye with clean cloths or gauze. In some trades where certain forms of accidents are common the surgeon, with advantage, could train some one in the proper use of cold applications to help prevent infections.

B. THE MORE GENERAL USE OF WELL-KNOWN AIDS TO THE PHYSICIAN, ROENTGEN RAYS, PROPER ANTISEPTICS, HOSPITAL, ETC.

A trained ophthalmologist will often find his whole skill and knowledge put to the test in caring for eye injuries, and it is unnecessary and impossible to outline methods for caring for so many different conditions. The treatment of ocular traumatisms is based on general surgical principles and may consist in removal of foreign bodies, cleansing and coaptation of the edges of the wound, the use of proper occlusive bandages, special operations as iridectomies, protection by sliding conjunctival flaps, atropin to retract the iris and quiet the ciliary muscle, dionin to relieve pain and hasten absorption, cold applications to prevent infection and hot to assist absorption of exudates. The prevention of infection in operations and care that injuries are not done to other structures as the lens in doing an iridectomy are important. The use of antiseptic ointments and subconjunctival injections are often advisable. The interests of the patient and the possible liability of the employer often demand a careful and full history of the accident and subsequent care, also a guarded prognosis, as so much depends on previous conditions possibly due to former injuries. In all cases after removal of an imbedded foreign body and in most cases where a foreign body has even become lodged under the lids, depending on the probability of an infection and its nature, I drop one drop of a 1 or 2, and rarely 3 gr., to the ounce silver nitrate solution in the eye-sac. A mild-unirritating alkaline antiseptic wash with an eye-bath and proper directions as to use are nearly always supplied. Where ulceration or iritis has already commenced mydriatics, cathartics, etc., are also prescribed. Rest should often be secured by bandages and cycloplegies and sometimes by the use of antispasmodics and hypnotics.

Roentgen ray negatives, as a means of determining the presence and location of a foreign body, except wood or other vegetable matter, in the eye-ball, sooner or later dangerous to one or both eyes, are very valuable. Magnets, large and small, are often necessary for the removal of magnetizable foreign bodies. The safety of their use for diagnosis is questionable, no anesthetic in such cases should be used as pain is a valuable sign. The current should be turned on and off with the magnet at a safe distance from the eye. Non-magnetizable foreign bodies are becoming more frequent with the increasing use of magnesium and nickel steel and the more common use of copper and other non-magnetizable substances. Sweet (*Ophth. Record*, October, 1909) states that the loss of eyes injured by foreign bodies depends not only on the size of the piece but greatly on the length of the period elapsing between the injury and removal. It is safer to learn the position, shape and size of the foreign body before determining to remove it through the original wound, if recent, or through an opening in the sclera. For the detection of injuries and foreign bodies stains with aniline dyes, as 2 per cent. fluorescin, focal illumination, magnifying loupe, ophthalmoscope, Würdemann's diaphanoscope and, except in large cities and in the neighborhood of electric currents or where there is much vibration, the sideroscope, are useful. Many firms are now establishing first aid dispensaries with a trained nurse in charge and depending on the size, nature and enthusiasm of the firm, this develops into a temporary hospital ward or even a hospital, where other hospital facilities are not accessible. Physicians are in attendance at these hospitals during certain hours when treatment and dressings are made by physician and nurse.

C. WHY THE PUBLIC SHOULD BE INTERESTED

Lans states that of all accidents in the Netherlands, 1903 to 1904, 4 per cent. were on the eye. Mr. Watson, secretary of the British Miner's Benefit Fund, ("Dangerous Trades," Thomas Oliver) gives the total of 2,506 eye accidents out of a total of 48,262, a percentage of 5.19. The percentage of eye accidents would naturally be greatest in populous industrial districts and among men. Snell states that of 2,554 patients who passed through the wards of the Sheffield Royal Infirmary 2,038 were men and 516 women; of the men, 622 or 30.52 per cent. were admitted for accidents; of the 516 women only 6.9 per cent. were for accidents. According to Würdemann (H. V. Würdemann, "Injuries to the Eye and Adnexa," *Northwest Medicine*, February, 1909) Frieuzal found 9.8 per cent. of blindness due to injuries; Trousseau, 16.32 per cent.; Magnus, 10.76 per cent.; Fuchs, 7.9 per cent. In 1900 of 75,568,686 inhabitants in this country there were 64,763 blind; 35,645 totally blind; 4,462 totally, 2,226 partially blind (a total of 10.33 per cent.) from injuries, accidents and operations. This was a decrease of 586 from the 1890 figures although the population had increased 12,944,436. E. L. Elliott believes there are 20,000 more or less serious injuries to the eyes of workmen through accidents, chiefly preventable, in this country each year. F. W. Miller (The Journal A. M. A., Aug. 5, 1905) states that ocular traumatisms are becoming more frequent with the increase of mechanical appliances, rapid transit, etc., and the more general use of chemicals and gases. On the other hand, according to census figures the frequency of blindness due to accidents is becoming less, due partially to the more general use of safeguards against accidents, especially industrial accidents, and partly to the better management and care which these cases now receive. Würdemann states that a loss of 20 per cent. of visual acuity in the higher trades and 50 per cent. in the lower materially lessens the earning ability, the ratio being decreased in arithmetic proportion until the individual is incapable of earning anything, becoming a charge on the family or community. The young blind may be taught to substitute partially the other senses for eyesight, but the adult suddenly becoming blind finds this difficult and often impossible. Arbitrary legal rules, accident insurance companies, the United States Pension Office and the indemnity laws of England, France, Germany and other countries consider the total loss of eyesight equal to the loss of life. The loss from total blindness of one eye or of partial blindness of one or both depends on many factors, but scientific examination and calculation have determined the effect of a certain loss of vision on earning ability. Insurance will demand greater care to eliminate the unscrupulous who simulate eye disease or exaggerate it, and therefore entrance and periodic examination of the visual acuity of workmen will be made necessary. Persons with only one good eye would be damaged more in proportion where it was lost than where a good eye remained, especially if the vision of the damaged eye had been subnormal before the accident. Lans ("Traumatic Affections of the Eye," *Tydschr. V. Gen.*, December, 1908) collected statistics of the earning capacity of fifty consecutive patients with monocular blindness from accident. Of this number two earned constantly less through change of work, two temporarily less, thirty-eight as much as before accident and eight, more. The public therefore should be greatly interested in the prevention of blindness from industrial accidents, not only from a sentimental or humanitarian standpoint but from an economic one as well. Partial or total reduction of vision lessens efficiency and therefore makes many victims a charge on society. Great sums of money are expended in teaching and caring for the victims of industrial accidents. The laity should be educated as to the seriousness of even slight injuries when infected which may cause loss of eyesight or eyeball. In "Work-Accidents and the Law" (the "Pittsburg Survey"), Crystal Eastman has shown that of eleven men who lost an eye, three received nothing as compensation and all $623 or $56.63 average for each eye. This kind of investigation calls attention to the need of proper compensation laws and several states now have commissions investigating the compensation of workmen for their injuries. Montana has passed a law, (1909, Chapter 67, Page 81), which has the following for compensation of injuries to coal miners and employees of coal washers. Total or permanent disability includes total loss of eyesight. Compensation monthly, from an insurance fund, of not to exceed a dollar each working day, and if death as a result of injury ensues within one year, $3,000 shall be paid dependants. Loss of one eye shall be compensated in the sum of $1,000.

D. HOW TO SECURE COOPERATION OF EMPLOYER IN PREVENTION OF ACCIDENTS AND DISEASED CONDITIONS

Recently some of our great industries have made tentative plans for the relief or compensation of injured employees. The United States Steel Corporation provided six months' wages for the loss of an eye, plan of relief on trial for one year from May 1, 1910. During the same months the International Harvester Co. tried a plan. For the total loss of sight of one eye they paid three-quarters average yearly wages and for the total loss of both eyes four years average wages but not less than $2,000. An important institution, American Museum of Safety, in charge of Dr. Tolman, has been established in New York and generously supported by American manufacturers. Its purpose, like those in Europe, is to exhibit various devices to prevent industrial and other accidents and several appliances are shown that will be of special service in protecting the eyes. Among them are protective hoods for grindstones in case of breakage, and to prevent particles flying into the eyes; exhaust fans, gasoline and oil lamps, and containers from which these fluids may be poured through a fire without exploding; paper towels, which would appear to be a simple way to eliminate the danger of infection to the eyes in industrial lavatories; protective screens, lenses, etc. With increased public attention to the desirability of preventing industrial accidents in general will come interest in the prevention of the causes of eye accidents and blindness. One of the basic causes of industrial accidents is insufficient or badly distributed illumination. Mr. John Calder has observed that there is an increased percentage of accidents each year during November, December and January, the months of minimum daylight, especially in the years of greatest prosperity when more work is done by artificial light. Over-illumination of certain parts with surrounding darkness or shadows, imperfect diffusion, is a common cause of accidents, eye fatigue and lowered human efficiency, always a wasteful attempt at saving.

The resulting agitation for and securing of better legislation dealing with the compensation of injured employees will further excite the interest and cooperation of the already usually willing employer to provide safety appliances, danger signals and rules for the protection of the employee. Manufacturers and transportation companies find prevention of accidents important in not only protecting the employees but their own goods and machinery, preventing the loss of services, cost of care, expense of treatment of the injured employee and making litigation and damage suits unnecessary. It is a profitable as well as a humane policy to make factory work as safe and healthful as possible and thus secure better contented workmen, really placing less burden on the ultimate consumer who necessarily has to support the victim of industrial accidents. One great item in lowering the cost of production lies in lessening these accidents.

E. HOW TO SECURE ACTIVE COOPERATION OF THE EMPLOYEE

The most difficult problem is how to secure the cooperation of the employee. He becomes accustomed to his danger, lays aside his protecting lenses when they become soiled or studded with hundreds of abrasions caused by flying particles, etc., as a hindrance in his work, accepting the risks which he too often underestimates. Employees reluctantly use protective appliances unless frequently watched and warned. The United States Steel Corporation is doing splendid work, in providing safety appliances, rules and signs in the various languages of their employees, and have special departments of safety which have successfully secured the cooperation of their employees in the prevention of accidents. See "Work-Accidents and the Law" (Crystal Eastman, Russell Sage Foundation Publication). Undoubtedly much can be done to secure the cooperation of the employee by educating him as to the danger of neglect of certain precautions, and if pressure is properly applied by employer and fellow workmen in the interest of all concerned, the workman's too frequent indifference to safety appliances should soon disappear.

Mark D. Stevenson, Chairman.

Report of the Committee on Scientific Research

The report of the Committee on Scientific Research was called for and, in the absence of the Chairman, was read by the Secretary. It was referred to the Reference Committee and was as follows:

To the Members of the House of Delegates of the American Medical Association.

Your Committee on Scientific Research would report that it has made for the current year four grants of $200 each for work to be reported at the meeting at Los Angeles as follows:

I. Dr. R. M. Pearce of Philadelphia for the following pieces of work:
  1. Studies of Experimental Bland Infarction. H. T. Karsner and J. H. Austin.
  2. The Relation of Toxic Doses of Horse Serum to the Protective Dose of Atropin in Anaphylaxis. H. T. Karsner and J. B. Nutt.

II. A grant to Dr. E. C. Rosenow, of Chicago, for work on Autolysis of Pneumococci.

III. A grant to Dr. Mary Rawley Lawson of Boston, for work on The Development of the Tertian Malarial Organism.

IV. A grant to Dr. Karl K. Koessler, of Chicago, for work on Antibodies in Scarlet Fever.

Some other applications made could not be granted on account of the time of application, and the committee has, as in the past, restricted its grants to individuals who give reasonable promise of some useful contribution.

Alfred Stengel, Chairman.

Report of the Committee on Davis Memorial Fund

The report of the Committee on Davis Memorial was next presented, being read by the Secretary in the absence of the Chairman. It was referred as usual and was as follows:

To the Members of the House of Delegates of the American Medical Association:

Last year I tendered my resignation as chairman of the Davis Memorial Committee to your honorable body. Until very recently I had supposed it had been accepted, when your President wrote me to the contrary and asked for a report.

I beg to suggest that this may be considered final. I acknowledged last year, in my report, a disappointment that was in a measure humiliating, that your committee was unable to report a better success. I would suggest that a memorial letter be issued by the House of Delegates to the different state societies, asking a special appropriation for this worthy object. Massachusetts and Iowa are to be excepted, since they have already contributed liberally.

The Association itself voted conditionally to contribute $500. In view of this I would suggest: (1) that the chief hall in the new building be dedicated to the memory of Dr. Davis as the Nathan S. Davis Memorial Hall; (2) that a bronze bust of Dr. Davis be placed in the hall, this to be paid for out of the funds already in the treasury; (3) that such portion of the fund as remains be designated the N. S. Davis Lecture Fund, the income of which shall be used for this purpose, as the Trustees of the Association may designate.

Henry O. Marcy, Chairman.

Report of the Council on Medical Education

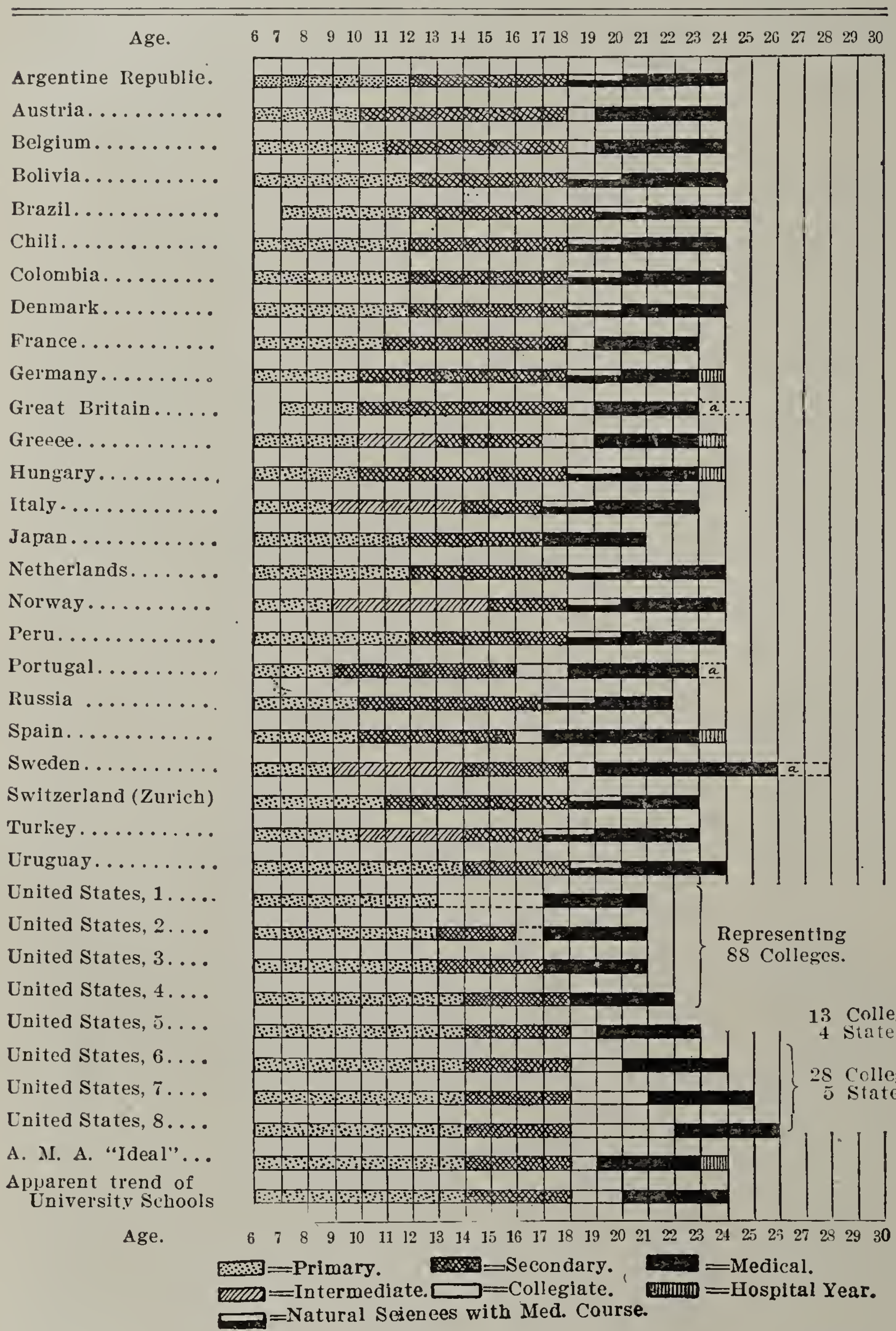
Dr. Arthur D. Bevan, Chicago, Chairman, presented the report of the Council on Medical Education as follows. It was referred to the Reference Committee on Medical Education.

To the Members of the House of Delegates of the American Medical Association:

STUDY OF MEDICAL EDUCATION

The Council on Medical Education has now devoted seven years to the study of medical education. Not only has this been done through the obtaining of valuable data from all possible sources, but the investigation included at least two thorough, personal inspections of every medical school in the United States. As a result of this study, two classifications of the medical colleges of this country have been reported. The first, a preliminary classification, was presented in 1907 but was not published. The second classification, which was based on a more complete investigation, was reported last year, and, in accordance with the instructions of your honorable body, was published in The Journal of the American Medical Association, June 18, 1910.

CHART 1.—PRELIMINARY AND MEDICAL EDUCATION AT HOME AND ABROAD



a Shows average time required to complete the medical course.

ANNUAL CONFERENCES

Another special feature of the Council's work has been the seven annual conferences on medical education, which were largely attended by members of state medical licensing boards, deans of medical schools, presidents of universities, and other prominent educators. Through these conferences, many educational problems have been given thorough discussion, reasonable standards have been fixed and more united and effective work by educational agencies has been brought about.

A MODEL MEDICAL CURRICULUM

At the conference held in 1909, a special committee consisting of one hundred prominent medical educators of the United States and Canada, after a prolonged study of the problems involved, brought in an exhaustive report regarding the subjects contained in the course of study in our medical schools and recommended a "model medical curriculum." The report of this special committee has been widely circulated among medical educators and is still in great demand.

REGULAR WORK AND DATA COLLECTED

Besides the special activities carried on by the Council during the last seven years, there are many regular lines of work which have been followed from the beginning, by means of which an abundance of valuable data bearing on medical education has been collected and kept up to date in permanent files.

(a) Reports from state medical licensing boards have been obtained regarding applicants examined for license to practice medicine. Besides giving considerable personal information, the reports give the college and year of graduation of each applicant, and a statement as to whether he passed or failed. Complete lists of those previously licensed were also obtained from each state, so far as the state records permitted. The Council has in a permanent file, therefore, a complete list of those licensed in all states, and is keeping this file up to date by obtaining reports of all examinations within a short time after they are held.

(b) The Council has likewise received each year from all medical colleges lists of those who graduated as well as data regarding their medical students. Complete alumni lists have been obtained not only of all existing colleges, but also of the majority of colleges which have long since become extinct. The Council has in a second permanent file, therefore, a fairly complete list of the alumni of the medical colleges in the United States and Canada, and is keeping this file up to date by obtaining regularly the lists of all new graduates.

(c) In addition to the information obtained from medical colleges and from the state boards, personal information regarding the place and year of birth, preliminary and medical education, etc., is obtained from physicians themselves. On the basis of the official and personal data thus obtained a biographical card index of all the physicians in the United States, arranged in alphabetical order, has been established. This file also is being kept up to date by the addition of new names as fast as the evidence of their having been licensed is obtained.

(d) In accordance with the instructions received last year from your honorable body, the Council has established an index file of the medical students in the United States. Lists of their matriculants have been received from a large majority of the medical colleges. As soon as a student graduates, his card will be transferred to the biographical index, described in the last paragraph. A record is now being kept of each physician, therefore, from the time he enters on the study of medicine.

(e) A permanent file is also kept of the announcements of medical colleges, both domestic and foreign. This file is kept up not only by the addition year by year of the new announcements as they are issued, but also back numbers are being received relating both to existing and to extinct colleges.

(f) Permanent files are also kept for announcements of secondary schools, colleges of liberal arts, transactions of other educational agencies, educational pamphlets, etc.

It is safe to say that there has been an abundance of valuable information collected by the Council which is not to be found anywhere else. In fact, by means of the data as outlined the Council is in position to answer the rapidly increasing number of inquiries regarding educational matters which are received by every mail.

EDUCATIONAL STANDARDS ABROAD

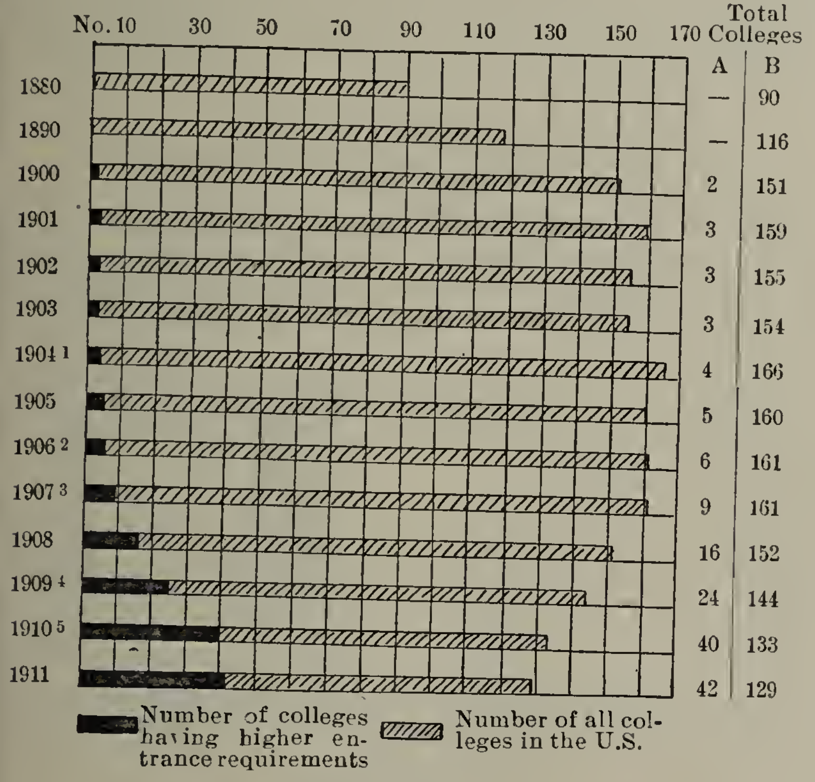
In 1908 a special study was made by the secretary of educational standards abroad and the requirements of nineteen countries of Europe and South America were shown in comparison with those of the United States. In the same year, what was probably the first complete list of the medical colleges of the world, was also published. It is doubtless this comparative study of the educational standards which has received special mention abroad and which caused the Council on Medical Education to be listed by Dr. P. J. Eijkman,[1] of The Hague, among the organizations of the world which are exerting an international influence on the standards of medical education. Meanwhile, facts regarding educational standards and permitting of graphic comparison have been received from twenty-five of the countries of Europe, Asia and South America. These standards are shown in Chart 1, in comparison with the standards enforced in the United States.

PROGRESS IN MEDICAL EDUCATION

As to the improvements which have been made in medical education, it should be said that more has been accomplished in the last six or seven years than in the previous sixty years. It may not be fair to say that all has been brought about by the work of the Council on Medical Education, nevertheless, it is clear that action taken by a national body such as the American Medical Association, representing as it does the organized medical profession of the United States, was sure to have an extensive influence. So the positive campaign carried on by your permanent committee on medical education has given impetus to a nation-wide movement for better educational standards, which, by uniting and reenforcing the activities of other agencies, has resulted in the progress which we are permitted to report to-day.

CHART 2.—MEDICAL COLLEGES IN THE UNITED STATES

Showing the totals in the years given of (A) colleges requiring for admission one or two years of college work, and (B) all colleges in the United States.



REFERENCES

1. The Council on Medical Education was created in 1904.
2. The first personal inspection of all medical colleges was made by representatives of the Council in 1905-6 and 1906-7.
3. The first classification of medical colleges by the Council was presented to the House of Delegates of the A. M. A. in 1907.
4. Second tour of inspection of all medical colleges by the Council was completed, 1909-10.
5. Second classification of medical colleges reported to the House of Delegates and published, 1910.

IMPROVEMENTS IN RECENT YEARS

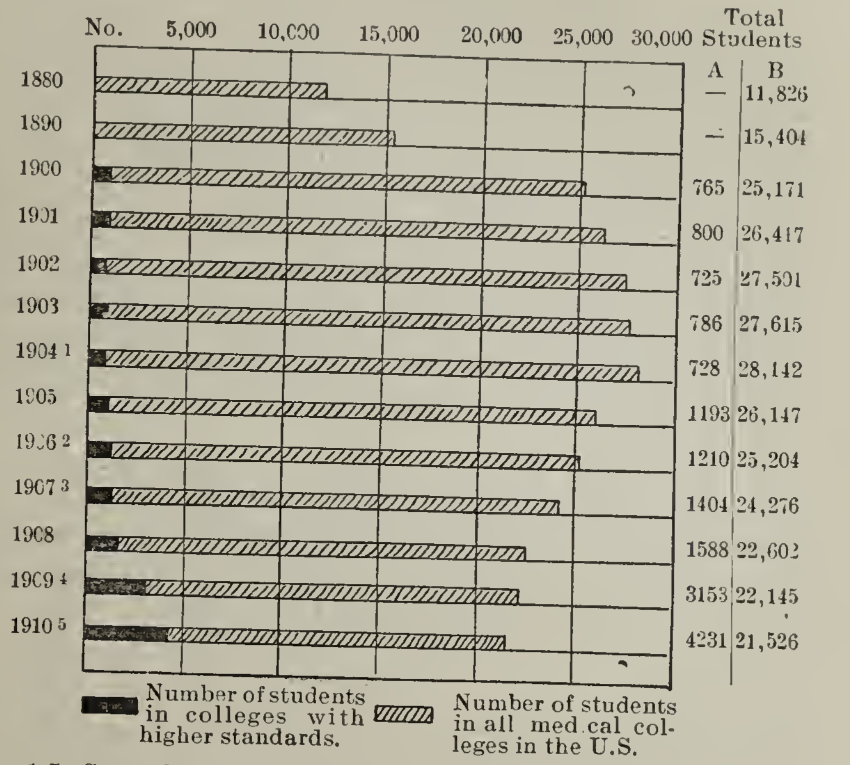
Since 1904 changes for the better in medical education have been particularly rapid. Up to that year the number of medical colleges, most of which were conducted for profit, continued to increase regardless of the growing demand for better medical schools rather than a larger number. In 1904 the maximum number of 166 medical colleges had been reached, constituting, to use a phrase made possible by the Council's researches, practically one-half of the world's supply.

FEWER BUT BETTER COLLEGES

Since 1904, however, there has been at first a gradual and then a positive decrease in the number of colleges until now the number has been reduced to 129. It is significant that the positive decline has been since 1907, when the classification of medical colleges, based on the Council's first actual inspection of all the medical colleges of the United States, was read at the third annual conference. Of the forty-four colleges closed since 1907, twenty colleges were closed outright and twenty-four merged with others. Of the twenty which became extinct, sixteen had been rated in Class C. This decrease, therefore, has been due to the closing of the weak and inferior colleges or by the merging of two or more medical colleges, forming in practically every instance one stronger and better equipped college. Instead of being a serious matter, therefore, this decrease in the number of medical colleges has been of positive benefit, resulting as it has in the forma

CHART 3.—MEDICAL STUDENTS IN THE UNITED STATES

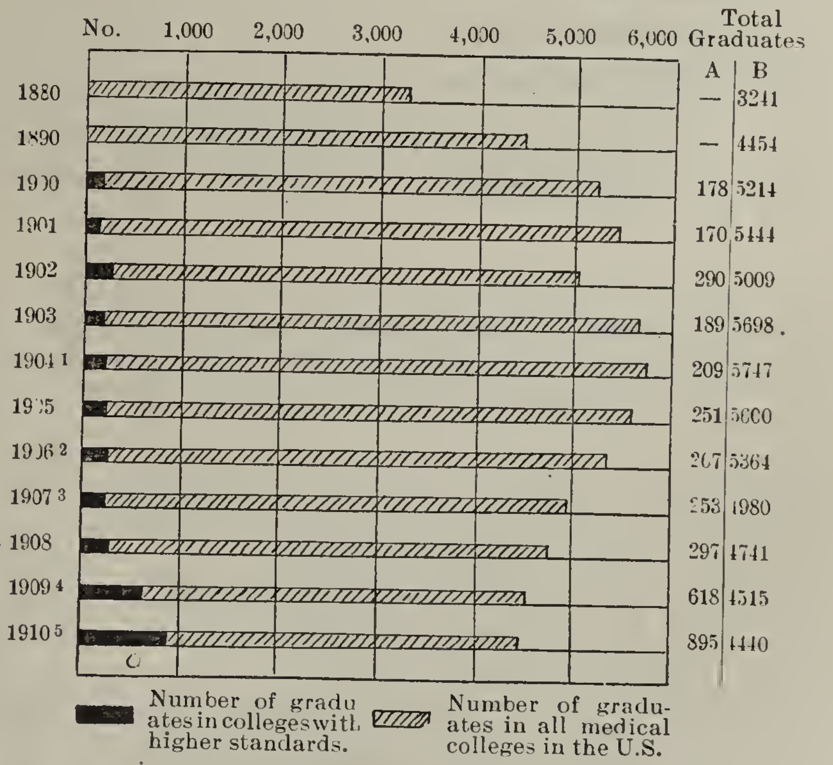
Showing the totals in the years given in (A) colleges having higher entrance requirements, and in (B) all colleges in the United States.



1-5. See reference notes beneath Chart 2.

CHART 4.—MEDICAL GRADUATES IN THE UNITED STATES

Showing the totals in the years given in (A) colleges having higher entrance requirements, and in (B) all colleges in the United States.



1-5. See reference notes beneath Chart 2.

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[1] See THE JOURNAL A. M. A., Aug. 6, 1910, p. 508.

tion of better colleges and in the elevation of educational standards. Since 1904 there has likewise been a decrease in the number of medical students and medical graduates.

COLLEGES CLOSED SINCE 1907

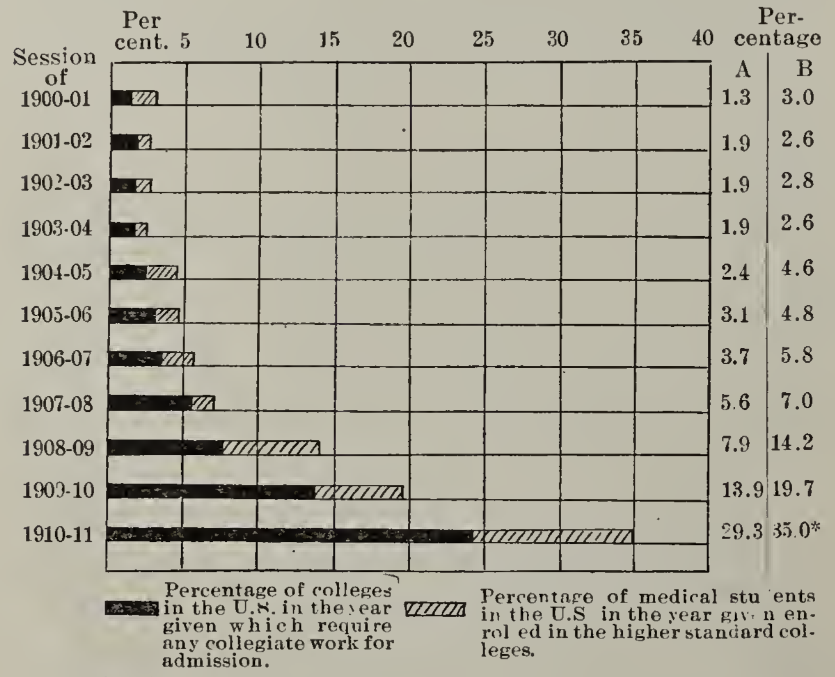
How Closed	Class A	Class B	Class C	Totals
By merger	11	10	3	24
Extinct	..	4	16	20
Totals	11	14	19	44

BETTER STANDARDS OF ADMISSION

Not only has there been an improvement in the standards of medical education since 1904 through the elimination of weaker colleges, but, on the other hand, there has been a decided advance in the standards of admission. Until 1904 only three, or 1.9 per cent., of all medical colleges, were requiring for admission more than a high-school education, but since 1904 the number has increased until now forty-two, or 32.6 per cent. (nearly one-third), of all colleges are requiring for admission one or more years of collegiate work in addition to the high-school course, and medical teaching as a whole has been placed more largely on a university basis. Another fact, however, brought out in Chart 5, is that, although only about 14 per cent. of the colleges held to higher admission requirements during the session of 1909-10, those colleges enrolled about 20 per cent. of all students.

CHART 5.—HIGHER STANDARD MEDICAL COLLEGES IN THE STATES AND STUDENTS ENROLLED

This chart shows the increase by percentages in the number of higher standard colleges and also the increase in the enrollment of students in such colleges. The figures show in the year given (A) the percentage of all colleges holding higher entrance standards, and (B) the percentage of all students enrolled in these colleges.



* Estimate.

COLLEGES AND STATES HAVING HIGHER REQUIREMENTS

The twenty-eight medical schools which are now requiring as a minimum for entrance two or more years of work in a college of liberal arts in addition to a four year high-school education are as follows:

College	Began
Johns Hopkins University, Medical Department	1893
Harvard Medical School	1900
Western Reserve University, Medical Department	1901
University of Chicago, Rush Medical College	1904
University of California, Medical Department	1905
University of Minnesota, College of Medicine and Surgery	1907
University of North Dakota, College of Medicine	1907
University of Wisconsin, College of Medicine	1907
Cornell University Medical College	1908
Wake Forest College, School of Medicine	1908
Leland Stanford Junior University, Department of Medicine	1909
Yale Medical School	1909
University of Kansas, School of Medicine	1909
University of Michigan, College of Medicine	1909
University of Nebraska, College of Medicine	1909
University of South Dakota, College of Medicine	1909
University of Colorado, School of Medicine	1910
Indiana University School of Medicine*	1910
State University of Iowa, College of Medicine*	1910
State University of Iowa, College of Homeopathic Medicine	1910
Drake University College of Medicine	1910
University of Missouri, Department of Medicine†	1910
Dartmouth Medical School	1910
Columbia University College of Physicians and Surgeons	1910
Syracuse University College of Medicine*	1910
University of Pennsylvania, Medical Department*	1910
University of Utah, Medical Department*	1910
Northwestern University Medical School‡	1911

* One year required for the session of 1909-10.
† One year has been required since 1906.
‡ One year required since the session of 1908-09.

The thirteen following colleges require in addition to a four year high-school course one year of work in a college of liberal arts.

College	In Force
Howard University School of Medicine	1910
Kansas Medical College	1910
Tulane University, Medical Department	1910
St. Louis University School of Medicine	1910
University Medical College, Kansas City	1910
Washington University, Medical Department*	1910
University of North Carolina School of Medicine	1910
Ohio-Miami Medical College, University of Cincinnati	1910
University of Oregon, Medical Department	1910
University of Texas, Medical Department	1910
University of Virginia, Department of Medicine	1910
Fordham University School of Medicine	1911
University of Pittsburg, Medical Department	1911

* Will require two years in 1912 and thereafter.

Four other colleges have stated in printed announcements that one year of collegiate work in addition to a four year high-school education will be required for admission beginning in 1912. These are:

Boston University School of Medicine.
Medical School of Maine.
University of Michigan, Homeopathic College.
University of Vermont, College of Medicine.

From the fact that forty-five medical colleges have adopted higher entrance requirements it is interesting to note that nine state examining boards have also adopted preliminary requirements in advance of a four year high-school education. These are as follows:

State Examining Board of	No. of Years Required.	Affects Students Matriculating.	Affects All Applicants.
North Dakota	2	1907-08	1911
South Dakota	1	1907-08	1911
Iowa	2	1907-08	1911
Minnesota	2	1908-09	1912
Colorado	1	1908-09	1912
Colorado	2	1910-11	1914
Connecticut	1	1910-11	1914
Kansas	1	1910-11	1914
Indiana	1	1909-10	1913
Indiana	2	1910-11	1914
Utah	1	1910-11	1914

There are several other states which are contemplating similar increases in their requirements in the near future.

OTHER IMPROVEMENTS

In the last seven years, however, other radical improvements in medical education have taken place. College terms have been lengthened, new methods of teaching have been adopted, more salaried teachers have been employed, more endowments secured, new buildings erected, better laboratories and laboratory equipment installed and better hospital connections and clinical facilities secured. The last year particularly has witnessed many remarkable changes for the better in medical education. Several of our larger medical schools have received large donations, have been thoroughly reorganized, have secured or built teaching hospitals and have adopted higher standards of admission. And reports of other changes of similar importance continue to come in.

BETTER STANDARDS OF LICENSURE

The progress for higher standards, however, has not all been confined to the medical colleges. The requirements of state medical licensing boards have likewise been considerably advanced. The statement regarding these changes is based on a careful study of the practice acts and board rulings and on correspondence received from the officers of the various boards, giving their interpretation of the laws they have been appointed to enforce.

1. In 1904 apparently only twenty states had any provision in their medical practice acts for preliminary education, now thirty-six have that provision. Then only ten states required a standard four-year high-school education as their minimum standard, and none required any college work. Now thirty-one states require the standard high-school course and nine of these require one or two years of collegiate work in addition. Then only four states conducted preliminary examinations and

inspected credentials previous to or at the time of matriculation. Now nine states perform those duties.

2. In 1904, thirty-six states required that all candidates for license be graduates of legally chartered medical colleges; now forty-four states have the requirement.

3. In 1904, forty-five states required an examination of every applicant; now forty-eight require an examination.

4. In 1904, the boards of only fourteen states had authority to refuse recognition to inferior or disreputable medical colleges. Now twenty-eight boards have full authority to refuse such recognition and fourteen others have a limited or divided authority.

5. In 1904, there were thirty-six states each having a single board of medical examiners. Since that year, four more states have secured single boards, making forty at the present time.

6. Reciprocal relations had been established by twenty-seven states in 1904 with two or more other states; now thirty-four states have such relations, and in four other states, Alabama, Oklahoma, South Dakota and Pennsylvania, the boards have the authority to establish such relations if they care to do so.

7. Since 1904 six state boards have initiated practical tests to a certain extent at their examinations, thus making it possible to differentiate between applicants who have gone through a mere cramming process and those who have had a thorough medical training in laboratory and clinic.

ADVANCES IN STATE LICENSE REQUIREMENTS IN SEVEN YEARS

Requirement or Provision	States Having Provision for			States Still Having No Provision for
	In April 1904	In April 1911	Increase	
Any requirement of preliminary education	20	36	16	13
A standard four-year high school education	10	31	21	18
One or two years of college work as a minimum	0	9	9	40
Inspection of all credentials at time of matriculation and control of preliminary examinations..	4	9	5	29[1]
That all applicants be graduates of a medical college...	36	44	8	5
That all applicants undergo an examination for license.	45	48	3	1
Requirement of practical tests in the license examinations.	1	6	5	43
Full authority by board to refuse recognition to low-grade colleges	14	28	14	21
Reciprocal relations with other states	27	38	11	11
Single boards of medical examiners	36	40	4	9

[1] Eleven states have no medical colleges and therefore no need for this provision.

Relating both to colleges and to state boards, all the changes referred to above have been brought about with a free will and an enthusiasm which constitute the best guarantee that other improvements are to follow and that the shortcomings in our systems of medical education and licensure will be corrected. In order that future work to that end may be directed more effectively, a brief statement of the present conditions is desirable.

IMPROVEMENTS STILL NEEDED

In regard to preliminary education: There is an endless number of agencies having to do with the valuation of the entrance credentials of those who are to enter on the study or practice of medicine and nearly as great a variety of standards and methods are employed. While some of these agencies are conscientious and use examinations or other methods which actually insure that the applicant has the required education, others are not so strict and still others make a farce of the whole matter. In the last instance entrance requirements may have been adopted without any intention of having them enforced. There would be a decided improvement if the number of these agencies could be reduced, if work could be placed in the hands of experts and if all agencies would cooperate for the enforcement of fair standards. This would be of positive benefit not only to medical education but also to the other departments of education.

EDUCATIONAL SAFEGUARDS FAULTY

Under the methods and conditions which still exist, there is scarcely a person so ignorant that he cannot gain admission to a score or more of medical colleges in this country, and he can find some "examiner" who will grant him a "certificate" which is supposed to represent the "equivalent" of a four year high-school education. So long as an applicant can pay the required fee, there are still colleges which are only too glad to accept him, regardless of his lack of preliminary education. With some few exceptions, such colleges are also deficient in regard to expert teachers, laboratory equipment and clinical facilities. In fact, if they could, and did offer a modern medical course, the majority of their students would be incapable of profiting by it.

BETTER LEGAL SAFEGUARDS NEEDED

Of course the low-standard colleges referred to can exist only in states where the laws regulating the practice of medicine are inadequate or are not enforced. The statement is true that a rigid enforcement of the requirement that every student, before entering on the study of medicine, must have secured an education at least such as is given in a standard four year high-school, would force the majority of these inferior colleges to close their doors. The state board should have the right to refuse recognition to any medical college which is deficient either in preliminary requirements or in its laboratory and clinical facilities. Even without such a provision, however, the state board has another effective means of defending the people of its state against ill-trained doctors, and that is through the examination. At present the examination as conducted in the majority of states can be easily passed by the student whose preparation has been based largely on questions asked by state boards, who may have undergone merely a cramming in a quiz class or compend. The most effective remedy is the adoption of practical tests in the examinations by which the student's skill in laboratory methods and in the examination of patients may be proved.

PRACTICAL EXAMINATIONS IN GERMANY

There is much we can learn from the methods employed in the countries of Europe which have had to cope with the same problems with which our states have to deal. In Germany[2] the examination for license comprises written and practical tests in anatomy, physiology, general pathology, pathologic anatomy, surgery, medicine, obstetrics, gynecology, ophthalmology and hygiene. There is also a clinical part of the examination in which the candidate, on one day has to examine a medical patient in the presence of the examiner, and on the next day a surgical patient, giving for each the etiology, diagnosis, prognosis and treatment, immediately after which he draws up a report which is countersigned by the examiner. On the same day in which he examines each case, the student prepares a critical report at home, which is presented to the examiner next morning, with the date and the candidate's signature affixed. For the next week he has to visit both patients once or twice daily. He must keep an accurate account of the progress and treatment of the disease, and in case the patient dies within the seven days he must give a written opinion of the cause of death. Clinical examinations somewhat similar are required also in ophthalmology, obstetrics, pediatrics and mental diseases. Passing in these varied tests qualifies the candidate to practice medicine, but after two rejections no candidate can enter for another examination except in very special cases.

PRACTICAL EXAMINATIONS IN GREAT BRITAIN

An excellent system of practical examinations has been developed in Great Britain by the conjoint board in London, according to Mr. Abraham Flexner, who has just made a prolonged investigation of medical education abroad. It is stated that as many as 150 to 200 candidates appear at each examination. Everything needed for the examination is brought to the examination hall. The museums of London furnish the needed surgical and pathologic specimens; the hospitals and out-patient departments furnish patients. The examinations are conducted entirely by teachers and some of the ablest men in England regard it as a public duty to serve in that capacity. In the examination witnessed by Mr. Flexner, every student was examined by two teachers. The examination was both written and practical, and the written papers were marked independently by two teachers. In a large number of papers thus marked no great variation in the markings by the two examiners were found. The examinations as now conducted by the conjoint board in England have been developed by Mr. Frederick G. Hallet, the secretary of the board. Meanwhile, it is hoped that the Council on Medical Education can induce Mr. Hallet to attend the conference on medical education to be held next February, and explain more in detail how the system works, to the many delegates of state licensing boards who will be in attendance at that conference.

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[2] Brit. Med. Jour., June 3, 1905, p. 1197.

GIVE THE STATE BOARDS A FAIR CHANCE

The solution of many of the problems of medical education rests in the hands of the state licensing boards, and doubtless will be solved by them if they are given a fair chance. In many of the states, however, the medical boards are seriously handicapped. As a rule, the board is too closely connected with politics and in some states the members are appointed for political reasons and, therefore, are liable to be changed with every turn of politics. It is often difficult, therefore, to secure the best men for membership on the boards. Again, the boards are often hampered by lack of funds to do what could and should be done. Too often they must depend on the fees received from applicants, in which case a strict enforcement of fair standards tends to reduce the number of applicants and correspondingly the financial resources of the board. Furthermore, in several states the board is not given full authority in the premises. Either they are handicapped by a very poor practice act, or their authority is limited or divided by the establishment of special boards for the various medical sects, which makes impossible a really satisfactory regulation of the practice of medicine. As has been frequently pointed out, there are in the fifty states and territories of the Union some sixty-five different licensing boards, or eighty-three if we count also the seventeen boards which have been granted to osteopaths. At most there should be but one board in each state, and that board should be composed of men appointed for their particular skill in the examining and licensing of physicians and not for political reasons. Furthermore, the board should be a permanent body so that after the members have become experienced the public may have the benefit of that experience. There are some boards which change secretaries every few months or year, when the records and the work go into the hands of someone who may be entirely without experience in the work involved. If possible, the board should have a permanent secretary, who will hold his place during good behavior, and who is not subject to removal with every change of politics.

ONE PORTAL TO THE PRACTICE OF MEDICINE

Not only should there be but one board in each state manned by able examiners, but there should be a single educational standard fixed with which every applicant for a license to treat the sick, by whatever means or method, should comply. Let there be one portal of entry to the practice of medicine. The statement is a repetition but it will bear repeating, that all who are to treat human ailments, no matter whether they are regulars, homeopaths, osteopaths, or the followers of any other school, are alike in that *they must make a diagnosis;* they must be capable of differentiating between the various diseases in order to intelligently treat the cases which may come to them and, therefore, they should all be required to have a training in the fundamental medical branches.

Even with a single board and a single educational requirement in each state, there would still be considerable confusion in methods and in standards as compared with the regulation of the practice of medicine in other countries where a single authority is in control and where ample funds are provided with which to do things. Much of the difficulty in this respect, however, can and is being offset through cooperation between boards. But much remains to be done to extend this cooperation and to secure more uniformly high standards and more uniformly thorough methods of examination.

But as already stated, progress is being made all along the line and will continue to be made. In many of our states, however, it is necessary to secure the enactment of better medical practice acts, and that is usually a slow process. Nevertheless, the needs are pretty generally known, the facts are being given publicity, and it will not be long before the public will demand the adoption of satisfactory laws and a better regulation of the practice of medicine. Ignorance, pretense and quackery should no longer be tolerated on the part of those who are to enter on the practice of medicine.

THE AMERICAN STANDARD OF MEDICAL EDUCATION

It is now clear to those who are familiar with the situation that a satisfactory medical training in accordance with the known facts of modern medicine requires: (a) A training in a good secondary school; (b) a premedical course of one or two years devoted to the sciences of physics, chemistry and biology, and to modern languages; (c) a four year course in a modern medical school which has ample laboratory, museum, library, dispensary and hospital facilities, and which has a sufficient number of expert, full time teachers, and (d) a year spent as an intern in a good hospital. We believe that is the minimum training by which it is possible to prepare a student for independent practice. This means a training covering six years after the completion of the high-school course. While it is evident that this requirement cannot immediately be put into effect throughout the whole country, nevertheless, it should be emphasized that anything short of this as an ultimate requirement is clearly insufficient. A comparative study of medical education abroad shows that this is the only large and important country in which the above requirement as a minimum is not insisted on. We believe, therefore, that the American Medical Association should urge each state board and each medical school to adopt these requirements just as soon as their environments will permit. Furthermore, we believe the time is now here, when state boards should adopt the requirement that every applicant must have spent a fifth year as an intern in some good hospital.

RECAPITULATION

The following will briefly summarize the statements presented in the report:

Work of the Council

(a) The Council has now spent seven years in the study of conditions underlying medical education and the licensing of physicians.

(b) An abundance of information relating to all phases of education but more particularly to medical education has been collected. Much of the information collected cannot be obtained anywhere else.

(c) The Council on Medical Education has been listed by Dr. P. J. Eijkman of The Hague, among the organizations of the world which are exerting an international influence on educational standards.

(d) The Work of the Council and of the American Medical Association have been effective in bringing about marked and rapid improvement in medical education during the last seven years.

Advances in Seven Years

(e) The number of medical colleges in the United States has been reduced from 166 in 1904 to 129 in 1911. This reduction has been due to the closing of poor schools or to the merger of two or more colleges, forming in each instance one invariably stronger and better medical school.

(f) Medical schools requiring one or more years of collegiate work for admission have increased from four in 1904 to forty-two in 1911.

(g) Although the number of medical students in the United States has been reduced from 28,142 in 1904 to 21,526 in 1910, on the other hand the number of students enrolled in high-standard medical colleges has increased from 728 in 1904 to 4,230 in 1910.

(h) In 1904 only 2.4 per cent. of all medical colleges were requiring one or more years of college work for admission, now 32.6 per cent. (nearly one-third) of all colleges are enforcing that requirement.

(i) Since 1904, preliminary educational requirements have been adopted in sixteen more states; a four year high-school education has been made the standard in twenty-one more states, and nine states have adopted as their minimum a requirement of one or two years of collegiate work.

(j) Six state licensing boards are now to a limited extent using practical tests in their state license examinations.

(k) Since 1904, reciprocal relations have been established by eleven more states, making a total of thirty-four which now have such relations with other states.

Advances Still Needed

(l) There are apparently too many agencies passing on the credentials of matriculants to medical colleges, and also an endless variety of methods are employed. The number of these agencies should be reduced to the smallest possible number and the methods should be made more effective.

(m) At the present time any student, however unqualified, can find some "examiner" who will grant him a "certificate" which is supposed to represent the "equivalent" of a four year high-school education.

(n) A more strict enforcement of preliminary standards by state boards would have a beneficial effect by inducing the medical colleges to live up to their published standards of admission.

(o) More thorough and practical examinations should be adopted by state licensing boards so as to differentiate between the candidate who has been trained by quiz-class methods alone from the candidate who has received a thorough training in laboratory and clinic.

(p) An effort should be made by the medical profession of each state to secure the appointment on state medical licensing boards of men who are especially qualified for the duties devolving on them.

(q) There should be in every state only one portal to the practice of medicine. All who are to treat human ailments, regardless of their "methods of treatment," are alike in that *they must make a diagnosis.* Unless they know what the patient's trouble is, any treatment is mere guesswork, unscientific, and as liable to do harm as good. To be able to make the proper diagnosis requires a thorough training in the fundamental medical sciences, and this training should be required of all alike.

(r) To master thoroughly the modern medical course requires: (1) a training in a good secondary school; (2) a premedical course of one or two years devoted to the sciences of physics, chemistry, biology and a modern language; (3) a four-year course in a modern medical school having well-equipped laboratories and an ample force of expert teachers, and (4) a year spent as an intern in a good hospital.

(s) Finally, it is of great importance that closer relations be brought about between hospitals and medical schools, and that those in charge of hospitals should recognize the educational function of the hospital. Not only is a hospital made more influential by a close association in a teaching capacity with some university medical school, but also its patients are sure to receive better attention, and furthermore, the hospital will be doing a service to the community by helping to develop capable, well-trained physicians.

DEFINITE RECOMMENDATIONS

In order to secure the best results, it is recommended that during the next year all forces working for the betterment of medical education make special efforts along the following lines:

In General

1. Men best qualified for the work to be urged for appointment on state licensing board.
2. Educate the public and legislators regarding the necessity of a single portal of entry to the practice of medicine for the right to treat human ailments by whatever methods.
3. Emphasize the need of private endowment or state aid for medical education.

For Medical Colleges

4. The adoptions, at the earliest possible time, of one or two years of work devoted to physics, chemistry, biology and modern languages in addition to the four year high-school education.
5. The securing of more expert full-time instructors particularly of the laboratory branches.
6. The development of better library and museum facilities.
7. The development of more extended and careful study by senior students of patients in dispensaries and hospitals.
8. The adoption of the requirement at the earliest possible date of a fifth year to be spent by the student as an intern in a good hospital.

For State Licensing Boards

9. Adoption of the requirement that each applicant should possess the higher preliminary qualification as outlined in paragraph 4 above.
10. The provision for a more careful valuation of the preliminary credentials presented by all applicants.
11. The adoption of thorough and practical tests at state license examinations. These are now employed by England, Germany, Hungary, Norway and other leading countries of Europe.
12. The extension of reciprocal relations with other states, but this provision should be safeguarded by a careful scrutiny of the applicant's credentials and by a more strict use of the board's discretionary power.

Respectfully submitted,

Arthur Dean Bevan, Chairman.
N. P. Colwell, Secretary.

Ask Congress to Amend Food and Drugs Act

Dr. F. G. Wheatley, Massachusetts, presented resolutions asking Congress to amend the Food and Drugs Act so that false statements of any kind shall be unlawful. This was referred to the Reference Committee on Legislation and Political Action.

Proposal to Reconstruct Judicial Council

Dr. John B. Roberts, Pennsylvania, presented an amendment to the By-Laws to modify the Judicial Council. This was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

On motion, the House of Delegates adjourned until 2 p. m.

Second Meeting—Monday Afternoon, June 26

The House of Delegates convened at 2 p. m., and was called to order by the President. The Secretary called the roll and a quorum was present.

The minutes of the morning meeting were read and approved.

Report of the Committee on Nomenclature and Classification of Diseases

The report of the Committee on Nomenclature and Classification of Disease was referred, without reading,* to the Reference Committee on Hygiene and Public Health. It will appear in The Journal next week.

Report of the Committee on Scientific Exhibit

The report of the Committee on Scientific Exhibit was referred, without reading, to the Board of Trustees. It was as follows:

To the Members of the House of Delegates of the American Medical Association:

The migration of the Association in its annual sessions offers only an apparent and not a real or serious embarrassment to the success of the Scientific Exhibit. According to the region or peculiar facilities offered at a given meeting place, instructive variety may be given to the character of the exhibit. Thus at New Orleans tropical medicine was given prominence. In Boston the facilities of the Harvard laboratories made possible microscopic and gross demonstrations of extraordinary interest. Last year under the inspiring direction of Dr. Frank J. Lutz, commendable impetus was given to the historical phases of medicine. The geographic position of the present meeting place offers opportunity to emphasize the pathologic and sanitary phases of the plague.

A common fallacy in the minds of those who might exhibit is the impression that only large collections are desired. The small research exhibit to which the gold medal was awarded last year, was offered at a late hour with a modest apology and request that it might be given a corner somewhere. Society and institution collections must necessarily occupy the most prominent place in the exhibit; but small exhibits are equally desirable and sometimes more instructive.

Dr. W. A. Evans, chairman of the Section on Preventive Medicine and Public Health, is to be commended for attempting this year what we have at different times sought to persuade chairmen of sections to undertake, viz.: to coordinate the work of the section with that of the exhibit. The one should supplement the other.

Remoteness of the meeting place has not hampered the success of the Scientific Exhibit to the extent that might be expected. In this as in other matters pertaining to the session, western men have been alert to their obligations. Under the direction of Dr. Stanley P. Black of Los Angeles and Dr. William Ophuls of San Francisco, very excellent contributions have been secured from the coast region. From east of the Rocky Mountains have come no less than nine exhibits.

These facts bear eloquent testimony to the loyalty to scientific ideals of members of the Association throughout the country. It is not possible at this time to refer in detail to the exhibits; nor to give each exhibitor his due meed of praise for the service rendered. We can only say, "Well done, good and faithful." Following the custom of previous years, the committee, in meager recognition of the service of contributors, offers certificates, medals and awards as detailed below.

1. Certificates of Honor, given to only a few of the very superior exhibits.
2. Gold Medal for the best research exhibit dealing with any problem in the fundamental medical sciences.

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* These reports were put in type before the session and were printed in the "House of Delegates Handbook." A copy of this is in the hands of each delegate, thus greatly facilitating the course of business. The Handbook also contained the names of all the officers, members of committees, and the Constitution and By-Laws.

3. Gold Medal for the best exhibit on the basis of general excellence, from the standpoint of care in preparation, completeness and instructiveness.

It is recommended that a committee on awards be appointed at once by the president, to pass on the foregoing.

4. Cash Award of $200 for the best series of not less than six original cartoons, dealing with any one or all of the following health problems:

(a) Insects in the Causation of Disease.
(b) Beneficent effects of Animal Experimentation.
(c) Pure Food and Adulterated or Contaminated Foodstuffs.

A considerable number of well-known artists have contested for this award. The exhibit is unique and most instructive. It should be seen by every member of the Association. Out of the two hundred or more cartoons submitted, the Council on Health and Public Instruction should be able to secure quite a number possessing great educational value in promulgating public health propaganda. It is suggested that a committee of three on cartoon contest be appointed at once by the President.

Through the agency of the Scientific Exhibit your committee has always striven to show the newer things indicative of progress in the fundamental branches of medical science. In the work of the sections, the art of medicine has entered more largely. Taken together, they give completeness to the work of the Association.

But we would fall short of duty in this organization did we rest content to promote scientific progress along the narrow lines of the nature, cause and cure of disease. We must harken to the dominant note in our national public life—conservation! It is indeed a fine thing to save the forests, the mines and the water power of the country from wanton destruction; but it is a still greater accomplishment to conserve the health of the people. Just now when the world is awakening to the truth; when statesmen and even the president discuss and commend in enthusiastic terms the public health movement, it is well that the American Medical Association should lay its hand to the plow in this great sanitary field. The Council on Health and Public Instruction has before it problems more difficult and far-reaching than any yet undertaken by the Association. Toward their solution the Scientific Exhibit stands eager to render every possible aid.

It may not be amiss in this connection to recall that the Association was the pioneer in the introduction of public health exhibits, now so generally used in the education of the public. More recently through the agency of the Scientific Exhibit, models were developed for cheap, compact and durable public health exhibits, designed for permanent installation in schools, court houses, village railway stations and like places, where the lessons of hygiene and sanitary science may be taught day by day. Attention has already been called to the health cartoons presented at this meeting.

Many other attractive fields lie untouched. Time is ripe for the infusion of health problems into novels, plays and playlets. Would it be too much for your committee to take the initiative in such a movement? Should this be done, a play dealing with some health problem will be presented a year hence as part of the Scientific Exhibit program.

While your committee has dreamed dreams, it has nevertheless brought some of them to realization. And whether dreaming or doing, we have been spurred on by the hope of accomplishment in a good cause and by your kind sympathy and support, for which accept our thanks.

Respectfully submitted,
Frank B. Wynn, Director.

Committees on Awards for Scientific Exhibit

In accordance with this report from the Committee on Scientific Exhibit, Dr. Edward Jackson, Colorado, moved that the President be authorized to appoint a Committee on Awards. This was seconded and carried and the President appointed Drs. H. Gideon Wells, Illinois, Chairman; W. E. Musgrave, Philippines, and M. P. Ravenel, Wisconsin.

Dr. C. R. Woodson, Missouri, moved that the Council on Health and Public Instruction be requested to serve as a Committee on Awards for Cartoons. This carried.

The Secretary read a report of progress from the Committee on Anesthesia which was referred to the Reference Committee on Miscellaneous Business.

Report of the Committee on Memorial to Medical Officers Who Died in the Civil War

The report of the Committee on Memorial to Medical Officers who died in the Civil War was received and referred to the Reference Committee on Miscellaneous Business. The report will be published in The Journal next week.

Report of the Committee on Relief Fund and Physicians' Sanatorium

The report of the Committee on Relief Fund and Physicians' Sanatorium was read by the Chairman, Dr. Edward Jackson, Colorado, and was referred to the Reference Committee on Miscellaneous Business. It will appear in The Journal next week.

Report of Committee on National Health Organization

The First Vice-President, Dr. E. E. Montgomery, Pennsylvania, then took the chair and called for the report of the Committee on National Health Organization, which was presented by the Chairman, Dr. William H. Welch. The report was referred to the Reference Committee on Legislation and Political Action. The report was as follows:

To the Members of the House of Delegates of the American Medical Association:

At the St. Louis meeting of the Association, 1910, the following resolution was adopted:

Resolved, That the president be and is hereby authorized to appoint a committee of seven members, which shall be charged with the duty of framing a bill for a national department of public health, to be presented to the next session of Congress, in December, and that this committee shall consider and determine all matters and policies relating to national health legislation, and may invite the cooperation and cooperate with other organizations having the same purpose in view, the president of the association, Dr. William H. Welch, to be named as a member of the committee.

Pursuant to the resolution set forth above, the President named the following seven members of the Association to constitute a Committee on National Health Organization: Dr. Hermann M. Biggs, New York; Dr. W. A. Evans, Chicago; Dr. S. G. Dixon, Harrisburg, Pa.; Dr. J. N. Hurty, Indianapolis; Dr. J. N. McCormack, Bowling Green, Ky.; Dr. H. P. Walcott, Cambridge, Mass., and Dr. William C. Woodward, Washington, D. C.

The President of the Association, *ex-officio* a member of the committee, called a meeting of the committee in New York, March 25, 1911, at which time the committee met and organized by the election of Dr. Welch as chairman, and Dr. Woodward as secretary. After a careful consideration of the situation, the skeleton of a bill for the establishment of a department of health was outlined, and the committee adjourned to meet April 1. At that time, the committee again met, and then further developed the outline agreed on at the preceding meeting. A copy of the outline thus developed was submitted to Senator Owen for such use as he might deem proper to make of it in framing a bill to establish a department of health.

At its meeting of April 1, your committee appointed a subcommittee to gather information from various countries with respect to the national health organizations of each, with a view to enabling the committee to perfect its work. This subcommittee is now at work, and the committee expects to gather through it and to digest for the use of the Association and of Congress, information that will be of value in improving the federal health organization of the United States.

William H. Welch, Chairman.

President Welch, in anticipation of the adjournment about to take place, expressed great gratification at the uniform courtesy and helpfulness that had been extended to him by the members of the House of Delegates.

On motion, the house adjourned until 2 p. m., Tuesday, June 27.

[The Proceedings of the Sixty-Second Annual Session of the American Medical Association will be Continued in the Journal, July 8, 1911.]

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RETROSPECTION AND INTROSPECTION: OUR OPPORTUNITIES AND OBLIGATIONS *

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In a retrospective and introspective gynecologic and obstetric review, at the end of the first decade of the twentieth century, one is first impressed with the astonishing progress which has been made in both of these branches in the generation just passed. One is next struck by the wide-spread interest in them everywhere and by the general adoption of the best modern methods in the treatment of gynecologic and obstetric patients, not only in the great medical centers and large cities, but in the small hospitals of many towns or villages and also in the homes of patients.

Happily it may now be said that the seed sown by Holmes and Semmelweis in an unprepared and refractory soil during the early forties of the nineteenth century, has, after more than sixty years of cultivation and forcing at the hands of a few obstetric nurserymen, grown to receive universal recognition. The practical adoption of a more or less rigid surgical asepsis is now approved and attempted in almost all obstetric work everywhere and as a consequence puerperal infection, or so-called puerperal fever, is vastly less frequent and virulent than of old. It is to be regretted that infections as a consequence of induced abortion are not diminished in proportion; but "being performed without antiseptic precautions, generally by illiterate persons of either sex, sometimes by the woman on herself or by the unskilled hand of a sympathizing neighbor, it slays its thousands" as heretofore.

It is very gratifying to find really good obstetric and gynecologic work now being done by one or more capable and conscientious men in almost every community in America. Gynecologic and obstetric wisdom and skill are no longer limited to a few professors in the great universities, but thanks to the unselfishness of the wise and skilful teachers of the last generation, their knowledge and experience have been freely passed along to the many of this generation.

In the treatment of all diseases everywhere in the human body, surgery must be regarded as a choice of evils, and in its adoption as a remedy for disease it must be demonstrated to be the lesser evil. Its consequences must be thought less burdensome and, on the whole, in an average case, less dangerous than the disease for the cure or relief of which it is prescribed.

Surgery usually contemplates mutilation as a remedy and, excepting in plastic and reconstructive surgery, the removal of some organ or member or tissue is inevitable. Ample justification for such mutilation must first be had. Furthermore, it should be regarded as reasonably certain that the result will be more than a mere anatomical elimination of a diseased organ; that is, that the patient will be comforted and benefited as a result of the operation and not be left as miserable as before, or even made worse, notwithstanding the successful removal of a pathologic specimen.

The responsibility of the surgeon in recommending an operation extends even farther than this, for he must feel assured that the benefits to be derived from the operation justify the probable or known risks of the operation under the conditions which attend it at the hands of him who attempts it.

The discomfort and temporary disability of the patient as a result of the operation must also be considered. Last, but not least, the cost of the operation to the patient should be counted, for he is often burdened for months or years by such expense. In short, everything considered, the game must be worth the candle.

Operations on neurasthenic and nervous invalids, and for epilepsy and insanity, always demand the nicest surgical judgment and a wide knowledge of the pathology of nervous disorders, to save surgery from being discredited. It is, I believe, generally conceded at this time that nothing short of actual disease in the organ to be operated on, with grave incident symptoms or apparent risk to life, warrants surgery for such invalids. We know how effective psychic treatment may be for these patients. All of us have seen those for whom we have conscientiously prescribed surgery recover without it; and we remember them well for they and their friends take particular delight in reminding us of our human fallibility.

I am aware that there are many who will regard these views as idealistic, utopian, and quite impracticable in their application to one's daily work. My plea, however, is for a careful, well-considered, ripe surgical judgment which comprehends all of the essential details that may bear on the case, and I regard all of the factors cited as both relevant and important in their bearing on the patient's interests.

Nearly twenty years ago one of the ablest gynecologists of that day[1] closed his "Introductory" to a well-known text-book with this paragraph:

> In conclusion, the riper my experience the more firmly am I convinced that in the treatment of woman's diseases the possibility of a nerve origin, or of a nerve complication, should be the *fore*-thought and not the *hind*-thought of the

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* Chairman's Address before the Section on Obstetrics and Gynecology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Goodell, William: Introduction to Keating Coe's Gynecology.

physician. I therefore have arrived at a very short gynecologic creed: I believe that the physician who recognizes the complexity of woman's nervous organization and appreciates its tyranny will touch her well-being at more points, and with a keener perception of its wants, than the one who holds the opinion that woman is woman because she has a womb.

The teaching and example of this great and honest man (he was my teacher and master), indeed the force and influence of this single paragraph from his pen, have done much to wipe out and eliminate gynecologic surgery for the cure of vague nervous and neurasthenic symptoms, to the infinite credit of our profession and the enormous benefit of womankind.

For the attainment of the best results in any surgical work, but particularly in the delicate and difficult field of obstetric and gynecologic surgery, certain prerequisites are essential.

First, as has been said, a good working knowledge of abdominal and pelvic pathology is required and an ample experience and training in the interpretation of the objective and symptomatic signs of disease are necessary to a reasonably exact diagnosis; and diagnosis is the foundation on which all good treatment rests, whether it be medical or surgical.

The menace to modern obstetric, gynecologic and abdominal surgery is the horde of half-equipped and untrained individuals who have invaded the field without the wisdom or experience to appreciate their limitations, or the conscience to recognize the enormity of their sins of omission and commission.

That a service of reasonable duration as an assistant to an experienced surgeon, or the broadening influence of a few years of general practice should precede one's advent into abdominal, obstetric and gynecologic surgery as a specialty does not deter the ambitious and self-confident embryo surgeon. He emerges from the medical school, or from the hospital in which he may have served a few months as an intern, as a full-fledged surgeon with a self-reliance and assurance that is appalling to those who watch his course.

The existence of this evil has been pointed out repeatedly, but as yet little effort has been made to check it, though a reasonable restriction in the extension of hospital facilities to those only who can show sufficient training and experience in the work they attempt and a reasonable degree of personal integrity, would, in the main, correct it.

This is a duty which directors and trustees owe their hospitals, those who contribute to their support, and the qualified surgeons on the staff, to say nothing of their duty to the trusting but helpless patients whom they admit for maltreatment by the incompetents who are working under their protection.

This abuse of the privileges of the open hospital I have referred to elsewhere,[2] and I have also suggested a remedy that I believe would eliminate the worst features of the evil.

It was suggested that a board of hospital counselors be created in each city, by the appointment of one or more representatives from the staff of each hospital, said board to devise ways and means for the control of this and other common hospital abuses. It is little credit or honor for a reputable and conscientious surgeon to hold a place on the staff of a hospital in the administration of the affairs of which he has little or no voice and in which incompetent and unscrupulous practitioners are accorded the same facilities and privileges as he.

Those who are permitted to enjoy the facilities of our hospitals for serious major surgical work should, in every instance, be obliged to apply formally for such permission, and such applications should be accompanied by evidence of the fitness of the applicant for the work he aspires to undertake, and of his integrity and honesty in his relations with his patients and his fellow practitioners. These credentials should be examined and passed on by such a board as has been suggested, or, if for any reason this is impracticable, by a committee of the staff of each hospital so applied to.

That such privileges are freely granted by non-medical boards of directors or, too often, by a non-medical superintendent after insufficient inquiry into the qualifications and integrity of purpose of the applicant, we all know, and what the consequences are we know. Exhibitions of carelessness, recklessness, indifference, ignorance, and technical incapacity are in evidence from day to day, and, not infrequently, unmistakable evidences of definite criminal intent, as in the unjustified induction of abortion, are apparent under our very noses. It is no uncommon thing to find persons operating in our hospitals who are generally known and recognized in the community as commission-payers or abortionists; nevertheless, they are members in good standing in their respective district medical societies.

It is no exaggeration to state that at least one-half of the hospitals in the United States are church hospitals. Notwithstanding this, however, unwarranted primary or secondary operations for emptying the pregnant uterus are frequently performed within their walls. The names of the patron saints of the healing art are thus daily employed to cover the criminal practices of the abortionist and his commission-paying accomplice; and, as of old, women and wealth are the prostituting agencies.

No one could wish to deny the benefits of sanctuary in the hospital to a desperate and despairing woman whose life is threatened by an incomplete abortion, however induced, but such humanitarianism should not be made a cloak to cover the operations of those who make it a business to perform the first step of such operations in their offices or the homes of patients, and the second step in the hospital and under its protection.

Neither should the hospitals harbor, shelter or dignify those "surgeons" who are in collusion with abortionists and who knowingly do the second step of the operation for them in the hospital, too often on a commission basis.

This situation calls for rigid supervision and control on the part of the hospitals; a censorship which can be intelligently exercised only through the cooperation of a staff of medical men, and which must be brought about by a careful process of elimination and selection of those who are to be accorded hospital privileges.

Why does such a state of things exist and why can it not be controlled? It is painful to admit it, but candor compels us to state that such things are possible merely because of the same scramble for business on the part of the hospital that actuates the commission-paying surgeon. It is the curse of commercialism. It would be far better for humanity if such hospitals were closed forever and such physicians were driven from the organized profession than to allow this degeneracy to disgrace another decadent generation.

If corrupt practices and inadequate preparation for difficult and serious special work are permitted to exist by the organized medical profession and the hospital authorities, then their regulation must ultimately be brought about through the enactment of state laws which shall specify who may and who may not do major surgery, and under what conditions and on the proof of what scientific and moral qualifications such work may be undertaken. As a matter of fact, such a law was drawn and presented for passage in one of the state legislative bodies two years ago. It will certainly be better for the organized medical profession and the hospitals to regulate themselves properly than to compel the law to intervene and impose irksome restrictions which may work a hardship on many who are worthy and capable.

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[2] Address of the President of the Colorado State Medical Society, 1906.

In these remarks no particular community and no particular institution is referred to. It is a deplorable fact that with the exception of some of the cities on the Atlantic coast, and a few isolated examples elsewhere, such conditions are more or less prevalent throughout the United States, but they are particularly prevalent in the West.

It would be interesting to determine how far these demoralizing conditions in the medical profession are due to the commercial medical school as a nursery of medical graft and to what extent advanced requirements for admission to the study of medicine will eliminate criminal and unethical practices.

Basing an opinion on the general principles governing the relations of ignorance to immorality, one would expect higher and better education to produce an ethically and morally higher type of physician. Our Council on Medical Education and those in charge of the Carnegie Foundation may, in raising the standard for admission to medical colleges and of the colleges themselves, incidentally also raise the moral standard of the graduates.

The real responsibility for the continuation of these evils, however, must be placed where it belongs. It is primarily our own. So long as we condone the corrupt practices employed by the incompetent and unscrupulous, so long as we tolerate them in our societies and hospitals, and humiliate ourselves and our profession by meeting them in consultation and on the rostrum, just so long are we barred from complaint if they are allowed to practice in our hospitals, or if they find that political preferment on health boards, in municipal hospitals, and in other civic positions to which they could not aspire if they were without the pale of organized medicine.

Disagreeable as the picture and its contemplation may be, we can no longer turn our heads and look the other way. Our obligation and opportunity are before us.

There are no more important factors which make for good results in all surgical work than organization, coordination, and cooperation in hospital direction and administration. He who operates in a hospital in which he can secure for himself and his patients just such service as he may require has a definite advantage over his colleague who must accept the assistance at his operations of any untrained intern who may be assigned to him, and have his patient anesthetized by another of whose qualifications he knows little or nothing. There are many excellent surgeons in this land who, with the hospital facilities and organization of the Mayos, of Ochsner, of Deaver, or of Howard Kelly, could do equally good work and secure like results.

When in attendance at the recent Fifth International Congress of Obstetrics and Gynecology at St. Petersburg, Russia, I witnessed the remarkably dextrous and skilful work of Professor de Ott. I have rarely seen anywhere more beautifully precise and exact method in surgical technic than I witnessed there, and while I accord unqualified praise to Professor de Ott for his personal skill and dexterity, I was most impressed with Ott's skill as an organizer, and with the precision with which each assistant did her share of the work. All but one of them were women.

His first assistant has been working with him for nine years and some of the others for even a much longer period, and their machine-like "readiness to serve" was worth a trip to St. Petersburg to behold. These details make for results, and any surgeon who can command his own force of trained and educated assistants, to his own ends and methods, can decrease his mortality and facilitate both his work and the recovery of his patients.

I once operated in a small hospital where for me this was possible and I have never had such results nor such satisfaction in my work before or since, as in that little institution. One has, however, only so much energy and vitality to expend and if one is using it to operate and finance a hospital, one has too little left to give to his surgical work. To attempt to do both is to court physical bankruptcy. Operating a hospital and operating in one is certainly "a hard way to serve the Lord."

Intelligent, skilful, dependable cooperation is nowhere more important to the surgeon than at the head of the table. The surgeon should never have to think of or consider the administration of the anesthetic during an operation; and if it be properly administered and wisely chosen he need not think of it.

The ignorant, apprehensive, unskilled and untrained anesthetist is often more of a menace to the patient than the operation, and he is always a source of annoyance and anxiety to the operator. I have recently called attention elsewhere to the fearful abuse of so-called hypodermic stimulation during and after surgical operations. I am convinced that to this dangerous practice on the part of surgeons, anesthetists, interns and nurses, the loss of many valuable lives could be traced. I feel certain that it is rarely required, and that its habitual employment is mischievous and dangerous, and that one who commonly resorts to it thus confesses his incapacity.

The name "hypodermic stimulation" is a misnomer, as the drugs commonly employed are rarely true stimulants. Even if they were so for the time being, their ultimate or secondary effect is nevertheless reactionary and definitely harmful.

When there is a coordinate organization in the operating room and a really skilful anesthetist, who has been chosen by an experienced and skilful surgeon, hypodermic stimulation during and after operations is very rarely employed.

On June 5, 1877, William Goodell became professor of clinical gynecology in the University of Pennsylvania. The creation of this, the first chair of gynecology in our medical schools, and his selection to fill it, mark an epoch in the development of gynecologic history. Nearly coincident as it was with the discovery of the principle of antisepsis by Lord Lister and the practical application of it in our hospitals, this period may be fixed as the date of the birth of gynecology as a science; although the eminent work of McDowell, Sims, Emmet, Atlee, and many others antedated it.

Obstetric practice also was influenced by the adoption of the new antiseptic gospel and the whole literature of the subject had to be rewritten; hospitals for the lying-in to be remodeled and, though more slowly, the obstetric art of the family physician was reconstructed along the newer lines and it ultimately partook more nearly of the exact working formula and certain results of a science.

Thus, the new gynecologic science and the old obstetric art took on themselves about this time the responsibilities and obligations of the enlarged surgical field into which Lister's discovery had thrust them. Now the successful practice of obstetrics and gynecology demands a most complete understanding and practical application of correct surgical principles, as in no other field of surgical work is the danger from infection greater or nicety of technic more essential to success.

What the pioneers of that period did in developing and establishing the new obstetric and gynecologic sciences need not be related. The names of Goodell, Joseph Eastman, Spencer Wells, Lawson Tate, E. C. Dudley, Joseph Price, Howard Kelly, Polk, Pryor, Edebohls, and many others will be remembered as those of benefactors of humanity; for they not only established gynecologic and obstetric surgery on a scientific basis, but in abdominal surgery they blazed the way for the general surgeon.

I have long felt that the title given this section works an injustice to those who do, and to those who should, work in it. This section should be designated as the "Section on Obstetrics, Gynecology, and Abdominal Surgery," and so come into its own. This title indicates the scope of the work of the Section and of those who labor in it. It covers a field which has been developed by the efforts of our colleagues and coworkers during the past generation, a field which we still occupy and are still developing and the prestige of the growth and development of which we are entitled to participate in and enjoy.

The greater dignity and slightly broader scope which this title implies would increase the interest in our section work and bring back to us some of those who have been lured into other pastures. The inclusion of the reference to abdominal surgery merely concedes a belated and too long-deferred right to a title and a field of work which this section should at least share because of original discovery and development; long cultivation and present possession; and in contesting a title no better claim than this can possibly be established.

That the capable and experienced gynecologic or obstetric surgeon must be prepared to properly perform any intra-abdominal operation from an intestinal resection, gastrostomy, or gall-bladder operation to a hysterectomy, so long as absolutely exact diagnosis previous to operation is sometimes impossible, must be conceded. That he is prepared to meet such emergencies we know, and that he is entitled to this descriptive designation of the work in which he is daily engaged is beyond question.

The obstetric surgeon with experience in the performance of abdominal operations for Cesarean section, puerperal infection, thrombophlebitis and such complications as he may encounter, must be capable of doing any intra-abdominal operation, for none can be more delicate or difficult than these.

The gynecologic surgeon who is capable of dealing successfully with old pelvic adhesions from pus tubes or pelvic abscesses and the intestinal and appendical lesions and complications incident thereto, is certainly capable of performing any of the other intra-abdominal operations. His long, constant, daily training in this abdominal work fits him to meet all intra-abdominal pathology with a skill and resourcefulness bred of experience.

Since we do these things with propriety and skill, why may we not be known to the world and to our fellows as doing them, through a correct title for the Section in which we do our work?

At a meeting of this Section in St. Louis last year the eminent and skilful surgeon who is now the President of the American Medical Association said in opening his discussion on uterine retroflexion and its treatment: "Fellow gynecologists, I address you in this discussion as fellow gynecologists, because it is all surgical, and all of the gynecologists are going to become general surgeons."

This remark was doubtless intended to be semi-facetious, but it nevertheless expressed the heretofore half-understood and implied reverse statement that all general surgeons are going to become gynecologists. In the phraseology of the prospector, we are warned that though we "grubstaked" the general surgeons in the gynecologic and abdominal field, they are going to "jump the claim" if they can.

I believe that the partial breaking down of the line of demarcation between the general surgeon on one hand, and the obstetric and gynecologic surgeon on the other, has been, on the whole, unfortunate for both. My observation has been that the general surgeon is, as a rule, a poor obstetric and gynecologic diagnostician, pathologist and operator, and that he is at the greatest disadvantage when he attempts plastic, pelvic, or vaginal work. Also the average gynecologic and obstetric surgeon is often an indifferent operator when working outside of his pelvic and abdominal limitations, but particularly when he attempts brain and bone surgery or the treatment of fractures, etc. Either surgeon is then working in a field in which his diagnostic, pathologic, and technical training and experience have not fitted him to render the best service of which he is capable. At the present time the fields of surgery and medicine are so large and so varied that no single individual can hope to cover them all and do the best work possible for his patients along all lines.

Let us try to swing the pendulum back to a perpendicular and redraw the differential line between the fields of surgical activity, and, as a first effort, let us determine to have the name of this Section altered to meet the conditions and circumstances under which we are working, and then limit our labors accordingly.

In making this suggestion I am not actuated by any wish to appropriate for ourselves the exclusive and sole practice in abdominal surgery, even if it were possible to do so, and of course it is neither possible nor desirable, but to bestow on this Section a dignified descriptive name covering our daily occupation as individuals, and our annual endeavor to benefit humanity and each other.

Though the title suggested for our Section may not now meet with unanimous approval, and notwithstanding the opposition which may be met from other sources in bringing about the change of name, I feel justified in suggesting it at this time with the hope that what appears to me to be a fitting and eminently desirable substitute for the present name may grow in favor and ultimately become a practical possibility.

The greatest skill of the best and most highly trained gynecologist and obstetrician is not displayed in the operating theater, but in his intimate knowledge of pelvic and abdominal pathology, his ability to base a correct diagnosis thereon and prescribe treatment, either medical or surgical, which may restore the patient to health.

Operators are numerous, far too numerous; pathologists and diagnosticians are few, far too few.

Prolonged general surgical training does not tend to create a skilled obstetric and gynecologic pathologist and diagnostician, or one who knows and appreciates the possibilities and advantages of non-operative methods for many pelvic diseases. On the other hand, a gynecologic and obstetric operator is evolved—and of these there are already more than enough.

The growth and development of gynecologic and obstetric wisdom was so rapid during the last two decades of the last century that our achievement in this field during the first decade of this century seems meager by comparison, and the literature of to-day presents relatively little that is really new.

Can it be possible that we have attained our full growth, or, resting on our oars, are we content with what we have done and satisfied to press no farther forward, though facing such unsolved problems as the prevention and cure of cancer and of the mysterious toxemias of pregnancy; or are we passing through a period of introspection and of analysis of what has been accomplished heretofore, and of elimination of the unnecessary and the undesirable?

The crystallization and concentration of ideas, the simplification of practice, and the determination of what not to do, that we have done before, is progress of the best sort. Though this may not be our banner constructive period, it will be none the less valuable to humanity if we learn to see our mistakes of the past and to avoid them in the future.

In closing, I thank you for the great honor you have conferred on me in electing me your Chairman. Assuring you of my appreciation of your cooperation in making this meeting so much of a success, and with particular gratitude to our faithful and unusually capable Secretary, Dr. Miller, I return to your ranks to render such aid and support to my successors in this office as may be in my power.

310 Metropolitan Building.

THE THERAPEUTIC APPLICATION OF TUBERCULIN IN THE TREATMENT OF AMBULATORY PULMONARY TUBERCULOSIS *

ITS INDICATIONS AND CONTRA-INDICATIONS

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Tuberculin is a valuable remedy in pulmonary tuberculosis when the lesion is limited in extent, and when the disease is pursuing a slow course with neither much febrile manifestation nor much general systemic disturbance. In afebrile advanced pulmonary tuberculosis, with fair appetite and digestion and little or no systemic disturbance, it may also be valuable. It must be used with caution in young tuberculous patients with actively incipient lesions, since frequently the injection of very minute doses produces a most vigorous reaction, whereas large doses in old tuberculous subjects do not produce any reaction at all; it should always be borne in mind that in recent infection and in the exacerbations which occasionally follow an old lesion, the reaction may be severe even when infinitesimal doses have been applied.

The indications for the use of tuberculin are usually in those early cases which have long been under observation and in which the tendency to progressive extension of the tuberculous process in the lungs is either very slow or is held in abeyance, and in those non-active advanced cases in which the process is stationary but a few bacilli are still demonstrable in the sputum.

In all cases of advanced pulmonary tuberculosis with either laryngeal, renal or intestinal complications, in cases with high temperature showing a mixed infection, in cases inclined to pulmonary hemorrhages, in cases of pulmonary tuberculosis in old or cachectic individuals, in cases of patients who are prostrated from the tuberculous infection, showing a general disturbance, and in all rapidly progressing cases, the use of tuberculin is strictly contra-indicated.

The therapeutic method of treatment consists in the use of tuberculin in very small and minute doses, beginning usually with 1/10 of a millimilligram and progressively increasing the dose until comparatively large doses have been administered, without producing the slightest reaction in the organism. It should be given by the subcutaneous method, at fixed and regular intervals. Long experience has taught that this injection is productive of the greatest good when the interval is about seven days. The previous point of injection should always be carefully examined before another is given, and if a little thickening or induration still lingers, the dose must not be repeated until all evidence of it has disappeared. Those cases will do best in which from the beginning of the treatment until immunization is reached no disturbance has been observed or in which throughout the treatment no reaction was manifested. It is not necessary, in order to produce tuberculin immunity, that enormously large doses of tuberculin should be given. Usually when doses from 1/10 to 1 milligram have been reached, immunization is fairly well established. This is evidenced by an increase of body weight, approximately normal temperature for the twenty-four hours, a pulse of fairly good tension, good appetite and a general appearance of health. From the onset it must be borne in mind that tuberculin does not produce a tuberculosis immunity, does not cure tuberculosis, but only establishes a tuberculin immunity; that is, by its use in minute doses the patient's resisting power is increased and the tendency to relapses lessened. Tuberculin is a most valuable weapon in our hands, but it is very essential that all the other supplementary forces—synergistic adjuncts—be used, such as diet, hygiene, fresh air, peace of mind, etc., in combination with tuberculin in treating pulmonary tuberculous patients.

In order to demonstrate what effect tuberculin would have on tuberculous patients, Drs. Karl and Silvio von Ruck, at their sanatorium at Asheville, conducted a series of well-observed experiments, the results of which were reported in the medical literature only recently. Numerous and extensive blood examinations were made on tuberculous patients, some of whom were treated with and others without tuberculin. These experiments proved conclusively that during the tuberculin treatment the agglutinating power of the blood was raised from 100 to 150 per cent., and remained high for years after, and at the same time the alkalinity of the blood was considerably increased; in contrast to this, no such blood-changes were demonstrable on patients who were treated on strictly dietetic-hygienic lines and without tuberculin.

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* Read before the West Side Branch, Chicago Medical Society, April 14, 1911.

CLINICAL REPORTS

At the Tuberculosis Clinic of the Chicago Tuberculosis Institute at Rush Medical College, which is now known as one of the tuberculosis dispensaries of the new Chicago Municipal Sanitarium, in the three years of clinical work, over 1,800 patients, tuberculous and nontuberculous, have been examined, diagnosed and cared for. A number of those who were tuberculous and in whom the conditions were favorable or suitable, received in connection with the usual treatment in vogue, in ambulatory cases, the progressive tuberculin medication. As a therapeutic measure, about three years ago the use of Koch's old tuberculin was begun, in proper dilution, and since then it has been given constantly, in all many hundreds of injections being made. It was early observable that in many cases the progressively increasing dosage of tuberculin went hand in hand with a steadily increasing body weight. I shall try to summarize the result in only eleven out of a total of fifty-two case histories, selected from a large number of examinations. All of the patients were considered suitable for the tuberculin treatment and nearly all did well under the tuberculin régime. Of the entire number none received less than ten subcutaneous injections, one patient receiving as many as 105. All cases were under observation for some time before the initial subdermal medication was given.

The method of preparing serial dilutions of tuberculin is as follows: Koch's Old Tuberculin is used, and, as a diluent, 0.5 c.c. of pure phenol (carbolic acid) in enough normal salt solution to make 100 c.c. One c.c. of the Old Tuberculin is diluted with 9 c.c. of the diluent; this dilution is called No. 0. One c.c. of Dilution 0 is diluted with 9 c.c. of the diluent, and the result is No. 1. The series is continued to Dilution 5. The amounts of Old Tuberculin contained in 1 c.c. of the various dilutions are as follows:

Dilution	Old Tuberculin		
No.	C.c.	Mg.	Grains
0	0.1	...	1 1/2
1	0.01	...	1/6
2	0.001	...	1/60
3	0.0001	0.1	1/600
4	0.00001	0.01	1/6000
5	0.000001	0.001	1/60000

The initial diagnostic or probationary dose should be 0.05 c.c. (0.5 mg. or 1/120 grain of O. T.), 0.1 c.c., or 0.2 c.c. of No. 1. The initial therapeutic dose should be 0.1 or 0.05 c.c. of No. 5; that is, 0.0001 mg. (1/600,000 grain) or 0.00005 mg. (1/1200000 grain) of Old Tuberculin.

Case 1 (T. B. Case 249).—Diagnosis, incipient pulmonary tuberculosis. First injection, June 17, 1908. Weight 135 pounds. Last injection Jan. 25, 1911; highest weight reached during the treatment was 161, a gain of 26 pounds. Number of injections given in two and one-half years, 105. Maximal dose given No. O, 0.3=3/100 c.c. of pure tuberculin. This may be considered a very large dose. This patient is tolerant to such large dosage but it is not necessary to maintain such quantities in order to uphold the tuberculin immunity. Smaller doses are now given once in four or six weeks. This patient is quite well and performs hard manual labor.

Case 2 (T. B. Case 268).—Diagnosis, incipient pulmonary tuberculosis. First injection, July 15, 1908; weight 145½ pounds. Last injection, Jan. 8, 1911, present weight 167. Number of injections given, 68. Maximal dose No. 1, 0.6=6 milligrams. Under observation and treatment eighteen months, gain in weight 21½ pounds. This patient has followed his vocation throughout the treatment, is always of good cheer, and is an ideal hopeful patient.

Case 3 (T. B. Case 97).—Diagnosis, far-advanced pulmonary tuberculosis. Received the first injection Feb. 29, 1908; weight 97½ pounds. Last injection Dec. 12, 1908; weight 102¼ pounds, a gain of 5¾ pounds. During the time, a little over nine months, this patient received 39 subdermal treatments. Maximal dose No. 4, 0.7=7 millimilligram. This patient, unlike the last, was much depressed and discouraged throughout the treatment. A disseminated miliary tuberculosis ended his life about a year ago.

Case 4 (T. B. Case 115).—Incipient; first injection March 14, 1908; weight 126 pounds. Last injection June 22, 1910, weight 146½ pounds. Number of treatments received, 57. Maximal dose given No. 2, 0.7. Patient under observation fifteen months; gained in weight 20½ pounds.

Cases 5 and 6 (T. B. Cases 489 and 495).—These are somewhat similar. Both patients work every day, full time. Patient 6 (Case 495) works ten hours daily at hard work teaming, while Patient 5 (Case 489) works also full time at tailoring. The latter, who has chronic pulmonary tuberculosis, probably of many years standing, not active, received his first injection Jan. 2, 1909; weight 120 pounds. Last injection Jan. 22, 1911; weight 118½ pounds. During a period of a little over two years the patient received in all eighty-two injections, maximal dose given No. 0, 0.4=4/100 c.c. of tuberculin. Although at the time when the last injection was given his history chart would show a loss of 1½ pounds, still the history shows that at one time during the treatment he had gained 8½ pounds in body weight. Patient 6 (Case 495) moderately advanced, first injection Jan. 9, 1909; weight 145¾ pounds. Last injection Jan. 11, 1911; weight 145 pounds; maximal dose No. 2, 0.7. Received in two years fifty-one injections. This patient also showed a loss at the last weighing, ¾ pounds, and yet at one time during the treatment he registered 153 pounds, a gain of 7¼ pounds.

Case 7 (T. B. Case 528).—Moderately advanced. First injection Feb. 10, 1909; weight 78½ pounds. Last injection Dec. 31, 1910; weight 96 pounds. Total number of injections given 66. Maximal dose No. 0, 0.1. Tuberculin treatment continued for twenty-two months; a gain in weight of 17½ pounds.

Case 8 (T. B. Case 876).—Advanced pulmonary tuberculosis with laryngeal involvement, but not active at the time of beginning treatment. First injection Sept. 25, 1909; last, Jan. 29, 1910. Seventeen injections. Maximal dose No. 4, 0.6. Subdermal medication was given for four months and no improvement in the patient's condition being noted, the tuberculin treatment was discontinued and after an interval of several months he was given for a time, in progressively increasing doses, a subdermal medication of a nuclein solution. No improvement whatsoever followed this medication.

Case 9 (T. B. Case 979).—The patient is an adult suffering from glandular tuberculosis. Many old cervical scars as well as glands are demonstrable. This patient is doing remarkably well. First injection, Nov. 17, 1909; weight 153 pounds. Last injection Jan. 25, 1911. Present weight 165½ pounds. Received in all, 47 injections. Maximal dose, No. 2, 0.9; a gain of 12½ pounds.

Case 10 (T. B. Case 1522).—Incipient pulmonary tuberculosis. First injection Sept. 7, 1910; weight 120 pounds. Last injection Jan. 25, 1911; weight 128 pounds. Patient given seventeen injections in four months, gain in weight 8 pounds. Maximal dose No. 4, 0.6.

Case 11 (801).—Moderately advanced. First injection Sept. 18, 1909. Weight 114 pounds. Last injection June 29, 1910. Weight 121 pounds. Patient received a total of twenty-seven injections in nine months and gained 7 pounds in weight. Maximal dose No. 4, 0.5.

Patients 10 and 11 both showed a gain in weight at the time that the last treatment was given, Patient 10, as stated above, showing a gain of 8 pounds and Patient 11 an increase of 7 pounds. During the time that the treatment was given Patient 10 at one point reached a gain in weight of 12½ pounds and Patient 11 gained as high as 16¼. It must be remembered that the gain in weight in the tuberculous is not a constant one, is subject to great fluctuations even under the same continued hygienic, dietetic and rest conditions. The tuberculous patient is greatly influenced by the seasons, and under the most favorable conditions there is usually a decrease in body weight in the early spring and summer months with a corresponding increase toward the fall and winter.

AMBULATORY VERSUS SANATORIUM TREATMENT

The use of tuberculin in the treatment of pulmonary tuberculosis in suitable cases finds its greatest exponents in a well-equipped tuberculosis sanatorium. There, cases can be closely observed, studied, results accurately tabulated, the effect of a regulated administration of tuberculin carefully noted, and from such histories much valuable information and proper deductions may be gathered. Not so in the treatment of ambulatory tuberculous patients. The treatment cannot be given with any such degree of regularity as with the strict rules enforced at a sanatorium. Ambulatory patients do not always present themselves at the stipulated hour or day to receive the next regular treatment, as case histories only too well show. In a few isolated cases only is there any semblance of a systematic medication and yet with all these provisoes the results here given will show that the use of tuberculin is productive of good results, even if the treatment is somewhat irregular and not properly systematized. Therefore, I recommend, as I have stated before, that in all cases of pulmonary tuberculosis, carefully selected and suitable, the subdermal tuberculin medication should be given in correlation and connection with all the other approved methods of treatment.

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TREATMENT OF PURULENT OPHTHALMIA AND SIMPLE MEANS FOR ITS PREVENTION IN INFANTS *

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AKRON, O.

Any pus-producing organism or combination of such organisms may cause purulent ophthalmia, although the gonococcus of Neisser is responsible for a very large percentage, especially of the worst cases. Contrary to generally expressed opinion, I do not believe that the gonococcus or other pathogenic germs, unless extremely virulent, can quickly and successfully attack or destroy normal corneal epithelium. Intact healthy epithelium everywhere in the body, over skin or mucous membrane, presents the most effectual barrier against infection.

A corneal ulcer, the chief danger in these cases, is due either to the extreme virulence of the infection; poor nourishment of the cornea resulting from pressure strangulation, produced by local pressure of the swollen surrounding parts interfering with blood, lymph and nerve function; to direct pressure, a form of traumatism, by the undrained retained and, therefore, more injurious discharges; or to ordinary injuries and abrasions of the corneal epithelium. The two last-mentioned causes, and, to nearly as great a degree, the second, may be forestalled if free drainage is secured without causing any possible injury to the cornea. Therefore, the policy of treatment should be guided by four considerations—the careful, but thorough, use of antiseptics which are of sufficient strength to destroy or inhibit the growth of the infectious bacteria, but which are not too irritating to the local tissues; watchful care over corneal and general nutrition; free drainage; and, especially, avoidance of even the slightest injuries to the delicate corneal epithelium.

ANTISEPTIC RECOMMENDED

A bacteriologic examination of the discharge should be made as early as possible, which will be of much service in determining the treatment. In my practice 1 per cent. silver nitrate solution is usually employed, but in virulent gonorrheal inflammations 2 per cent., and, sometimes, depending on the severity, much stronger solutions may be better for a few treatments. In certain mild non-gonorrheal cases 0.5 per cent. is usually efficient. If the Klebs-Löffler bacillus is found, antitoxin should be administered. If the diplobacillus is present, weak solutions of zinc sulphate should be instilled frequently. The organic silver salts have been much extolled, especially protargol and argyrol (Cheney[1]), but the frequent and lavish use of solutions of these drugs, together with systematic cleansing, requiring separation of the lid margins and, therefore, preventing them gumming together, seems to me to explain the results that have been obtained by the employment of these feeble antiseptics (Graefe-Saemisch,[2] Marshall and Neave,[3] Derby[4]). Since the eyelids are so tightly applied to the eyeball the slightly heavier specific gravity of these solutions than of the tears is undoubtedly of slight importance in spreading them. Argyrol solutions do not compare with those of silver nitrate in antiseptic properties and cannot be used clinically with as nice discernment as to strength required. The appearance in all treatments is the same because of the constant dark color of all strengths of argyrol solutions. It is easy to observe the different effects of 0.5, 1 or 2 per cent. silver nitrate solutions, and if employed with caution, and the resulting albuminous precipitate is carefully washed away by a small quantity of any unirritating solution, the antiseptic effect is sufficient without injuring the tissues. Schneider[5] asserts that results do not depend so much on the antiseptic property of the drug used as on its power to stimulate the production of a bactericidal substance, leukin. My experience with other antiseptics recommended, e. g., mercury, has been too limited to report.

It is not enough merely to drop the silver solution between the lids, or to apply it to a part of the surfaces of the everted upper lids, which have been the methods ordinarily used, as by these methods the solution does not come in contact with the organisms in the lower and especially in the upper portions of the eyesac. The lids should be separated and elevated away from the eye-ball, so that a lake of silver solution may lie for one-half minute or longer between them, coming in contact with every portion of the conjunctival sac.

PHYSICIAN'S DAILY TREATMENT

Once each day the physician treats the eyes, holding the child's head between his rubber- or oilcloth-covered knees, the child being wrapped in a sheet fastened by a safety-pin and held by a nurse sitting on a chair opposite. The physician should separate the lids with proper lid retractors, being careful not to touch the cornea. The lids should not only be separated, but they should be pulled away from the eye-ball. Solid lid retractors should not be used, as they are likely to prevent the solution

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Cheney: Boston Med. and Surg. Jour., clx, No. 9, p. 269.
2. Graefe-Saemisch: Handbook of Ophthalmology, Fas. 8, part 1, p. 261.
3. Marshall and Neave: Brit. Med. Jour., Aug. 18, 1906.
4. Derby: Boston Med. and Surg. Jour., clv, No. 13, p. 342.
5. Schneider: Arch. f. Ophth. (v. Graefe's), lxxiii, part 2.

reaching underlying parts of the conjunctiva. The wire lid retractors on the market do not pass far enough under the upper lid. I had longer models made, but they are more difficult to manipulate than tenotomy hooks with smooth rounded bulbar ends. The latter are more readily introduced and more easily moved from side to side. Smooth, blunt-ended probes, properly bent, will serve. The retractor employed for the upper lid should pull it well away from the eye-ball, and be long enough, about one-half inch, to reach to the upper limit of the eyesac. I employ a large tenotomy hook like Green's for the Smith-Indian cataract operation. A smaller one will do for the lower. The hook should form a slightly acute angle with the handle, as otherwise the lid readily slips from its hold. It should be well nickeled and before using should be carefully cleaned with gauze so that no foreign matter will be wiped on the inner surfaces of the lids.

The physician must be careful in using the lid retractors that they do not touch the cornea. The retractor for the upper lid should be used first, placing it under the lid, the margin of which has been pulled slightly away from the eye-ball; the nurse then pulls the lower lid downward with the finger, everting it sufficiently so that the other retractor may be readily introduced under it. Into the sac pulled open by the retractors held by the physician, the nurse, properly instructed, gently pours several drops of the chosen strength of silver nitrate solution, flooding the whole sac, including its upper and lower limits. The retractors should be moved from side to side in the same direction in order that the solution used may get into every portion of the upper and lower parts of the eyesac. After the silver solution has flooded the sac for one-half to one minute, the nurse is directed to wash it away with normal saline, saturated boric acid solution or sterile water. Care should be exercised so that no gritty, undissolved salt may get into the eyesac, as it might injure the corneal epithelium. For the same reason care should be used not to drop solutions on the cornea, especially from a considerable height, but it should be on the adjoining conjunctiva of the lids or eye-ball, preferably on the side toward the nose. The child's face should be tilted toward the side being treated, so that the solution will not run over the nose into the other eyesac. If both eyes are infected the better eye should be treated first.

After the lid retractors are removed good drainage may be secured by preventing gumming of the lid margins, which may be done by dropping on them one or two drops of liquid petrolatum, or by applying sterile petrolatum, or other simple, non-gritty ointment to the margin of one or both lids. When the lids are separated, especially if the infant attempts to squeeze them together as in crying, the margins of the lids are usually everted so that the vaselin may be applied to one or both lid margins without any danger of injuring the eye-ball. It can be applied by means of cotton tightly wrapped on a sterile toothpick.

CARE BETWEEN THE PHYSICIAN'S TREATMENTS

The care of the eyes between the physician's treatments consists in maintaining free drainage by smearing the margin of either or both everted lids as often as necessary with some simple, non-gritty ointment, e. g., sterile petrolatum, zinc oxid or 2 per cent. calomel ointment. The same result may be more safely secured by dropping on the margins of the lids liquid petrolatum, solutions of argyrol or even olive oil. I much prefer the liquid petrolatum or similar product to olive oil. This prevents the lid margins gumming together. No accumulation behind the lids should be permitted. They should be gently separated as often as necessary to relieve the discharge. To be certain of good drainage the nurse or attendant should separate the lids every hour or two, making sure that they are not gummed together, and whenever there is a tendency to gumming drop in the oil or argyrol solution or reapply the ointment. If the ointment is chosen, the nurse or attendant should be instructed to use it carefully so as not to touch or rub the cornea, causing a corneal abrasion with probable subsequent ulceration. Pus that has escaped from the eyesac no longer endangers the eye, but may be wiped from the outer surfaces of the lids by moist cotton or gauze; however, no attempt should be made to wipe or wash it from the eyesac. Such unnecessary attempts at drainage are likely, even in skilled hands, to cause abrasions of the cornea, defeating the chief purpose of treatment. I formerly advocated[6] unnecessarily frequent cleansing and irrigations with various non-irritating solutions, exhausting to both nurse and patient, losing sight of the fact that such frequent treatments subject the eyes to great risk of dangerous traumatisms, especially at night, or with poor illumination, or when the attendants are tired or exhausted.

TREATMENT IN ADULTS

Treatment in adults is similar to that in infants, except that three or four drops of 1 per cent. holocain or 4 per cent. novocain solution are instilled at minute intervals before giving the daily treatment with silver nitrate solution. Cold applications for a short time after the daily use of the silver nitrate solution are soothing and not as dangerous as in infants. If there is much spasm of the lids an antispasmodic, such as morphin, belladonna or bromids, should be administered. Gonococcus vaccine often proves very beneficial in metastatic gonorrheal conjunctivitis due either to endogenous infection or to the presence of toxins, especially where the original infection is of long standing.

In ordinary purulent ophthalmia of adults good results may usually be expected, if once each day every part of the eyesac is flooded with a proper silver nitrate solution, if the lid margins are separated at regular intervals and prevented from gumming together by occasionally dropping on them liquid petrolatum or 25 per cent. argyrol solutions, or by applying petrolatum or other lubricants, and, most important of all, if great care is exercised that nothing be done, such as frequent washing or douching of the eyesac, to injure the delicate epithelium of the cornea, which almost surely will give rise to an ulcer.

Other questions that may arise in treating these often difficult cases in both infants and adults, such as the need of canthotomy or scarification and the after-care of these cases by simple astringents, optical iridectomies, etc., have been sufficiently considered by other writers.

Contrary to my former policy of treatment, I now wish to insist that sufficient drainage may be secured by preventing gumming of the lid margins and by their regular separation; further, that frequent irrigations of the eyesac are not only unnecessary, but positively dangerous, since slight corneal traumatisms and, therefore, ulcers are more likely to result. Frequent irrigations, in order to be safe, must be done faithfully and carefully, in a hospital, by trained nurses, conditions not always obtainable under ordinary circumstances for out-patients or when mother and child should not be separated. Although it may be urged that the use of proper hooks, not possessed by all physicians, is dangerous in untrained hands, by the experienced quicker results are more safely secured than by any other method. In untrained hands any method is dangerous, but when hooks are not to be had or their use feared, the daily instillation of the silver solution, the lids being drawn widely apart and moved in such a way that the solution will be distributed as far beneath them as possible, maintenance of free drainage, and avoidance of dangerous washing and irrigating, will nearly always secure good results, although not as promptly as when the hooks are used.

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[6] Stevenson: Lancet-Clinic, Nov. 30, 1907.

PROPHYLAXIS IN INFANTS

On the completion of labor the child's eyes should always receive consideration and attention, as a large proportion of cases of ophthalmia neonatorum—Nance[7] claims two-thirds—are not due to the gonococcus, but to other pathogenic organisms likely to be occasionally present in any woman's vaginal discharges. When the mother has leukorrhea, especially gonorrhea, as easily determined by the microscope as a chemical examination of the urine can be made, considering not only the great danger of the child becoming partially or totally blind. but also the various metastatic conditions (McKee,[8] Stieren,[9] Bull[10]) possible and the increased infant mortality, it is certainly a sanitary crime not to use preventive measures. Pregnant women should be instructed to perform daily external cleansing with soap and water and a clean wash cloth, and if irritating or profuse white discharge is present to consult their physicians.

Method.—After labor is completed and the child removed from the mother, with clean hands and gauze, preferably dry absorbent, the child's face around the eyes and nose should first be wiped clean, wiping in a direction away from the nose. Its eyelids, which should not be opened during this process, should likewise be carefully cleaned. (This does not sterilize the part of the face around the eyes, which is practically impossible, especially with any unirritating safe strength of antiseptic solution.) Next, the lids should be separated and, if there is no pus in the eyesac from an already established inflammation requiring treatment, one or two drops of 1 per cent. silver nitrate solution should be dropped between the outer ends of the lids. This amount and strength of silver nitrate does not require special neutralization so that instillation of salt solutions is not necessary. Washing or cleaning the eyes with any solution, before or after using the silver, is not recommended, as it is likely to injure the epithelium on the cornea and may wash infectious material from the partially cleaned face into the eye or from one eye into the other. The slightest injury to the cornea, easily avoided, may be followed by corneal ulcer and loss of vision or eye-ball. The lips and nose should be wiped free of mucus and the little finger, wrapped with a piece of gauze, should be passed into the child's mouth and any accumulated mucus removed by an outward sweep of the finger. To help prevent subsequent infections from the nose I advise dropping one drop, not more, of 1 per cent. silver nitrate solution into each nostril. The general toilet of the face and body may then receive attention. If there is considerable swelling or reaction after the use of the silver solution, light cloths wrung out of cold water may be applied for fifteen minutes or one-half hour, but are not often necessary. Harmless bleeding occurs rarely and usually is probably due to unnecessary roughness in separating the lids. If there is delay in labor after delivery of the head, some authorities advise immediate attention to the infant's eyes before delivering the body. Very rarely this might be advisable, especially if the eyelids become separated, but usually would not be good practice, as the accoucheur's and nurse's hands are not properly prepared to treat the eyes and might only infect them. The eyes would also be exposed to subsequent infections during labor.

AFTER-CARE

After-Care.—In subsequently cleaning the child's eyelids and around the face and eyes, the nurse or attendant should be instructed to destroy all wipes and not to use any cloths or solutions dirtied with the mother's discharges or that had been used in previously cleaning any part of the child. They should always be instructed to inform the physician—and are compelled to do so under penalty of the law in many states—of any marked or continued discharge from or redness of the infant's eyes, especially if the lids become swollen or gummed together. Although by the use of prophylactic measures the severe and dangerous ophthalmias are almost entirely prevented, it should be understood that, for the first day or two, slight discharge and redness, due to the irritation of the solutions used, are not uncommon, occurring approximately in 10 per cent. of the cases. This silver irritation quickly disappears, requiring only cleanliness and prevention of the lids gumming together. A few cold applications may be helpful. Repeated instillations of silver salts are not only unnecessary, but likely to prove harmful.

The eyelids are nearly always closed during labor, so that on opening the lids whatever germs gain entrance into the eyesac are probably from the eyelashes or on or near the margin of the lids. Therefore, a drop or two of the silver solution placed in the outer portion of the eyesac, and swept across the eye by the closing of the lids, nearly always reaches all the germs present. It is quite different after inflammation is established and the germs have gained entrance, not only into the upper and lower folds of the sac, but into the recesses of the glands. It is not only necessary that prophylactic measures be used and properly used with attention to detail, but that continual care be exercised that the eyes do not become infected later.

IMPORTANCE OF OPHTHALMIA NEONATORUM

The number of persons totally blind throughout life from this preventable disease, according to Keller,[11] 25.21 per cent. of those who enter our blind institutions, and fully one-tenth of the blindness in any country, is only a partial index of its evil results. Account must also be taken of the high mortality among these unfortunates, of the disfigured and disabled eyes of a far greater number of others, perhaps totally blind in one eye, scarred on one or both—with defective vision—and, therefore, lessened earning power.

It is estimated that the total annual loss from this disease in the United States is $7,000,000, and that an amount of more than $1,000,000 annually is spent in partially caring for its victims. The community is said to pay an excess of $4,500 during the school life of a blind child. In this and other civilized countries millions are spent yearly to safeguard the public against a few criminals, but even paltry sums are reluctantly spent in preventing diseases and hygienic evils which are responsible for much more misery, sickness and even death, and which impair the usefulness of many helpless citizens. The property rights of an infant or minor are protected by the state. Parents or guardians are not permitted to abuse him, and for the protection and good of the state he is compelled to go to school and is not permitted to do injurious work while of school age. The infant is entitled to protection against preventable blindness and the state ultimately may find it necessary to help stamp out this pestilence, just as it passes other sanitary measures.

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[7] Nance: Illinois Med. Jour., October, 1908.
[8] McKee: Ophthalmology, July, 1909.
[9] Stieren: Ophth. Rec., July, 1909.
[10] Bull. New York Med. Jour., May 15, 1909.
[11] Keller: Lancet-Clinic, Feb 27, 1909.

In 1906 a committee of the American Medical Association was appointed, with Dr. F. Park Lewis as chairman, to determine ways and means of securing the more general adoption, where necessary, of well known methods of eliminating this disease. In every state the active cooperation of the medical profession, public health authorities and other agencies is being sought. A national movement has been inaugurated to secure the passage and enforcement of proper laws dealing with these cases in this country, as has been done by most of the European powers; also to bring about a more general, if not universal, adoption of simple prophylactic measures. This has come about through a recognition of the importance of this disease, not only to the individual blinded at birth, before being trained and educated, but also to the state.

ADVISABILITY OF ROUTINE USE OF PROPHYLACTIC

In this earnest crusade for the more general use of a prophylactic, it is undoubtedly good policy to insist on its routine use in public lying-in wards or hospitals, where these infections are so common, and by midwives who, with their limited knowledge, cannot be expected to form correct judgments. The capable physician in private practice, however, well acquainted with his patient, is likely to insist on his right to determine in each case, a prerogative of his profession, whether the use of a prophylactic is necessary or not. If a vaginal discharge is present, time will often permit a bacteriologic examination to be made which will determine the variety of pathogenic organisms present, any of which may cause ophthalmia neonatorum. The presence of the gonococcus demands prophylactic measures. In cases, however, in which a discharge is present it is easier to employ a prophylactic than to make a bacteriologic examination. If properly and carefully used, it will very rarely cause more than a little temporary redness and discharge, although the advisability of its universal use is still debatable. It is going too far, is unjust and unfair, to say that if infection occurs or even blindness results that it is always due to the neglect and carelessness of physician, midwife or nurse, for the child's eyes may become infected after the proper use of a prophylactic, as from the nose through the nasal duct, from subsequent introduction of infection, or may have been infected sometime before birth, which Stephenson[12] claims is not infrequent (Lewis, Harper and Pease,[13] Nance[7]). However, these professions must bear a large part of the blame for the continued frequency of this nearly always preventable disease.

While the knowledge that a large proportion of blindness from ophthalmia neonatorum is due to gonorrhea in one or both parents, and placing the real responsibility of the child's blindness on them, will be a moral lesson to the public, the fact remains that it is not all due to this cause. The general understanding and belief that infection may occur in any case, gonorrheal as well as non-gonorrheal, will permit of the freer use of a prophylactic without any danger of giving offense by its use. In addition, discussion and dissemination of knowledge concerning ophthalmia neonatorum, over which a mock modesty is otherwise too likely to draw a veil, will thereby be furthered. Morrow says, "Social tradition holds that it is a greater violation of conventional propriety publicly to mention this infection (gonorrhea) than privately to contract it and carry it home to the family." Unfortunately at the present time this is the best reason why, in the movement for the prevention of blindness, too much emphasis should not be placed on its most common cause. A freer discussion of this commonly, but not necessarily, gonorrheal disease will serve as an entering wedge toward a more general discussion and understanding of sex problems.

Physicians will no doubt be surprised to learn that a social service study of 116 cases of ophthalmia neonatorum cared for in the wards of the Massachusetts Eye and Ear Infirmary, October, 1908-1909, showed that only two of the patients had been attended by midwives, and that only temporarily until their physician could be secured, and that physicians had attended all the other cases throughout. As Edgar[14] has said, "The burden of the blame cannot all be placed on the midwife."

At present, however, the necessary midwife, who in poor families serves not only as accoucheur, but often takes the place of nurse and housekeeper, and who attends about one-half the obstetric cases in our large cities, presents a serious problem for solution. Recommendations in regard to her are freely made, requiring better training, prompt notification of births, compulsory use of prophylactic solutions, early reports, on birth certificates, of the use of such solutions, and immediate reports of cases of ophthalmia, with punishment for repeated neglect by fines or withdrawal of license to practice by registration authorities. The medical profession in this day of many false gods must be careful, however, not to encourage unduly too many legislative activities, especially by making them, at least apparently, necessary. Statutes compelling physicians to use certain rule-of-thumb remedies as a routine for certain conditions will never be advisable nor practical. The beginning of such a course by the public, with its attendant penalties on the profession, may be fraught with grave dangers both to the public and to our profession. The proper use of a good prophylactic by a well-trained physician is a safeguard, but, the statute-forced, perfunctory, careless or improper employment of any solution of silver that happens to be convenient, by any one, physician or midwife, who is not clean and properly trained, is mere interference, and is likely to result in more blindness in the aggregate than if not used at all. The campaign against ophthalmia neonatorum will be truly successful in proportion as it remains one of enlightenment and education.

Human error is sure to become manifest in the zeal and enthusiasm attending any great or useful reform or propaganda and great care must be exercised that the habitual reformer or yellow journalist does not harm innocent persons or jeopardize this movement by his too frequent indulgence in misrepresentation or exaggeration. Physicians should not permit such mistakes to prejudice them against a good movement, but should do their part properly to further it.

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[12] Stephenson: The Hospital, March 12, 1910.

[13] Lewis, Harper and Pease: Ophthalmia Neonatorum and Its Prevention, The Journal A. M. A., March 13, 1909, p. 876.

[14] Edgar: New York Med. Jour, May 15, 1909.

VALUE OF PROPHYLAXIS

The prevention of blindness from this cause is too important to demand argument, too successful to require debate, too necessary to need exaggeration or overstatement. The value of prophylaxis in these cases, one of the greatest triumphs of modern scientific, preventive medicine, has been so clearly proved by carefully computed statistics of incontestable accuracy, often published, secured by responsible medical authorities in many civilized countries, that members of the profession can ill afford to assume an attitude of indifference or presume to question the usefulness of a prophylactic (Gehrung[15]). The solution is easily employed and can be readily secured, is freely distributed by many state health boards, and conscientious physicians should always have fresh, clear solutions in their obstetric bags. The objections to frequent use of prophylactic measures, slight pain and mild silver conjunctivitis in many children who would not be likely to have ophthalmia neonatorum, are not comparable in importance to the almost never-failing success in preventing this no longer necessarily venereal or shame disease. The great lying-in hospitals in which cases of ophthalmia neonatorum and its results were formerly so conspicuous, very rarely have any such cases since the routine use of some good method of prophylaxis. That some physicians of large experience have not had any cases of severe ophthalmia neonatorum is their good fortune, but only begets a false sense of security for the future. It is not a parallel argument to say that because some people die of appendicitis, therefore, every appendix should be removed. Such a course would be attended with risks out of proportion to the results to be obtained. The prophylactic properly used is practically never dangerous. It is not true that a drop placed in the eye after inflammation has once begun is the same as one used soon after birth. In the latter case, unless inflammation is already established, there are probably only a few germs along the margins of the lids; in the former they are distributed throughout the conjunctival sac in its folds and recesses and will therefore require severe treatment to destroy them. It is difficult to understand the indifference of many physicians to this important subject, about which so much is being written, for many such physicians are men who frankly condemn and recommend prosecution of quacks, Christian Scientists, etc., for their malpractice and vagaries. The time is nearly here when the accoucheur and nurse will be subjected to severe criticism and reproach, whether deserved or not, and considered culpably negligent and censurable in every case in which ophthalmia neonatorum develops, especially if measures for its prevention have been neglected, as nurse and physician are now blamed if proper aseptic precautions for the protection of the mother against infection are not observed.

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[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A LATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION DISCUSSIONS."]

Criminals and Defectives.—When a criminal is referred to as "defective," a misconception is liable to be created, as the general impression made by the word is that of physical deformity. Yet, he is strictly speaking within the meaning of the word, for he is incompetent.—Jour. Crim. Law and Criminology.

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[15] Gehrung: New York State Jour. Med., ix, No. 5, p. 205.

THE SIGNIFICANCE OF RETINAL HEMORRHAGE

BASED ON A STUDY OF THE SUBSEQUENT HISTORY OF ONE HUNDRED AND EIGHTY-SEVEN CASES *

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The various types of retinitis seen during a practice of more than a score of years have emphasized the fact that the therapeutic measures at our command in this condition are practically valueless. If recovery occurs, it must be ascribed to the recuperative powers of Nature, rather than to any effort of our own. Except in the albuminuric type, the prognostic significance of the disease has not been sufficiently appreciated to warrant the text-books in succinctly stating the fact, or to influence us in caring for the future welfare of the patient rather than devoting our entire energies to the relief of the existing condition.

It was to ascertain whether other than the albuminuric forms of retinitis were as significant of grave termination that I have made a study of 187 cases of retinitis occurring in private practice since 1890. The much larger number seen in my hospital service has been omitted because of my inability to trace the subsequent history of the patients. Specific retinitis has been omitted because of its nature, and because of the fact that it is usually much more amenable to treatment than the non-syphilitic types.

It has been my practice to diagnose my cases under one of six heads:

1. Retinal apoplexy, due to,
    (a) A rupture of the walls of a vessel;
    (b) Diapedesis.
2. Simple retinitis, secondary to retinal apoplexy.
3. Hemorrhagic retinitis with secondary hemorrhages.
4. Albuminuric retinitis.
5. Diabetic retinitis.
6. Chorioretinitis.

While the classification may be deemed imperfect, it serves to eliminate the forms of retinitis which are not associated with hemorrhages and affords the information desired for the present inquiry.

Text-books on ophthalmology, with few exceptions, pass the subject of prognosis with the statement that "retinal apoplexy and hemorrhagic retinitis are of grave import," "a forerunner of cerebral apoplexy," or "an indication of grave vascular or cardiac lesions," while they are united in the opinion that albuminuric retinitis is fatal within a short time in 70 per cent. of cases. This part of the subject has been ably discussed by various authors, and the statistics of the cases of albuminuric retinitis are offered merely as corroborative evidence of the gravity of the condition, yet the statement of Porter that "all cases of albuminuric retinitis are found in syphilitics," is so abundantly disproved by my own cases that I cannot forbear to call attention to them. The comparatively few diseases which are ascribed as the cause of death in my fatal cases emphasize our present knowledge of the etiology of hemorrhagic retinitis, which may be briefly summed up as follows:

1. Atheroma.
2. Vasculitis and perivasculitis.
3. Increased arterial or venous pressure.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

4. Altered condition of the blood found in nephritis, glycosuria, oxaluria or profound toxemia.
5. Traumatism.
6. Reflex disturbances.

All the deaths which have occurred may be ascribed to one of these six causes.

I have records of 240 cases of retinitis, and of these I have been able to trace the subsequent histories of 187. I am unable to account for fifty-three. Seventy-four are living and 113 are dead.

TABLE 1.—SHOWING OUTCOME IN 187 CASES OF VARIOUS TYPES OF RETINITIS

Type of Disease	No. of Patients	Living	Dead	Per cent. Dead
Retinal apoplexy	22	17	5	22.7
Hem. retinitis	47	21	26	55.3
Alb. retinitis	101	26	75	74.2
Diab. retinitis	10	5	5	50.0
Chorioretinitis	7	5	2	28.6
	187	74	113	60.4

So far as may be judged by such a small number of cases, 60 per cent. of all cases of non-syphilitic hemorrhagic retinitis terminate fatally within a few years; while of the hemorrhagic type a much larger number (55.3 per cent.) than is generally believed, are rapidly fatal. Any disease in which more than half of the patients die within a short time is worthy of careful study.

TABLE 2.—STATE OF HEALTH OF LIVING PATIENTS

	Period of Observation						Diseases									
	One Year.	Two Years.	Three Years.	Five to Ten Years.	Over Ten Years.	Total.	Usual Health.	Poor Health.	Blind.	Hemiplegia.	Paralysis Agitans.	Epilepsy.	Mental Disease.	Arterio-sclerosis.	Rheumatism.	Total.
Ret. apoplexy	6	4	..	1	6	17	10	..	1	4	..	..	..	..	2	..
Hem. retinitis	3	5	1	12	..	21	11	1	3	..	1	2	2	1	..	..
Alb. retinitis	7	9	2	6	2	26	14	9	3	..	..	..	..	..	..	..
Diab. retinitis	2	..	1	..	2	5	..	3	1	1	..	..	..	..	..	..
Chorioretinitis	.	2	..	1	2	5	5	..	..	..	..	..	..	..	..	..
	18	20	4	20	12	74	40	13	8	5	1	2	2	1	2—	74

We may gain valuable information by a consideration of the state of health of those now living, and in all cases of which I have not personal knowledge I have gained my information from the family physician.

Of the seventy-four living patients thirty-four, or 46 per cent., are in confessedly poor health, and the similarity between the specific diseases from which they suffer and the causes of death shown in Table 3 warrants the assumption that the mortality there shown will in a short time be increased.

I desire also to call attention to the fact that it is hemorrhagic retinitis which yields the larger percentage of the cases of poor health.

TABLE 3.—CAUSES OF DEATH

	Nephritis.	Cerebral Tumor.	Apoplexy.	Diabetes.	Arterio-sclerosis.	Pulmonary Tuberculosis	Suicide.	General Paresis.	Cardiac Disease.	Rheumatism.	Diphtheria.	
Ret. apoplexy	..	..	3	..	1	..	..	..	1	..	..	5
Hem. retinitis	..	5	12	..	1	2	2	1	2	..	1	26
Alb. retinitis	75	..	..	..	..	..	..	..	..	..	..	75
Diab. retinitis	..	..	..	4	..	..	..	..	..	1	..	5
Chorioretinitis	..	..	2	..	..	..	..	..	..	..	..	2
	75	5	17	4	2	2	2	1	3	1	1	113

TABLE 4.—DURATION OF LIFE

Causes of Death	Died within 6 months.	Died 6 mos. to 1 year.	Died 1 to 2 years.	Died 3 to 10 years.	Died over 10 years.	Total.
Nephritis	38	15	10	10	2	75
Cerebral tumor	1	2	1	1	..	5
Apoplexy	2	7	1	7	..	17
Diabetes	2	..	2	..	..	4
Arteriosclerosis	..	..	..	2	..	2
Pulmonary tuberculosis	1	..	..	1	..	2
Suicide	..	1	..	1	..	2
General paresis	..	..	1	..	..	1
Cardiac disease	..	..	1	2	..	3
Rheumatism	..	..	..	1	..	1
Diphtheria	..	..	1	..	..	1
	44	25	17	25	2	113

TABLE 5.—AGES OF FATAL CASES OF NEPHRITIS

	No. of Cases	Average Duration of Life
Under twenty years	1	2 weeks
Twenty to thirty years	12	5 months
Thirty to forty years	11	8 months
Forty to fifty years	9	30 months
Fifty to sixty years	25	18 months
Sixty to seventy years	12	20 months
Seventy to eighty years	4	27 months
Over eighty years	1	2 months
	75	

TABLE 6.—DURATION OF LIFE IN FATAL CASES OF NEPHRITIS

One day, 1 case; 2 days, 1 case; 1 week, 1 case; 2 weeks, 3 cases; 1 month, 6 cases; total, 12, or 15 per cent., died within one month.

Two months, 5 cases; 3 months, 10 cases; 4 months, 7 cases; 5 months, 2 cases; 6 months, 3 cases; total, 39, or 52 per cent., died within six months.

Seven months, 1 case; 9 months, 3 cases; 10 months, 1 case; 11 months, 3 cases; 1 year, 7 cases; total, 54, or 72 per cent., died within one year

Eighteen months, 2 cases; 19 months, 1 case; 20 months, 1 case; 24 months, 6 cases; total, 64, or 85 per cent., died within two years.

Three years, 5 cases; total, 69, or 92 per cent., died within three years.

Five years, 1 case; 6 years, 1 case; 8 years, 2 cases; 10 years, 1 case; 12 years, 1 case; total, 75.

TABLE 7.—DURATION OF LIFE IN ALL CASES

	Cases	Per Cent.
Living at end of ten years or more	74	40.9
Died in one year	70	37.4
Died in two years	17	9.0
Died in three years	4	2.1
Died in three to ten years	19	10.1
Died after ten years	3	0.5
	187	100.0

Chances of death in 1 year, 37.4 per cent.
Chances of death in 2 years, 46.4 per cent.
Chances of death in 3 years, 48.5 per cent.

If these statistics are correct (and I have taken great pains in their preparation, in which I have been greatly assisted by my associate, Dr. J. W. Leech), a study of their findings will reveal what I have endeavored to prove, i. e., that aside from the well-known, speedily fatal termination of albuminuric retinitis, not only simple retinal apoplexy, but all the types of retinitis associated with hemorrhages are danger signals, and that our duty lies more in the safeguarding of the patient's future than in the treatment of the present ailment. It offers to life insurance examiners the possibility of forecasting the future of an applicant, and thus determining his value as a risk with more accuracy than by the ordinary methods of examination, and suggests the advisability of insisting on an ophthalmoscopic examination in every case. The comparatively small number of cases, of course, weakens our conclusions, but what is true of the whole is in a measure true of its parts, and further investigations by other observers will, I believe, corroborate these findings. Of the 187 patients 113 (60 per cent.) are dead and thirty-four are in poor health, and only forty (21.4 per cent.) are reported as in their usual health. Of those who suffered from retinal apoplexy 45 per cent. are in good health, while in the cases of hemorrhagic retinitis but 24 per cent. of the patients are not either dead or afflicted with some grave disorder. Thirteen per cent. only of the patients with albuminuric retinitis are alive and well, and of the diabetic type there is none.

CONCLUSIONS

1. Three-quarters of all cases of hemorrhagic retinitis either terminate fatally within a few years or the patients suffer marked impairment of health.

One patient died of diphtheria during an epidemic, but was suffering from Bright's disease, and her life would in any event have been of short duration. One died of rheumatism, four from diabetes, and of the two who died of tuberculosis, one certainly did not have that disease when seen, but she died suddenly while returning from Europe and the cause of death was given as tuberculosis.

With these exceptions, all deaths have been due to some disorder of the nervous or circulatory system, and all cases of impaired health are ascribed to the same conditions.

2. The existence of any form of hemorrhagic retinitis is suggestive of present or future disease of either the nervous or circulatory system.

By reference to Table 5, it will be noticed that the average duration of life in albuminuric retinitis increases regularly with the age of the patients. An apparent exception is found between the ages of forty and fifty, but this is due to the fact that the two patients who lived ten and twelve years, respectively, were between these ages. If these are eliminated, the average duration is twelve months. The largest number of cases occur between the ages of forty and fifty.

3. The duration of life in albuminuric retinitis increases with the age of the patient and the younger the patient, the worse the prognosis in point of time.

There have been nine cases of albuminuric retinitis occurring in pregnancy, and of these, two of the patients are dead of acute uremia; one two weeks after parturition at term, the other at four months. Of the seven patients living all are in excellent health; three have passed subsequent pregnancies without recurrence, five have vision of 0.9, or better, and in two there is impaired vision.

When, in the etiology of any disease, reflex disturbance is given as a cause, it is usually synonymous with lack of accurate knowledge. My warrant for ascribing hemorrhagic retinitis to such a cause is found in two cases which I desire to report in detail.

Case 1. E. G., aged 36, a bank clerk, was first seen in 1898 with a myopia of one diopter, which, when corrected, gave him normal vision in each eye. January 28, 1903, he was again seen, and with the correcting glass his vision was 1.0 in each eye. February 2, while at the dentist's a drill perforated the root of a first bicuspid tooth on the right side of his jaw, and breaking, a portion was left in the tooth. Almost immediately there was a blurring of vision in the right eye, and on the following morning when I saw him there was an extensive retinal hemorrhage just above the macula, the vision being reduced to 2/50. The tooth was extracted and the broken tip of the drill was found protruding about ⅛ of an inch. The splash of hemorrhage was soon surrounded by an area of edema, and several spots of exudation appeared in the macular region, which rapidly increased till they presented the appearance of finger-like projections extending into the vitreous, which waved back and forth with the motion of the globe. In June, of that year, this exudate had disappeared, leaving dirty yellow spots, but the vision was not improved. I did not see him again until June, 1906, when to my surprise the vision was again normal. The retina had resumed its normal appearance, save that one of the ascending arteries was obliterated for about two diameters, and a collateral circulation had been established.

This patient was seen in consultation by Dr. Hasket Derby, of Boston, and he expressed his opinion that the retinitis was a reflex disturbance.

A pertinent fact in connection with this case was that an indemnity on an accident insurance policy was denied on the ground that it was not accidental.

Case 2. In 1905, I saw Miss E. J., aged 40, who noticed on the day following a visit to the dentist that the vision of one eye was blurred. She had been having a nerve killed and had suffered a good deal of pain at the time, but did not ascribe her loss of vision to anything connected with her tooth. She presented numerous splashes of hemorrhage in the retina of the right eye, and with the memory of the first case in my mind, I spoke of the possibility of a similar condition. She immediately consulted her dentist, who assured her that there was no possibility of such an accident, but on the third day she insisted on having the tooth extracted, and, with the dentist, visited my office, bringing the offending molar. It showed no evidence of having been injured, but to make assurance more sure, I made a section of the tooth in the axis of the dental canal and found in it a broken piece of steel broach, a quarter of an inch long. The retinitis resulting subsided in about three months, leaving normal vision.

These two cases can hardly be ascribed to a coincidence.

The following case illustrates the point I desire to make.

Case 3. A. B., aged 40, unmarried, was referred to me on account of severe headaches. There was no history of specific infection, the previous condition of health was excellent, and his physician, failing to find an adequate cause for the headaches, as usual ascribed it to the eyes. He had several spots of retinal hemorrhage evidently of recent occurrence, but no impairment of vision. He was referred to his home physician for a urinalysis and I did not again see him for several weeks, when he reappeared with greatly diminished vision and an active neuroretinitis of each eye. He said that no trouble had been found with his urine and that his physician had, in the absence of other symptoms, given him potassium iodid in 5-grain doses, which he had been taking since I first saw him. Evidently cerebral disturbance was present, and a letter was given him to deliver to his physician, stating my opinion that the trouble was due to a cerebral tumor and that the prognosis was bad. He died on the way home while on the train and the letter was taken from his pocket by the medical examiner called to the case.

If there had been an appreciation of the gravity of this case and more attention given to its possibilities, the fatal termination possibly could have been delayed.

I have endeavored to show by these statistics that all types of hemorrhagic retinitis are of serious import; that even retinal apoplexy is significant of impending danger, while simple retinitis with hemorrhage has a mortality largely in excess of that commonly ascribed to it. I have made no study of the pathology, and make no suggestion for treatment, except to urge that attention be given to the future of the patient and not to the present.

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[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

CULTIVATION OF PATHOGENIC TREPONEMA PALLIDUM *

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Although several investigators (Scherschewsky, Mühlens and Hoffmann) have secured cultures of certain spirochetes, no one has yet been able to establish them as being undoubted examples of *Treponema pallidum* (*Spirochæta pallida*). In some instances, the morphologic features of the organisms in the cultures were identical with those present in syphilitic lesions in man, yet they never caused lesions when inoculated into animals. In two exceptional instances, Bruckner and Galasesco, in 1910, and Sowade, in 1911, reported that they had succeeded in reproducing syphilitic lesions in the rabbit by the injection of "impure cultures." But as these "cultures" still contained the original syphilitic tissue used for inoculation, and as a second growth (generation) of the spirochetes could not be obtained, it remained an open question whether the lesions were due actually to the cultivated spirochetes or whether they were simply produced by the original spirochetes that had survived.

METHOD OF CULTIVATION

All previous investigators used human syphilitic tissues for the cultivations. I have employed only the spirochete-containing testicular tissue of the rabbit. As is well known, this tissue, at the height of the lesions, contains innumerable motile spirochetes. The rabbit material is available at all times and tends, when continuous passages have been effected, to contain relatively few common bacteria. Up to the present time, I have employed ten different strains of *Spirochæta pallida*, all of which have been passed through the rabbit. Of these, six strains have been passed through successive series of cultures.

The only suitable culture-medium which I have thus far found is serum-water (sheep, horse, rabbit) to which a piece of sterile rabbit tissue is added. I have preferred the kidney or testicle. The liver is less suitable, first, because it often contains bacteria, and, second, because of the large quantity of carbohydrate which in the presence of the common bacteria yields a large amount of acid. Test-tubes 20 cm. high and 1.5 cm. wide are chosen into which 16 c.c. of the serum-water are introduced. After sterilization at 100 C. for three successive days, a small piece of the freshly removed organ is added. The tubes, having been incubated at 37 C. for two days, are, if sterile, ready for use. A layer of paraffin oil is poured into each tube to shield the medium from the air and to prevent evaporation. In order to obtain the first growths of the spirochetes, no agar or gelatin should be added to the medium; later generations can, however, be secured in a solid medium. At first, strict anaerobiosis is required, but later this strictness is not essential. Indeed, certain strains of *Spirochæta pallida* grow in later generations in a deep serum agar culture in which the tissue is placed at the bottom which is merely covered with paraffin oil. In no case did any of the strains grow in the absence of tissue. In this respect they differ greatly from those described by Mühlens and Hoffmann, which grew readily not only in the absence of tissue but even of serum.

In almost all the first growths, the spirochetes are mingled with bacteria. As the *Spirochætæ pallidæ* do not grow at this time in solid media, purification is difficult. I have obtained this by permitting the spirochetes to grow through Berkefeld filters that hold back the ordinary bacteria for a longer period. This is accomplished after about the fifth day. Or the strains which, after a time, begin to grow in solid media may be separated from the bacteria by reason of the fact that while the latter remain confined to the stab-canal, the former penetrate, as a slight haze, into the surrounding medium, from which they can be removed in a pure state. Thus cultivated, the morphology is correct for the *Spirochæta pallida*, and motility is retained for some weeks. As would be expected from the conditions of growth, special arrangements and groupings of the spirochetes occur in the cultures.

PATHOGENICITY

Two strains of the *Spirochæta pallida* in pure culture have thus far been tested for pathogenicity by inoculation into the testicle of rabbits, and both have set up the typical lesions. The first strain was cultivated in October, 1910, the second in March, 1911. The aspirated fluid, taken during life, showed innumerable spirochetes which, viewed under the dark-field microscope or after Giemsa staining, presented the characteristic qualities of *Treponema pallidum*. The testicular tissue, stained with the usual histologic dyes or impregnated with silver salts by Levaditi's method, showed the usual cellular infiltration and countless spirochetes, precisely as after successful inoculation with syphilitic material from human beings.

CONCLUSION

It may be affirmed that *Treponema pallidum* has been made to grow in pure culture and that the cultures possess the usual pathogenicity for the rabbit.

It may be further stated that the testicular lesions produced in the rabbit by means of pure cultures of the *Spirochæta pallida* are identical with those set up by syphilitic materials, from which it follows that the cause of the syphilitic lesions in man, as of the testicular lesions in the rabbit, is *Treponema pallidum*.

The method will be described in detail in a forthcoming number of the *Journal of Experimental Medicine.*

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* From the Laboratories of the Rockefeller Institute for Medical Research.

So-Called Thyroid Carcinoma of Brook Trout.—There is no stage of thyroid hyperplasia in brook trout that may be classified biologically as carcinoma. The incidence of true carcinoma in fish goiter is not greater than in mammalian goiter. Goiter is endemic in all hatcheries where the *salmonidæ* are artificially reared. Its severity is quantitatively related to the general hygienic conditions prevailing, and to the food, water-supply and degree of crowding. The immediate cause of goiter is unknown, but it depends in all probability on a disproportion in, or a lack of, certain of the elements necessary for proper nutrition.—D. Marine and C. H. Lenhart, in *Journal of Experimental Medicine.*

EXPERIMENTAL STUDY OF ANAPHYLAXIS IN CARCINOMA *

PRELIMINARY REPORT

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This series of experiments was undertaken to show the difference, if any exists, between the blood of normal individuals and those suffering from carcinoma.[1] To demonstrate this the anaphylactic reaction was employed.

Young guinea-pigs were used in the three experiments. Each pig, sensitized with blood-serum of a carcinomatous individual, had as a control pig of like weight, sensitized with normal blood-serum. At the height of the sensitization period—ten to fourteen days—each pig, cancer and control, received a large dose of serum from a cancerous individual.

REPORTS OF EXPERIMENTS

Experiment 1.—February 9: Serum A was obtained from vein of normal male adult, aged 40; Serum B, from a negro woman, suffering from a non-ulcerating carcinoma of the breast, with slight involvement of the axillary glands, the diagnosis having been confirmed by the microscope. Serums A and B were each diluted 1:50 with normal salt solution.

February 10: Guinea-pigs were inoculated intraperitoneally, the control set with serum A, the carcinoma set with serum B, in amounts varying from 0.01 to 0.5 c.c. The pigs were kept in pairs, A of each pair inoculated with normal serum, B with carcinoma serum.

February 22: The blood was obtained by venesection from a male, aged 62, with recurrent epithelioma of inside of mouth and glandular metastases of the neck; diagnosis confirmed by microscopic examination.

February 23: Five c.c. of the serum were injected into the abdominal cavity of each of the twelve pigs of both the carcinoma and normal sets.

The results of Experiment 1 are detailed in Table 1.

TABLE 1.—EXPERIMENT 1

Results of Inoculations of Guinea-Pigs with Cancer Serum After Sensitization with Normal Blood-Serum and with Carcinoma-Serum

Pigs A, sensitized with normal serum February 10; inoculated with 5 c.c. cancer serum February 22.

	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	0.01	10	Twitching and dyspnea.	1 2/3	Recovery.
2	0.02	10	Twitching, convulsive movements and dyspnea.	2	Recovery.
3	0.04	..	No symptoms.		
4	0.1	10	Twitching, dyspnea, convulsions.	3	Death.
5	0.2	10	Convulsions.	2	Death.
6	0.5	..	No symptoms.		

Pigs B, sensitized with cancer serum February 10; inoculated with 5 c.c. cancer serum February 22.

	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	0.01	15	Slight writhing.	. . .	Recovery.
2	0.02	20	Drowsy lying on side.	2/3	Recovery.
3	0.04	..	No symptoms.		
4	0.1	10	Slight twitching.	*	Recovery.
5	0.2	10	Drowsy lying on side.	1/2	Recovery.
6	0.5	..	No symptoms.		

* Short duration.

The symptoms when present were typically those of anaphyaxis; that is, appearing promptly and consisting of twitching, dyspnea and convulsions, and at times followed by death. It will be noted that in two pairs of pigs, Pair 3 sensitized with 0.04 and Pair 6 sensitized with 0.5 c.c., no symptoms whatever occurred in either Pigs A or B. It is particularly to be noted that the symptoms were far more pronounced in Pigs A, sensitized with normal serum, than in Pigs B sensitized with carcinoma serum; this difference being marked in each of the four remaining pairs. In detail:

Pair 1.—Sensitized with 0.01 c.c. A: Appearance of symptoms ten minutes, twitching, labored breathing and convulsions lasting one hour and forty minutes, ending in recovery. B: No symptoms.

Pair 2.—Sensitized with 0.02 c.c. A: Appearance of symptoms ten minutes, twitching, labored breathing and convulsions lasting two hours, ending in recovery. B: Appearance of symptoms fifteen minutes; merely slight drowsiness, lasting one hour, ending in recovery.

Pair 4.—Sensitized with 0.1 c.c. A: Appearance of symptoms ten minutes, followed by twitching, labored breathing and convulsions, ending in death in two hours. B: But a short period of restlessness, ending in recovery.

Pair. 5.—Sensitized with 0.2 c.c. A: Symptoms appeared in ten minutes; convulsions, dyspnea and death in two hours. B: Short period of drowsiness, ending in recovery in one hour.

To sum up this experiment, four of the six pairs of pigs showed symptoms of anaphylaxis and in each pair the symptoms were far more pronounced in Pigs A; sensitized with normal serum, than in Pigs B, sensitized with carcinoma serum. All of Pigs B recovered, while two Pigs A died. It must be noted, too, that in this experiment the sensitizing carcinoma serum was obtained from a comparatively localized carcinoma.

Experiment 2.—April 24: Normal Serum A was obtained from a woman, aged 38.

Serum B was obtained from female, aged 40; recurrent carcinoma of uterus; diagnosis confirmed by microscopic examination.

April 25: In the same manner as in Experiment 1, guinea-pigs were inoculated intraperitoneally with Serum A and B, in amounts varying from 0.01 to 0.5 c.c. The pigs were kept in six pairs, as in Experiment 1, A of each pair inoculated with serum from a normal individual, B from the patient suffering from carcinoma.

May 4: Serum was obtained by tapping of ascitic fluid of a woman suffering from an advanced case of pelvic carcinoma; diagnosis confirmed by microscope.

May 5: Ten c.c. of the fluid were injected intraperitoneally into each pig, both A and B, and the results tabulated in Table 2. In the entire series of twelve pigs, each showed anaphylactic symptoms of more or less severity.

TABLE 2.—EXPERIMENT 2

Results of Inoculations of Guinea-Pigs with Cancerous Ascitic Fluid After Sensitization with Normal Blood-Serum and with Cancer Serum

Pigs A, sensitized with normal serum April 24; inoculated with 10 c.c. of cancerous ascitic fluid May 5.

	Weight.	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	300	0.01	10	Twitching; restless.	1/3	Recovery.
2	250	0.02	5	Tremor.	1/4	Recovery.
3	260	0.04	6	Convulsions.	1	Recovery.
4	230	0.1	6	Convulsions.	3	Death.
5	250	0.2	4	Convulsions.	4	Death.
6	Died before inoculation.					

Pigs B, sensitized with cancer serum April 24; inoculated with 10 c.c. cancerous ascitic fluid May 5.

	Weight.	Sensitizing Dose (c.c.).	Time Within Which Symptoms Appeared (min.).	Symptoms.	Duration of Symptoms (hrs.).	Result.
1	275	0.01	10	Twitching; restless.	1/3	Recovery.
2	200	0.02	5	Tremor.	1/3	Recovery.
3	275	0.04	8	Slight tremor.	1/4	Recovery.
4	210	0.1	10	Slight tremor.	1/6	Recovery.
5	250	0.2	10	Slight tremor.	1/4	Recovery.
6	210	0.4	15	Slight tremor.	1/4	Recovery.

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* From the Cincinnati Hospital Laboratory.

* Read before Cincinnati Research Society, June 1, 1911.

[1] During the past few months articles on anaphylaxis in cancer y Maragliano, Isayo and Conuell have appeared, without, however, ecording positive results.

In the first two pairs sensitized, respectively, with 0.01 and 0.2 c.c., there were evanescent symptoms alike both in A and B, consisting merely of twitching and restlessness, beginning in five or ten minutes and lasting fifteen to twenty minutes. The animals suffered no permanent ill effects. In the remaining four pairs a different picture was presented. In each pair A, inoculated with normal serum, presented severe symptoms; in two instances death followed, while pigs B suffered scarcely any symptoms at all.

Pair 3.—Sensitized with 0.04 c.c. A: convulsions and dyspnea began in six minutes, lasted one hour, ending in recovery. B: Slight tremor lasting eight minutes, ending in recovery.

Pair 4.—Sensitized with 0.1 c.c. A: Symptoms began in six minutes, dyspnea and convulsions, ending in death in three hours. B: Symptoms began in ten minutes, slight tremor, ending in recovery in fifteen minutes.

Pair 5.—Sensitized with 0.2 c.c. A: Symptoms began in four minutes; dyspnea, spasms and convulsions, ending in death in four hours. B: Slight tremor of twenty-five minutes' duration, ending in recovery.

Pair 6.—Sensitized with 0.5 c.c. A: Death several days before inoculation. B: But slight tremor. In normal control pig, but slight tremor.

Experiment 1 was witnessed by Drs. Wherry, Friedlander and Newburg.

Experiment 2 was witnessed by Drs. Wherry and Brown.

The results of Experiment 3 were entirely unlike those of Experiments 1 and 2, and at the present state of investigation cannot satisfactorily be explained.

Experiment 3.—May 7: Serum A from normal adult male; Serum B from female, aged 60; extensive carcinoma of abdomen; confirmed by microscopic examination.

Twelve pigs were used and kept in pairs as before. Each pair was sensitized with 0.2 c.c., A of normal serum, B of carcinoma serum.

May 20: Serum was obtained by venesection from a male, aged 60; advanced carcinoma of pharynx; diagnosis not confirmed by microscope. Each pair of pigs was injected intraperitoneally with the serum in varying doses. Pair 1, 1 c.c.; Pair 2, 2 c.c.; Pair 3, 4 c.c.; Pair 4, 6 c.c.; Pair 5, 8 c.c.; Pair 6, 10 c.c. For the first few moments after injection it seemed as though Pigs A and B of Pairs 2, 3, 4 and 5 showed symptoms of restlessness. These, however, were of short duration and no pig of the entire series, either A or B, showed the slightest anaphylactic symptom. Both pigs of pairs 4, 5 and 6 died in the course of two hours with symptoms of poisoning, showing, however, neither tremor nor convulsions.

It is impossible to say why no anaphylactic symptoms occurred. It seems likely, however, that some deterioration of the serum may have taken place which disturbed its peculiar properties. The day was unusually hot and the serum was brought from the Jewish to the Cincinnati Hospital, after which it was necessary to centrifuge it at room temperature. Experiment 3 may for the present be disregarded and conclusions drawn from Experiments 1 and 2.

As is well known, anaphylaxis and immunity are so closely related that it is almost impossible to dissociate them. The delicacy of the anaphylactic reaction may be appreciated when it is seen that a pig may be sensitized by the injection of 0.01 c.c.

Judging from Experiments 1 and 2, there seems to be a tangible difference between the serum of normal individuals and those suffering from carcinoma. At first glance it would seem that the symptoms should have been reversed; that is, the animal sensitized with carcinoma serum should show more marked symptoms than those sensitized with normal blood-serum, when both were given a final large dose of carcinoma serum. Here appears the close correlation between anaphylaxis and immunity. Both pig A and pig B were sensitized to human blood-serum, whether carcinoma or normal. So that, when injected with carcinoma serum, they both showed anaphylaxis. But it is probable that pigs B sensitized with carcinoma serum were at the same time immunized to the action of that serum; so that when the final dose was given, they showed comparatively mild symptoms.

CONCLUSIONS

These experiments may develop into an aid to early diagnosis of carcinoma. This is particularly borne out by the fact that in Experiment 1, pigs B were sensitized with serum taken from a patient harboring a comparatively localized carcinoma of the breast with but slight glandular involvement. There seems, too, a possibility of work of this nature opening up a channel which may eventually lead to true cancer immunity and treatment by serum.

I desire to express my thanks to Dr. Wherry for his cooperation and advice.

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THE HEALING OF IRIDECTOMY WOUNDS AND ITS INFLUENCE ON GLAUCOMA *

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Glaucoma in its different forms, being as yet but partially understood, must needs still arouse the interest and particular study of every student. It is not astonishing, therefore, that the literature on the subject has reached an enormous magnitude and that the theories evolved concerning the etiology as well as the cure of this many-sided disease are becoming increasingly numerous.

It is not the object of this paper to go over the whole question; I intend to confine myself to the question of the healing of the iris wounds after iridectomy and to see in what manner the iridectomy may exert a curative influence in the course of a glaucoma.

In 1874[1] I made a large number of experimental iridectomies on rabbits in order to study the manner in which iridectomy wounds heal. I was aware then and am now that we cannot unhesitatingly apply experimental results obtained on animals' eyes to the human eye. Yet, in this particular case and in general in the healing of wounds, my histologic studies have shown no marked difference between the eye of a rabbit and that of man.

The normal healing of the wound in an iris which was healthy and which was not infected during the operation, according to my experiments, gave results as follows:

After the fibrinous coagulum containing erythrocytes, which in the first few days covers the iris wound, has been cast off or absorbed, the stump of the iris, in the microscopic section, appears in most cases swollen and knob-like, or at least rounded off; in others the wound edge is slanting obliquely with the more or less sharply pointed margin forward toward the anterior chamber or backward toward the posterior chamber.

The rounded-off or knob-like end of the stump after a few days, even, no longer presents a wounded surface. Its posterior part is covered with pigment epithelium, its anterior one with endothelial cells. Sometimes the cells of one of the two surfaces predominate. Where the cells of both iris surfaces meet on the stump, they are often bent hook-like into the former wound, apparently drawn inward into the stroma of the iris by the retraction of its tissue. The cellular proliferation and the infiltration which follow the operation disappear in a few days.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Anatomic Changes Following Iridectomy, Arch. Ophth., iv, 423.

When the iris has been cut obliquely, the sharp-angled flap is gradually bent back toward the obtuse one and thus the wound is closed after from six to eight days, and the stump is covered either with endothelium or with pigment epithelium according to the side the flap was on.

The first manner of healing of the iris stump may be called healing *per primam intentionem,* the second manner *per secundam intentionem.*

It appeared clear that the manner of healing depended on the direction of the cut made by the scissors, which, in the former produced two more or less equal flaps, which promptly collapsing closed the gap, while in the other case only one, either an anterior or a posterior flap, resulted, which by the contraction of the iris tissue was gradually bent over either backward or forward and thus the wound surface became closed. Figures 1 and 2 are from photographs of some specimens made at the time of these experiments.

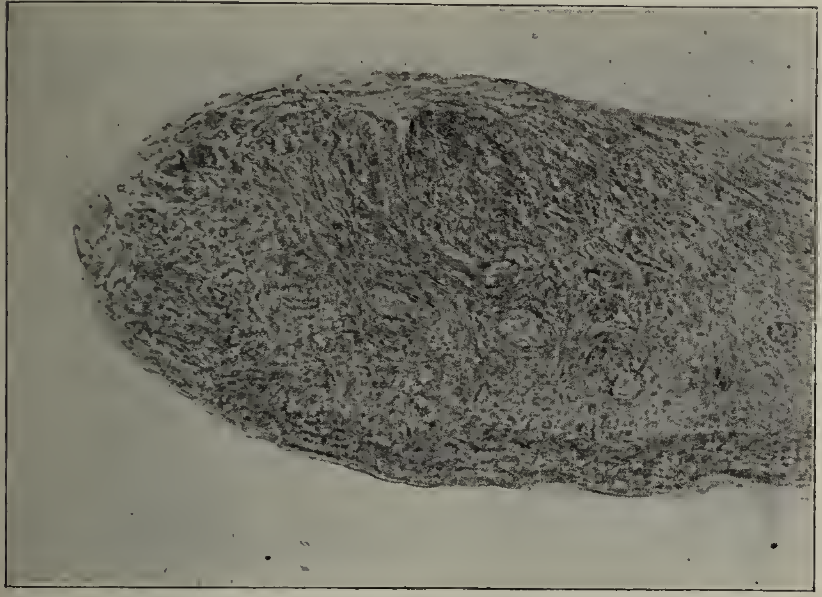

Fig. 1.—The stump of the iris from a white rabbit four days after the operation healed *per primam.* Stained with carmin.

Among the many microscopic sections made of these series of rabbits' eyes on which I had performed an iridectomy, when no complications interfered, the healing and covering over of the wound surface invariably took place in from a few hours to about eight days after the operation had been performed.

Through the kindness of the late Prof. Otto Becker, I was given an opportunity to examine a number of specimens from human eyes on which an iridectomy had been performed and, comparing these with my rabbits' specimens, we came to the conclusion that the manner of healing was very much the same in man as in the rabbit.

Ever since, I have carefully examined the few human eyes that I could obtain on which an iridectomy had been performed. Their number is not very large, and except in eyes on which a combined cataract extraction had been performed, the iris was probably diseased in every one before the iridectomy was made. The eyes from which a cataract had been extracted were enucleated on account of panophthalmitis and, therefore, also yielded no sections with a healthy iris. However, when the iris stump was not entangled in the wound or in an older cicatrix the conditions were not unlike those described above in the rabbit.

Yet I have seen a few iris stumps in which the wound did not seem to have healed in exactly the same manner. In these sections, it was either prevented from closing in the manner described by a blood-clot or fibrinous material at the time I examined it, or, in a number of eyes which had been operated on a long time previously, it was possible to demonstrate after all a thin layer made up of flat spindle cells coming from the anterior endothelium covered the apparently unclosed wound. There was in reality no raw surface.

The conditions of the wounds on the pillars of the coloboma were the same as at the base of the coloboma.

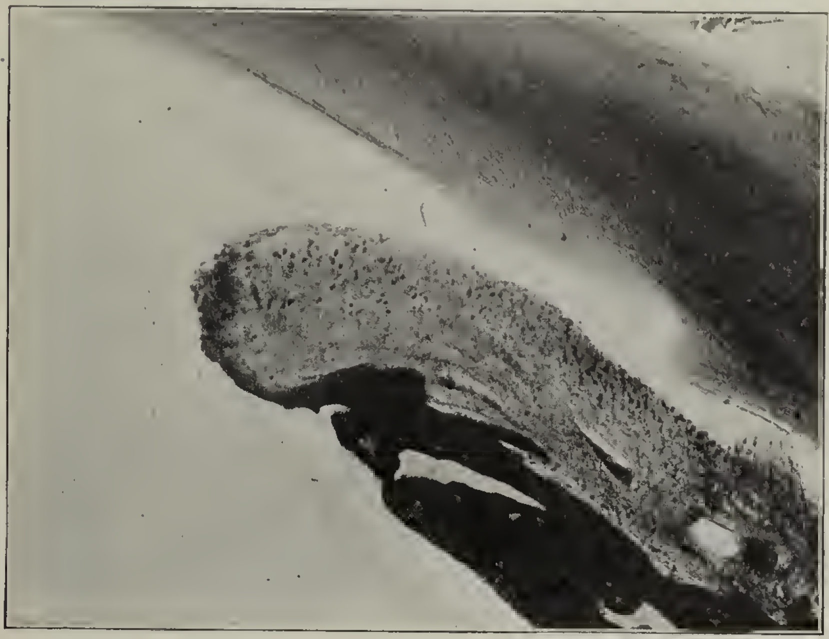

Fig. 2.—The stump of the iris from a dark rabbit eight days after operation, also healed *per primam.*

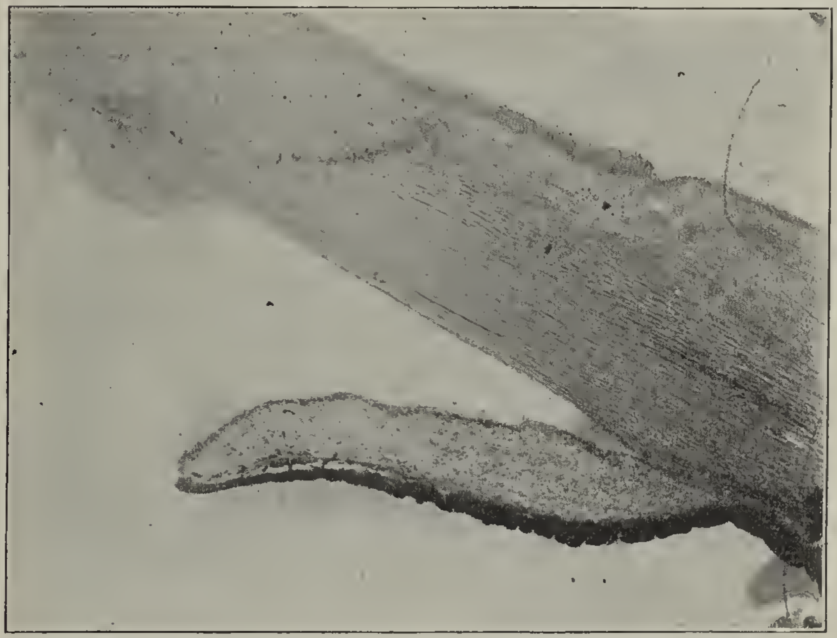

Fig. 3.—The wound of the iris stump is closing over, although the process does not seem quite accomplished. The pigment epithelium is slightly loosened from the iris tissue. This is probably a post-mortem occurrence. Primary union does not seem to have been quite accomplished in this case.

In a paper entitled, "A Histologic Study of the Normal Healing of Wounds after Cataract Extraction." Thomas Henderson[2] in his Figure 2, draws such a rounded-off iris stump, but does not refer to it in the text. From this drawing, it seems that the iris wound made during a combined extraction was healed, or healing in the manner here described, when the eye was removed twelve days after extraction. The paper is written to show that the iridectomy wounds resulting from a combined cataract extraction on a normal iris never heal.

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[2] Ophth. Rev., May, 1907

In a paper entitled, "The Histology of Iridectomy,"[3] the same author comes to the conclusion that "the severed iris tissue never shows any sign of scar, or other manifestation of reaction, for even years after the cut surface appears as if the operation had been performed post mortem."

In a recent book on glaucoma, Henderson[4] still further elaborates this same view and says: "The iris tissue forming the base and pillars of the coloboma always remains an open, raw, unhealed area, in free and open communication with the aqueous of the anterior chamber, in exactly the same manner as the crypt surfaces." The drawings in this chapter are repeated from the previous papers and refer to eyes on which a combined cataract extraction had been performed. Henderson bases his views on the effect of an iridectomy in glaucoma on the fact that iris wounds never heal.

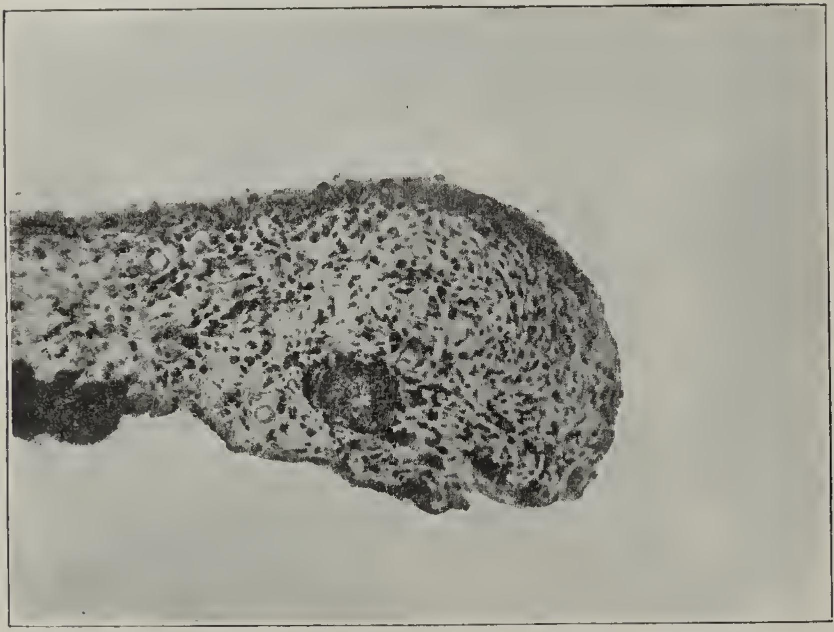
Figure 4

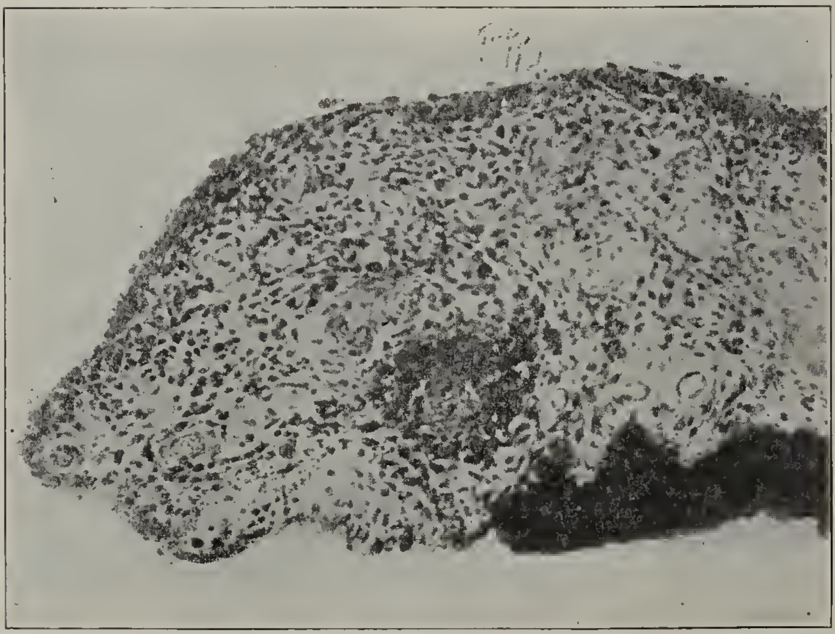
Figure 5

Figs. 4 and 5.—These illustrations give excellent examples of the primary union from an eye which was enucleated eight days after an iridectomy had been performed. In both of these figures there were apparently two flaps, an anterior one and a posterior one, the anterior one being the thicker, at least in Figure 5. The flaps have almost healed together and the line of contact can still be recognized by several rows of cells. The endothelium of the anterior surface seems to be creeping over the small gap. The pigment epithelium has for some distance fallen off, a condition which may be due to handling post mortem. The tissues are considerably infiltrated with round cells.

These results of Henderson's researches prompted me to study again all the specimens from human eyes in my collection which might have some bearing on this interesting question, the more so since, if Henderson's observations were correct, the effect of an iridectomy on the course of glaucoma could be more easily understood.

I was rather astonished to find that in almost all my human specimens of iridectomy stumps the iris tissue showed decided signs of inflammation; yet, since all came from eyes which it had been necessary to enucleate, this was, after all, quite natural, even in the sections from an eye which, after having been operated on previously by iridectomy, had been removed on account of a chorioidal sarcoma.

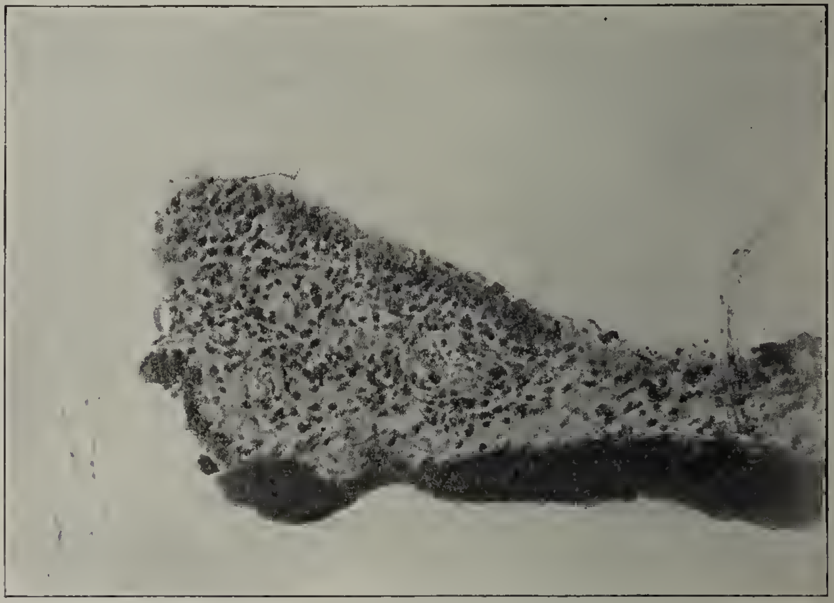
Fig. 6.—The stump is several weeks old and, although peculiar in its rather square than rounded-off outline, it seems to have healed by first intention. The posterior flap is covered by an interrupted pigment layer (post mortem); the anterior flap, also, does not seem to possess a continuous endothelial covering, yet there is no bare, raw surface.

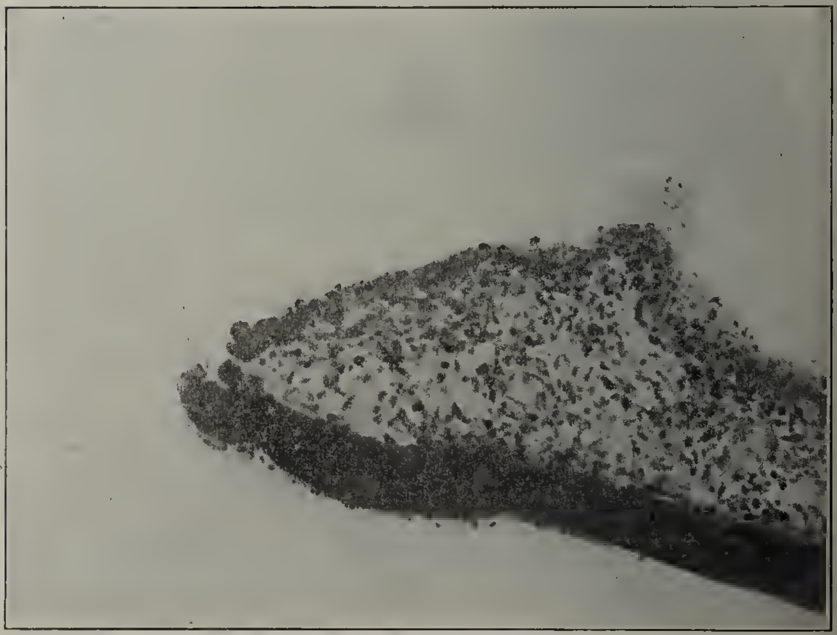
Fig. 7.—The stump has been cut off very obliquely. The larger part of the wound is covered with endothelium; the pigment layer reaches forward over the sharp angle to a small distance to where the two layers meet. The flap has evidently not been bent over the wound surface, as in other cases.

The illustrations in Figures 3 to 18 reproduce some of the characteristic sections.

Similar pictures from glaucomatous eyes with a healed stump are given by Henderson, who in this connection states that "when a stimulus is supplied by toxic or other agents cicatrization and sclerosis of the iris tissue follows in the same manner and governed by the same principles as elsewhere in the body."

According to this author, therefore, iridectomy wounds or other wounds made in the iris tissue when this is in a normal condition are never closed; such a closure takes place only when the iris has been previously diseased, as shown by atrophy and sclerosis, or becomes so, for instance, by infection during the operation. That is, according to his views, the healthy tissue of the iris, although provided with numerous blood-vessels in an active and functioning state, shows no reaction after being wounded, while the sclerosed and atrophied iris, as found in chronic glaucoma, seals up its wounds.

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[3] Ophth. Rev., July, 1907.

[4] Henderson: Glaucoma, London, 1910, E. Arnold, p. 187.

In 1896[5] I had occasion to describe an eye with iridodialysis and cyclodialysis in which I said:

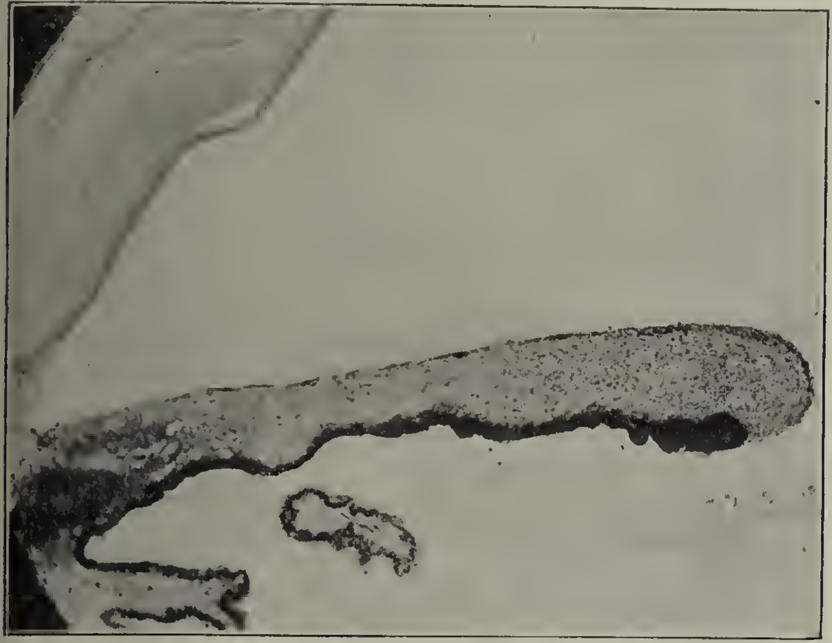

Figure 8

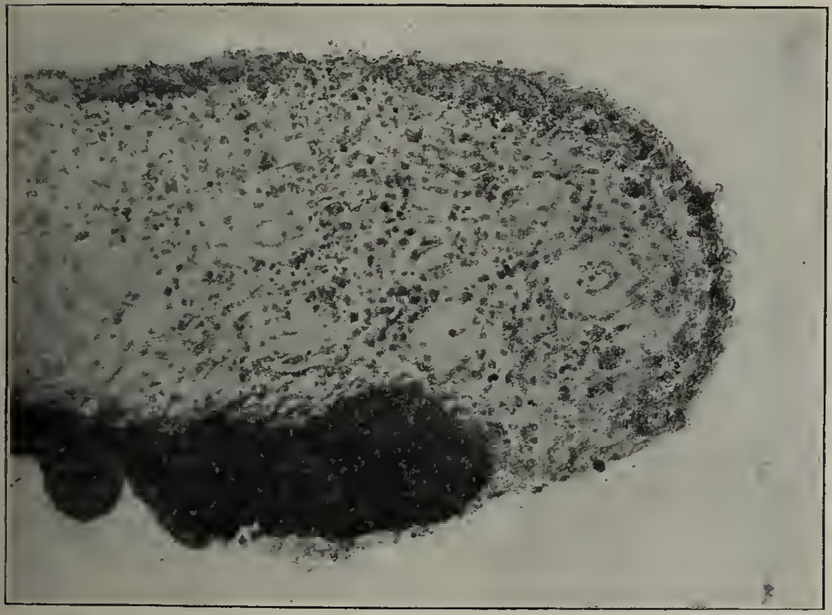

Figure 9

Figs. 8 and 9.—There seems to have been a long anterior flap which has, so to speak, fallen backward toward the pigment epithelium and thus closed the gap of the wound. The resulting round stump is perfectly covered over by anterior endothelium.

The detached iris tissue, besides being considerably contracted toward the sphincter edge, is atrophic, and contains a large quantity of blood-pigment and of uveal pigment, which is partly enclosed in cells, partly free. The walls of its blood-vessels are considerably thickened. The uveal layer is very thick, wrinkled and folded backward. The sections do not show any union of what may be termed the anterior and posterior flap of the tear, as I have seen it many times after an iridectomy or injury to the iris, etc. In this specimen there is simply a ragged edge.

From the foregoing, it seems certain that iridectomy wounds heal and are closed up permanently whenever the iris tissue is not normal. Henderson seems to agree with this statement. When the iris is normal they also

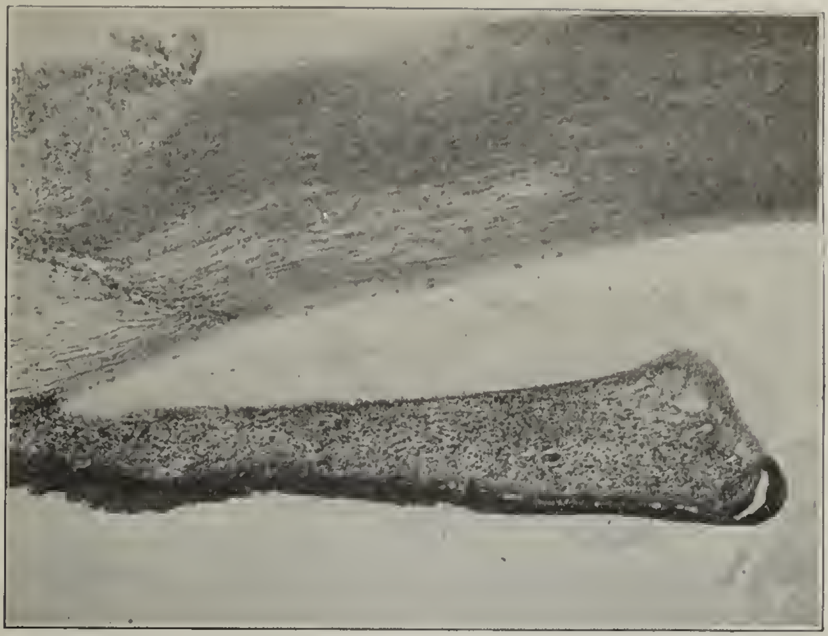

Figure 10

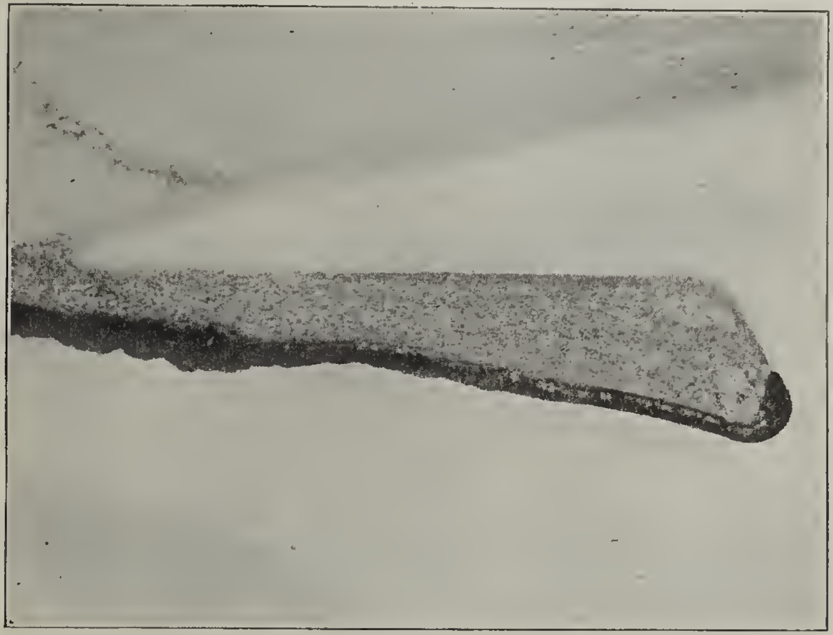

Figure 11

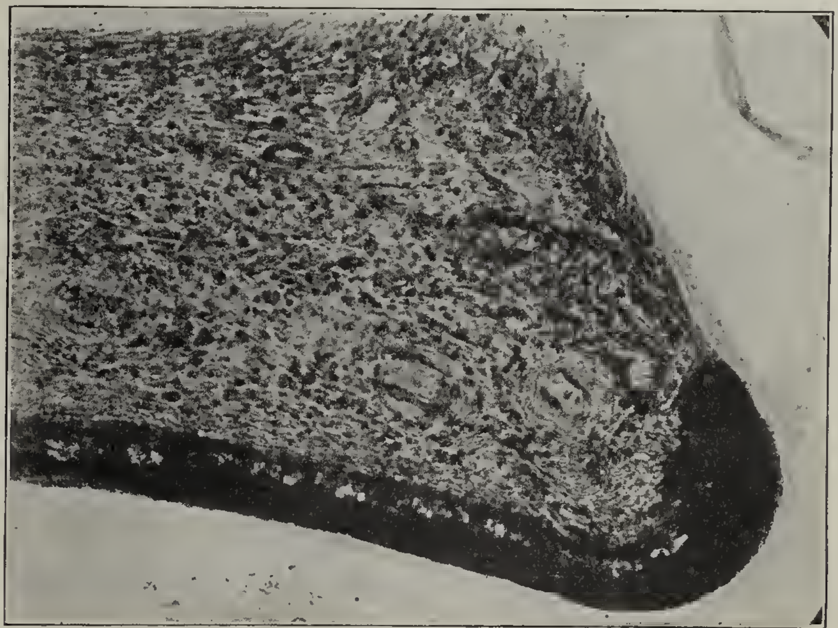

Figure 12

Figs. 10, 11 and 12.—The posterior flap seems to have been the longer one. The wound surface is perfectly covered over, the pigment epithelium reaching forward to quite a distance on the stump. A newly formed endothelial membrane covers the anterior surface of the whole iris, as well as the stump. This membrane, which is never wanting in older cases and is present in most quite recent cases of glaucoma, and which is the cause of the ectropium uveæ, which is also found as a rule in glaucomatous eyes, in these specimens seems to have pulled the pigment epithelium forward. The peculiar loosening of the pigment epithelium layer from its contact with the posterior surface of the iris may be the consequence of such a pull; it may also be that this patient suffered from diabetes, in which such a condition of the pigment epithelium seems the rule.

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[5] Am. Jour. Ophth., October, 1896, p. 296.

heal in the rabbit and have been seen to have healed in the human eye.

If a pathologic condition of the iris tissue is the *sine qua non* for the healing of the iridectomy wound, we certainly should expect that the wound of an iridectomy performed on a glaucomatous eye, except, perhaps, in the very earliest beginning of the disease, is certain to heal, as the iris tissue is never in a normal state. In such early stages the eyes are but seldom operated on. On the other hand, all observers are agreed that the earlier an iridectomy is performed, the better the result. Yet, while this is accepted as a general rule, chronic simple glaucoma is excepted from it, and for this form of glaucoma numerous substitutes for iridectomy have been invented and are being practiced with more or less success.

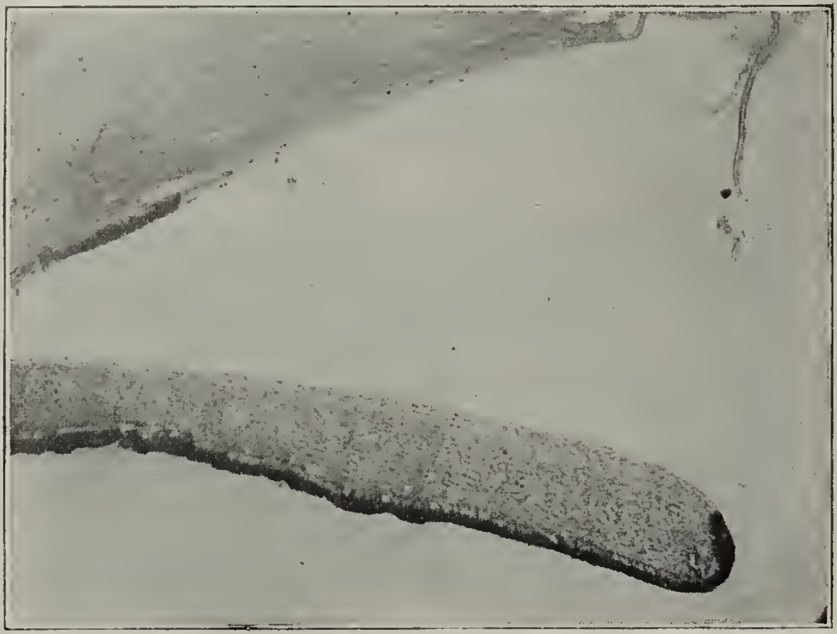

Figure 13

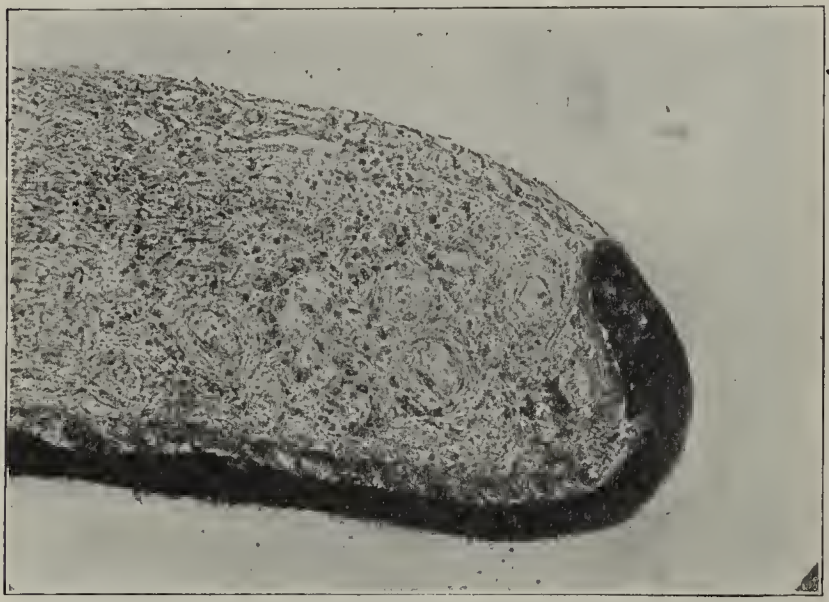

Figure 14

Figs. 13 and 14.—This shows a similar condition to that shown in Figs. 10, 11 and 12. The specimen is from another glaucomatous eye with an iridectomy stump of older date. There is less infiltration in the tissue of this stump than in the foregoing ones. It is almost altogether covered with pigment epithelium. The whole anterior surface of the iris and the stump is covered with an endothelial membrane.

How an iridectomy succeeds in reducing the abnormal intra-ocular pressure and in curing glaucoma, is a question which undoubtedly has agitated the mind of every thinking ophthalmologist since von Graefe first recommended this operation.

There are so many theories concerning the etiology of glaucoma that it would lead too far to enumerate them in this paper, especially since they are all well known. It seems altogether impossible to reach a definite conclusion. Only one thing seems to become more and more certain—that is, that a pathologic process in the general, perhaps, but surely in the intra-ocular blood-vessels is directly responsible for the glaucomatous state.

In a general way, more fluid must be secreted into the eye-ball than can be carried away, or the nature of the intra-ocular fluids must be so altered that their consistency does not allow them to leave the eye through the preformed channels, even if the latter were normal; or, finally, the means of egress, even with a normal formation of intra-ocular fluids, must become closed by some pathologic process, in order to produce an increase of intra-ocular tension.

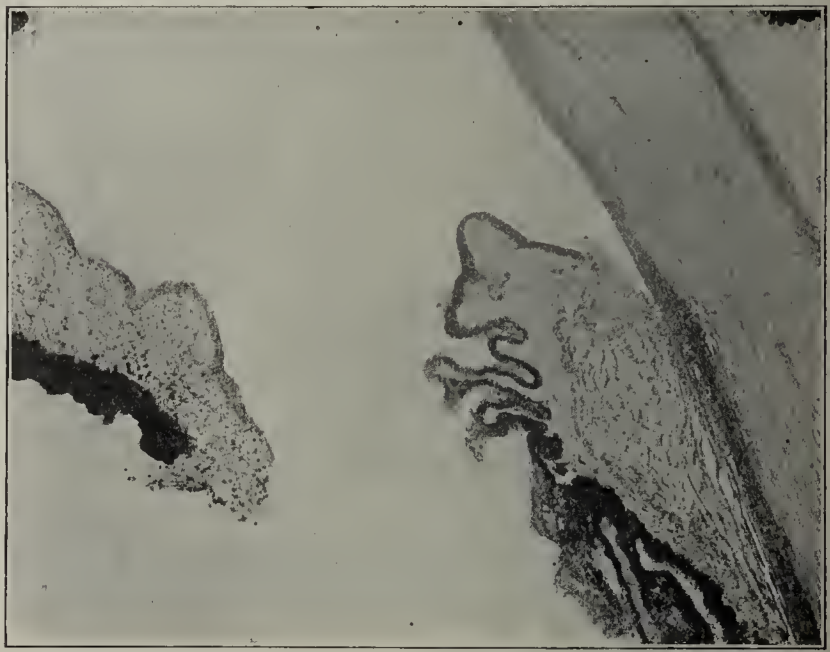

Fig. 15.—This shows the torn edge of the iris which has apparently not healed over. The section is from the center of the iridodialysis where, all blood-vessels being torn, no reaction seems to have followed the injury.

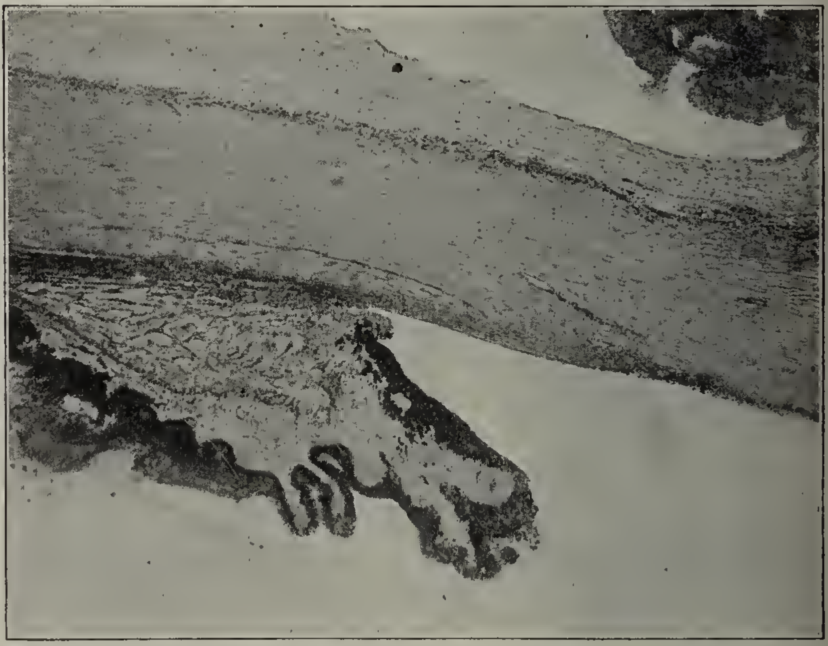

Fig. 16.—This gives a better view of the cyclodialysis associated with the iridodialysis in this eye. The ciliary body is drawn backward from its insertion on the corneoscleral tissue. The little stump made up of the tendon of the ciliary muscle and some iris tissue is well healed over. In this same eye at the time of the injury a further wound was caused in the sphincter edge of the iris, very similar to what an iridectomy might cause at the base of the coloboma. See Figures 17 and 18.

If we still believe that the iris angle is preeminently the place of exit for the fluids from the eye, and I confess to a firm adhesion to this opinion, we must, also, see the main cause of the glaucomatous state in a blocking up of this angle, whether this be due to a mere application of the iris periphery to the ligamentum pectinatum by swelling or pressure from behind, or to a true and firm adhesion between iris and ligamentum pectinatum and later Deseemet's membrane, or finally to a plugging of the meshes of the ligamentum pectinatum by cellular or other substances carried there, which on account of their size or on account of their consistency cannot pass out as the normal limpid fluids do.

What influence can an iridectomy exert on these conditions? The question is as difficult of solution as the one concerning the etiology of glaucoma.

Henderson accepts[4] the obstruction of the iris angle. Yet, in his explanation of the action of an iridectomy he adduces the unhealed iris wounds of the "normal iris" and says: "Iridectomy effects the formation, so to speak, of a large open crypt presenting three sides of a square, the raw surface of which allows of the free passage of the aqueous to the iris veins. The primary obstruction presented by the sclerosis of the cribriform ligament is thus counterbalanced, etc." Granted that this is true, what happens when the wound of the iris heals and then instead of a new large open crypt having been formed, the absorbing (?) surface is reduced by the amount of iris tissue removed by the iridectomy?

In another recent work J. Kuschel,[6] who believes that the increased pressure is due to sclerosis of the tissues and to an obstruction to the flow of the fluids from the vitreous body into the anterior cavities of the eye, states that the effect of the iridectomy is due with the greatest probability to a rupture in the zonule of Zinn and the anterior limiting layer of the vitreous body during the operation. This assumed rupture, in his opinion, relieves the tension in the vitreous body and the excision of a piece of iris renders a direct connection between the vitreous and aqueous bodies sufficient to allow the fluids to pass out from the vitreous body thereafter. Here, then, the iridectomy appears to be of secondary value only; the rupture of the zonule of Zinn and of the anterior limiting layer of the vitreous body are of prime importance. And yet it seems to be a well-established fact that a rupture of the zonule of Zinn with the consequent subluxation of the lens can give rise to a secondary glaucoma.

Since Lagrange's introduction of his sclerecto-iridectomy, several other methods of making a permanent hole in the sclerotic have been devised, all in the hope of adding to the benefits of an iridectomy that of a filtering scar. But the proof that the resulting scar, if it ever is, will remain a filtering one is wanting, and I am afraid will remain so. That the bulging of the tissue which covers the scleral opening adds still more to the room which the fluids of the eye can occupy is true, but what gives us a right to assume that the conjunctiva covering the hole allows any fluid to filter through? Does a staphyloma of the sclerotic, even if stretched to bursting, let any fluid pass through? I at least have never seen it, although I have examined staphylomata which were so thin that the cicatricial conjunctiva covering the scleral hole cannot be much thinner. And, if the scleral hole reestablishes filtration, why add an iridectomy? The value of the scleral hole, if it remains permanent and covered by a thin tissue layer only, seems to lie in the fact that this thin tissue is more elastic and can yield somewhat to an occasional rise of intra-ocular pressure.

From these and other considerations, and from the fact that iridectomy wounds in glaucomatous eyes do heal, as a rule, the beneficial effect of an iridectomy, it seems, must be due to some thing or things which happen when and while the operation is being performed. We know that in some cases the iridectomy does not reduce the intra-ocular pressure: in such cases this something evidently cannot or does not happen. We know that in some cases even a poorly made iridectomy cures a glaucoma, although the classic broad peripheral iridectomy is looked on as the only correct operation. We have all learned from experience that sclerotomy, much vaunted at one time, is inadequate for the relief of an established glaucoma. The value of the iridectomy with an incision in the corneoscleral margin—if not quite as peripheral, perhaps, as in sclerotomy—cannot, therefore, be due to this incision.

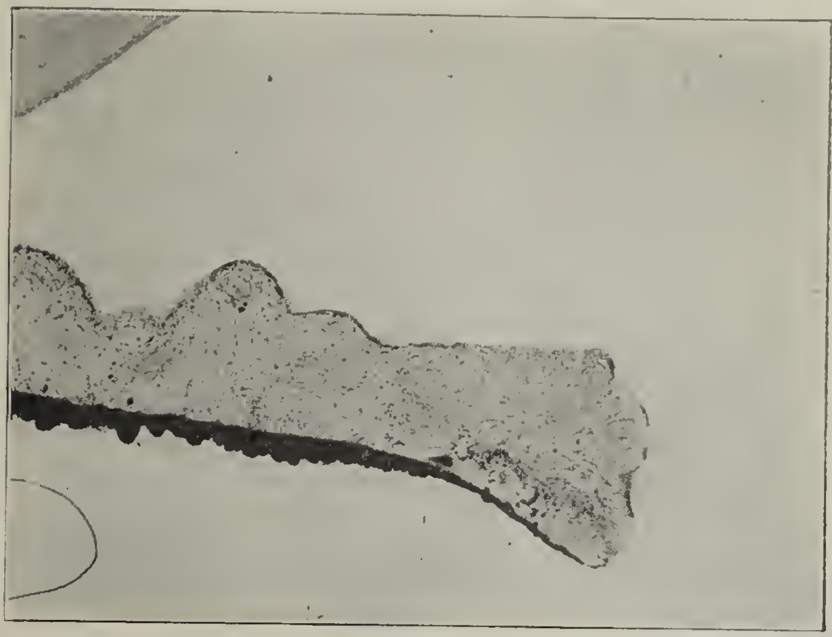

Figure 17

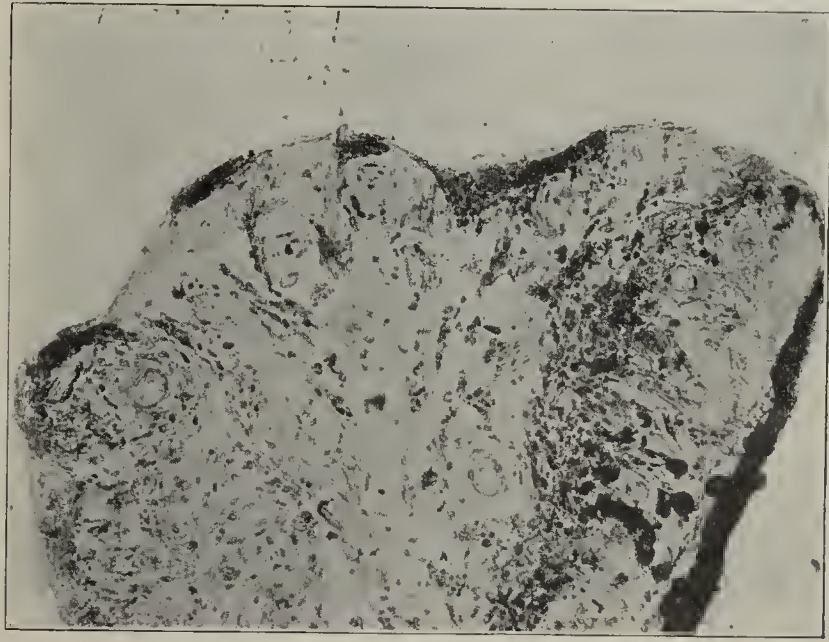

Figure 18

Figs. 17 and 18.—These illustrations show a wedge-shaped gap in the pupillary edge, apparently filled with a similar tissue, but less compact than the old iris tissue, and containing some bloodvessels. It appears, therefore, as if the two flaps formed by this peculiar rent had been united by a wedge of newly formed tissue. The surface of this scar is covered by a layer of anterior endothelium, which varies considerably in thickness.

Thus we come back to the probability that, after all, the excision of a piece of iris of sufficient size is the main part of a glaucoma operation. To this may be added a certain amount of reopening of the filtration angle, if only in parts, during the execution of the iridectomy, perhaps, by the direct pull on the iris by which a part of the peripheral iris adhesion may be loosened.

If this is the case, there seems to be only one solution to this question, and this is that the iridectomy, instead of opening up new filtration ways, as Henderson thinks, reduces in reality the secretion of fluids into the eye or alters their composition.

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[6] Der intraoculare Flüssigkeitsstrom in seinen Beziehungen zum biochemischen Aufbau des Auges unter gesunden Verhältnissen, beim Glaucom und bei der Kurzsichtigkeit, p. 123.

The conclusion thus arrived at through the study of the healing of iridectomy wounds is not only not new, but was the very explanation for the action of iridectomy on glaucoma offered by von Graefe himself. How the excision of a piece of iris, which does not seem to be a secreting membrane, does bring about this result, it is still impossible to say and must be left to future studies.

316 Metropolitan Building.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

TWO CASES OF CONGENITAL HYDRONEPHROSIS

DANIEL N. EISENDRATH, A.B., M.D.
CHICAGO

The two following cases occurred in my service in the surgical department of the Michael Reese Hospital, and are thought to be of sufficient interest to the profession in general to warrant their publication:

Case 1.—*Congenital Hydronephrosis of a Horseshoe Kidney.*

History. — S. L., male, aged 6, was admitted to the pediatric department of the Michael Reese Hospital (service of Dr. I. A. Abt), July 20, 1908, with the following history (obtained from the father): The child had been healthy as an infant; had scarlet fever and measles at age of 5; present illness began suddenly about two weeks before admission with severe pain in the right side of the abdomen, accompanied by vomiting. The pain was quite well localized and did not radiate. This improved, but recurred about twenty-four hours before admission. The pain was quite severe, accompanied by frequent vomiting and fever. Examination on admission showed a well-nourished boy with heart and lungs negative. On the right side of the abdomen there was visible a distinct prominence, located a little above the level of the umbilicus. There was some rigidity of the overlying abdominal muscles and the mass was quite tender. One could distinctly follow the mass across the median line to the left. A sketch was made of the transverse nature of this mass but its interpretation was not possible before operation. The temperature during the first twenty-four hours varied between 98.6 and 100 F. The leukocyte count was 12,200; pulse 136. During the following three days the temperature was only slightly above normal. The child was transferred to my service on the fourth day, on account of its rapidly increasing septic condition. The leukocyte count on this fourth day rose rapidly from 11,900 to 17,000. From the position of the mass described above, the abdominal rigidity, leukocytosis and general condition, the diagnosis of appendicitis in a non-rotated appendix seemed the most probable one, and operative interference was decided on.

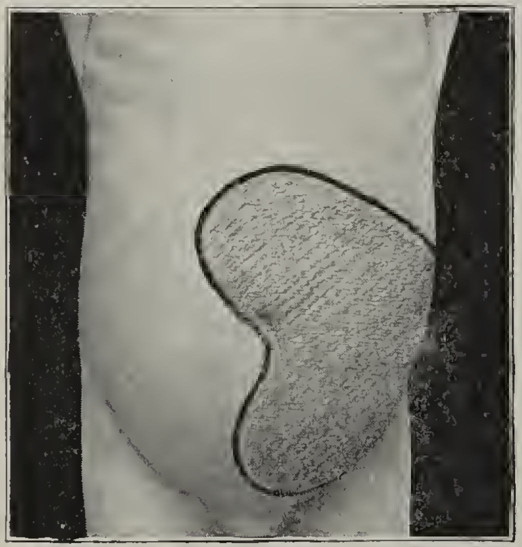

Fig. 1.—Front view of palpable, soft, elastic tumor in Case 2, a case of congenital hydronephrosis, before inflation of colon. There was a distinct notch to be felt at the middle of the tumor corresponding to the hilum of the kidney.

Operation.—An incision was made through the right rectus muscle over the most prominent portion of the mass. On opening the peritoneal cavity a small amount of serofibrinous fluid escaped. The appendix appeared normal and was located in its proper position in the right iliac fossa. It was now to be seen that the transverse mass felt through the abdominal wall was a horseshoe kidney, the right pole or end of which was converted into a translucent, thin-walled sac. One could feel the isthmus of renal parenchyma which passed across the median line and terminated in a similar enlargement of the left kidney, which, however, was considerably smaller than that of the right side. The surface of the right end of the hydronephrotic horseshoe kidney was so close to the abdominal incision that I deemed it advisable to suture the sac to the parietal peritoneum of the incision. On opening the kidney sac, a considerable quantity of straw-colored, clear, odorless fluid escaped. A drainage tube was inserted and the ordinary dressings applied. After discharging watery fluid for some days, the wound healed by granulation, the child being discharged Aug. 19, 1908 (four weeks after admission). Immediately after draining the right end of the horseshoe kidney, the septic condition of the child began to disappear, and the convalescence was uninterrupted.

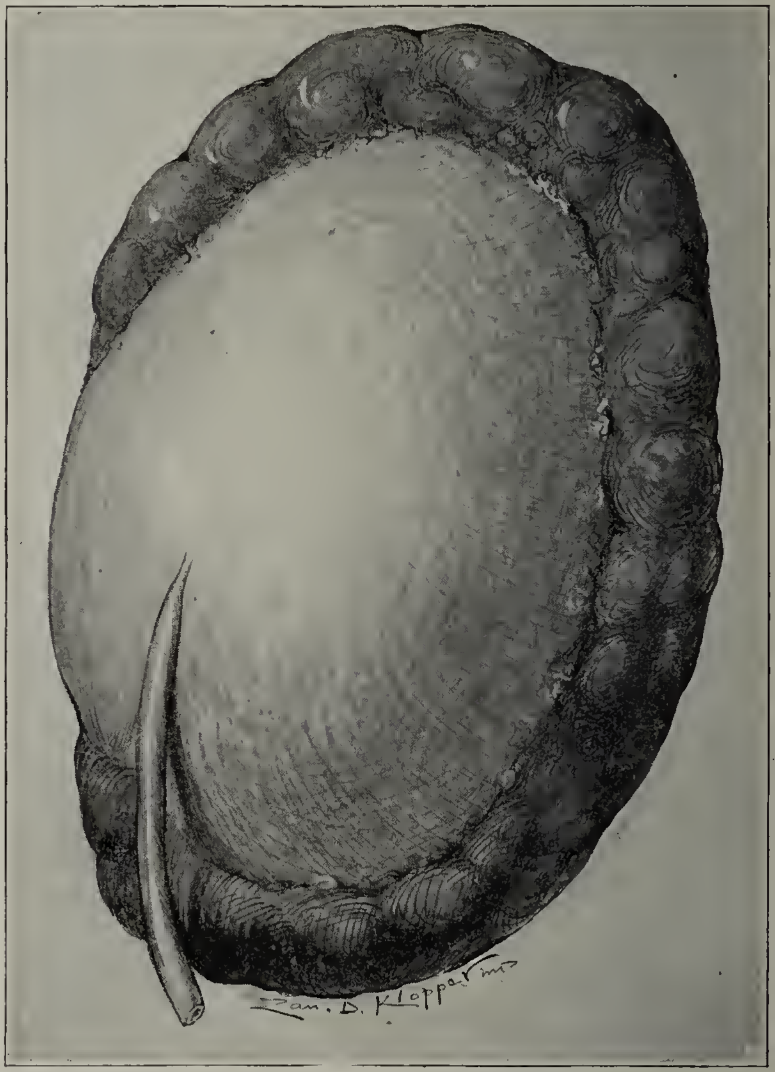

Fig. 2.—Front view of kidney in Case 2. This shows the enormous dilatation of the kidney pelvis and the narrow margin of parenchyma, with prominences due to dilated calyces. Note the narrowness of the ureter at its junction with the pelvis.

Comment.—In this case the hydronephrosis had probably existed for a number of years, judging by the size which the right end of the horseshoe kidney had attained. It is reasonable to deduce that in the absence of any marked dilatation of the ureters, the obstruction must have been close to the renal pelvis as in Case 2.

That congenital hydronephrosis of a horseshoe kidney is not so rare, is shown in a recent article by Papin and Christian.[1] They found hydronephrosis in horseshoe kidneys in fifteen autopsies. Nine patients have been operated on for this condition by Albarran, Israel and others. The cause of the hydronephrosis in these cases was either congenital stricture of the ureter or faulty insertion of the ureter.

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[1] Papin and Christian: Ann. d. mal. d. org. génito-urin., xxviii.

An interesting feature of my case is that the condition remained latent until infection occurred. From that time on the clinical picture resembled that of any of the conditions giving rise to the so-called "acute abdomen," such as appendicitis, etc. The diagnosis was impossible before operation, under these circumstances.

Case 2.—*Enormous Congenital Hydronephrosis in a Boy of 12.*

History.—H. H., a boy aged 12, was referred by Dr. Van Dellen, of Chicago, on account of an enlargement of the abdomen which had steadily increased in size for the preceding two years. The boy had never had any of the eruptive diseases of childhood. The father stated that his abdomen had been quite large since birth, but this had been most noticeable during the six years before being seen by me. During these six years he seemed to fatigue easily, could not walk much and was not well nourished. He voided large quantities of urine, but there were no symptoms referable to the urinary organs. He was sent to my service March 27, 1911, by Dr. Van Dellen. The boy was not so tall and did not weigh so much as the average boy of his age.

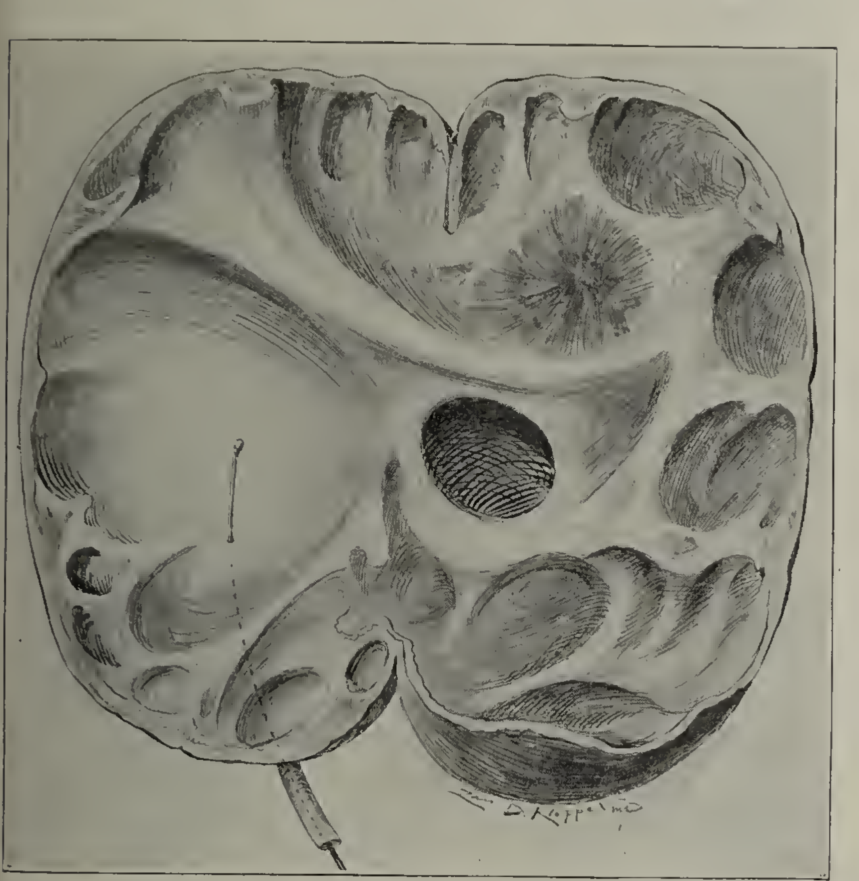


Fig. 3.—Interior of kidney in Case 2. Note the narrow rim of kidney tissue, dilated calyces and pelvis and the small orifice of the ureter, through which filiform bougie is inserted.

Examination.—Inspection revealed a prominence of the entire abdomen, which was most marked on the left side, extending from the costal arch above to Poupart's ligament below, and beyond the median line (Fig. 1), toward the right. This extension to the right was especially noticeable in the right upper quadrant. On palpation one could easily outline a soft semifluctuating tumor, which showed a projection toward the right, extending beyond the mid-line, at its upper and lower ends. Between these two was a distinct sulcus. The two more prominent ends were shown at operation to be the upper and lower poles of the kidney, respectively, and the sulcus was the hilum of the kidney. One could not distinguish any posterior limits of the tumor as it passed directly over into the kidney region behind. Dulness was present over the entire tumor and there was no change on shifting the patient's position. The colon when inflated was seen to lie in front of the tumor, thus confirming my diagnosis of its retroperitoneal nature. The cystoscopic examination by Dr. I. S. Koll showed a normal bladder with two normally-placed ureteral openings. From the left ureter turbid urine escaped; from the right one, clear urine. Ureteral catheterization was, however, impossible, owing to the constant filling up of the bladder with turbid urine, evidently escaping from the left hydronephrotic kidney. The urine showed a large number of pus corpuscles, but no casts. The diagnosis of congenital hydronephrosis was confirmed by the subsequent operation.

Operation.—Nephrectomy, March 24, 1911. The patient was placed in the right lateral position and the usual oblique kidney incision made in the left iliocostal space. On exposing the tumor, the latter was found to be retroperitoneal, and was soft, fluctuating and translucent. A trocar was inserted and about 2 quarts of thin turbid fluid escaped. The kidney, now collapsed, was gradually brought into the wound and the vessels at the hilum exposed, in order to see whether an aberrant renal artery was present as the cause of the hydronephrosis. No such aberrant vessel was found. The kidney was removed and the abdominal wound sutured in layers and drainage inserted. The boy made an uneventful recovery and the wound was entirely healed three weeks after operation.

Examination of the fluid removed by trocar showed it to be urine containing a large number of pus-corpuscles. Cultures were made from this by Dr. D. C. Strauss, but remained sterile. The kidney showed the typical changes of an enormous hydronephrosis (Figs. 2 and 3). The entire kidney when filled with fluid must have been about the size of an adult head, judging from its capacity after removal. The cause of the obstruction was undoubtedly a congenital stricture of the ureter, to be plainly seen in Figure 2. Close to its junction with the renal pelvis, the ureter, which was of normal size from this point downwards, suddenly became greatly narrowed so that it would scarcely admit even the smallest sized filiform urethral bougie. On opening the renal pelvis (Fig. 3), one could confirm this by noting the extremely small orifice of the ureter. In the illustration this minute opening of the ureter into the renal pelvis is shown by the long black shadow of a filiform bougie. A view of the interior will enable one to grasp the enormous dilatation of the renal pelvis and the greatly thinned-out renal parenchyma. The latter is present only in the form of a peripheral zone, not averaging more than ¼ of an inch in thickness. One can readily understand why such a hydronephrosis may rupture either spontaneously or as the result of trauma, instances of which have been collected by von Saar.[2]

Remarks.—The most interesting points are, (a) the diagnosis before operation of congenital hydronephrosis; (b) the congenital stenosis of the ureter as the cause of the obstruction to the escape of the urine, and (c) the fact that such a large hydronephrotic kidney could be present practically without symptoms except enlargement of the abdomen and emaciation since birth.

31 North State Street.

AN INSTRUMENT FOR RECTAL OPERATIONS, ESPECIALLY THE WHITEHEAD

W. J. WOOLSTON, M.D.
CHICAGO

The instrument (Figs. 1 and 2) consists of a conical rubber plug, to one end of which is fastened a metal band (Fig. 2, *e*), which has an attached handle for the purpose of manipulation. At the proximal border of this band is a deep, narrow groove which is for the purpose of holding a silk purse-string (Fig. 2, *a*).

The technic is as follows: A silk purse-string suture is placed around the anus at the junction of the anal integument (Fig. 2, *c*) and mucous membrane. The boiled instrument is covered with sterile oil or petrolatum and introduced into the rectum as far as the groove in the band (Fig. 2, *a*). The mucous membrane is then arranged so that the purse-string can be drawn into the groove and tied (*a*). A circular incision of the anal integument is made and by slight traction downward the sphincter muscle (*c*) can be brought into view. The sphincter is then pushed up by blunt dissection to a desirable height and any visible, dilated veins ligated.

Four mattress sutures (Fig. 2, *d*) are placed at equal distances, around the circumference of the anus, uniting mucous membrane to integument at a point where the rectum is to be severed. The bowel (Fig. 2, *b*) lying on the rubber plug is then split longitudinally to the height where the rectal wall is to be severed circularly, which procedure then follows. The circular incision is made in about half-inch sections, so that hemorrhage may be controlled and proper approximation be obtained to coapt the margin of the rectal wall and integument.

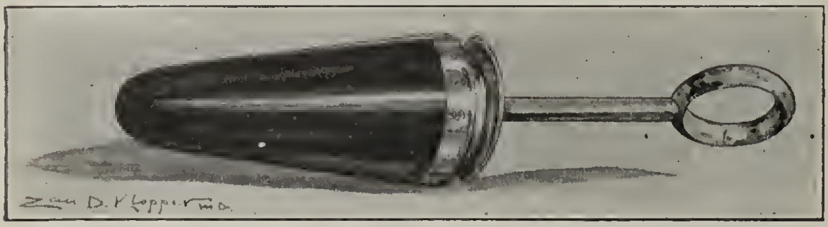


Fig. 1.—Instrument for rectal operations, especially the Whitehead.

The operation is performed on the rubber plug, occluding the bowel in such a manner that no contamination of operator or field of operation takes place.

Time is saved as the dissection of the rectum takes place on a firm base and the bowel is distended.

The original idea of this procedure belongs to Dr. Djemil Pacha of Constantinople. An instrument with this principle in view is one brought out by Dr. Silbermark of Vienna. His instrument consists of a conical rubber plug, fastened to a metal handle; the wing-like end is connected with a screw-axle, through the rotation of which four hooks grasp the ring on closure of the instrument.

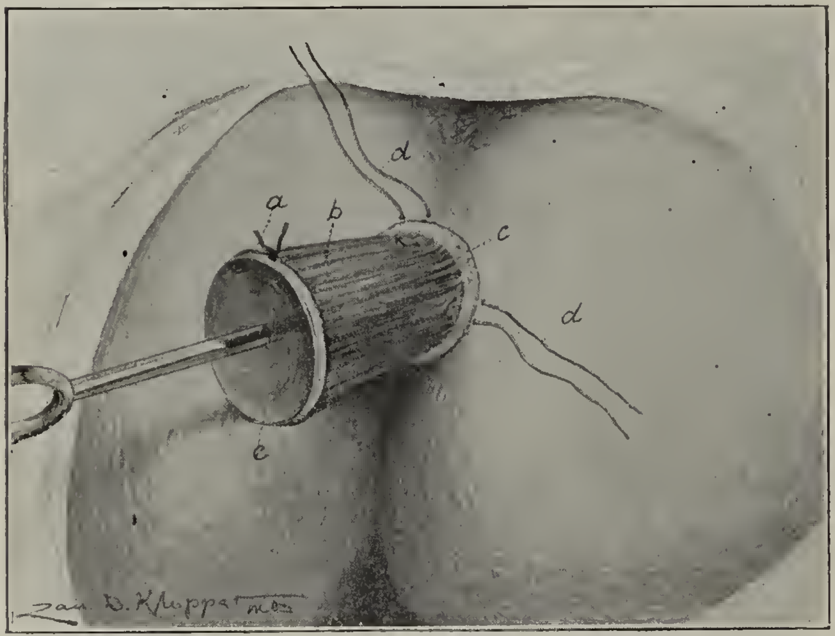


Fig. 2.—Rectal instrument inserted.

The idea of the present modification is to simplify the instrument and render it more efficient.

4101 Evanston Avenue.

Overpopulation and Tuberculosis.—"Consumption is a product of civilization," says W. Hutchinson in the *Survey.* "What civilization has created, it can cure. That pressure of man against man, which we term 'overpopulation,' which sharpened his wits and made civilization, also made tuberculosis as a by-product. . . . The death-rate from tuberculosis is a function of the density of the population—the greater the density the higher the death-rate."

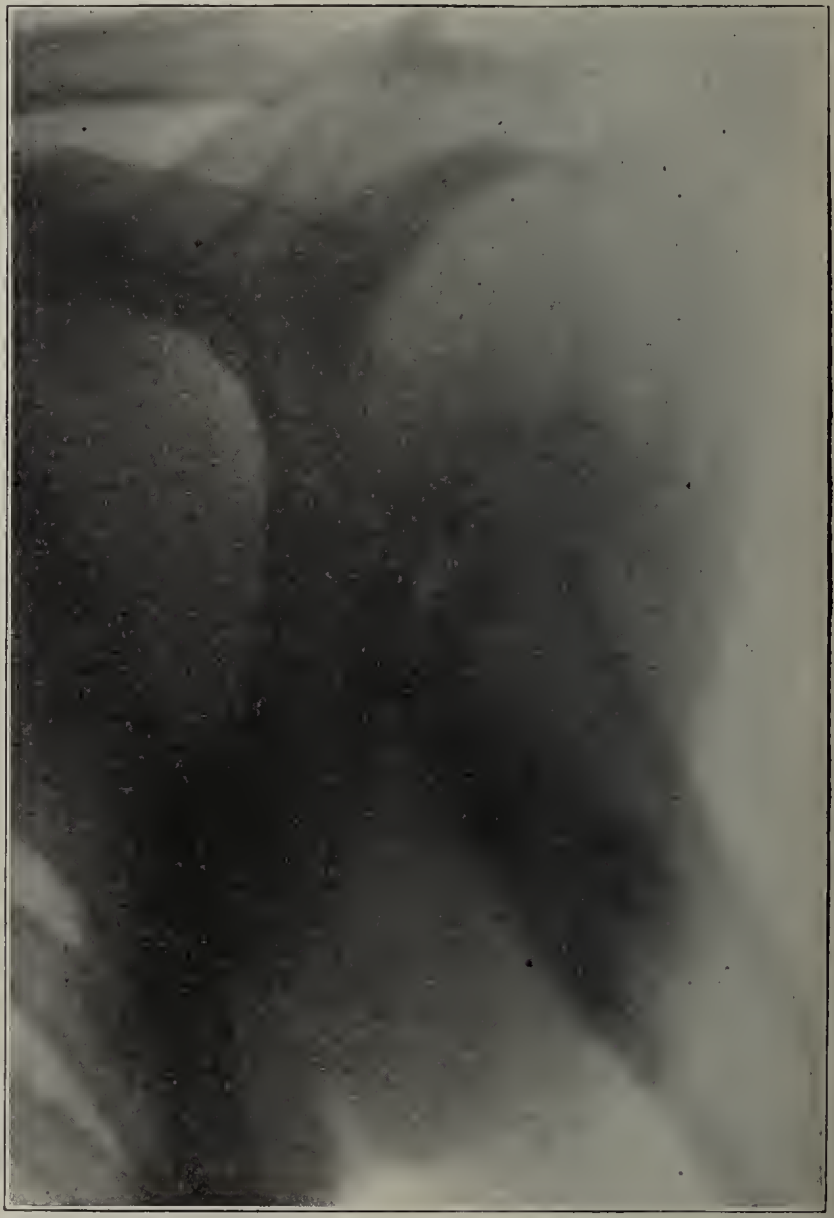
FRACTURE OF ANATOMIC NECK OF HUMERUS

WITH SUBCORACOID DISPLACEMENT OF LOWER FRAGMENT

J. WARREN WHITE, A.B., M.D.
NORFOLK, VA.

Patient.—W. S., a colored man, aged 50, gave a history of having had a fall on his right shoulder several weeks prior to the time I saw him. The right arm as a result was absolutely useless. As a physician was called in to see him at the time of the accident, I infer that others failed in the diagnosis.

Examination.—I found what I thought was a subcoracoid dislocation of the humerus. After an unsuccessful attempt at reduction, under general anesthesia, I performed an arthrotomy, and found that what I had thought to be the head of the humerus was the displaced lower fragment. The end of the bone was smooth and convex. The articular surface of the bone had been shelled off and left in the glenoid cavity.



Radiograph, taken twelve months after the operation, in a case of fracture of the anatomic neck of the humerus, with subcoracoid displacement of lower fragment.

Operation.—The upper fragment was left undisturbed. After pushing back the periosteum, about 1 inch was resected from the lower fragment and the end covered by the periosteal flap. The contiguous muscle was then sewed over the end of the bone, making a bed for it just below the glenoid cavity. The arm and forearm were bandaged across the chest. On the sixth day, passive motion was begun.

Outcome.—It is now eighteen months since the operation. The contour of the right shoulder is symmetrical with that of the left. The patient, who is working as a carpenter, states that the functional result of the operation is perfect, as he has absolute use of his right arm.

THE PERIOD OF INFECTIVITY OF THE BLOOD IN MEASLES *

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Director Hygienic Laboratory
AND
JOSEPH GOLDBERGER
Passed Assistant Surgeon, U. S. Public Health and Marine-Hospital Service
WASHINGTON, D. C.

In our supplemental note[1] we published in some detail the experiments of which our first note[2] was a brief summary. It will be recalled that up to that time we had inoculated nine rhesus monkeys with blood from four human patients with measles, and that of these animals only four (Nos. 38, 12, 6 and 8) had given any very significant evidence of a reaction, and that only two of these (Nos. 6 and 8) were clearly marked. In other words, of nine animals inoculated only two gave unmistakable reactions, two others gave reactions that we regarded as significant, while in the remaining five a reaction was either not appreciable or at most only suggestive. This result we were at first disposed to regard as due to a low degree of susceptibility in the monkey, combined with a considerable degree of individual variation.

In spite of this explanation it struck us as peculiar not only that both animals inoculated with the blood from Patient 4 should have given well-marked reactions, but that of four other monkeys inoculated with blood from these two, at least three gave well-marked reactions. With this doubt of the adequacy of a slight and variable susceptibility to explain this result in our minds, we reexamined the details of our experiments and were struck by the fact that the blood from the patients in our first three cases was obtained after an interval of between thirty and forty-two hours in Case 1, after an interval of between twenty-four and twenty-nine hours in Case 2, and after an interval of between thirty-two and forty hours in Case 3, from the first appearance of the eruption, while in Case 4 the blood was obtained after an interval of only between fourteen and eighteen hours from the first appearance of the eruption.

The thought at once suggested itself that in measles we might have a disease in which the infectivity of the blood was limited more or less sharply to the early stages, somewhat as in yellow fever, the resemblance of the temperature curve of which to that of measles had already struck us. We, therefore, determined to test this point at the first opportunity.

May 28, 1911, we were advised by Miss Kramer, Assistant Superintendent of Garfield Hospital, of the admission to the measles pavilion of a patient with the eruption just appearing. Through the kind courtesy of Dr. J. D. Morgan we obtained some blood from this case.

The patient was a colored girl, 18 years old, who stated that she was taken sick on the morning of May 24, and that she first noticed an eruption on the morning of May 28. The blood was drawn at 6:15 p. m., May 28, at once defibrinated and taken to the laboratory. We inoculated three monkeys as follows:

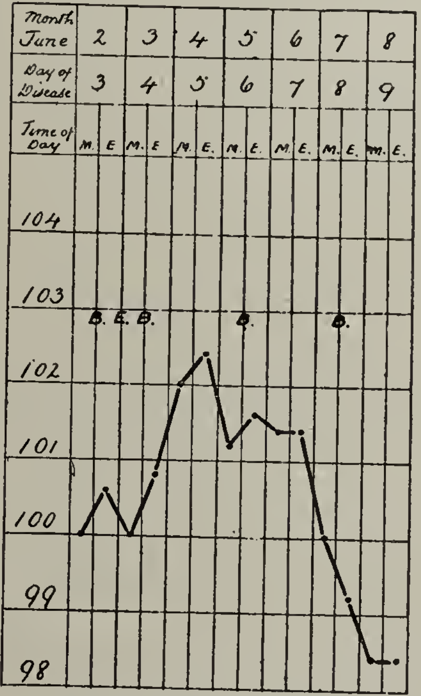
Rhesus 41 received 0.5 c.c. of defibrinated blood intracerebrally and 3 c.c. intraperitoneally.

Rhesus 75 received 0.5 c.c. of blood-serum intracerebrally and 2 c.c. intraperitoneally.

Rhesus 77 received 0.5 c.c. of a suspension of washed corpuscles intracerebrally and 3 c.c. intraperitoneally. The corpuscles were washed four times with physiologic salt solution, then brought to the original volume of the defibrinated blood with the salt solution.

The result of this test was at first rather unexpected. Of the three animals inoculated, only one gave any recognizable evidence of a reaction; this animal (No. 77) presented a rise of temperature beginning June 8, eleven days after inoculation, and terminating June 11. There was no eruption, no cough, no coryza.

We say that this result was unexpected because in this instance the blood was obtained apparently at about the end of twelve hours from the appearance of the eruption, and if our theory was correct we felt that we should have obtained reactions not only in a larger proportion of the animals, but also reactions that should be more clearly marked. A critical analysis of the history of the patient furnishing the blood, however, makes it evident that the eruption may have been at least ten or twelve hours older than at first appeared. The patient being a mulatto, the eruption could very easily have made its first appearance in the late afternoon or early evening of May 27, and so escaped her observation until the following morning. In view of this possibility we felt that this experiment could not be considered as negativing our theory and, therefore, we prepared to put it to further test in our next case.



Course of temperature in Case 6. B, bled; E, eruption appearing.

Through the courtesy of Dr. William A. White we saw the next patient (Case 6) before the appearance of the exanthem. This patient, an attendant at the Government Hospital for the Insane, stated that she was first taken sick with a cold in the head on May 31, 1911. We bled this patient on four separate occasions (see illustration 1). The first bleeding (June 2, 1911) was a few hours before the eruption began to appear and while the patient's temperature was between 101 and 100 F.

This blood, after defibrination, was inoculated into two monkeys, one (No. 78) a *Macacus cynomolgus*, the other (No. 79) a *Macacus rhesus*. Both animals gave a short but definite reaction that was at its height ten days after inoculation.

The second bleeding (June 3), exactly twenty-four hours after the first, and about eighteen to twenty hours from the very first appearance of the exanthem, was at a time when the patient's temperature was between 101.6 and 101.3 F., and when a definite eruption was already present, but not fully developed.

After defibrination a portion of the blood was centrifugalized and the serum pipetted off. The corpuscles remaining were washed four times with physiologic salt solution. After the fourth washing the supernatant fluid was pipetted off, replaced for the fifth time with salt solution and the resulting suspension of corpuscles, equal to the original volume of defibrinated blood, was used for the inoculation of a rhesus monkey (No. 88). This animal received 3 c.c. of this suspension intravenously.

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* From the Hygienic Laboratory, U. S. Department of Agriculture.

[1] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: a Supplemental Note, Pub. Health Rep., June 16, 1911, p. 887.

[2] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: a Preliminary Note, Pub. Health Rep., June 9, 1911, p. 847.

A second monkey (Rhesus 83) was given 3 c.c. of the blood-serum intracerebrally, but a considerable proportion (we estimate one-half) was lost during the inoculation.

At the same time a third monkey (No. 84) received by intracardiac injection 3 c.c. of the defibrinated blood mixed with an equal volume of defibrinated blood from a normal rhesus. This animal served as a control for another experiment that will be reported in a later paper.

All three animals gave well-marked reactions with the appearance of an exanthem.

The third bleeding (June 5), forty-five hours after the second, was at a time when the patient's temperature was 101 F. and the eruption fully out. The blood was defibrinated and two monkeys inoculated: Rhesus 89a received 3.5 c.c. and No. 89b received 4.5 c.c. intravenously.

The general level of the temperature in both these animals was unusually high from the beginning and so continued for about two weeks; in the case of No. 89a there was noted, in addition, a rise above this level suggestive of a reaction. We think, however, that the generally high level of the temperature in both animals and this additional rise in one of them is to be accounted for by a diarrhea from which both animals suffered. Improvement in the diarrhea and a lowering of the temperature seemed to go hand in hand.

The fourth bleeding (June 7), about forty-eight hours after the third, was at a time when the eruption had almost, but not quite, faded from all parts of the body and desquamation had begun. Two rhesus monkeys were inoculated with the blood after defibrination; one (No. 90a) received 4 c.c. intravenously and 0.5 c.c. subcutaneously, the other (No. 90b) received 4.5 c.c. intravenously and 2 c.c. subcutaneously. At this writing, twenty-one days after inoculation, neither animal has presented evidence of a reaction.

Summarizing the results obtained from inoculations from this patient (Case 6) we have, first, a definite febrile reaction in both of two monkeys (one a *Macacus rhesus*, the other a *Macacus cynomolgus*) inoculated with blood obtained a few hours before the first appearance of the exanthem; second, marked reactions in all of three rhesus monkeys inoculated with blood (one with defibrinated blood, one with serum, and one with washed corpuscles) obtained about eighteen to twenty hours from the very first appearance of the eruption; third, no evidence of a reaction in one and at most a very doubtful reaction in the second of two animals inoculated with blood obtained about sixty-five hours after the first appearance of the eruption; fourth, no indications of a reaction in either of two monkeys inoculated with blood obtained 113 hours after the first appearance of the eruption.

This would indicate that the blood in our Case 6 was infective for the monkey just before the appearance of the exanthem (late in the preeruptive stage), during the stage of efflorescence of the exanthem (eighteen to twenty hours after its first appearance), that it had almost, if not quite, completely lost its infectivity sixty-five hours after the first appearance of the eruption, and that it was no longer infective 113 hours after the first appearance of the eruption.

Considering now, as a whole, the results obtained from inoculations with human blood from our six cases, we believe that they consistently point to a period of infectivity of the blood beginning at least just before and continuing for about twenty-four hours after the first appearance of the exanthem. At the end of about twenty-four hours from the first appearance of the eruption the infectivity of the blood for the rhesus monkey already appears very greatly reduced, and becomes progressively less thereafter.

It will be recalled that Hektoen[3] (1905) found the blood infective thirty hours after the first appearance of the rash; but it should be pointed out that he worked with a much more susceptible animal—man. So that it would not be at all surprising if the period of infectivity were somewhat longer for man than for the monkey.

The existence of a more or less definitely limited period of infectivity of the blood in measles, strongly indicated by our experiments, would explain both the negative and the positive results of monkey inoculations reported by Josias[4] in 1898, would throw light on the reported failures of subsequent workers,[5] and would, therefore, make understandable the opinion almost universally held heretofore that the monkey is not susceptible to measles.

A NEW SPHYGMOMANOMETER

PERCIVAL NICHOLSON, M.D.
ARDMORE, PA.

Feeling the need for a simple, compact, accurate, and at the same time reasonably inexpensive, blood-pressure apparatus, I devised the following:

In describing this form of blood-pressure apparatus I do not claim to have evolved any new principles, but wish to state that it is an apparatus embodying features from several forms of sphygmomanometers now in use, with certain other alterations and modifications, making a practical and simple instrument. The reservoir principle is similar to that of the Stanton, while the use of the glass in its manufacture was adapted from Dr. Kercher's instrument. The pneumatic cuff is essentially that of Dr. Janeway. The use of the sliding scale and the box lid to support the instrument were also derived from the same source.

This instrument consists, as can readily be seen from the illustration, of a long glass tube of small bore continuous through a short U-shaped bend, with a large cylindrical glass reservoir partly filled with mercury, and into the upper end of which projects a short piece of glass tubing fused into it. To the upper end of this tube there is a short heavy rubber tube. attached in turn to a metal piece from which project, first, a metal stop-cock, second, a plain corrugated tube, and third, a projection carrying a needle-valve. Parallel to the long glass tube is a movable 300 mm. scale. To the upper end of the long glass tube is a steel stop-cock securely fastened to the glass. The glass portion is held in place by clamps and is easily removed. The metal parts are firmly secured to the lid, which, when opened, is held in an upright position. To the metal stop-cock *D* is attached a rubber tube, along the course of which is a metal valve, and at the end is attached a metal pump. To the corrugated metal connection *C* is attached a long rubber tube which runs out to a pneumatic cuff. This cuff is 12 cm. wide and quite rigid, being made of stiff leather on the outside, and adjustable by means of straps. A narrower cuff will give too high readings in normal cases, and too low where the arm is large.

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[3] Hektoen, Ludvig: Experimental Measles, Jour. Infect. Dis., 1905, ii, 238.

[4] Josias, Albert: Recherches expérimentales sur la transmissibilité de la rougeole aux animaux, Méd. moderne, 1898, ix, 153.

[5] Grunbaum, A. S.: Some Experiments on Enterica, Scarlet Fever and Measles in the Chimpanzee; a Preliminary Communication, Brit. Med. Jour., April 9, 1904, p. 817. Jordan, Edwin O.: A Text-Book of General Bacteriology, second edition, 1911. Measles, p. 564

The operation of the instrument is very simple; all that is necessary is to turn the steel stop-cock on the end of the glass tube, push the pneumatic cuff on the patient's arm, and start to pump the air into the apparatus. The metal valve in the tube will sustain the pressure, but as a precaution, should it leak a little there is a metal stop-cock *D*, which can be shut off when the air-pressure is sufficient to obliterate the patient's pulse. Now the metal stop-cock *D* having been shut, the needle-valve *B* should be unscrewed slightly, and, the air-pressure being lowered, the mercury column in the long tube will be seen to fall slowly and evenly, the rate being regulated by the amount the needle-valve is unscrewed. The systolic pressure is then read on the mercury scale, when the patient's pulse first becomes palpable; or, if the auscultation method be employed, listening with ordinary binaural stethoscope over the ulnar or radial arteries just below the bend of the elbow, one will hear a loud, clear thump when the first cardiac beat comes through.

One reads the number of millimeters in the mercury column and gets the systolic pressure, which will be about 10 mm. higher than if palpated by the pulse at the wrist. In obtaining the diastolis pressure the mercury should be allowed to keep on falling, the physician observing the lowest greatest fluctuation, or, if the auscultation method is employed, continuing to listen over the artery until no sound are heard, and reading the mercury column at this point.

This explains in a few words the instrument and its operation, but there are some points about this apparatus in distinction to others which do not appear on the surface, and which are of great importance in the use and value of such an instrument.

Great care must be exercised in the selection of material with which the mercury comes in contact, as with most of the metals, as brass, in fact, all of the metals except platinum and steel, mercury will form a salt, thus in time creating a coating on the glass parts and greatly adding friction, eliminating the accuracy of the readings. So also in the case of soft rubber; mercury coming in contact with the sulphur used in its manufacture forms a black coating of sulphid of mercury.

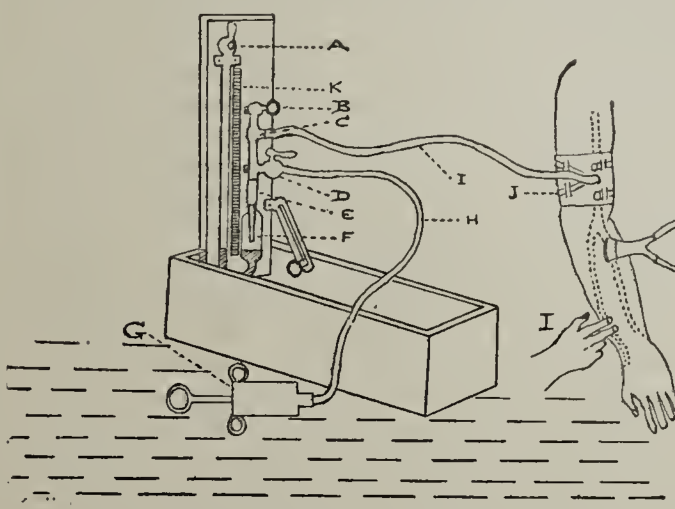
Steel can be utilized, as indeed was done in the case of the Stanton instrument, but this means a heavy, cumbersome, and at the same time an expensive instrument, as steel is a difficult metal to work. Of course, platinum is too expensive for practical use. Now in the instrument I have described, this difficulty is obviated by having the mercury entirely contained in glass, so that it cannot touch any of the metal parts, save the steel stop-cock, which is non-corrosive, or the soft rubber connection, as the glass projection in the reservoir acts in preventing the back flow of mercury. Another thing of great value is the use of a metal pump and metal valve, thus doing away with all rubber bulbs, or, what is practically the same, ribbed expansive rubber tubing, for both are a constant source of repair and renewal, due to blowouts and accidents, particularly exasperating if they should happen in a patient's house while taking a blood-pressure, as I have had occur when using bulb apparatus.

In addition, this apparatus has been made with a special view to compactness, being so proportioned that the instrument complete, inside of its wooden case, will fit in the ordinary 15-inch doctor's bag, and has the corners rounded to admit of its not injuring or catching the bag in which it is carried.

It is absolutely simple, being ready to use by raising the lid and turning one stop-cock.

There are no separate parts, screws or nuts to lose, no mercury to pour.

As the box is so arranged that it cannot be closed until the steel stop-cock on the end of the tube is shut, there can never be any loss of mercury. The entire glass portion is removable and capable of being cleaned. It is very accurate, using the full 300 mm. scale, whereas all U-tube instruments have to use a scale condensed one-half to allow for the depression of one column while the other is rising, and hence the graduations are only one-half as fine.



A new sphygmomanometer. *A*, steel stop-cock; *B*, needle-valve air-release; *C*, metal connection to cuff; *D*, stop-cock for tube to pump; *E*, rubber connection to mercury reservoir; *F*, glass reservoir; *G*, metal air pump; *H*, tube to pump; *I*, tube to cuff; *J*, pneumatic cuff; *K*, 300 mm. sliding scale.

The dial instruments have even more condensed scales than the U-shaped instruments, and are open to the same objection.

Having an adjustable zero point one is always sure of accurate readings, whereas if a dial instrument (which, by the way, has to be standardized with a mercurial instrument) is not correct there is no way to determine its error, for one would have to test it with a mercurial instrument before finding it out. Their great advantage is compactness, but when one uses a wide rigid cuff, such as Von Recklinghausen proved to be the only accurate variety, the advantage of compactness is largely gone.

Then, too, having a large reservoir on one side and a small bore tube on the other the diastolic fluctuations in this form of apparatus, like the Stanton, are wide and easy to read, which result is not obtainable on any U-shaped tube.

Having a needle-valve release it has perfectly even and regular control of the air-pressure.

This instrument, being securely fixed in a wooden case, is not nearly so liable to injury as the delicate dial instruments; the glass portion not being cemented to the instrument is easily renewable should it become broken from undue violence.

Lastly, it is a simpler apparatus than most and can be manufactured at a more reasonable price.

10 West Lancaster Avenue.

Section Discussions

THE HEALING OF IRIDECTOMY WOUNDS AND ITS INFLUENCE ON GLAUCOMA

ADOLF ALT, M.D., ST. LOUIS

(*Concluded from page 110*)

ABSTRACT OF DISCUSSION

Dr. Hiram Woods, Baltimore: None of us knows just how an iridectomy relieves glaucoma—just why a satisfactory coloboma does not relieve in one case when it does so in another, but such is the case. There is one class of cases of which I have seen three in the past two years, in which I should like to have some information from Dr. Alt. In a way they point out some of the influences of an iridectomy. I allude to the class of cases in which it is difficult to determine whether we have a primary or a secondary glaucoma to deal with. Maybe I can best illustrate it by giving some of the points from these three cases. One was in a woman of 65, who came to see me on account of floating bodies in the vitreous and peripheral striations. The vision was 20/30. A drop of euphthalmin was put into the eye for diagnostic purposes and in half an hour she had an acute glaucoma. Under eserin it subsided. The patient did not live in Baltimore, and in a few months went to see Dr. Risley in Philadelphia without my knowledge. He found the floating bodies. She did not tell him of her experience in Baltimore and he used homatropin, and she turned up a week later with a genuine glaucoma. She had floating specks in the vitreous and peripheral striations. The visual field. was not contracted beyond 30 degrees. I performed an iridectomy; cataract ensued and the eye went out, with the typical symptoms. One would not think there was any connection between this trouble and the vitreous, but these observations prove it.

Another woman had a quiescent glaucoma and a uveitis with floating bodies. She was iridectomized, with a relapse, the development of an exudative chorioiditis and loss of the eye. The third case was in a woman aged 38, who came with a glaucoma, but with a contracted pupil. The tension was plus 2, and her field of vision was limited more than 40 degrees. The contraction was due to the eserin used by the physician who referred the patient. I performed an iridectomy and found pigmented spots on the lens capsule and a chorioiditis. The operation was not useful and her last state was worse than the first. On the other hand there was in Baltimore a patient who had a chorioiditis and a black cataract. He recovered after operation 20/30 vision. In the three cases there were floating bodies followed by a rapid exudative chorioiditis. In the other the vitreous was clear and the eye was healed, as far as we know, as far as the uveitis was concerned. What is there in an iridectomy to produce glaucoma? There was something which took place through the vascular connection between the iris circulation, which was Dr. Alt says something happens. What is it that leaves a glaucoma in a primary case, and can set up such destructive changes when the glaucoma is secondary, as in these cases?

Dr. Adolf Alt, St. Louis: I do not know exactly how to answer Dr. Woods' question. Of course the iridectomy has undoubtedly altered the circulatory apparatus in the eye, but why it should have produced an exudative chorioiditis I cannot see, unless there was, perhaps, already a chorioiditis when the iridectomy was made. Such eyes go to the bad anyway.

TREATMENT OF PURULENT OPHTHALMIA AND SIMPLE MEANS FOR ITS PREVENTION IN INFANTS

MARK D. STEVENSON, M.D., AKRON, O.

(*Concluded from page 99*)

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: Maceration of the epithelial cells is one of the things we have to look after. If pus is allowed to remain in contact with epithelial cells and the infection is severe they will suffer destruction. Therefore frequent flushings of the eye are absolutely essential; not every hour but every ten or fifteen minutes—just as often as pus forms. As to destruction of the epithelial cells, of course we can destroy the epithelium by awkward use of the flushing and by instruments, but this ought not to be done. I do not think most of us will advise our nurses. to use instruments to open the babies' eyes for flushing. Nitrate of silver is destructive of epithelium, more or less, in whatever strength it is used. It is capable of destroying germs and at the same time the tissues. I have not used a solution of nitrate of silver in any strength in an eye for I don't know how long, but so long that memory runneth not to the contrary. I have used protargol from the day of its introduction. I have never used argyrol. I use protargol 40 gr. to the ounce, with frequent cleansing, and with that mixture which some seem to have forgotten, first given to the profession in California seventeen years ago by Dr. Scott of Cleveland, who has since passed away. I do not know of anything else that he left to the profession, but in my judgment the mixture outlined by Scott in 1894 is one worthy of consideration by everyone in cases with discharging pus. I do not know that many know what it is. I do know that such men as J. L. Thompson after the meeting found themselves so confident of the efficacy of that agent that they do not want nitrate of silver any more. That combination I have invariably used with great efficacy from that time down to the present day. It is hydrastin, tincture of opium, boracic acid and distilled water—hydrastin 2 gr., tr. opium 30 drops—he used a dram—boric acid 20 gr., distilled water 1 ounce. Eight or 10 drops are put into the sac every hour or two during the twenty-four hours, associated with applications of protargol; with that treatment I face these cases with confidence.

Dr. Adolf Alt, St. Louis: I agree with Dr. Savage in the fact that I have not used nitrate of silver for certainly not less than fifteen years—not since protargol came into use. But I do not agree with Dr. Savage in using it so strong. I believe in using a weaker solution and using it much oftener. If one could put the eye under a continuous bath of a weak solution of argyrol it would be better yet. I am satisfied with either. Argyrol in 25 per cent. solution very frequently—every hour or half hour—it seems to me gives just as good results as we had before with the use of nitrate of silver, and it is infinitely more agreeable. The washing out of the sac with any other remedy besides, I think, is useless. If the antiseptic or germicide is used frequently enough I think nothing else is needed.

Dr. S. L. Ledbetter, Birmingham, Ala.: I was a little bit loath to take the position that nitrate of silver was bad because of the result of a discussion at Atlantic City several years ago in which the consensus of opinion was that the nitrate of silver was probably the best of all. I have not used it for ten or fifteen years. I never lost an eye except when I used the nitrate of silver. One swallow doesn't make a summer, but the experience of one man combined with that of another does help. I have used irrigation always. I instruct the nurse to use it as often as she sees any beads between the lids, not to allow an accumulation of pus at any time. I believe if the pus is kept thoroughly washed away the bacillus is diluted to that extent that it does not become so virulent; and besides, I think the constant contact of pus with the cornea sometimes will produce an erosion, and wherever there is an erosion there will be a bad eye. I do not pull the lids apart, as a rule, with an elevator, but by a little pressure on the upper and lower lids they evert themselves. I instruct the nurse to evert them in that way, wash them off, and repeat this eversion and washing a number of times and in a little while the folds are clean. Keep them clean in that way and use the argyrol or protargol and your patient will do well. I do not know that I have had any difference in my experience in the use of these two drugs, because I haven't lost an eye since I quit using the nitrate of silver.

Dr. William E. Briggs, Sacramento, Cal.: It was a revelation to me to hear the paper of Dr. Stevenson, because we have as a profession regarded it as a sort of religion that we must cleanse the eye frequently, and that any natural drainage would not be sufficient to remove the pus. The germs carried by the pus are the elements destroying the epithelium of the cornea. Now many of us have believed all our lives that if eyes are properly cared for from the beginning none of them will be lost. I was taught that and I advocated it. When I saw an infant with gonorrheal ophthalmia if I found the cornea clear and normal I would say the eye would be saved. For twenty years in my practice I have used the nitrate of silver in all cases. Besides the nitrate I have had the patient's eye cleansed with some cleansing solution, either boric acid or permanganate of potash—something as unirritating as possible—and at times have used weak solutions of bichlorid of mercury, etc.; but it has become a sort of a religion with me that the eye must be washed out, and I would want more men's experience that simple drainage would be sufficient before I would advocate it. When argyrol and protargol were advocated I began very religiously using these remedies, and I had very good results; but later, learning that they were not germicides and that their efficacy was doubted by many very good men I have gone back to the nitrate of silver, and, so far as I know, and I think that is correct, I have never lost an eye that came to me with a clear cornea. I have said that a great many times, but I am not going to say it any more, as my nephew, who is associated with me, had a case in a premature infant which, though I believe it was thoroughly and efficiently treated, lost both corneas. The fact that the infant was premature would account for this.

Dr. F. T. Rogers, Providence: I cannot forbear saying a word for a drug that has done more to save blindness in children than all the argyrol and protargol in the world; that is, nitrate of silver. From the day it was introduced it has had its adherents. When I hear a man say that he has used argyrol and protargol without losing an eye I feel that he probably hasn't treated many eyes, particularly among the lower classes of people. Twenty-five years ago was advocated the use of simple petrolatum in the lids and upward of 200 cases without the loss of an eye were reported. Of course by statistics we can prove anything. But I believe no hard and fast rule can be followed. In my hospital experience, which has been considerable, I have come to believe firmly in cleanliness, which we cannot get without lavage; one cannot wash out the lids by simply everting them; one has to elevate them, and many things can be used for this purpose. It is not necessary to have a specially devised instrument. A hair-pin sterilized by heat can be adapted to any case without danger to the cornea. When Dr. Savage speaks of hydrastin I am reminded of Dr. Oliver Wenden Holmes when speaking of the tenth dilution of sodium chlorid. He said, "Take a grain of salt, drop it in the Adriatic; then pluck the tallest pine and stir it twice, and as a dose give one drop." I should not like to see a patient of mine treated with hydrastin.

Dr. Samuel Z. Shope, Harrisburg, Pa.: Dr. Stevenson quotes Dr. Edgar to the effect that the burden of the blame for blindness from ophthalmia neonatorum can be placed on the midwife. I investigated the question of ophthalmia neonatorum with reference to this point about five years ago, and my information corroborates that of Dr. Wood presented in his paper in the Section at St. Louis last year; his figure was 77 per cent. My own is 75 per cent. It is certainly striking if correct, that half the cases of obstetrics are attended by midwives and that 75 per cent. of blindness occurs in those cases. Dr. Stevenson points out the necessity of the use of a good prophylactic by statutory provision by one competent to use it. All the laws that have existed in the states up to this time have given the midwife the right to use the prophylactic. In New York they have put it into her hands, the state furnishing it. Last year I drafted a bill and fought it through the legislature which covers the use of prophylactics, the essential part of which is found in section 10 of that act.

We found physicians who refuse to use the Credé method of prophylaxis, and as Dr. Stevenson has pointed out, some physicians of large experience have never had a case of this sort, and this fact was a source of the greatest opposition to my work in Pennsylvania. They were not interested in the subject, and in order to overcome this I started in to educate the public, which Dr. Stevenson suggests. I wrote an unsigned article which could be comprehended by every one, leaving out all technical language, and had it published in about 900 newspapers of Pennsylvania, in many of them as an editorial. Every legislator received one or more of these papers. The next thing I did was to send to each physician a petition which should be signed by the leading laymen who elected the legislator in each district. If he was a Democrat, of course Democratic citizens were asked to sign the petition. The result was that the bill passed both houses unanimously and was signed by the governor. I am not here to tell about my own work, but if this small effort of mine would be the little bit of sulphur on the end of the stick that would start a fire that would extend over the prairies to the Pacific I should feel that my efforts had been of some value.

Dr. Harry W. Woodruff, Joliet, Ill.: Not all cases of ophthalmia require the same treatment. I do not think anybody would use solutions of nitrate of silver—at least strong solutions—in the moderate type of cases; but in cases in which the conjunctiva is greatly swollen and the discharge is profuse, certainly anything that will check that discharge and check it in as short a space of time as possible without doing damage to the corneal epithelium is the treatment to use. Now I am satisfied that strong solutions of nitrate of silver will do that. I will admit that its action on the corneal epithelium is destructive, but it should not be put on the cornea. If it is put on the swollen conjunctiva and the excess removed before the lid is replaced there is absolutely no danger to the corneal epithelium, and in forty-eight hours there will be a marked lessening in the discharge. I have not failed to find this. As to the use of argyrol—argyrol is absolutely harmless.

Dr. W. Zentmayer, Philadelphia: I cannot help but think that Dr. Stevenson has exaggerated the danger of injury to the corneal epithelium from the use of solutions, but I do not think he has exaggerated the danger of such breaks. I myself and many others in Philadelphia have long since discarded the use of protargol and argyrol. We pin our faith to nitrate of silver, and the only patients with ophthalmia neonatorum due to the gonococcus who do badly are those whose vitality is low. Dr. B. Alexander Randall in Philadelphia pointed out that the only cases in which there was danger of the loss of the cornea are those in which the child is marasmic or born before term, and that has been my personal experience. While it is possible that argyrol is beneficial, I believe it is beneficial only because it washes away the discharge. I certainly would not want to treat a patient without the nitrate of silver.

Dr. Mittendorf, New York: I agree with the last speaker that there are cases which will go along no matter what we do, and that it depends on the condition of the patient. We have seen these cases fail with the best of care in children who have been marasmic; we have seen them in children after measles in which both corneas will slough. But there is another thing in regard to the treatment that I would emphasize, and that is that instruments to go into the eye should not be entrusted to the hands of even an experienced nurse. I have been using the petrolatum treatment, especially mixed with boric acid, a great deal in these cases. I think a layer of petrolatum between the lids and on the ball is a great preventive and a preservative of the cornea. But the difficulty has been to introduce this petrolatum in the proper way. I have had hard rubber applicators and instructed the nurse to use them carefully, and yet every now and then we would get a corneal ulcer from this cause. I have now adopted the plan of using the petrolatum from one of the little collapsible tubes, and have the eye opened and closed a couple of times, and a layer of petrolatum will spread over the eyeball and protect it to a certain extent. In regard to the use of silver, I have found argyrol the least irritating, and it is especially desirable because it can be used according to the severity of the case in different strengths. In the majority of cases it must be used in 30 or 40 per cent.

Dr. D. W. Greene, Dayton, O.: There are other features in the treatment than the medical treatment. I have not heard any one speak of this point, and I am forcibly reminded of it by a case I saw some time ago which had passed through the hands of Walter Parker of Ann Arbor. A child had been born in the hospital. It developed ophthalmia neonatorum. A microscopic examination had been made and no gonococci found. It was treated with zinc solution and recovered so that the child was discharged from the dispensary service. The family afterward removed to Dayton. When the child was four weeks old it developed another inflammation of the eyes and came under my observation, and a microscopic examination revealed the presence of the gonococcus. This second inflammation had lasted ten days and there was sloughing of the cornea and both eyes were lost. The father, who was of little account, immediately began to notify the authorities at Ann Arbor that the child had been neglected, that the disease was present at its birth, and that he would hold them responsible for it. Fortunately I was able to assure the people at Ann Arbor that we had been able to find the gonococcus—not only found it, but cultivated it. This is a point not in relation to treatment, but it shows that cases that appear to be simply catarrhal at first can have grafted on to them a gonorrheal infection.

Dr. Edgar S. Thompson, New York: It seems to me we must make a decided distinction in the treatment of ophthalmia between the neonatorum type and what might be called the adult type; this latter applies to anything older than six weeks or two months. The clinical course of the case in later life is totally different. The prognosis in the neonatorum type depends on how early we get them. I believe that in every case of the neonatorum type with proper treatment the eye would be saved unless, as Dr. Zentmayer says, the child is marasmic. We have a large service at the Manhattan Eye and Ear Infirmary and we never lose an eye if the patient comes in time and the general resistance and health are good. As to the question of irrigations, it seems to me there are two very distinct actions of the secretions retained in the eye. One is the eroding action on the cornea and the other is the action of the gonococcus itself. In other words our experience is that the gonococcus multiplies much more rapidly in its own secretion. If allowed to remain a half hour it would be much more plentiful, and we have therefore adopted the plan of cleansing the eye every fifteen minutes day and night. I am sure where we relax this regime the case runs much longer. In regard to irrigating solutions, we have used a large number, but have always come back to boric acid. The value of irrigations is in the mechanical effect of removing the secretion. I do not think we gain much from so-called germicides. The pus accumulates down in the cul-de-sac and the nurses are instructed to manipulate the lids to get the secretion out, but to keep away from the cornea. I do not think we can treat one of these cases without properly draining the sac. With regard to the action of germicides, I think Hoops of Boston demonstrated that argyrol is not *per se* a germicide in the test-tube, but in the eye I have the impression that it does check secretion. We use it as a routine three or four times a day and I think the secretion is checked much more rapidly. We do not feel safe to depend on it absolutely, however, because I do not think it has any value at all in removing papular hypertrophy of the conjunctiva. I think it should be used here, not in strong solution for its germicidal action, but for the astringent effect of the silver.

Dr. H. Woods, Baltimore: I should like to defend nitrate of silver, but it does not need defense. It seems to me absolutely going back on the pathology and the experience of years to say, that nitrate of silver is not the sheet-anchor of ophthalmia as truly as atropin in iritis. Dr. Alt has made some statements to me with regard to argyrol and protargol that are extremely interesting. I would ask unanimous consent for him to present these statements.

Dr. Adolf Alt, St. Louis: When advocating argyrol I did not mean to say that nitrate of silver is not good. But I am aware of the dangers of the nitrate as well as of the shortcomings of argyrol. What Dr. Woods refers to is this. We do not know how the nitrate or the argyrol act. Schneider has made some experiments to find out what the action is on the conjunctiva, and he believes that the leukocytes are acted on by the irritant action of the solution and then produce a body which he calls leukein, and that is the active principle which kills the germs. The nitrate of silver is such an irritant. He has used sulphate of zinc in the same way, and they produce a new body, the leukein, from the leukocytes. Although some say that argyrol is innocent and does no harm, and in the test-tube it is worth nothing, yet in conjunction with the juices of the conjunctiva and the eye-ball it certainly has an effect and a very decided one.

Dr. Flavel B. Tiffany, Kansas City: I simply want to correct an impression that may have gone out from the statement of Dr. Rogers that more eyes are saved by nitrate of silver than by any other treatment. On the other hand, more eyes have been lost by the nitrate of silver than by any other treatment. Years ago when we depended on the nitrate we cured a certain per cent.—40 or 50. Since we have used protargol and argyrol we have cured a much larger percentage; Dr. Savage would say 75 per cent. or more. Dr. Stanley of Boston will tell you that he has cured 100 per cent. in nine years by the use of argyrol exclusively, and he has many cases. That was his report years ago.

Dr. Sherman Voorhees, Elmira, N. Y.: I should like to ask whether Dr. Stevenson has had experience with the Neisser serum. I have tried it out in some cases with no result; but recently a physician came to my office who had been treating patients with gonorrhea and had infected both his eyes. The cornea in one eye had half become necrotic and in the opposite eye there was considerable necrosis in the upper edge. I used in his case the nitrate twice a day with 50 per cent. argyrol about once in two hours in connection with irrigation sufficient to keep the pus out of the eye, no matter how often, night and day, whether fifteen minutes or ten minutes. I gave this physician 50 million every fourth day of Neisser serum. It seemed to me from all the cases of ophthalmia that I have treated that I should have lost this case. I lost one eye in this physician. But I believe also that I find more cases of ophthalmia neonatorum since physicians have used as a prophylactic argyrol than formerly when they used nitrate of silver. I believe this is explained by the fact that it is not so strongly germicidal, and that they depend on one application; but it is weaker and in using it as a prophylactic it should be used more than once as against the nitrate according to the Credé method. I find that physicians carry a 40 or 50 per cent. solution of argyrol and the application is made but once.

Dr. James W. May, Kansas City, Kan.: I should like to have Dr. Parke Lewis of Buffalo answer a question, since we have had discussion as to the value of the nitrate and argyrol, as to what effect it will have on medical legislation proposed in various states and in the enforcement of legislation already enacted in which the Credé method is required.

Dr. F. Park Lewis, Buffalo: I disclaim the credit of being an authority on ophthalmia neonatorum. What I have been able to do has been by coordinating the efforts of my colleagues in preventing blindness. In answer to Dr. May's question, we must distinguish very sharply between prophylaxis and treatment. That which is suitable for prophylaxis is not necessarily suitable for treatment. What we have done we have done as an expression of the sentiment of the profession rather than on account of our individual views. In 1906 before making any suggestion whatever we got the opinions of at least 200 ophthalmologists and as many obstetricians as to the most desirable prophylactic. The opinion found was that there was none so effective in judicious hands as the 2 per cent. Credé solution, which means one drop of a 2 per cent. solution dropped from a glass rod on the cornea. It was feared, however, that in the hands of untrained midwives, and indeed in the hands of untrained physicians—because the average physician is not skilled in the treatment of the eyes—that a 2 per cent. solution would not be safe, and therefore it has been generally advised that the 1 per cent. solution be used as a prophylactic for all official preparations sent out by the states. The question of treatment, however, is another matter. It is not a matter with which the committee has concerned itself; but we must concern ourselves with it as ophthalmologists, because it has been found that the ordinary physician is by no means qualified to treat ophthalmia neonatorum. Again and again it is asked how frequently it should be used as a prophylactic, and how strong. From many sources have come reports of damage from its injudicious use; but that has very generally been prevented by the supplementary use of argyrol.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind.: Before closing the discussion I should like to say that I was glad that Dr. Lewis made this statement concerning the consensus of opinion of American ophthalmologists concerning the use of silver nitrate. I think it would be a great pity if this Section should put its stamp of approval on any of the newer silver salts and its disapproval on the old and well-tried nitrate of silver in the treatment of ophthalmia neonatorum. We must take into consideration the fact that we are dealing with a desperate disease, and it is our purpose and it should be our duty to use every means to prevent the destruction of eye-balls. Probably those who have had the largest experience in the treatment of ophthalmia neonatorum—I may say the majority of these—would say emphatically that they would place the most dependence on the nitrate of silver in the treatment of this disease; secondly, that with the nitrate of silver they would combine irrigation. Now in irrigating the eye it is not necessary to produce trauma. I am quite in sympathy with what Dr. Stevenson says concerning the possibility of having trauma if due care is not observed, but I do not believe that with reasonable care the ordinary nurse or the ordinary physician is going to be guilty of producing trauma of the cornea by irrigation, and without doubt irrigation is absolutely necessary in the treatment of this disease.

Dr. Mark D. Stevenson, Akron, O.: I am very grateful to the Section for this free discussion. Dr. Woods again reminded me to again call the attention of the Section to the use of holocain and not cocain. In the second page of my article I refer to the article which Dr. Alt so well described of Schneider concerning the formation of these leukeins, but there have been so many claims made for argyrol that I have not been able to substantiate. So far as argyrol being harmless is concerned, some of the most marked cases of argyria have occurred from its prolonged use. Weak solutions of silver nitrate do not do this. The weak solutions of silver which Dr. Alt refers to are used quite extensively, I think, in the New York hospitals. Personally I am inclined to agree with Dr. Jackson, who advised against the use of silver more than once a day, and I have not advocated it more than once a day. Dr. Woodruff, I learned, not from his discussion, pretended to prove that strong solutions of nitrate of silver, 10 per cent., if I am not mistaken, are best. Of course he could not use that with hooks and he must protect the cornea. My effort was to have every part of the conjunctival sac in contact with the silver solution, and in proper hands it can be done very safely. With regard to flushing, which seems to constitute the only difference of opinion, this was also my sheet-anchor in the treatment of ophthalmia neonatorum until the thought of free drainage, as in any other abscess, occurred to me. Take an abscess anywhere else the size of the eye and with an opening as large as that of the eye and you would have perfect drainage. It is true you may have a little pus collect in the fornices, but by opening the lids this rolls out. It is necessary, however, that the lids do not come together. Reference has been made to the importance of the condition of the patient, with which I agree. As Dr. Zentmayer and Dr. Thompson have pointed out, the patients that give us the most difficulty are the marasmic, the under-fed, the under-age type of patients. I think that is one of the particular reasons why flushing with its constant worrying of the little infant should be avoided. I recollect once in my former practice that I had it done every fifteen minutes to half an hour. I do not now see how an infant could live through it. And besides, we cannot have two trained nurses for many of these poor patients. Possibly you could attain that in the hospital and for the wealthy, but the poor mother and the ignorant mother can be very quickly trained to see that the lids are separated and a very little oil placed on the margin of the lids, thus securing perfect drainage. I have treated quite a number of patients without one drop of irrigation and never before had such results. My number of cases is limited, but before I stopped irrigation I was occasionally getting ulcers when they came to me with clear corneas, and that suggested to me that it was the slight trauma.

Dr. S. L. Ledbetter, Birmingham: How many eyes did you lose when you did thorough and complete irrigation and used argyrol?

Dr. Stevenson: I was so early disgusted with argyrol in other conditions that I couldn't compare it with silver nitrate. I used it, to my knowledge, in practically no cases. I do not know that I ever did treat any with argyrol.

THE SIGNIFICANCE OF RETINAL HEMORRHAGE

F. T. ROGERS, M. D., PROVIDENCE, R. I.

(Concluded from page 102)

ABSTRACT OF DISCUSSION

Dr. W. H. Roberts, Pasadena, Cal.: As each case of retinal hemorrhage comes under our care, we cannot at once catalogue it as regards prognosis or life expectancy, as each case will, to a certain extent, be a law unto itself. Each patient with this trouble deserves our most careful diagnosis and thoroughgoing treatment, and the results as regards life will often be surprising.

In the first year of the practice of my specialty Mr. T. G., aged 62, consulted me. His retina showed numerous scars from hemorrhages. His urine showed that he was having an acute exacerbation of a chronic parenchymatous nephritis. I gave a very unfavorable prognosis, saying that he would probably live less than two years. He was referred to a good general practitioner, who looked after his diet and mode of life, and the improvement in the patient's condition was remarkable. He lived a few months short of ten years.

Shortly after this I saw Mrs. A. G., aged 56, whose retina showed old scars from hemorrhages; whose vision in one eye was down to counting fingers at 3 feet, and whose urine was loaded with albumin. She lived nearly seven years after having been placed on a proper regime.

I have had under constant observation for nearly ten years a woman with a tuberculous history, blind in one eye from retinal hemorrhages, and subsequent retinal detachment—later retinal hemorrhages and retinitis proliferans in the other eye—who is a model patient, whose physical and mental condition is excellent, and who gives me every reason to believe she will live for years to come.

Mr. G. L. W. lived for eleven years after coming under observation for retinal hemorrhages from arteriosclerosis. Mrs. E. D. W. is in about the same condition to-day as when first seen six years ago, when her retina showed old scars, and fresh hemorrhages with albuminuria. Mr. H. B., aged 77, is still living, over five years after he came under my care for diabetic retinitis. These five cases from my records are reported to encourage us, first, to put forth every effort to help the unfortunate victims whose retinas show evidence of serious trouble there and elsewhere; second, not to make our prognoses too gloomy; and third, to consider each case separately without relation to any other, and to institute a careful line of treatment, with correct mode of life.

Dr. Melville Black, Denver: I presume that Dr. Rogers would not desire that we give such an unfavorable prognosis as an average of two years of life in a patient having a retinal hemorrhage. My experience has been that very much more can be done in this day and time, with our advantages in hygiene, with our advancement in pathology of these conditions, than when the old prognosis and methods used to obtain. I can recall many patients who have been living from ten to fifteen years and who are seemingly well to-day who have had retinal hemorrhages. I remember some others who are beneath the sod, but they are few, and I believe that now with our improved method of handling these cases we need not necessarily give the patient such an unfavorable prognosis. I certainly feel that it would be inadvisable to give a patient a prognosis of any length of time or any expectancy on his life. Sometimes they live twenty years and fool us, and those I see around me who have grown gray in the practice of ophthalmology I feel sure will be first to second the proposition that we should be very guarded in giving a time expectancy on life to our patients with retinal hemorrhage.

Dr. Mittendorf, New York: I hope that Dr. Rogers will not be angry with me if I do not quite agree with all he has said, because I have seen quite a number of cases of retinal hemorrhage at the age of puberty in young girls, and also in boys, that have not terminated as fatally as Dr. Rogers thinks they are apt to do. Of course these cases occurred long before the taking of blood-pressures was done. Of three patients, one consulted another doctor, the other was a young lady from West Virginia, whom I saw, and the other was a patient whom I see almost every day, who had these hemorrhages twenty or thirty years ago. Lately we have been taking blood-pressures where there is hemorrhage, and we have come to the conclusion that blood-pressure has little to do with these hemorrhages. I have found patients with hemorrhage in whom the blood-pressure was 135, and in those in whom the blood-pressure was 225 or more. The prospects for the future, I think, depend on the diseases that caused it—irregularity of the action of the heart, or rheumatism, or an atheromatous condition, naturally have their bearing, but a simple retinal hemorrhage I do not look on as a very serious affair.

Dr. J. B. Tiffany, Kansas City, Mo.: Like Dr. Mittendorf, in my experience in the last thirty years I have had quite a number of cases of retinal hemorrhage from what we might call vicarious menstruation. Most of the patients have improved under treatment; none has died.

Dr. H. Woods, Baltimore: Dr. Howard Kelly told me recently that he had never seen a case of vicarious menstruation and did not believe that such a thing existed. In the book published by Kelly and Noble it is stated that it is very doubtful if the so-called cases of vicarious menstruation will bear any investigation whatever; that in cases of menstrual disturbance—amenorrhea or dysmenorrhea—there is some underlying cause which can be ascertained. In my own paper which I shall read here later I shall have something more to say on the subject; but I think in the discussion of the significance of hemorrhages, either in the vitreous or elsewhere, we want to be careful how we put down as etiologic influences concomitant conditions without going back to the ultimate cause. For instance, amenorrhea associated with hemorrhage could not be attributed to vicarious menstruation until the cause of the amenorrhea had been discovered, and if it is not local, one must go back to the blood-examination or to the whole subject of the patient's metabolism before one can conclude just what it is.

Dr. Bryan, Omaha: The discussion has been confined to hemorrhagic retinitis. The only thing to which I wish to call attention is with reference to some cases of hemorrhagic retinitis following our common disease, grip. Several years ago we had an epidemic of this disease in our own city in which there were quite a number of cases of retinitis following this disease, and a number of these patients had hemorrhage. Most of the patients who came under my care were not very old. These went on to recovery and I have never heard anything about any serious trouble following. Then in the course of my long experience I have seen a great many cases of hemorrhagic retinitis, most of them in people past middle life, but, as the essayist says, some of them occurred early, and a few of these cases in my own practice recur to me. One was in my own brother, who at the age of about 35 had hemorrhagic retinitis in both eyes. He entirely recovered. That was eighteen years ago, and he has never had a recurrence. All of us, I think, can furnish cases in which the results have not been bad as far as life is concerned. Of course we can also report a great many cases in which death followed in a short time, but my experience is that death follows much sooner in patients past middle life than when it occurs before that period.

Dr. William Zentmayer, Philadelphia: I wish to place on record the statement of Dr. James Tyson, one of our highest authorities on renal diseases, made at the College of Physicians on the subject of albuminuric retinitis. He stated that he was quite convinced that the prognosis held by ophthalmologists was too grave entirely; that patients lived a great deal longer than an average of two years, and he thought it ought to be corrected. My own experience is not very large, but on the whole I would think that the prognosis of hemorrhagic retinitis, albuminuric, is very grave; that the majority of patients do not live much longer than two years. I have seen patients who lived longer. One, a foreman in a large printing establishment, had acute nephritis and numerous hemorrhages, and eleven years ago was under the care of Dr. Hare. He is now living. He never had a subsequent attack and is apparently in the best of health. Yet once I plumed myself in giving a prognosis in a man who had no occupation. I told his friend he would probably die in a short time. That man's physician accosted me on the street six months later and said, "Doctor, your patient died within six weeks of the time I brought him to the hospital." So that every case, as Dr. Rogers says, is a law unto itself.

Dr. F. T. Rogers, Providence: It is not often that an essayist is honored by such universal disagreement, and yet I take exception to one or two criticisms of the paper. Dr. Roberts states that statistics cannot prove anything, implying that my statistics have been looked at from the standpoint that the disease has serious import, and then he reports five cases of exactly the opposite thing. If a report of twenty-five cases in which 50 per cent. of the patients die in three years prove nothing, neither do five cases in which the patients live ten years prove anything. I wish to say that the conclusion I sought to draw was that the prognosis varies with the type of the disease. Conclusions drawn from albuminuric cases differ from those drawn from simple retinitis. The bad prognosis need not be given the patient, but to the friends, the family and the physician. I think it is better to be on the safe side. When I find out of seventeen cases of simple retinal apoplexy, six of them ranging over a period of ten years, six one year, four two years and one five years—that of the patients but ten were in their usual health, and the rest were either dead or in impaired health; and in hemorrhagic retinitis eleven out of twenty were in good health after ten years, and of five patients none was alive after ten years, and of ten patients with chorioretinitis none was alive after ten years, I feel that a menace hangs over such patients. It is not necessary to inflict our views on our patients; but if we realize that the condition is serious, yet do not know enough to treat it ourselves, we should request a careful examination and advice. If I have made this point clear, then I shall feel that I have not wasted my efforts in writing this paper.

Therapeutics

AMEBIC DYSENTERY

Another of the diseases which has recently been proved to occur much more frequently than was generally realized, among individuals living in all parts of the country, is that known as amebic dysentery. This has scarcely been recognized as an independent disease for more than a quarter of a century.

In 1875, Loesch, in St. Petersburg, identified the ameba in the stools passed by a patient suffering from dysentery. Eleven years later, Kartulis observed 150 cases in Egypt, and found the ameba in all. Osler found the ameba in 1890, and this was the first time that it had been observed in the United States.

It is now well recognized that certain cases of dysentery are definitely caused by the *Amœba dysenterica*. Schaudinn has published one of the most elaborate studies of this ameba which he distinguishes as *Entamœba histolytica*, and believes that it should be distinguished from the *Entamœba coli*, which does not produce dysentery, although there is some difference of opinion among different observers as to whether there is a pathogenic and an innocuous ameba.

The ameba is best obtained by scraping the rectal ulcers and examining microscopically the scrapings on a warm stage. The motility of the ameba is an important point in its distinction, and this ceases at a temperature of 70° F. If this method of obtaining a specimen is impracticable, the watery discharges, and especially the bloody mucus may be examined, but in many cases it is found with great difficulty under these conditions.

Formerly it was generally believed that amebic dysentery occurred only in the tropics, but the observations of recent years show that it is not by any means limited to tropical countries, but may be found in various parts of the temperate zone. It has been suggested that these cases occurring in temperate zones were due to infection brought from the tropics, especially by fruit which is eaten raw, like bananas, but that infection through bananas brought from the tropics does occur has not been scientifically demonstrated. It is more probable that the ameba maintains its vitality, although less energetically in the temperate zone than in the tropics, and that the cases of infection in the temperate zone occur through the drinking of water, and especially of water from wells, which have been contaminated by surface drainage.

The disease affects adults almost exclusively, cases among children being exceedingly rare. It also affects males more frequently than females. A common complication of the disease, especially in males, is abscess of the liver.

The disease may commence almost insidiously with a not excessive number of bowel evacuations each day, without very great pain and without the presence of very much blood or mucus, but a striking characteristic of the disease is its long duration. Patients may suffer from it not severely and may seem to improve, but they almost certainly relapse. Cases may last for months or even years, and be accompanied by extreme emaciation. There is no way of determining exactly the existence of this disease except by finding the motile ameba either in the stools or in scrapings from local lesions in the rectum.

The treatment of this disease has been the subject of extensive discussion and of extreme difference of opinion. British surgeons practicing in the tropics, and especially in India, have praised most optimistically the use of large doses of ipecac, and have praised it as a specific second only in importance to the value of quinin in malarial infection. Some observers in other countries and even in the United States have apparently verified the high esteem in which ipecac is held by British surgeons, but, on the other hand, many observers have condemned this drug as useless, or even injurious. It certainly would be exceedingly strange if so many men of wide experience should be mistaken in believing ipecac of value in the treatment of this disease. The fact seems to be that ipecac is useful in amebic dysentery, but less useful in other varieties of dysentery.

Ipecac is used in various ways, the patient, during its administration, of course, remaining absolutely quiet in bed. Some recommend preceding the administration of ipecac by a hypodermatic injection of morphin, given about half an hour before the ipecac. Some advise giving the ipecac in pills or capsules covered with salol. The usual dose is from 3 to 4 grams (from 45 to 60 grains). This should be given at night, and the dose, diminished daily by 0.30 gram (5 grains), should be repeated each evening until the dose has been reduced to 0.60 gram (10 grains). This dose of 0.60 gram (10 grains) may then be continued for two weeks. This method has been found very satisfactory by Dr. Sidney K. Simon, of New Orleans, who described his method of treatment in THE JOURNAL, Nov. 6, 1909, page 1526.

In just what way the ipecac produces its beneficial effect has not been determined, but it seems probable that either it, or some product resulting from its decomposition, inhibits the development of the ameba.

The general treatment of amebic dysentery is the same as that of bacillary dysentery, given in THE JOURNAL last week.

It is sometimes advisable to administer a laxative with the idea of removing the amebas from the intestinal canal. Castor oil has been recommended for this, but probably one of the salines, either the sulphate of magnesium or sulphate of sodium, is preferable. A good combination is the following:

℞

	Gm. or c.c.		
Magnesii sulphatis	25		℥i
Acidi sulphurici aromatici.......	10	or	fl.ʒiiss
Syrupi zingiberis	50		fl.℥ii
Aquæ ....ad	100		ad fl.℥iv

M. et Sig.: One teaspoonful in water every four hours.

This will have a laxative effect with a secondary astringent effect, due to the sulphuric acid.

Bismuth subcarbonate may be administered in large doses, but the value of this is often problematical. However, if the inflammation is in the cecum or has migrated into the ileum, the bismuth is probably of value. Bismuth, however, must not be too long continued, as it tends to form scybalous masses and cause more irritation and more inflammation.

If the movements are very frequent, or there is much pain, sulphate of morphin may be administered subcutaneously, or suppositories containing extract of opium may be used, as in the following prescription:

℞

	Gm. or c.c.		
Extracti opii	60		gr.x
Olei theobromatis	20	or	ʒv

Fac suppositoria 20.

Sig.—Use one suppository every four hours, if needed.

But far more important than these internal laxatives, astringents, and sedatives is the local treatment. This consists of enemata given with the idea of washing out the rectum and irrigating and cleansing the entire colon. The use of a simple salt solution, distinctly stronger than physiologic saline (which is about 0.7 per cent.) is recommended by many for washing out the rectum and colon, and is believed to have some destructive effect on the amebas. This destructive action is greatly increased if the enema is administered at the low temperature of 70° F., at which temperature the ameba finds it difficult to continue life. Water of this temperature may be used in the rectum, but should not be used in the colon.

Sulphate of quinin is believed by many to be specific in its destructive action on the ameba, and is much used for irrigating the rectum and colon. It should be used in a 1 to 5,000 to 1 to 1,000 solution. Cures are believed to have been effected by such irrigations in many cases.

If, in spite of the remedies which have been enumerated, the case still continues rebellious, resort to surgical interference may be deemed advisable, and appendicostomy may be performed, and irrigation of the colon by means of the insertion of an irrigation tube through the appendix may be practiced. This was referred to in THE JOURNAL, Sept. 3, 1910, page 858.

Great care and patience are required in the treatment of this disease, and the treatment should be long continued, and after the patient is apparently cured, he should be kept under observation for months in order that, if a relapse occurs treatment may be promptly instituted.

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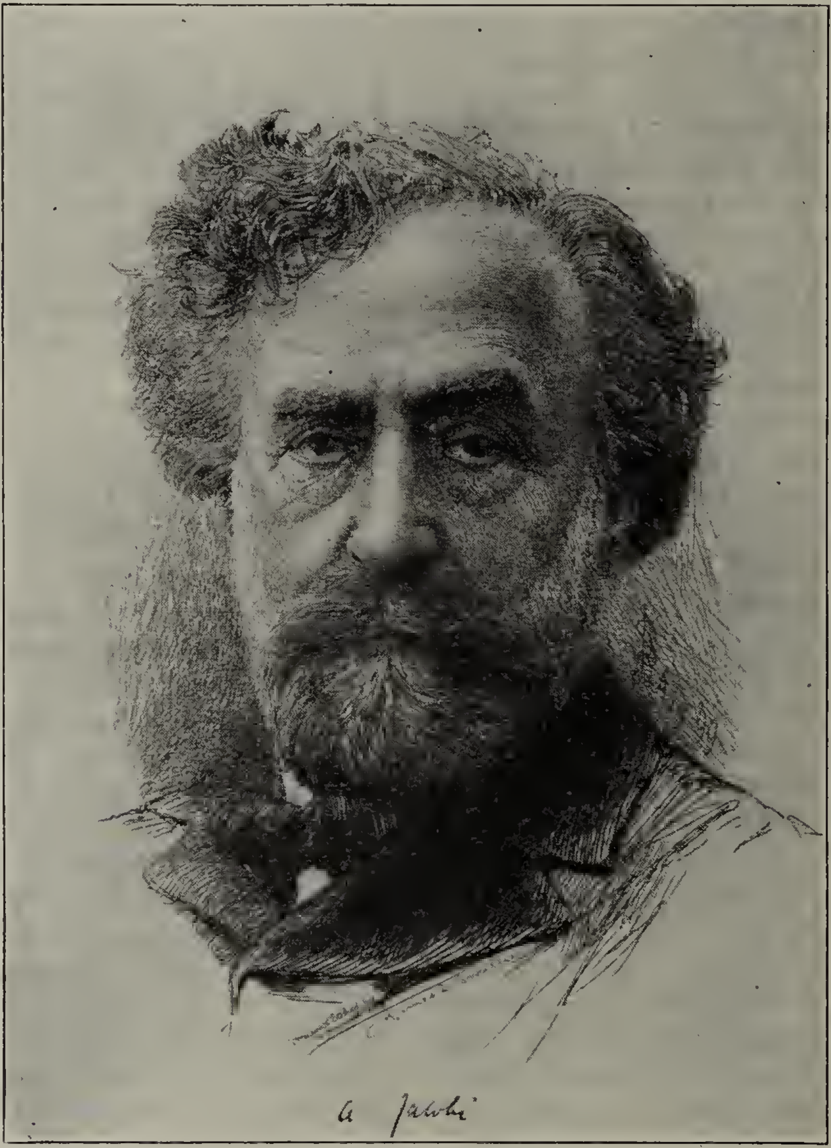
[*For other information see second page following reading matter*]

SATURDAY, JULY 8, 1911

PRESIDENT-ELECT JACOBI

A mutual honor in the highest sense of the term was the election at Los Angeles of Dr. Abraham Jacobi to the presidency of the Association. Few, if indeed any, men in the American medical world to-day can look back on as active a life as that of Jacobi. As a teacher, practitioner, hospital physician and worker in medical organizations he has been a leader for half a century.

His contributions to medical literature, which are legion and internationally well known, his brilliant attainments as a practitioner, his organizing and administrative talents, and last, but not least, his tremendous activity as a public-spirited citizen of his foster-land betoken a career unique in our annals. Now, at the age of eighty-one, is conferred on him the highest honor which the medical profession in America can bestow on any of its members.



PRESIDENT-ELECT ABRAHAM JACOBI

Born at Hartum bei Minden (Westphalia) May 6, 1830, he belongs to a generation which produced more great men than perhaps any single generation before in European history, that namely which created the revolution of '48. In appreciation of his idealism, Jacobi, like so many others, in the years 1851-53 was imprisoned again and again, but when finally liberated he, like Carl Schurz, Siegel and Krackowizer, sailed for America, henceforward the center of his hopes for the future, landing in this country as an unknown and all but penniless exile.

He had taken his M.D. degree at Bonn with a dissertation "De vita rerum naturalium" before his imprisonment in 1851, and at once entered on practice as a physician in New York City, soon becoming well known in his profession. In 1857 he became a lecturer on infantile pathology in the College of Physicians and Surgeons, and in 1860 he was called on by the New York Medical College to occupy the first chair established for the diseases of children in America. In 1870 he resigned to become clinical professor of the same branch in the College of Physicians and Surgeons, occupying this chair until 1902, when he was made emeritus professor. In 1895 he was offered the chair of pediatrics in the University of Berlin, but declined the honor, feeling that the ties binding him to America were too strong.

To review in detail the career of Abraham Jacobi, however, would be to touch on every important phase of progress of American medicine during the last half century. We shall here point only to the facts that he has done more than any other man to place pediatrics on a firm and scientific basis by his epoch-making conception of infant-feeding which he calls "the most important and momentous question of all times and before all nations," and that he was the first in this country to inaugurate systematic and special clinics for the diseases of children.

In medical societies Dr. Jacobi has been active and prominent. He has been president of the New York Obstetrical Society, the Pathological Society, the county society, the state society, the New York Academy of Medicine, the American Pediatric Society, the Association of American Physicians, the Deutsche medizinische Gesellschaft of New York and the American Climatological Association. He was a prime mover in the founding of the section on pediatrics of the American Medical Association in 1880, of the section on pediatrics in the New York Academy of Medicine and of the American Pediatric Society. He is an honorary member of innumerable societies in this country and abroad. Few American medical men have been so prominent at international meetings as Dr. Jacobi.

His life-long friend, and comrade of 1848, Carl Schurz, once hailed him as "the personification of scientific conscience and the personification of civic conscience." This saying is sufficient justification, if any were needed, for the choice of the Association.

THE PUBLIC AND THE PUBLIC HEALTH

The ready response of the public to appeals for better health conditions is a most surprising and gratifying result of the rapidly altering state of public opinion on health matters. The people are ready for any reforms. Recent examples of this fact will readily occur to those who have been watching public health progress. One of these is the recent remarkable crystallization of public opinion on the common drinking-cup; another is the equally rapid progress of the campaign against insect carriers of disease and especially of flies. These pests have been causing annoyance and disgust to all cleanly-minded people, as well as distributing diseases, for centuries. If anyone had predicted ten years ago that great American newspapers and civic organizations would inaugurate a definite campaign against flies, he would have been regarded as hopelessly visionary. Yet the American Civic Association has established a "Fly-Fighting Committee," has reprinted an article on "The House-Fly as a Carrier of Disease" from the *Annals of the American Academy of Political and Social Science*, has distributed instructions on how to conduct an anti-fly campaign, and has sent out a special bulletin entitled "Kill Flies and Save Lives." It is surely a promising indication when so learned a body as the American Academy of Political and Social Science considers an article on the house-fly worthy of a place in its periodical.

Accompanying the literature sent out by the Fly-Fighting Committee of the American Civic Association is a request that all persons going to summer resorts write the proprietors of summer resort hotels, making definite inquiries as to health conditions at these places. The danger of summer resorts as centers of infection is well recognized. Many a local commissioner of health has earnestly and successfully striven to eradicate typhoid fever in his city only to find each fall an outbreak of disease following the return of summer resorters, who had become infected during their stay in the country by dirty water or milk, unwashed vegetables, flies or other means by which typhoid is distributed. The committee asks all those contemplating a trip to summer resorts to write a letter similar to the following to all summer resort proprietors.

> Before making plans for the summer vacation I wish to be assured that the sanitary conditions of the resort which I select are such as to make my stay permanently beneficial as well as pleasant for the time being. Will you, therefore, kindly advise me what are your sources of water-supply and your methods of sewage and garbage disposal? I prefer to spend my vacation where I need have no fear of malaria from mosquitoes, or typhoid fever from flies and polluted water-supply. Is your drinking-water protected from contamination by your own sewage or that of others, and are your guests protected from flies and mosquitoes, not only by screens for doors and windows, but by precautions taken to prevent the breeding of these insect pests in your neighborhood?
>
> You are doubtless well informed as to the dangers of health arising from neglect of the sanitary precautions on which physicians are now laying much stress; nevertheless, I take the liberty of sending you some recent literature on the subject, which may give you suggestions for the further improvement of local conditions; for I believe you will agree with me that whatever raises the reputation of a resort for healthfulness, raises the revenues of its proprietor.

More and more is the campaign for better health conditions becoming one of economics rather than of sentiment. As soon as hotel and boarding-house keepers are convinced that cleanliness is profitable and that filth will diminish their receipts and increase their expenses, perfect sanitary conditions in summer resorts will become as much a business asset as are pine woods, beautiful lakes, cool breezes and low temperature.

ACUTE THYROIDITIS

It is only within comparatively recent years that we have come into possession of any definite knowledge of the physiology of the thyroid gland, and this has been attained principally through observation of diseased conditions or aberrant function and animal experimentation. That the gland has an internal secretion and that this plays a most important part in the animal economy has been demonstrated beyond peradventure of doubt and is universally admitted.

There is, however, still room for additions to our knowledge in this field, as well as in that of the diseases of the thyroid gland. In rare instances the gland is congenitally wanting. Abnormal configuration or size is less common. Supernumerary glands are at times present. Varying degrees and forms of atrophy or degeneration take place, as a rule in the later periods of life. Goiter is the most common pathologic deviation, and it may be structural (hyperplastic or neoplastic) or vascular (circulatory). Transitory hyperemia of the thyroid gland is frequently observed in women, especially at puberty and during menstruation and pregnancy. Inflammation of the thyroid gland appears to be a rare disorder, although in minor grades it may be a more common accompaniment of infectious processes than the clinicopathologic evidence would indicate. Moreover, it is not impossible that some of the degenerative or atrophic conditions of the gland resulting in myxedema, adiposis and allied affections may have such an origin.

An interesting discussion of the subject, based on a personal experience with three cases and an extensive study of the literature, is presented by Dr. W. Sibbald Robertson.[1] As this observer points out, a distinction is to be made between acute thyroiditis and acute strumitis, accordingly as a previously healthy gland or one already the seat of goiter is attacked. In all probability, the latter condition constitutes a predisposing influence. Sometimes the disorder occurs as an epidemic. It is, like goiter, more common in women than in men. Generally it is a complication or sequel of some infectious disease, although at times it appears to be idiopathic, that is, the causative factor eludes detection. The essential symptoms are local pain, swelling and discoloration, together with dyspnea and dysphagia. The voice may be affected and there may be irritative cough, with blood-streaked expectoration or actual hemoptysis. The morbid process terminates by resolution or suppuration or even gangrene. Recovery, though not invariable, is the rule. Treatment comprises attention to any preexisting disease, with observance of rest and application of local sedatives. Tracheotomy, with the introduction of a tube, may become necessary for the relief of respiratory obstruction. Suppuration demands immediate and radical surgical intervention.

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[1] Robertson, W. S.: Lancet, April 8, 1911, p. 930.

Current Comment

A SANER FOURTH

Thanks to the country-wide agitation for a saner Fourth, the immediate newspaper reports of the annual sacrifices to the use of fireworks indicate that they are less in number this year than for many years. The American Medical Association is gathering all possible reports of injuries and of tetanus following them. Deaths from tetanus always swell the report considerably during the ensuing six weeks. It is hoped that the final total also will be much less this year. Everyone who has assisted in improving conditions is entitled to credit and is rejoicing over the lives that have been saved. The success of the substituted programs indicates that the "insane Fourth" can be more and more eliminated until it disappears.

THE LOS ANGELES SESSION

The Sixty-Second Annual Session of the American Medical Association, held at Los Angeles, California, June 26-30, 1911, has passed into history as a very successful affair. The attendance was much beyond expectations, and an unusually large proportion of members were accompanied by their wives and daughters. Especially considering the location of the meeting-place. the attendance was a surprise to many. Also, contrary to the expectation of some, the weather was delightfully cool and pleasant. Although some discomfort was felt on the trip across the plains, Los Angeles had ordered cool and comfortable weather and the order was filled. The social side of the meeting was on a lavish scale and quite ably managed. Our Los Angeles confrères have indeed set a high standard in this regard. The proceedings of the House of Delegates took place with despatch and many important matters were decided. The official minutes of the House were commenced in THE JOURNAL last week, thirty-two pages being devoted to them. They are continued in this issue. The scientific work at Los Angeles was excellent and the Sections were well attended. A number of Section articles are published in this issue of THE JOURNAL and the rest of the proceedings will be given as fast as possible. We take pleasure in presenting in these columns a picture of the President-Elect, Dr. Jacobi, and a sketch of his life. A full list of the officers elected will be found in the proceedings of the House of Delegates of Thursday afternoon. Those who attended the Los Angeles session are now either reaching their homes or lingering in the various resorts of the West, but the memories of the Sixty-Second Annual Session will abide with them for a long time to come.

THE DISINFECTION OF WATER-SUPPLIES

The increasing use of hypochlorite for the purification of drinking-water supplies makes the subject of proper methods of applying this and other chemicals a timely one. The usual method of introducing the disinfectant into the suction-pipe or suction-well has not proved altogether satisfactory owing to the injury to the pump-valves, and other difficulties. An ingenious device for applying chemicals directly to water flowing in pipes under pressure is described in a recent number of the *Engineering News*.[1] The principle of the apparatus consists in so regulating the pressure by mechanical contrivances that the solution is forced through the feed-pipe at a rate always proportional to the existing rate of flow through the main.

THE PROPHYLAXIS OF BLINDNESS CAMPAIGN

Another forward step in the warfare on preventable blindness is evident in the advance copy just received of the first issue of the *Monograph Series of the American Association for the Conservation of Vision*. The chief article in this first issue is a study by the Research Department of the Boston School for Social Workers, "Ophthalmia Neonatorum in Ten Massachusetts Cities," by Henry Copley Greene. Our own Dr. F. Park Lewis, who has been working so faithfully along this line, contributes a preface. The enlightenment of the profession and of the public on this important question is a work to receive the aid of all, and we are glad to see this pamphlet in circulation.

A Mechanical Vitalistic View.—The weight of such evidence as we have seems to favor a modified vitalist, or it might be called mechanical vitalistic view. All vital activity is measurable in terms of energy expended. An infinite chain of physical causation determines every vital movement. No power of self-determination beyond such causation could exist without the power to create energy. The activity of the organic mechanism may be suspended indefinitely and again revived if no disarrangement of its constituent particles occurs. On the other hand, no mathematical laws can be conceived of which could express the operation of the forces which direct the life-history of the individual. Are we not brought back to the old theistic or deistic conception of an inscrutable power pervading all nature in whom we live and move and have our being? (Walter S. Nichols, in *Science*, June 2, 1911.)

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1. Engineering News, May 25, 1911, p. 619.

Medical News

CALIFORNIA

Alumni Meeting.—At the annual meeting of the Alumni Association of the College of Physicians and Surgeons, held at San Francisco, twenty graduates were admitted to membership. The following officers were elected: president, Dr. B. Rosen; vice-presidents, Drs. S. Wassilko and J. H. Flint; secretary, Dr. Charles M. Troppmann; treasurer, Dr. H. A. Mager; executive committee, Drs. Fred C. Keck, W. A. Colburn, S. B. Fontaine, O. H. Hoag, Jr., R. G. Duffiey, John H. Adams and Thomas Fleming.

A New Clinic.—A free clinic and dispensary has been opened in San Diego for the treatment of general medical and surgical cases. The clinic is to be known as the Talent Workers' Clinic, and is conducted jointly by the San Diego County Medical Society and a charitable organization known as the Talent Workers, whose ultimate aim is the establishment of a large general hospital for both charity and pay patients. Several rooms have been fitted up in the same building as is occupied by the Antituberculosis Clinic and the Associated Charities of San Diego, which will aid in looking up the standing of applicants for treatment.

Personal.—Dr. Edward C. Beach, physical instructor of the Los Angeles High School, has been appointed summer physical instructor of the Berkeley playgrounds.——Dr. and Mrs. George Ellery Hale, formerly of Pasadena, have returned from Europe. They expect to make a tour through Canada before returning home.——Dr. Gordon Grundy, Long Beach, who has just completed his medical course at Magill University, will sail for Europe soon.——Dr. Eugene Campbell, Los Angeles, was run down and painfully injured in an automobile.——Dr. Everett R. Smith, Los Angeles, has successfully undergone a severe surgical opertion at Minneapolis and will soon return home.——Dr. Charles F. Gladding, Oakland, who took 5 grains of morphin, June 14, is reported to be recovering at Providence Hospital.——Dr. William J. Walsh, San Francisco, was seriously injured when an automobile in which he was driving went over a high bluff.

ILLINOIS

Personal.—Dr. James A. Egan became the permanent secretary of the State Board of Health under the civil service law, which went into force on July 1. Dr. J. C. Westervelt, assistant secretary, and the thirty-three other officers and employees of the State Board of Health also came under the classified service, and are not subject to removal or discharge except for cause.

LOUISIANA

Tropical Medicine.—Ever since the meeting of the American Society of Tropical Medicine in New Orleans, a movement has been under way to raise a fund for the endowment of a chair of tropical medicine at Tulane Medical College. Local physicians have been urging a school of tropical medicine in New Orleans. This city being so closely allied to the tropical countries, and with Central American trade developing rapidly, the need for thorough scientific knowledge of the diseases originating in the tropics is recognized. The Liverpool School of Tropical Medicine is cited as an agency which has done more to foster English trade in the tropics than her warships and merchantmen. The local project is under the direction of Dr. Isadore Dyer, dean of the medical college. One contribution of $5,000 is reported. New Orleans merchants say this move, together with the operation of the newly organized Mississippi Valley, South America and Orient Steamship line, which is to be known as the Pan-American Mail, will do much to encourage commerce between North, Central and South America.

MAINE

Hospital Fund Raised.—A fund of $31,771 to complete and furnish the Webber Hospital, Biddeford, was raised by a local committee in that town and Saco in nine days and the new hospital will be opened this summer.

Antituberculosis Association Asks Appropriation.—The Androscoggin Antituberculosis Association, at its annual meeting held in Lewiston, reported that the association had spent about $1,000 during its first year, and voted to ask for an appropriation of $5,000 a year from the state for two years to extend the work of the association through Androscoggin County.

MARYLAND

Society Holds Banquet.—The first annual banquet of the Howard County Medical Society was held at Ellicott City, June 22. There was a large attendance from Howard and adjoining counties. Those who spoke were Dr. Joseph Clement Clark, Sykesville; Dr. William B. Ganbrill, Ellicott City, and Judge William Henry Forsythe, Jr.

Baltimore

Building Enlarged.—The administration building of the Johns Hopkins Hospital will be enlarged by a three-story brick and stone building for the use of the superintendent.

Personal.—Dr. William J. Coleman has been chosen superintendent of the hospital of the University of Maryland.——Dr. Gordon Wilson has been elected professor of clinical medicine of the medical department of the University of Maryland.——Dr. Julius W. Schlieder is rapidly failing as the result of an infection contracted while operating on a patient with Banti's disease.——Dr. Marshall L. Price received the honorary degree of master of science from Washington College, Chestertown.

From Johns Hopkins to Washington University.—Dr. Willis D. Gatch, assistant resident surgeon at Johns Hopkins Hospital, has been appointed resident surgeon at Washington University, St. Louis.——Dr. James S. Brotherhood, formerly assistant resident physician at Johns Hopkins Hospital, has been appointed resident physician at the Washington University, St. Louis.——Dr. Roger S. Morris, associate in medicine at Johns Hopkins University, has been appointed associate professor of medicine in Washington University.

MICHIGAN

County Society.—The Charlevoix County Medical Society has been organized. The officers elected are: president, Dr. Robert B. Armstrong; vice-president, Dr. Charles A. Montague; secretary, Dr. Allan M. Wilkinson; treasurer, Dr. Levi Lewis.

Personal.—Dr. Richard J. Hamlen, Detroit, is recovering from an attack of pneumonia and will take up his practice in a few days.——Dr. Malcolm Graham, Jonesville, was seriously injured by being thrown from his wagon, striking on his head and causing concussion of the brain.——Dr. and Mrs. Robert E. Miller and son sailed for Europe, June 15.——Dr. Edward C. Greene, Pontiac, assistant physician at the East Michigan Asylum for the Insane for seven years, has resigned.——Dr. Theodore E. Sands, Battle Creek, has undergone an operation for mastoiditis and is seriously ill.

MISSOURI

Personal.—Dr. Richard L. Sutton, Kansas City, will sail for Europe, July 15.

Missouri Tuberculosis Association.—At a recent meeting of the board of directors of the Missouri Association for the Relief and Control of Tuberculosis, of which Dr. Herman E. Pearse, Kansas City, is president, various working committees were appointed and plans of work outlined. The association expects to reduce the death-rate from tuberculosis in the state by lectures delivered by the medical profession and by publicity of the press on consumption. Segregation of the indigent tuberculous is advocated. Miss Winifred Doyle, secretary, was elected a delegate to the tuberculosis congress in Denver, where she was to read a paper.

St. Louis

Personal.—Dr. Max Meyer left for Montreal, Canada, June 26, en route for Europe.——Dr. Rolla Henry, assistant dispensary physician, was appointed chief physician by the hospital board.——Dr. Clive D. Scott, chief dispensary physician, has resigned to enter private practice.

NEW JERSEY

New Tuberculosis Hospital.—Before the Tuberculosis Hospital at Soho is opened there will be a public inspection of the institution, June 27-28. It is hoped to receive the first patients the early part of July.

Personal.—Dr. Stephen A. Disbrow, Ocean Grove, was seriously injured in an automobile collision, June 19.——Dr. Frank T. Neer, Paterson, has been assigned to the position of assistant surgeon in the Fifth Regiment, Paterson battalion.

Loving Cup for Staff Surgeon.—Dr. Joseph S. Baer, a member of the surgical staff of the Cooper Hospital, Camden, and one of the leading physicians of that city, was presented with a silver loving cup by his colleagues on the staff. Dr. Baer has severed his connection with the hospital and is about to start for California to regain his health.

NEW YORK

Personal.—Dr. W. Taylor Cummins, formerly of the pathologic department of the University of Pennsylvania, is in the new department of preventive medicine, Research Laboratories of the Health Department of New York.

New York City

New Building for Hospital.—A block on East Sixty-Sixth street has been purchased by the Federation of Russian Polish Hebrews of America on which it is proposed to erect new buildings for the Beth David Hospital. The new hospital will contain 150 beds and will be free to the poor.

Alumni Election.—The Society of the Alumni of Bellevue Hospital, at its 215th stated meeting, elected the following officers: president, Dr. H. Seymour Houghton; vice-president, Dr. J. Clifton Edgar; treasurer, Dr. Robert J. Wilson; secretary, Dr. Claude A. Frink, and historian, Dr. Robert James Carlisle.

To Have Board of Inebriety.—The board of estimate has approved the report of Bureau President McAneny, recommending that under the law passed one year ago, a board of inebriety be appointed to provide for the establishment of a system for the scientific handling of the problem of public drunkenness. The law provides for the establishment of a hospital and home for inebriates.

New Contagious Disease Hospital.—The new contagious disease hospital on Ellis Island, constructed at a cost of over $75,000, by the United States Government, and designed for the exclusive use of immigrants suffering from contagious diseases, especially measles, diphtheria and scarlet fever, was opened June 22. There are sixteen measles wards with room for 480 patients. The diphtheria and scarlet-fever patients will be accommodated in detached pavilion wards.

Need Hospitals for Tuberculosis.—Frank H. Mann, secretary of the Committee on Prevention of Tuberculosis, Charity Organization Society, says that the tuberculosis situation in the city is critical. It is estimated that at least 7,000 beds are needed immediately and there are at present only 3,200. Requests are before the board of estimate and apportionment to increase the facilities in the tuberculosis hospitals under the control of the department of health and of the department of public charities.

Infant Mortality.—Statistics for the week ending June 10 show that there were thirty-seven deaths from diarrheal diseases of babies under 1 year of age in the entire city, as compared with forty-three for the corresponding week of last year. During the week ending June 17, there were fifty deaths from the same cause, as compared with ninety-one for the corresponding week of 1910. The week ending June 24 showed a striking decrease in deaths from diarrheal diseases of children under 5 years of age, as compared with the corresponding week last year, there being sixty-one deaths this year and 136 last year.

NORTH CAROLINA

Alumni Banquet.—The alumni banquet of the North Carolina Medical College was a pleasant feature of the annual meeting of the state society. Covers were laid for 110 guests. Dr. J. Howell Way, Waynesville, made the principal address on "Loyalty to the College."

Personal.—Dr. Edward B. Clement, Salisbury, has located in Atlantic City, N. J., where he will be associated in practice with Dr. W. Blair Stewart.——Dr. J. Howell Way, Waynesville, has been elected a trustee of Trinity College at Durham.——Dr. Thomas A. Mann, health officer of Durham for several years, has resigned. He will be succeeded by Dr. William H. Boone, Morrisville.——Col. J. L. Ludlow, Winston, for many years past the civil engineer of the State Board of Health, was elected to honorary membership in the State Medical Society.

State Society Meeting.—The fifty-eighth annual session of the Medical Society of North Carolina was held under the presidency of Dr. Chalmers Van Poole in Charlotte, N. C., June 20-22. The annual address of the president strongly advocated higher preliminary education for prospective medical students. Public health and sanitation were given a not inconsiderable portion of the time. Dr. Thomas E. Anderson of Statesville was reelected a member of the State Board of Health for the term of six years, succeeding himself. Dr. Charles J. O'Hagan Laughinghouse of Greenville was also elected for a term of six years, succeeding Dr. George G. Thomas of Wilmington. The board reorganized and elected Dr. J. Howell Way of Waynesville, president, for a term of six years. The following officers were elected: president, Dr. Alfred A. Kent, Lenoir; vice-presidents, Drs. John P. Munroe, Charlotte; William P. Horton, Northwilkesboro, and J. Gerald Murphy, Wilmington; essayist, Dr. Richard N. Duffy, Newbern, and orator, Dr. John Hill Tucker, Charlotte.

OHIO

Personal.—Dr. Edward W. Walker, after a service of twenty-nine years, has resigned his position on the surgical staff of the Cincinnati Hospital. Dr. A. I. Carson was elected to his place, and Dr. Goodrich B. Rhodes was elected junior surgeon.——Dr. Christian R. Holmes, on the eve of his departure for Europe, was given a dinner by the professional and business men of Cincinnati, as a compliment for his work in making possible the new City Hospital.——Dr. Claude Lyons has accepted the position of assistant surgeon to Dr. Charles S. Means, Columbus.

Cleveland

Hospital Notes.—At the dedication exercises of the Central Dispensary and Milk Laboratory of the Babies' Dispensary and Hospital of Cleveland, Dr. Hastings H. Hart of the Russell Sage Foundation and Dr. J. Mason Knox, president of the National Association for the Study and Prevention of Infant Mortality, were the principal speakers. Plans for the erection of the Babies' Hospital were also made public.

OREGON

State Association Meeting.—The Oregon State Medical Association will hold its annual meeting in Portland, July 10-12. The program is to be of special value as it is to be filled largely by medical men from other sections of the country who are returning by northern routes from the meeting of the American Medical Association at Los Angeles. Great preparations have been made for the entertainment of the delegates and visitors.

Personal.—Drs. Eldred B. and Clara Waffle have started for Europe.——Dr. Fred A. Lienallen, Pilot Rock, has entirely recovered after his recent operation for appendicitis.——Dr. William T. Phy, Hot Lake, has retired from the management of the Hot Lake Sanitarium, La Grande, and has located in Spokane, Wash.——Dr. P. H. Fitzgerald, Gervais, has succeeded Dr. Harvey J. Clements as superintendent of the Sanatorium for the Prevention of Tuberculosis, Salem.

Portland

City and County Medical Society.—The City and County Medical Society of Portland, Ore., held its annual meeting May 15, and elected the following officers: president, Dr. William House; vice-president, Dr. Noble Wiley Jones; secretary, Dr. George S. Whiteside, who succeeded himself; treasurer, Dr. Katherine C. Manion, who was also reelected; to the board of councilors were elected, Dr. Aaron Tilzer, Dr. Frederick A. Kiehle, Dr. Mae H. Cardwell and Dr. Eduard P. Geary. The meeting concluded with a banquet in the dining hall of the Commercial Club, at which a movement was started looking to the purchase of a site, and erection of a building for use of the medical societies, and to be owned by the medical profession. Pledges were given to the amount of $15,000 and a committee was appointed to raise funds to complete the requirement.

PENNSYLVANIA

Physicians Sued.—The state health authorities of Lancaster have brought suit against a number of physicians for alleged failure to report births to the registrar of vital statistics as required by law.

Society Election.—The Warren County Medical Society held its monthly meeting at Youngsville, June 15. The officers are: president, Dr. Irving Hyer, North Clarendon; vice-presidents, Dr. Edwin S. Africa, Warren, and David H. Keller, Russel; treasurer, Dr. Charles W. Schmehl, Warren; censors, Drs. Christian J. Frantz, Edward B. Shellenberger and James Cass, Warren.

The Health Department's Statistical Work.—The work of the Bureau of Statistics of the Department of Health for 1910 shows that 541,721 records were received and tabulated. Of these 401,459 were indexed and permanently filed; 119,771 certificates of death were issued, 9,560 certificates of still births, 209,636 certificates of births; 62,492 transcripts of marriages were made, 140,262 reports of communicable diseases were received, 3,185 certified copies of certificates were issued and $1,592.50 received for the same and returned to the state treasurer. The return to the state for certified copies should in a few years make this bureau largely self-supporting.

Personal.—Dr. Robert R. Roth, New Castle, has been appointed surgeon for the Pennsylvania Railroad.——Dr. James P. Kerr, Pittsburg, has been named a member of the city council.——Dr. William G. Adair, Pittsburg, is recovering from blood-poisoning developed from an injury he received while operating on the throat of a patient.——Dr. John D. Stevenson, Alequippa, has gone to Boston to take up postgraduate work at the Harvard Summer School.——Dr. and Mrs. Francis H. Brobst, Reading, have left for a two-year trip around the world.——Dr. James L. Patterson, Philadelphia, was presented with a loving cup by the Alumni Association of the Chestnut Hill Academy.——Dr. W. A. Backenstoe has returned to his home in Emaus, after spending seven and a half years in medical missionary work, under the Methodist Board, in Natal, South Africa. He is on a two years' furlough.

Philadelphia

Hospital Report.—According to a recent report of the Medico-Chirurgical Hospital, a total of 86,664 patients have been treated in the institution, as compared with 75,221 last year, an increase of 12,444.

Officers Elected.—At the annual business meeting of the Alumni Association of Jefferson Medical College, the following officers were elected: president, Dr. Randle C. Rosenberger; vice-president, Dr. John W. West; corresponding secretary, Dr. Henry K. Gaskill; recording secretary, Dr. Edward Klopp, and treasurer, Dr. Alfred Heineberg.

To Aid Hospital.—In order to relieve the deficit of the Germantown Hospital which last year amounted to $16,000, the managers have devised a plan to interest the public in the institution. They have sent out a small book, entitled, "Pass It On, A True Story and Its Lessons." It describes a serious accident, and tells how the injured person was taken to the Germantown Hospital and cared for by the surgeons and nurses.

New Medical Library in the Northeast.—At a recent meeting of the library committee of the Philadelphia County Medical Society, it was unanimously decided to open a new medical library July 1 in the branch of the Free Library of Philadelphia, 4668 Frankford Avenue, which is the meeting-place of the Northeast Branch of the Philadelphia County Medical Society. One hundred and sixty volumes have been placed on the shelves, and six journals will be received regularly.

County Society Elects Delegates.—At the quarterly business meeting of the Philadelphia County Medical Society held June 21, the society elected the following delegates and alternates to represent that body at the state medical meeting to be held in Harrisburg in September:

Delegates: Drs. William M. Welch, John B. Roberts, Charles A. E. Codman, J. Torrance Rugh, Clarence P. Franklin, Levi J. Hammond, Henry D. Jump, James Thorington, Wilmer Krusen, William S. Newcomet, John F. Roderer, Howard D. Geisler, Frank Embery and William N. Bradley.

Alternates: Drs. Edward R. Stone, Daniel A. Modell, William T. Hamilton, James N. McKee, Herman B. Allyn, T. Turner Thomas, Joseph S. Gibb, William S. Higbee, John W. West, William E. Parke, Stuart C. Runkle, John D. McKean, George A. Knowles, J. W. McConnell, H. R. M. Landis, Frank C. Hammond, John Leedom, Jesse O. Arnold, John T. Walker, G. Mason Astley, W. Harmer Good, Thomas R. Currie, William H. Randall, Josephus T. Ullom, W. L. C. Spaeth, Albert C. Buckley, Morris B. Cooperman, and Max Staller.

SOUTH DAKOTA

State Society Meets.—At the annual meeting of the South Dakota Medical Association at Aberdeen, June 16, the following officers were elected: president, Dr. William G. Smith, Sturgis; vice-president, Dr. Charles E. McCauley, Aberdeen; secretary, Dr. Frederick A. Spafford; treasurer, Dr. Robert D. Alway; councilors, Drs. James B. Vaughn, Castlewood, and James Roane, Yankton. Mitchell was selected as the place for the 1912 meeting.

GENERAL NEWS

Medical Corps Dines Militia.—The officers of the Medical Corps, United States Army, stationed at the maneuver division, San Antonio, gave a dinner at the St. Anthony Hotel, May 23, to the medical officers of the organized militia detailed for duty at the camp. Eighty were present and Lieutenant Colonel Henry P. Birmingham, chief surgeon of the division, acted as toastmaster.

National Tuberculosis Association Meets.—The National Association for the Study and Prevention of Tuberculosis held its meeting in Denver, June 20-21, and elected the following officers: president, Dr. Mazyck P. Ravenel, Madison, Wis.; vice-presidents, John M. Glenn, New York, and Dr. George Walker Holden, Denver; secretary, Dr. Henry Barton Jacobs, Baltimore; treasurer, Dr. George M. Sternberg, Washington, D. C.

Distribution of Small-Pox.—Out of nearly 20,000 cases of small-pox reported in the United States during 1909, there were ninety-two deaths, equivalent to a mortality of less than a half of 1 per cent. There were 2,197 cases in Kansas, 2,135 in Illinois, 1,854 in Utah, and 1,733 in North Carolina.

Railway Surgeons Hold Meeting.—At the annual meeting of the Association of Railway Surgeons of the Norfolk and Western Railway, held in Richmond, Va., the following officers were elected: president, Dr. George Ben Johnston, Richmond; vice-presidents, Drs. Will R. Williams, Richlands, Va., J. Francke Fox, Bluefield, W. Va., Nicholas P. Oglesby, Columbus, O., and John W. Simmons, Martinsville, Va., and secretary-treasurer, John R. Garrett, Roanoke, Va.

Frisco Surgeons Hold Meeting.—At the tenth annual meeting of the Frisco System Medical Association, held in St. Louis, May 31-June 1, the following officers were elected: president, Dr. Millington Smith, Oklahoma City, Okla.; vice-presidents, Drs. Allen C. Brown, Moselle, Mo., and J. Wesley Price, Memphis, Tenn.; secretary, Dr. F. E. Chapman, St. Louis; treasurer, Dr. Walter A. Camp, Springfield, Mo., and executive committee, Drs. Benjamin C. Schwab, Oklahoma City; George W. Cale, Jr., St. Louis; William H. Wilder, Memphis, Tenn.; W. Britt Burns, Memphis, Tenn.; E. J. Neathery, Sherman, Texas, and William N. Yates, Fayetteville, Ark. Springfield, Mo., was selected as the place of meeting for 1912.

Institutional Census.—A preliminary count of the population in institutions comprising prisons, institutions for juvenile delinquents, almshouses and institutions for the insane and feeble-minded from Dr. J. A. Hill, chief statistician for revision and results in the Census Bureau, gives the following figures: The prison population on Jan. 1, 1910, was 109,311; the admissions or commitments to prisons during 1910 were 462,530; and the number of prisoners discharged during that year was 458,996. The number of juvenile delinquents reported at the census of 1910 in institutions for that class was 22,903. The number of paupers in almshouses on Jan. 1, 1910, was 83,944. The number admitted during the year 1910 was 106,457, and the number discharged or dying during that year was 100,858. The enumeration of the insane in asylums indicates a very striking increase in this class of the population. In 1904 the number of insane in institutions was 150,151. In 1910 this number had increased to 184,123, an increase of 22.6 per cent. in six years. The number of commitments to insane asylums during the year 1904 was 49,622, and during the year 1910 was 59,628, an increase of 20.2 per cent. In 1904 the feeble-minded in institutions numbered 15,347; in 1910 the number was 20,199.

LONDON LETTER

(From Our Regular Correspondent)

London, June 17, 1911.

National Insurance Bill

The opposition of the profession to the national insurance bill, described in previous letters to The Journal, is increasing and becoming thoroughly organized. At the meeting of the representatives of the British Medical Association in London the following resolutions were adopted: (1) An income limit of $10 a week for those entitled to medical benefit. (2) Free choice of doctor by patient, subject to consent of doctor to act. (3) Medical and maternity benefits to be administered by local health committees, and not by friendly societies. (4 The method of remuneration of medical practitioners adopted by each local health committee to be according to the preference of the majority of the medical profession of the district of that committee. (5) Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service. (6) Adequate medical representation among the insurance commissioners in the central advisory committee, and in the local health committees, and statutory recognition of a local medical committee representative of the profession in the district of each health committee. Together with these the following general resolution was also adopted: "While approving of the main objects of the bill, and being desirous of cooperating for their attainment, nevertheless, in view of the fact that the present proposals of the government are unsatisfactory, it is the opinion of this meeting that the government should be asked to delay dealing with the proposed medical benefits until satisfactory terms have been arranged with the medical profession." Meetings of the divisions of the association have been held all over the country, and these resolutions have been endorsed practically with unanimity; the only difference of opinion is on the wage limit of $10 a week, which many think is too high and should be reduced to $6 or $7. Some physicians bitterly point out that their private patients consist entirely of persons earning these low wages and that as far as males above the age of 16 and unmarried females, their private practice would be entirely wiped out. Moreover, the establishment of school clinics (described in previous letters to The Journal) has largely reduced medical practice among children. It is important to note that this is not a struggle on the part of the profession for high fees, or even for moderate ones, but a struggle of men attending the poor and taking very small fees such as 50 cents for a visit and medicine, or 25 cents, and even as little as 12 cents, for advice and medicine at the office. It is true that they are offered in exchange the capitation fees of those persons who may choose to inscribe themselves under their names. But this alternative is viewed with considerable apprehension, as it is feared it will involve a great reduction of income with increase of work. Even if the profession as a whole did not lose financially by the bill, it is thought that there would be such dislocation of practice that, while some men might be better off, others would be ruined. Mr. Lloyd-George, the chancellor of the exchequer, has made the great mistake of not thoroughly informing himself of the attitude of the profession toward the bill before introducing it. He has spared no pains in studying the problem from other points of view and for two and one-half years has been in communication with representatives of the friendly societies, while he gave only one interview to representatives of the profession (at their request) before introducing the bill. He has made the great error of taking the terms of the friendly societies as a basis and has never realized how objectionable contract practice is to the profession. There is now a strong feeling that the time has arrived to abolish it altogether. On the other hand, the friendly societies are taking up a very hostile attitude to the profession. They resent as a scandalous misrepresentation the chancellor's description of them as in some cases underpaying the doctors and insist on having the appointment and control of their physicians in their own hands and power to lay down rules and regulations for the performance of their duties. One representative of the societies described the spirit in which the physicians approached the chancellor as that of vultures after carrion, and another said they were out to get all the money they could. The quarrel between the societies and the physicians is becoming more acute, and the chancellor is in the unfortunate position of being between two fires. Whatever concession he makes to one party will be resented by the other. The profession is showing a unity and determination never before evinced and always though impossible by its own members. The British Medical Association is naturally taking the lead, and the large part of the profession outside it is falling into line with the action of the association. The latest movement is to establish a "war fund" for the purpose not only of fighting the bill but also for indemnifying those members of the profession who largely depend on contract practice and may resign their appointments as part of the campaign. The British Medical Association has sent post-cards to the 30,000 physicians in the kingdom asking for their support in the struggle, and already (in the course of less than a week) has had 15,000 favorable replies. An investigation into the experience of the Manchester Unity of Oddfellows (the most important of the friendly societies) shows that each member between the ages of 16 and 65 had 16.8 days of sickness per annum on an average, and also attended the doctor's office for consultation 4.3 times. For this work the bill now offers the doctor $1.25, a sum entirely inadequate.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 15, 1911.

Personal

The honors to Professor Ehrlich, on which I recently commented, have been increased by the Kaiser, who has bestowed on him the title of Excellency and has appointed him an active privy councilor. This appointment, which among German physicians has been conferred only on Robert Koch, Behring, von Bergmann and Leyden, means much more to Ehrlich because it is the first time within our knowledge that such a title has been given to a scientist of the Jewish faith. This fact may be taken as new evidence that neither the Kaiser nor the Prussian administration is antisemitic. It is not superfluous to remark that the opposite has frequently been claimed.

July 22, Professor Waldeyer will celebrate the fiftieth anniversary of his doctorate. The celebration will be somewhat ceremonious, the more so for the reason that a few years ago Waldeyer declined to permit a formal celebration of his seventieth birthday.

Present Status of the Antituberculosis Campaign in Germany

According to the report of the general secretary of the German Central Committee for the Antituberculosis Campaign, there are at present ninety-nine public and thirty-four private sanatoriums for adult consumptives; in all about 1,400 beds are available for adult tuberculous patients. With an average stay of three months, somewhat more than 56,700 patients can be received for permanent curative treatment each year. Children affected with pronounced tuberculosis are accommodated in twenty-two children's institutions with 1,000 beds. Children with scrofulous affections and those threatened with tuberculosis may be received in eighty-six institutes with 8,122 beds. Ninety-nine forest convalescent stations are open during the summer months, some provided only for day service but others for the night also. Of these a number remain open during the winter months also for the reception of patients. Recently following the experience of America, such mildly affected phthisical patients as can work during the day are received in out-door camps for the night only. In this way the stations are better employed than formerly and those patients who are able to work can pass the night in good open air and receive a nourishing supper and breakfast and thus improve in spite of their employment. This method was first given a trial in the out-door station for women at Pankow-Schönholz. As the results were very good, the arrangements will be increased this year and will be introduced into the convalescent camp for men at Johannisthal near Berlin.

The number of open-air schools in which full instruction is given amounts to fifteen. The farm colonies have not been increased. There is only one such institution for adults at Sannum and one for children at Hohenlychen. At the Hohenlychen institution there is also a housekeeping school for girls and a school in gardening for boys and lately a trade school has been added.

For the selection of patients for the sanatoriums thirty-four observation stations have been established, which is a considerable increase, and the number of homes for patients in the advanced stages of tuberculosis has increased. There are 144 special asylums or special wards in the general hospitals, the majority being in the Rhine province. In most parts of Prussia these special wards are not looked on by the tuberculous with any favor. For this reason the majority of advanced consumptives still are kept at home as previously, and they have to be isolated there as effectively as possible. This task is devolving more and more on the tuberculosis dispensaries, the number of which has increased during the year by more than 200 and is continually growing.

The permanent results of curative treatment are improving from year to year. In Bavaria, Hesse, Hamburg and the imperial provinces, tuberculosis is made a reportable disease under certain circumstances, and the disinfection of dwellings of reportable cases is required on change of residence. A great advance in the efforts to combat tuberculosis is to be expected from the imperial insurance law.

The German Temperance Movement

The war against alcohol by total abstinence is carried on in Germany by organizations of three different kinds, the Good Templars, the religious societies and the professional societies. The most powerful part of the movement is represented by the Good Templars. They are collected into lodges and number in Germany about 50,000 men and women besides a special department of 18,000 children and youths. The religious movement is found chiefly in the evangelical society of the Blue Cross, which, like the Good Templars, forms an international organization with similar societies of other countries. About 40,000 adults and 9,000 children belong to the German general societies. Subordinate divisions of the Blue Cross are the Blue Cross bands and the Free Blue Cross. The latter consists chiefly of Methodist and Baptist societies. In addition there are Catholic cross associations which stand between the Good Templar order and the Blue Cross. To these also belongs a department for the young, the so-called Guardian Angel League. The entire membership of all the religious total abstinence societies in Germany amounts to about 100,000. The professional societies are found in many callings, among ministers, teachers, lawyers, physicians, merchants, etc. Their membership is small and will scarcely exceed 9,000.

Marriages

George Franklin Cottle, M.D., U. S. Navy, to Miss Mercedes Ellis of Los Angeles, at the U. S. Naval Station, Tutuila, Samoa, April 25.

Lawrence J. Simonton, M.D., Cumberland, Md., to Miss Ellen N. Kilgour of Rockville, Md., at Alexandria, Va., June 9.

Albert H. Peters, M.D., to Mrs. Carrie H. Kennedy, both of Colorado Springs, Colo., at Kansas City, Mo., June 15.

George Ralph Christie, M.D., Long Prairie, Minn., to Mrs. Ida Lewis Mason of Norwood Park, Chicago, June 24.

Roy Cleveland Heflebower, M.D., U. S. Army, to Miss Florence Mae Boesch of Washington, D. C., June 6.

Walter C. Chidester, M.D., to Mrs. Dollie Wheaten, both of San Mateo, Cal., at Stockton, Cal., June 15.

Bernard O. Thomas, M.D., Frederick, Md., to Miss Margaret Bartholow, at New Market, Md., June 22.

Charles Harold Gilbert, M.D., Boston, to Mrs. Louise Veazie Hollister of Bloomfield, N. J., June 16.

Edward Lyean Swadener, M.D., Keshena, Wis., to Miss Iva N. Boatman of Clinton, Ind., June 20.

Arthur Leopold Forster, M.D., Chicago, to Miss Helen Shannon of Grand Rapids, Mich., June 12.

Charles Andrew Hargitt, M.D., Syracuse, N. Y., to Miss May Lillian Welch of Brooklyn, June 16.

Joseph Francis Londrigan, M.D., to Miss Mariette McGinty, both of Hazelton, Pa., June 14.

Olaf Martin Steffenson, M.D., Chicago, to Miss Leonelle Pearl Perrin of Waukegan, Ill., June 19.

Deaths

Isaac Wright Blackburn, M.D. University of Pennsylvania, Philadelphia, 1882; of Washington, D. C.; chief pathologist at the Government Hospital for the Insane, and known as one of the foremost pathologists of the day; professor of morbid anatomy and special pathology in the medical department of Georgetown University and of morbid anatomy in the medical department of George Washington University, Washington; died, June 19, of chronic enterocolitis, aged 59.

Walter Stansby King, M.D. Rush Medical College, 1894; of Cedar Rapids, Ia.; a member of the Iowa Union Medical Society and the Iowa State Medical Society; coroner of Linn County for the third term; died at St. Luke's Hospital, Cedar Rapids, June 16, from injuries received in an automobile accident several days previous, aged 40.

Charles Goddard Weld, M.D. Harvard Medical School, 1881; of Brookline, Mass.; for many years connected with the Massachusetts General and the Carney hospitals in Boston; a director of the Massachusetts Institute of Technology; who retired from active practice several years ago; died at his home, June 18, from paralysis, aged 54.

William John Walsh, M.D. University of California, San Francisco, 1902; of San Francisco; a member of the San Francisco County Medical Society; coroner of San Francisco; died at Mt. Zion Hospital, June 20, from traumatic pneumonia induced by injuries received in an automobile accident nine days previous, aged 30.

George Washington Bailey, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1862; University of Pennsylvania, Philadelphia, 1868; for more than forty years a physician of Elizabeth, N. J.; who retired from active practice in 1905; died at his home, June 21, aged 70.

Theodore E. Sands, M.D. Starling Medical College, Columbus, Ohio, 1886; of Battle Creek, Mich; a member of the American Medical Association; surgeon to the Nichols Memorial Hospital, Battle Creek; died at Harper Hospital in Detroit, June 22, after a mastoid operation, aged 48.

Maris Gibson, M.D. University of Pennsylvania, Philadelphia, 1883; of Wilkes-Barre, Pa.; a member of the American Medical Association; for many years a member of the medical staff of the Wilkes-Barre City Hospital; died at his home, June 19, aged 70.

Thomas Hay MacDonald, M.D. University of Michigan, Ann Arbor, 1879; a member of the American Medical Association; for more than thirty years a practitioner in Petersburg, Mich.; died at his home in that place, June 20, from valvular heart trouble, aged 57.

William Pitney Brierley, M.D. Albany (N. Y.) Medical College, 1886; of Albany, N. Y.; a member of the Medical Society of the State of New York; was struck and instantly killed, June 22, by the trolley car which he was about to board, aged 48.

Eugene T. Hall, M.D. Medical College of Ohio, Cincinnati, 1875; a veteran of the Civil War; died at his home in Fort Worth, Texas, June 16, as the indirect result of a collision between his buggy and an automobile more than a month before.

Ray A. Alexander, M.D. John A. Creighton Medical College, Omaha, 1910; of Bristow, Neb.; was found dead, June 12, from the effects of an overdose of strychnin, said to have been self-administered with suicidal intent, aged 34.

Margaret Anderson, M.D. Chaddock School of Medicine, Quincy, Ill., 1888; of Quincy, Ill.; the oldest practicing woman physician in Adams County; died at Blessing Hospital, Quincy, June 16, from cancer of the stomach, aged 60.

John Jeremiah Van Rensselaer, M.D. Albany (N. Y.) Medical College, 1859; a veteran of the Civil War; who had retired from active practice; died at his home, Swartswood, N. J., June 18, from heart disease, aged 75.

Thomas Toney, M.D. University of Nashville (Tenn.), 1875; a veteran of the Civil War; died at his home in Joplin, Mo., June 18, from the effects of injuries received in a fall several months before, aged 68.

William H. Horn, M.D. Gate City Medical College, Texarkana, Texas, 1905; of Taylor, Ark.; was shot and killed in Lewisville, Ark., June 17, while acting as peacemaker in a quarrel, aged 43.

Theron. E. Quinby, M.D. Western Reserve University Medical Department, Cleveland, Ohio, 1868; of Syracuse, N. Y.; died at his home in that city, June 16, after an illness of a week, aged 64.

William C. Webb, M.D. Bellevue Hospital Medical College, New York City, 1877; who resided near Nicholasville, Ky.; died in Lexington, Ky., June 21, from acute stomach trouble, aged 58.

Matthew T. Murdoch, M.D. Memphis (Tenn.) Hospital Medical College, 1911; intern in the Memphis City Hospital; died at the home of his father in Okeene, Okla., June 7, from typhoid fever, aged 27.

George D. Miller, M.D. Missouri Medical College, St. Louis, 1885; of Boydsville, Mo.; died June 3, from the effects of an overdose of morphin, said to have been taken with suicidal intent, aged 73.

Leroy M. Sprowls, M.D. Jefferson Medical College, 1882; of Uledi, Pa.; formerly president of the Fayette County Medical Society; died suddenly at his home, June 17, of heart trouble, aged 53.

Henry E. Latz, M.D. University of Buffalo (N. Y.), 1881; of South Minneapolis, Minn.; died at St. Mary's Hospital, Minneapolis, June 16, after an operation for appendicitis, aged 59.

J. H. Whatley, M.D. Memphis (Tenn.) Hospital Medical College, 1911; of Silver City, Miss.; died in that place, June 12, from appendicitis and abscess of the liver, aged 24.

Morris Christie, M.D. New York University Medical College, New York City, 1859; for many years a practitioner of Antrim, N. H.; died at his home, June 4, aged 79.

John F. Fargo, M.D. Hahnemann Medical College, Chicago, 1882; formerly of Chicago and Minneapolis; died at his home in Hollywood, Cal., June 6, aged 76.

Arthur Elisha Platt, M.D. University of Vermont, Burlington, 1899; died at his home in Riverside, Vt., June 14, from blood poisoning, aged 32.

Jefferson Odenbaugh, M.D. Miami Medical College, Cincinnati, 1880; died at his home in La Grange, Ill., June 9, of paralysis, aged 64.

John E. Smith, M.D. Atlanta (Ga.) Medical College, 1881; died at his home in Atlanta, June 16, from heart disease, aged 50.

Thomas Hunter, M.D. University of Pennsylvania, Philadelphia, 1872; died at his home in Philadelphia, June 19, aged 63.

J. Walden Pratt, M.D. Eclectic Medical Institute, Cincinnati, 1877; died at his home in Marengo, O., June 13, aged 55.

Alfred Z. Caple, M.D. Indiana Medical College, Indianapolis, 1873; died at his home in Argos, Ind., June 5, aged 63.

Correspondence

Unauthorized Use of a Physician's Name

To the Editor:—A book entitled "Large Fees and How to Get Them," has recently appeared, published by one W. J. Jackman, which purports to contain an introductory chapter written by me. The book is being advertised as having been jointly written by one Dr. A. V. Harmon and myself. I desire to state that my name is being fraudulently used. I know neither the publisher nor Dr. Harmon, nor did I ever write a line for the book. The introductory chapter and several later chapters—for which latter, credit is not given—were, without my permission, taken bodily from my "Medicine as a Business Proposition." There is no Dr. A. V. Harmon, in either the Blue Book or American Medical Directory. He is, in my opinion a blind, the authorship of the book resting with the publisher. All persons selling or circulating same, or advertising or reviewing the book in connection with my name, do it at the risk of legal complications. I would respectfully ask the medical journals of the country to copy this letter verbatim, thus warning the profession against what, so far as the use of my name is concerned, is a fraud, pure and simple. The title of the book alone should condemn it, while as for much of its contents, the less said the better.

G. Frank Lydston, M.D., Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

WATER-COOLING SYSTEMS

To the Editor:—In connection with the mention of the special combination drinking-fountain in use in the Association building, described in The Journal, June 17, p. 1811, I notice that the drinking-water is cooled by the ammonia process. Kindly describe this process. Is it practical for public schools, making water absolutely safe for drinking purposes?

C. W. Halterman, Clarksburg, W. Va.

Answer.—In general, refrigeration by the so-called ammonia process is based on the property of a liquid gas absorbing heat on passing from the liquid to the gaseous form and in this way cooling whatever is in the immediate vicinity of the expanding gas.

In practical refrigerating plants, liquid ammonia under pressure is allowed to escape by means of a valve, to the pipes which are to do the cooling. The release of the liquid gas to a relatively low pressure causes it to evaporate rapidly and again to become gaseous, at the same time expanding and absorbing heat. If it is desired to cool water, these pipes are situated directly in the tank of water or for more extensive cooling are run through a tank of brine, which is cooled below the freezing point of water and still remains in the liquid condition. This cold brine is then pumped through pipes, which because of their low temperature cause the moisture of the atmosphere to condense on them and for the same reason freeze there in the form of a dense coating of frost. Pipes thus filled with cooled brine are used in keeping low temperatures in cold-storage warehouses.

The ammonia which has cooled the water or brine and which is now in the gaseous state is compressed by means of a special pump and pumped to a series of water-cooled pipes where under the combined influence of pressure and low temperature the gas liquefies and is again ready to be released and again act as a refrigerant.

A large part of the ice used at present is made by the ammonia process and most large cold-storage houses are thus cooled. But this process is not limited to its use on so large a scale, as there are now on the market small ammonia plants made especially for home, office, school or larger use.

More detailed information regarding the various designs of refrigerating machines and plants may be obtained from such books as "The Mechanical Production of Cold," by J. A. Ewing, LL.D., F.R.S. (Cambridge University Press, London, $3.25), and "Refrigeration, Cold Storage and Ice-Making," by A. J. Wallis-Taylor, C.E. (Crosby, Lockwood & Sons, London, $4.50).

FICTION VOICING THE AIMS AND IDEALS OF MODERN PHYSICIANS

A letter was published in this department some time ago, asking for the names of books (modern fiction) in which the aims and ideals of modern physicians are extolled. We stated at that time that if readers would tell us the names of books which they had found of this character we would print the list in The Journal. We have been informed of the following books:

Allen, James Lane: The Doctor's Christmas Eve.
Balzac, H.: Le médecin de campagne (translated as The Village Doctor, or The Country Doctor).
Eliot, George: Middlemarch.
Gordon, Charles W. (Ralph Connor): The Doctor.
Herrick, Robert: The Master of the Inn.
Hitchins, Robert: Belladonna.
Ibsen: An Enemy of the People.
Jewett, S. O.: A Country Doctor.
Oppenheim, James: Dr. Rast.
Ruffini, J.: Dr. Antonio.
Tompkins, Juliet Wilbor: Dr. Ellen.
Trollope, A.: Dr. Thorne.
Watson, John Maclaren (Ian Maclaren): A Doctor of the Old School; Beside the Bonnie Brier Bush.
Wright, Harold Bell: The Calling of Dan Matthews.

ARTICLES ON HOOKWORM

To the Editor:—Is there a number of The Journal devoted largely to the hookworm disease? The disease exists among the Mexicans.

A. L. Temple, Mexico City, Mex.

Answer.—There is no special number devoted to this subject, but the following original articles dealing with it have been published recently:

Ashford, B. K., and Igaravidez, P. G.: Summary of a Ten Years' Campaign Against Hookworm Disease in Porto Rico, The Journal, May 28, 1910, p. 1759.
Lindemann, E. E.: Treatment of Hookworm Disease, The Journal, May 28, 1910, p. 1765.
Litterer, W.: The Non-Oviparous Female Hookworm, The Journal, Oct. 15, 1910, p. 1378.
Gunn, H.: Hookworm Disease in the Mines of California, The Journal, Jan. 28, 1911, p. 259.
Strosnider, C. F.: Hookworm Disease, The Journal, April 8, 1911, p. 1024.

See also Public Health Bulletin 32, U. S. Public Health and Marine-Hospital Service, "Hookworm Disease, Its Nature, Treatment and Prevention." By C. W. Stiles, 1910.

THE ETHER RAUSCH

To the Editor:—The article by Coughlin in The Journal last week, page 17, may be usefully supplemented by looking up in the files of The Journal various points in the technic of the ether *Rausch*, the "ether jag," as the term has been freely translated. Sudeck's early communication on the subject was reviewed Dec. 15, 1906, page 2045; Landström's article, Dec. 4, 1909, page 1953, and other points in the technic were brought out in abstracts, page 717, Aug. 22, 1908, and page 1017, March 19, 1910.

C.

The Public Service

Medical Corps, U. S. Navy, Changes

Changes during the week ended July 1, 1911.

Short, W. H., P. A. surgeon, detached from the reserve torpedo division, navy yard, Charleston, S. C., and ordered to the naval station, Key West, Fla.

Winn, C. K., P. A. surgeon, detached from the naval station, Key West, Fla., and ordered to duty at the naval hospital, New York.

Pollard, J. B., asst-surg., detached from the *Prairie* and ordered to the *Virginia*.

Johnson, L. W., asst.-surg., detached from the *Prairie* and ordered to duty with the reserve torpedo division, navy yard, Charleston, S. C.

Halsey, W. H., asst.-surg., detached from the *Virginia* and ordered to the *Solace*.

McCullough, R. E., surgeon, detached from the *Georgia* and ordered to the *Minnesota*.

Alfred, A. R., surgeon, detached from the *Minnesota* and ordered to temporary duty in the bureau of medicine and surgery, Navy department.

Lovering, P. A., medical director, detached from the naval medical supply depot, New York, and ordered to command the naval hospital, navy yard, Mare Island, Cal.

Simons, M. H., medical director, detached from command of the naval hospital, Mare Island, Cal., and ordered home.

Wieber, F. W. F., medical inspector, detached from the navy recruiting station, New York, and ordered to the navy yard, Boston.

Langhorne, C. D., surgeon, detached from the naval hospital, Naval Home, Philadelphia, and ordered to the marine barracks, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 28, 1911.

Williams, L. L., surgeon, leave of absence for six days from June 12, 1911, amended to read "five days from June 13, 1911."

Geddings, H. D., surgeon, granted one month's leave of absence from June 23, 1911, on account of sickness.

Foster, M. H., P. A. surgeon, directed to proceed from Seward to Juneau, Alaska, on special temporary duty.

Moore, Dunlop, P. A. surgeon, granted 21 days' leave of absence from June 26, 1911.

Creel, R. H., P. A. surgeon, granted 14 days' leave of absence from July 1, 1911.

Lanza, A. J., asst.-surg., directed to proceed to Fort Stanton, N. Mex., and report to the medical officer in command for duty and assignment to quarters.

Clark, E. S., A. A. surgeon, granted 30 days' leave of absence from July 1, 1911.

Horuing, Henry, A. A. surgeon, granted seven days' leave of absence from June 19, 1911, under paragraph 210, Service Regulations.

James, W. F., A. A. surgeon, granted 30 days' leave of absence from July 1, 1911.

Knapp, H. B., A. A. surgeon, granted leave of absence without pay for the period June 14 to Oct. 1, 1911.

Reimer, H. B. C., A. A. surgeon, granted 11 days' leave of absence from July 6, 1911.

Wakefield, H. C., A. A. surgeon, granted 18 days' leave of absence from June 26, 1911.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama: Montgomery, July 11. Chairman, Dr. W. H. Sanders.

Connecticut: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11, Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

Illinois: Coliseum Annex, Chicago, July 25-27. Sec., Dr. James A. Egan, Springfield.

Indiana: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

Massachusetts: State House, Boston, July 11-13. Sec., Dr. Edwin B. Harvey.

New Mexico: The Capitol, Santa Fe, July 10-11. Sec., Dr. J. A. Massie.

Oklahoma: Ione Hotel, Guthrie, July 11. Sec., Dr. John W. Duke.

South Dakota: Mitchell, July 12-13. Sec., Dr. F. W. Freyberg, Mitchell.

Vermont: Burlington, July 11-13. Sec., Dr. W. Scott May, Underhill.

West Virginia: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Wisconsin: Madison, July 11-13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Arkansas May Report

Dr. F. T. Murphy, secretary of the State Medical Board of the Arkansas Medical Society, reports the written examination held at Little Rock, May 9-10, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 88, of whom 72 passed and 16 failed. Ten candidates were licensed through reciprocity. The following colleges were represented.

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1909) 75; (1911)	75.2, 76.9, 78.1, 78.8, 80.6, 81.7, 81.7, 83.2, 83.8, 84.7, 84.8, 85.4, 87.7, 88.1.
University of Arkansas	(1910) 85, 88.2; (1911)	75.9, 75.9, 77.7, 78.1, 78.9, 80, 80.8, 82.2, 82.6, 82.6, 82.9, 83.2, 83.2, 85.4, 85.6, 85.8, 85.9, 86.1, 86.9, 87.7, 89.6.
Atlanta College of Physicians and Surgeons	(1909)	79.3
Illinois Medical College	(1905)	76.2
College of Physicians and Surgeons, Chicago	(1904)	86.3
Bennett Medical College	(1911)	83.9
University of Louisville	(1910)	76.7
Tulane University of Louisiana	(1904) 84.7; (1911)	77.2, 81.9, 82.9, 88.6, 87.6, 88.9.
Baltimore Medical College	(1909)	77.6
Barnes Medical College	(1906)	83.2
Beaumont Hospital Medical College	(1893)	79.3
Kansas City Medical College	(1900)	80.5
Vanderbilt University	(1903) 87; (1910) 92.3; (1911)	88.4, 89.4
Meharry Medical College	(1911)	76.9, 80.7, 83.3, 85.6
Memphis Hospital Medical College	(1904) 87.9, (1910) 81.2; (1911)	76.4, 77, 77.3, 88, 90.7.
University of Tennessee	(1911)	78.2, 83.3
University of Virginia	(1909)	90.4

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1910) 62.6, 66.2; (1911)	56.7, 66.3, 72.6.
University of Louisville	(1910)	61.8
Barnes Medical College	(1910)	58.4
St. Louis Coll. of Phys. and Surgs.	(1908) 71.8; (1910)	72.8
Memphis Hospital Medical College	(1910) 66.8; (1911)	67.6, 72.7
University of Tennessee	(1911)	74.6
Meharry Medical College	(1910) 69; (1911)	69.4, 72.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Louisville	(1892)	Indiana
Tulane University of Louisiana	(1910)	Louisiana
St. Louis University	(1905) Louisiana; (1909)	Illinois
Barnes Medical College	(1905) (1906)	Illinois
University Medical College, Kansas City	(1899)	Texas
Columbus Medical College	(1888)	Ohio
Meharry Medical College	(1907)	Louisiana
Milwaukee Medical College	(1897)	Wisconsin

California April Report

Dr. Charles L. Tisdale, secretary of the California State Board of Medical Examiners, reports the written examination held at San Francisco, April 4-7, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 72, of whom 48 passed, including 8 osteopaths, and 24 failed, including 4 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College	(1910)	83.9
Hahnemann Med. College of the Pacific	(1909)	75
College of Physicians and Surgeons, San Francisco	(1907) 80.6; (1909)	75, 77.7, 82.5.
Atlanta College of Physicians and Surgeons	(1903)	75
Northwestern University Med. School	(1883) 89.1; (1899)	89.1
Hahnemann Medical College and Hosp., Chicago	(1894)	85.8
Rush Medical College	(1887) 87.6; (1893) 75.2; (1899) 77.3; (1902) 80.6; (1903) 83.4; (1909)	90.2.
College of Phys. and Surgs., Chicago	(1886) 87.7; (1906)	81.9
Indiana University	(1910)	78.4
Medical School of Maine	(1908)	81.7
Johns Hopkins University	(1906)	89.3
Harvard University Medical School	(1894)	90.7
University of Michigan, Homeopathic College	(1901)	96
University of Minnesota, College of Med. and Surg.	(1904)	81.3
Missouri Medical College	(1889)	92
St. Louis University	(1904)	88
Columbia University, Colleg of Phys. and Surgs.	(1909)	87.6
Bellevue Hospital Medical College	(1892)	82
Long Island College Hospital	(1910)	84.4
Medical College of Ohio	(1883) 87.3; (1896)	86
Western Reserve University	(1879)	90
Eclectic Medical College, Cincinnati	(1885)	77
University of Pennsylvania	(1899) 78.2; (1908)	93
Jefferson Medical College	(1909)	81.6
Medico-Chirurgical College, Philadelphia	(1906)	88.9
Manitoba Medical College	(1894)	86.6
McGill University, Montreal, Quebec	(1903)	89
University of Palermo, Italy	(1900)	75

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Los Angeles	(1908)	71.4
Cooper Medical College	(1910) 65.4; (1910)	70.5
California Eclectic Medical College	(1906)	67.8
College of Physicians and Surgeons, San Francisco	(1907) 55.1; (1910)	71.5.
Medical College of Indiana	(1902)	71.3
University of Iowa, College of Medicine	(1901)	66.8
College of Phys. and Surg., Keokuk	(1881) 62.8; (1887)	71.4
Louisville National Medical College	(1889)	43.2
University of Michigan, Homeopathic College	(1892)	67.7
American Medical College, St. Louis	(1898)	56.8
St. Louis University	(1906)	72.3
Ensworth Medical College	(1908)	64.3
Cleveland College of Physicians and Surgeons	(1884)	74.5
Starling Medical College	(1882)	*81.0
Medical College of Ohio	(1895)	29.8
Pulte Medical College	(1894)	70.8
Tokio Medical College, Japan	(1907)	64

* Passed on account of years of practice.

Wisconsin May Reciprocity Report

Dr. John M. Beffel, secretary of the Wisconsin State Board of Medical Examiners, reports that at the meeting held at Milwaukee, May 24-26, 1911, twenty-one candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
College of Physicians and Surgeons, Chicago	(1893)	Minnesota; (2, 1909) (1910) Illinois.
American Medical Missionary College	(1906)	Michigan
Northwestern University Medical School	(1907) (1908)	(2, 1909) Illinois.
Chicago Homeopathic Medical College	(1885)	Washington
College of Physicians and Surgeons, Baltimore	(1882)	Washington
Harvard University Medical School	(1909)	Maryland
University of Michigan, College of Medicine	(1880)	Michigan; (1887) (1904) Washington.
University of Minnesota, Homeopathic College	(1889)	Washington
Barnes Medical College	(1908)	Tennessee
Omaha Medical College	(1888)	Washington
University and Bellevue Hosp. Medical College	(1903)	New York
McGill University, Montreal, Quebec	(1898)	Washington
Royal University of Naples, Italy	(1882)	Illinois

PROCEEDINGS OF THE LOS ANGELES SESSION

MINUTES OF THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT LOS ANGELES, CAL., JUNE 26-30, 1911

HOUSE OF DELEGATES

(Continued from July 1, page 88)

Third Meeting—Tuesday Morning, June 27

The House of Delegates met at 2 p. m. and was called to order by the President, Dr. John B. Murphy, Chicago.

The secretary called the roll, and there was a quorum present.

The minutes of the previous session were read and approved.

The President appointed Dr. J. E. Tuckerman, Ohio, as a member of the Committee on Credentials, and Dr. D. Chester Brown, Connecticut, Chairman.

Report of the Reference Committee on Medical Education

Dr. H. D. Arnold, Massachusetts, Chairman, presented the report of the Reference Committee on Medical Education, as follows:

The Reference Committee on Medical Education begs leave to submit the following report:

On behalf of the House of Delegates, the committee extends congratulations to the Council on Medical Education on the continuance of the excellent work of previous years. We believe that this work constitutes one of the most important and successful forms of activity that the Association has undertaken, and that the good results in improvements in medical education, which are becoming more and more evident, are permanent in character. We shall never go back to the lower standards that were prevalent a few years ago.

The recognition of the excellence of the work of our Council on Medical Education by Dr. Eijkmann of the Hague, as a powerful international influence in raising standards of education, is not only gratifying to the Council but should be a matter in which every member of the American Medical Association takes pride.

The charts included in the report of the Council show in a graphic and convincing way the really remarkable progress that has been made during the past seven years in raising the standards of medical education in this country. While the Council modestly disclaims any credit beyond the obvious fact that it had "an extensive influence" in this upward movement, your committee cannot regard as a mere coincidence the fact that practically all of this improvement has come since the Council began work seven years ago.

We believe that the work of the Council has been the most important single factor in accomplishing these results. We are confident that still further improvement will result from a continuance of this work, and that in the near future we shall have still fewer medical schools in the United States, but that these schools will be stronger and better and that their standards will be higher.

The most reassuring feature of these statistics is shown in Chart 5 of the Council's report, which indicates that, whereas seven years ago less than 5 per cent. of all medical students were enrolled in the schools which required one or more years of college preparatory work, in the year just closed fully one-third of all medical students were enrolled in schools of this type. A further study of the charts shows that the increase in the number of students enrolled in these high grade schools has practically kept pace with the increase in number of such schools. In other words, the intelligent medical student has been quick to take advantage of opportunities offered for a better preparation for his life work. We believe that this will be true of a larger and larger proportion of medical students, and that schools which maintain low standards must be content to cater only for the poorly prepared or the less intelligent students.

We therefore recommend that the House of Delegates approve of the continuance of the work of the Council on Medical Education along all the lines of activity that it has undertaken.

We recommend that the Council be authorized to conduct a third thorough inspection of the medical schools of this country as soon as the Council deems such an inspection wise, and that it be requested to report the results to the House of Delegates as soon as the inspection can be satisfactorily completed. We believe that this is a matter of justice to the medical schools—especially to those which are using their best endeavors to improve their methods of teaching.

We most heartily endorse the suggestions of the Council that it is desirable to invite Mr. Frederick G. Hallet, the secretary of the Conjoint Board of London, to attend the next conference held under the auspices of the Council on Medical Education, in order that he may enlighten us and the medical examining boards in regard to the way in which a practical examination of candidates for licensure is so satisfactorily conducted in Great Britain.

We therefore recommend to the House of Delegates that they request the Board of Trustees to authorize such expense as may be necessary to accomplish this object.

Since it is clear that publicity is the most powerful agent that the Council has at its disposal, and since it is so clear that many desirable improvements in legislation governing medical education and licensure will depend on a strong public sentiment in their favor, it is important that the American Medical Association should use all proper means to lay before the public such information as will enable it to understand the need of such reforms.

We have in the methods of the Council on Health and Public Instruction a proper and effective way of reaching the general public. The Council on Medical Education has already cooperated with the other Council to some extent by furnishing it with information in this line, which it can send out to the general public.

Your committee believes that this cooperative work by these two councils should be systematically developed and that by this means the Association can accomplish much for the public welfare. It should be our aim to make the public understand that this work is really undertaken for their welfare, and the committee is also of the opinion that it is important to emphasize the good work that has already been done, and the improvements that are constantly being made, as well as noting the shortcomings of medical schools, the registration boards, and medical legislation.

The chief new feature advocated by the Council on Medical Education in its report this year is the desirability of a fifth year of instruction in the medical school, to be spent as an intern at a suitable hospital or in approved laboratory work. Your committee is heartily in sympathy with the idea that such extra experience is really essential to a satisfactory preparation of the student for his independent professional work, whatever that line of work may be. We believe that this idea should be held out to the medical schools as an aim toward which they should work as fast as circumstances permit, but we also agree with the words of the Chairman of the Council that "this requirement cannot immediately be put into effect throughout the whole country." Inasmuch, however, as a large proportion of medical students are already taking this extra year of practical work on their own initiative, the time cannot be far distant when the medical schools must officially recognize the desirability of this step by incorporating it as a part of the course. In the meantime the schools should urge all students to secure this extra experience, and this will pave the way for the adoption of this measure as a requirement. We believe that this matter may well be the subject of further study and report on the part of the Council on Medical Education.

In closing, the committee would bring to the attention of the House of Delegates still one more matter in which cooperation of two of the councils of the Association has been going on and has promise of valuable results. We refer to the work done by the Council on Pharmacy and Chemistry in reference to simplifying the requirements of instruction about drugs in the Pharmacopeia and a corresponding change in the state board examinations. Everybody admits that valuable time is wasted in giving instruction about useless drugs, because they appear in the Pharmacopeia and because the state licensing boards are liable to ask about them. We believe that our two councils working in cooperation can best devise a wise solution of this problem, and that the House of Delegates should express its approval of what is being done.

H. D. Arnold, Chairman.

On motion, the report was adopted.

Report of Reference Committee on Legislation and Political Action

Dr. G. B. Young, U. S. P. H. and M.-H. S., read the report of the Reference Committee on Legislation and Political Action, as follows:

ACTION ON REPORT OF COMMITTEE ON NATIONAL DEPARTMENT OF HEALTH

Your committee recommends that the report of the Committee on National Department of Health be accepted and the committee be discharged, and that further action in the matter be referred to the Council on Health and Public Instruction.

RESOLUTION ON AMENDING FOOD AND DRUGS ACT

Your committee, having considered the resolutions relating to the amendment of the national Food and Drugs Act at the present session of Congress, respectfully recommends that the Secretary be instructed to telegraph a copy of the following resolutions to the President of the United States, the vice-president of the United States, and the speaker of the House of Representatives and to send a printed copy of the same to each member of the United States Senate and House of Representatives.

WHEREAS, By a recent decision of the Supreme Court of the United States it has been decided that the national Food and Drugs Act enacted by Congress in June, 1906, contains in its present form nothing to prevent the printing on the labels of packages false and misleading statements in regard to the value and therapeutic action of their contents; and

WHEREAS, We believe that this decision is opposed to the intent of Congress enacting the said measure; and

WHEREAS, We are persuaded that this feature of the law is of equal importance with its other provisions,

Resolved, (1) That the House of Delegates of the American Medical Association in the annual convention assembled at Los Angeles, California, June 26, 1911, respectfully petitions Congress to amend the national Food and Drugs Act at the present session so that false statements of any kind appearing on the labels, circulars, etc., of foods and drugs be made unlawful.

Resolved, (2) That we heartily commend the act of the President in sending a special message to Congress urging on it immediate action in this matter.

REPORT OF COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

Your committee has considered the report of the Council on Health and Public Instruction together with the reports of its subcommittees as printed in the Handbook and the supplemental report submitted by the Chairman of the Council, and reports as follows: We respectfully recommend the approval by the House of Delegates of the plans for the conduct of the work of the Council and for the extension of its activities as outlined in said reports. We earnestly recommend to the members of the House of Delegates and of the Association at large a careful perusal of the above mentioned reports as printed in the Handbook,* in order that each one may be in a position to cooperate intelligently in the furtherance of the great work undertaken.

Respectfully submitted,
J. N. HURTY, Chairman,
W. C. GORGAS,
B. M. CAPLES,
G. B. YOUNG.

At the conclusion of the reading of the report, Dr. W. C. Woodward, District of Columbia, said: In so far as relates to that portion of the report which pertains to a special committee appointed to consider the establishment of a national department of health, I move that consideration of the same be postponed until the next meeting of the House of Delegates, so that the matter can be considered by the Council. Seconded.

The motion was discussed by Drs. Young, Cantrell and Woodward, after which the motion was put and carried.

The other sections of the report were then read by the Secretary, and adopted section by section.

Report of Reference Committee on Hygiene and Public Health

Dr. Alexander Marcy, New Jersey, Chairman, presented the report of the Reference Committee on Hygiene and Public Health, as follows:

Your Reference Committee on Hygiene and Public Health begs leave to report having had under consideration the report of the Committee on Nomenclature and Classification of Diseases and recommends the adoption of the report and the continuance of the committee with such additions as may be necessary to complete its full membership, and that said committee be instructed to continue its work in cooperation with other organizations working along the same lines, and that such classification as they may adopt, together with the international classification and causes of death, be published and supplied to the members of the American Medical Association.

We further recommend that in case of a vacancy on this committee such vacancy be filled by a member especially interested in tropical diseases.

ALEXANDER MARCY, JR., Chairman.

On motion, the report was adopted. The nomenclature report referred to was as follows:

Report of the Committee on Nomenclature and Classification of Diseases

To the Members of the House of Delegates of the American Medical Association:

Your Committee on the Nomenclature and Classification of Diseases begs leave to submit the following report:

Up to a time shortly preceding the rendering of our last report, at the meeting of 1910, our work was hampered by the necessity of waiting for the appearance of the revised version of the International Classification of Causes of Death, for we had been instructed to have due regard for that classification; indeed, early in our labors we were again admonished to follow it closely. This resolution, however, was overlooked by us, and time soon made it clear, for reasons which need not now be set forth, that the resolution could not be followed literally.

We had been very favorably impressed with the Bellevue Hospital Nomenclature of Diseases and Conditions, prepared by a committee consisting of Dr. Robert J. Carlisle, Dr. Warren Coleman, Dr. Thomas A. Smith and Dr. Edmund L. Dow, which first appeared in 1903, and the appearance of a revision of that work, early in 1909, led us to examine it still more closely. It was not long before a second revision was begun, and our chairman was very courteously invited to observe the progress of the work. This second revision is not yet published, but is in press and will probably be out some weeks before the Los Angeles meeting. The close examination that we have been able to give it leads us to the opinion that, from the clinical point of view, it is superior to any other nomenclature with which we are acquainted and to any which we ourselves could prepare within a reasonable length of time. Moreover, it is very well known and many hospitals have either adopted it or indicated a readiness to study it further, with a view to its probable adoption. These hospitals include three in California, one in Colorado, two in Connecticut, seven in Illinois, two in Louisiana, one in Maryland, two in Massachusetts, four in Michigan, two in Missouri, three in New Jersey, thirty-four in New York, thirteen in Pennsylvania, one in Tennessee, one in Texas, three in Utah, one in Australia, one in Canada, one in Denmark, one in England, one in Italy, and one in Switzerland. Men do not take up with systems of nomenclature for light reading; we must therefore conclude that the Bellevue nomenclature has very favorably impressed our confrères in various localities. We recommend that it be made a part of whatever publication on the subject of the nomenclature and classification of diseases the American Medical Association may decide to issue—and the prominent part, by reason of its clinical character.

It will be well, we think, to publish also a Latin list, if only for purposes of international correspondence. Such a list as has lately been prepared by Surgeon Charles N. Fiske, of the navy, and is published in the *United States Naval Medical Bulletin*, April, 1911, would be excellent for the purpose, though a little editorial work would be required to make it conform in minor details to the Bellevue nomenclature.

As a matter of course, we recommend the adoption of the International Classification of Causes of Death. It seems to us in need of further revision, but for that we must wait until 1919. Meantime, the excellent manual made of its expanded list by Dr. Cressy L. Wilbur, chief statistician of the Division of Vital Statistics of the Bureau of the Census, makes a list which should figure prominently in our publication if we issue one. This, too, is not yet off the press. It is of value from many points of view, but will be particularly of service to health officials who have to determine what is meant by certain blind returns.

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* EDITOR'S NOTE: To avoid any misunderstanding, it is here stated that there are no copies of this "Handbook for the House of Delegates" for general distribution. The full text of the report here referred to, of the Council on Health and Public Instruction, has already been published in THE JOURNAL, July 1, in the official minutes of the proceedings of the first day's meetings of the House of Delegates.—ED.

There is a great awakening to the importance of nomenclature and classification, and it may be well for the American Medical Association to provide for cooperative work with the profession in other countries, to the end that we may eventually have a uniform nomenclature and classification.

Very respectfully,
Frank P. Foster, Chairman.
W. A. N. Dorland.
Victor C. Vaughan.
Alexander Duane.
J. Chalmers Da Costa.

Report of the Committee on Amendments to Constitution and By-Laws

Dr. Arthur T. McCormack, Kentucky, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

In accordance with the recommendation in the President's address, your committee recommends as a substitute for the amendment to Chapter IX, Section 4, of the By-Laws the following:

Section 4. Judicial Council. The Judicial Council shall consist of five members, who shall be nominated by the President and elected by the House of Delegates. At the annual session in 1911 one member shall be elected to serve for five years, one for four years, one for three years, one for two years, and one for one year, and thereafter one member shall be elected each year to serve for five years. It shall select a chairman from its membership. The Secretary of the Association shall be, *ex officio,* Secretary of the Council. It shall expend money and contract debts only on the authority of the Board of Trustees. It shall keep a permanent record of its actions at its office which shall be at the headquarters of the Association. It shall make an annual report of its decisions and the results of its investigations to the House of Delegates.

The judicial power of the Association shall be vested in the Judicial Council, the decisions of which shall be final, and shall extend (1) to all cases arising under this Constitution and By-Laws; (2) to all controversies to which the American Medical Association is a party. to controversies (3) between two or more constituent associations; (4) between a constituent association and members of another constituent association; (5) between members of different constituent associations.

In all cases in which the American Medical Association or one of its constituent associations is a party the Judicial Council shall have original jurisdiction. In all other cases before mentioned the Judicial Council shall have appellate jurisdiction, both as to law and fact, with such exception and under such regulations as it may adopt and publish in The Journal, provided that such regulations must be approved by the next ensuing session of the House of Delegates, and be officially certified to each constituent association. The Judicial Council may investigate professional conditions and all matters pertaining to the relations of physicians to one another and to the public and shall make such recommendations to the House of Delegates and the constituent associations as it deems necessary.

[Editor's Note: Although the above was adopted, it was later reconsidered and changed as will be seen on reference to Wednesday's minutes.—Ed.]

COMMITTEE ON AMENDMENTS TO CONSTITUTION AND BY-LAWS

Your committee, to which was referred the report of the Secretary in regard to amendments to those sections of the By-Laws referring to membership, respectfully reports recommending the following amendments:

Add to Chapter 1, Section 7, the following:

and representative teachers, students of sciences allied to medicine, resident in the United States and not eligible to regular membership.

Section 7.—Associate members shall enjoy the same privileges as regular members, and shall be subject to the same conditions.

To strike out in Chapter VI, Section 4, the word "and" from the last clause, and to add to the section the following:

and from representative teachers and students of sciences allied to medicine by the officers of a section.

To add to Chapter XI a new Section 9 as follows:

Section 9. Associate Members. The officers of a section may nominate for associate membership representative teachers and students of sciences allied to medicine, resident in the United States, not eligible to regular membership. The secretary shall immediately notify the Secretary of the Association of such nominations.

We recommend that the other sections shall be renumbered to correspond.

On motion the report was adopted section by section.

Report of Reference Committees on Reports of Officers

Dr. George W. Guthrie, Pennsylvania, Chairman, read the report of the Reference Committee on Reports of Officers, which, on motion, was adopted. The report was as follows:

Your Reference Committee on Reports of Officers begs leave to offer the following report:

I. THE PRESIDENT'S REPORT

Red Cross.—The Committee concurs in the recommendation of the President, concerning the request of the National Red Cross for the appointment of a committee of this House to consult and advise with that organization. It is believed to be most appropriate and desirable that this Association should give its approval and assistance to that body in times of national disaster and through its local organizations should select men of probity and recognized professional competence to be the agents through whom the beneficence of the nation is bestowed. It may be also that this cooperation may lead in the event of the calamity of a great war to a wide field of patriotic usefulness for the American Medical Association. It is recommended, therefore, that the President be authorized to appoint a committee of five to consult and to advise with a committee of the National Red Cross for the purpose above stated, and to report at the next annual meeting such scheme of cooperation as may be agreed on. It is further recommended that the committee be provided with funds for the necessary expenses of such meetings.

Canal Celebration.—Your committee heartily seconds the suggestions of the President concerning the completion of the Panama Canal, and recommends that a committee of seven be appointed to consider the best mode of commemorating the sanitary work and achievements of this wonderful construction; and further that the Board of Trustees be requested to make the necessary appropriation of funds to meet the wants of this committee.

II. THE SECRETARY'S REPORT

Associate Members.—The committee approves the secretary's recommendation concerning associate members, and advises that the proposed amendment to the By-Laws, which appears on page 30 of his report in the Hand-Book, be referred to the Committee on Amendments to the Constitution and By-Laws.

Uniform Membership.—The committee also recommends that the committee on Uniform Regulation of Membership be recreated and empowered and directed to perfect a plan for the uniform regulation and transfer of membership.

Judicial Council.—The committee refrains from considering the matter of recreating the Judicial Council as a permanent body, as this matter is already in the hands of the Reference Committee on Constitution and By-Laws by the action taken in the House yesterday. To this committee also should be referred the proposed amendment to Chapter IX, Section 5, of the By-Laws, whereby the word "organization" would be eliminated.

III. THE REPORT OF THE BOARD OF TRUSTEES

Membership.—Concerning the intricate problems of membership in the Association, referred to in this report, your Committee recommends that the subject be made a matter of special consideration by the House of Delegates, either in committee of the whole, or otherwise as may be determined by this body.

Duplicate Journals.—The committee recommends that the matter of duplicate copies of The Journal received by two or more members of the same family or firm be referred to the Committee on Constitution and By-Laws.

Judicial Council.—The suggestions of the Board as to the necessity for a tribunal which should be empowered to give final judgment in all matters affecting the constitutional rights of individuals and of constituent societies, also the matter of principle affecting the interests of the Association with the power of initiative, when necessary, are all met by the proposed amendment to the By-Laws recreating the Judicial Council, now in the hands of the Reference Committee on Constitution and By-Laws.

Button.—The Committee will report a recommendation regarding the Association button at a later meeting.

On motion, the report was adopted.

Report of Reference Committee on Miscellaneous Business

Dr. Hubert Work, Colorado, Chairman, read the report of the Reference Committee on Miscellaneous Business, which was adopted. The report is as follows:

Your Reference Committee on Miscellaneous Business respectfully recommends that your Committee on Memorial to Medical Officers who Died in the Civil War be continued. with the same privileges, instructions and appropriation authorized by the House of Delegates at the Atlantic City session in 1909.

Concerning the Committee on Anesthesia, we respectfully recommend that, inasmuch as nothing has been done for a year past, the chairman having resigned and no report having been submitted to the House at this session, that a new committee be appointed by the President to prosecute the important investigations properly, a part of the duties of this committee.

Report of the Committee on Memorial to Medical Officers Who Died in the Civil War

To the Members of the House of Delegates of the American Medical Association:

By reference to the official minutes of the Sixty-First Annual Session held at St. Louis, June, 1910, it will be observed that the House (page 35, Proceedings of the House of Delegates, 1910) adopted the report of your committee. In completing the personnel of the Central Committee of five by selecting, as noted in a previous report, an ex-surgeon from the volunteer service of the Union Army and one from the Confederate service, your committee has nominated to President Welch Dr. W. W. Keen of Philadelphia from the Union Army and Dr. G. B. Thornton of Memphis, Tenn., ex-president of the Association of Medical Officers of the Army and Navy of the Confederacy, who have been appointed: they meet the requirements by being "members of the A. M A."

In exercising the power granted your central committee to appoint on the general committee one surgeon from the regular army, the navy, and the U. S. P. H. and M.-H. Service, they have appointed the surgeon-generals of those respective departments, viz., Surgeon-General George H. Torney of the U. S. Army, Surgeon-General Charles F. Stokes of the U. S. Navy, and Surgeon-General Walter Wyman of the U. S. P. H. and M.-H. Service., and their successors.

The self-imposed task of the central committee to appoint a general committee of one from each state and the District of Columbia with the view of geographically distributing the interests in this commendable undertaking, and if thought judicious influencing, eventually, the several state legislatures to contribute materially toward the object in view has proved to be difficult on account of the forty-six years intervening since the close of the war, and from the desire to place on that committee ex-surgeons who are, also, members of the American Medical Association. However, your committee is slowly compiling a satisfactory list from different sources, especially from records in the officers of the surgeon-generals of the U. S. Army and U. S. Navy, and, lately, by the assistance of our enthusiastic and useful colleague, Surgeon G. B. Thornton of Memphis, Tenn. Your committee expects to complete the list this year. To attain this end they request that members of this House of Delegates, from each state, suggest at least three names of volunteer ex-surgeons of the federal or the confederate army or navy who are members of the American Medical Association, giving the service and address, sending the same to our secretary, Dr. G. Lane Taneyhill, 1103 Madison Avenue, Baltimore, from which list, with other names, the committee may appoint one from each state. In case, at this late date, such names be not available in certain states, your committee requests the names of three other members of the American Medical Association who would take an active interest in this project.

It is purposed, in the near future, to appeal to the several state medical societies for their normal influence and material help in the erection of this monument, and, perhaps subsequently to Congress; and, from these sources your committee has reason to believe they will receive loyal endorsement and the desired material aid.

The original proposition of our colleague, Dr. S. Weir Mitchell, for the erection of this monument has been heartily endorsed by the president of the Association of Surgeons of the Army and Navy of the Confederacy at a meeting held at Mobile, Ala., April, 1910, after reading the recommendation of President W. C. Gorgas at our Atlantic City meeting, thus happily proclaiming to Christian civilization that, as all surgeons in our Civil War were recognized by the articles of war as non-combatants, and as they, when occasion required, gave equal service to the wounded of both sides—to-day, their survivors and admirers, by the erection of this memorial monument may demonstrate their appreciation of the noble services of those who gave up their lives in the performance of a duty to a common humanity.

Your committee respectfully recommends that it be continued, with the same privileges, instructions and appropriation authorized by the house at the Atlantic City meeting in 1909.

Respectfully submitted,
WILLIAM C. GORGAS, Chairman.
S. WEIR MITCHELL.
G. LANE TANEYHILL, Secretary.
W. W. KEEN.
G. B. THORNTON.

Dr. D. S. Fairchild, Iowa, presented an amendment to the By-Laws:

I move that Chapter VII, Section 3, of the By-Laws relating to the duties of Secretary be amended by adding after the words "Board of Trustees," the words "or the manager of THE JOURNAL."

The amendment was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. D. Chester Brown, Connecticut, Chairman, Committee on Credentials, presented a supplementary report of that committee.

Dr. Edward Jackson, Colorado, offered the following resolution which was adopted:

Resolved, That the Reference Committee on Sections and Section Work is hereby authorized to receive direct from the sections matters demanding attention from the House of Delegates, to consider the same and to report their recommendations thereon to the session of the House on Thursday.

Resolutions on Tariff on Instruments

Dr. R. M. Funkhauser, Missouri, presented the following preambles and resolution, which had been adopted by the St. Louis Medical Society, June 10, 1911. They were referred to the Reference Committee on Legislation and Political Action:

WHEREAS, There is an import duty of 45 per cent. on all manufactured metalware, including surgical and optical instruments and other scientific apparatus, and a duty of 60 per cent. on blown glassware, and

WHEREAS, In some cases certain instruments and apparatus are not manufactured in the United States and have to be imported, and

WHEREAS, Physicians, chemists and other scientists frequently have occasion to use such imported apparatus in their professions, and

WHEREAS, A committee has recently been appointed by Congress to revise the tariff; therefore, be it

Resolved, That the St. Louis Medical Society instructs its delegates to the American Medical Association to bring the matter of a reduction in the tariff on imported surgical and optical instruments and glassware and scientific books written in the English language, to the attention of the American Medical Association at the Los Angeles meeting. That Association can then take the matter up with other scientific bodies and by a proper presentation of the facts in the case to the committee on revision of the tariff of the national legislature, possibly secure a reduction of the duty on such imported apparatus.

Section on Hospitals Proposed

Dr. B. M. Caples, Wisconsin, presented the following, which was referred to the Reference Committee on Sections and Section Work:

One of the most conspicuous pieces of work that has been achieved by the medical profession in many years, and one that promises to be of far-reaching value to mankind everywhere, is that now in the hands of your Council on Medical Education, that looks primarily to a betterment in the standards of medical education.

Medical education to-day is so inextricably involved with hospital work that no comprehensive progress can be made without the hospitals are carried forward by the side of the medical schools. An expression of this fact is voiced in the last report of the Council on Medical Education (page 20 of the House of Delegates Proceedings for 1911). In this report Dr. Bevan and his committee speak as follows:

"Finally, it is of great importance that closer relations be brought about between hospitals and medical schools, and that those in charge of hospitals should recognize the educational function of the hospital. Not only is a hospital made more influential by a close association in a teaching capacity with some university medical school, but also its patients are sure to receive better attention, and, furthermore, the hospital will be doing a service to the community by helping to develop capable, well-trained physicians."

The Committee has not yet answered its own requirement, and in this petition for the creation of a Hospital Section of the Association, an answer to their demand is attempted.

But there seems no likelihood of there ever being raised any influence that will look to the betterment of hospital conditions, to the raising of hospital standards in equipment and efficiency, unless the work shall be undertaken by the American Medical Association.

Many hospital superintendents know how to do things better than they are doing them, but are limited in their power for good. Efficiency can be established in some such way as is now being done in the medical schools of the country, when that time comes and when that work of standardization is accomplished, hospital boards must awaken to the realization of the actual standing of their institutions. If a Board of Trustees finds that its institution is classified third, and that there is another institution in the same community classified second or first, a spirit of competition will be aroused, to the end that all of the hospitals in the community must be improved. But if this Association would take the initiative so that proper courses of study could be laid out for nurses who are so anxious to learn the things that they ought to know, then the training schools of the country would have something on which to base a correct classification of their courses of study and the dictum of this Association would be followed almost unanimously, to the end of better conditions in the nursing profession.

Medical men throughout the country are at the mercy of conditions which we might call individualism in the treatment of their patients. No physician can hope to have adequate facilities to care for his obscure patients in the home of the patient. These facilities are expensive, not always quickly obtainable, so that in obscure diseases where their diagnosis or the treatment requires something more than bedside observation and internal medication, patients must of necessity be sent to the hospitals where there are facilities for taking care of them. Therefore, it is one of the most vital interests of the medical profession to foster and guide the efficiency of hospitals.

These hospital facilities are highly technical in character, and require special training and skill of a very special order, for their proper employment and trained assistants cost money and hospitals are too often impoverished and parsimonious, and there must be some force behind them that will set standards by which they can be made to see their deficiencies, and that will inculcate a spirit of competition—therefore standards for hospital efficiency and training.

I move that a Section on Hospitals be established, and that this matter be referred to the Reference Committee on Sections and Section Work.

The report was so referred.

Associate Members Elected

Dr. Walter L. Bierring, Iowa, presented the following from the Section on Pathology and Physiology:

The following representative teachers, students of sciences allied to medicine resident in the United States and not eligible to regular membership, are recommended by the officers of the Section on Pathology and Physiology for election to associate membership in the American Medical Association by the House of Delegates:

Alsberg, Carl L., Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.
Beebe, S. P., Cornell University Medical College, Loomis Laboratory, 414 East 26th Street, New York.
Carrel, Alexis, Rockefeller Institute, 66th Street and Avenue A, New York.
Gies, William J., Department of Biologic Chemistry, Columbia University, New York.
Jackson, Dennis E., Washington University Medical School, 1906 Locust Street, St. Louis.
Maxwell, S. S., Department of Physiology, University of California, Berkeley, Cal.
Meigs, Edward B., Wistar Institute, Philadelphia.
Mendel, Lafayette B., Professor of Physiologic Chemistry, Yale University, New Haven, Conn.
Murlin, J. R., First Avenue and 26th Street, Cornell University Medical School, New York.
Rockwood, E. W., Department of Chemistry, State University of Iowa, Iowa City.
Salant, William, Bureau of Chemistry, Washington, D. C.
Shaffer, Philip A., Washington University Medical School, 1806 Locust Street, St. Louis.
Sheldon, R. E., Anatomic Laboratory, University of Pittsburgh, Pittsburgh.
Simpson, Sutherland, Department of Physiology and Biochemistry, Cornell University Medical College, Ithaca, N. Y.
Snyder, Charles D., 1412 Bolton Street, Baltimore.
Stookey, L. B., Physiologic Laboratory, University of Southern California, Los Angeles.
Underhill, Frank Pell, Assistant Professor Physiologic Chemistry, Yale University, New Haven, Conn.
Voegtlin, C., Department of Pharmacology, Johns Hopkins University, Washington and Monument Streets, Baltimore.
Pearce, Richard M., Department of Pathology, University of Pennsylvania, Philadelphia.

Yandell Henderson, Chairman.

Leo Loeb, Secretary.

On motion the Secretary was directed to cast a ballot for the House. which he did and the above-named candidates were elected to associate membership.

Application from Porto Rico Association

The following communication was presented by the Secretary:

The Secretary has received an application from the Medical Association of Porto Rico praying that it may be received as a constituent association of this organization, which is presented to this House for its approval.

It was moved and seconded that this application be received and referred to the Judicial Council.

Judicial Council Appointed

The President then appointed the following as the Judicial Council: Drs. Frank Billings, Illinois; James E. Moore, Minnesota; A. B. Cooke, Tennessee; Alexander Lambert, New York; and Hubert Work, Colorado.

Proposed Authorized Text-Books

Dr. Arthur T. McCormack, Kentucky, offered the following preamble and resolution:

Whereas, An unendurable tax is being levied on the profession by some of the great publishing houses by means of the many volumed systems of text-books in the various departments of medicine, the first volumes of which are often out of date before the last ones are received, and many of them so padded as to require time to search out the grain from the chaff of more value than the cost of the books;

Resolved, That the Board of Trustees be hereby requested during the coming year to consider the practicability of asking any or all of the sections to select a competent author to prepare a one-volume text-book on the branch to which such section relates, to be published by the Association and sold to the profession at cost direct or through the county societies.

This preamble and resolution were referred to the Board of Trustees.

Another Proposal for Section on Physicotherapy

Dr. P. S. Mitchell, Kansas, stated that in view of the fact that there is a great deal of work being done in drugless therapy, and that this is being done at random by electricity and various things of that sort, he would move that a section on this subject be established.

The resolution was referred to the Reference Committee on Sections and Section Work.

Dr. A. T. McCormack, Kentucky, asked the privilege of referring to the Reference Committee on Legislation and Political Action a motion to be drawn in conformity with a resolution passed in the general session this morning endorsing the Owen bill, which request was granted by the House.

On motion, the House of Delegates then adjourned until 2 p. m. Thursday.

Fourth Meeting—Wednesday Afternoon, June 28

The House of Delegates met at 2 p. m., pursuant to a call issued by the President, which call had been published in bold type on every page of the *American Medical Association Bulletin* issued early in the morning of June 28.

In the absence of the President, the First Vice-President, Dr. E. E. Montgomery, occupied the chair.

Dr. D. Chester Brown, Connecticut, Chairman, presented a supplementary report of the Committee on Credentials, and announced that 130 delegates had registered.

The Secretary called the roll, and seventy-five members responded.

The minutes of the previous session were read and approved.

Report of Reference Committee on Sections

Dr. Walter L. Bierring, Iowa, Chairman, read the report of the Reference Committee on Sections and Section Work, as follows:

ASSOCIATE MEMBER ELECTED

The officers of the Section on Pharmacology and Therapeutics recommend for election by the House of Delegates to associate membership, Julius A. Koch, Pittsburg College of Pharmacy, Pittsburg, Pa. The Committee also approves the following recommendations, which are transmitted from that Section:

PROPOSAL TO EXAMINE RADIO-ACTIVE WATERS

Owing to the importance attributed to radio-active mineral waters in the treatment of gouty and other affections by competent European observers, and the special interest excited by the symposium on the subject at the thirty-second Balneologic Congress recently held in Berlin, the Section on

Pharmacology and Therapeutics of the American Medical Association requests the House of Delegates to suggest to the United States Government the advisability of investigating the radio-activity of the various mineral waters of the United States and publishing the results for the benefit of the medical profession.

TRADEMARKS AND PATENTS

2. Whereas, Cooperation between the medical and pharmaceutical professions is essential for the development of materia medica science and the advancement of the art of preparing medicines and applying the same to the treatment of the sick, and,

Whereas, Progress in materia medica science and in the pharmacologic and therapeutic arts is being hindered and cooperation between physicians, pharmacists and manufacturers engaged in the chemical and pharmacal industries prevented by product patents and the registration of names as trade-marks, which are afterward employed as generic or descriptive names of materia medica products; therefore, be it

Resolved, That we, the Section on Pharmacology and Therapeutics of the American Medical Association, representing the medical and pharmaceutical professions, do hereby request the House of Delegates to instruct the Council on Health and Public Instruction to draft amendments to the patent and trade-mark laws whereby no patents shall be granted on materia medica products, and the patents shall be limited to process and apparatus for manufacture, leaving the products themselves and the currently used names of the same free to science and commerce.

REPORT ON ADDRESS OF DELEGATION FROM AMERICAN PHARMACEUTICAL ASSOCIATION, DELIVERED BEFORE THE SECTION ON PHARMACOLOGY AND THERAPEUTICS

Section 1. Recommendation 1. Approved. The recommendation that the American Medical Association should undertake an educational propaganda in behalf of the United States Pharmacopeia and National Formulary is in harmony with the educational work of the American Medical Association.

Recommendation 2. The testing of the therapeutic claims made by manufacturers of alleged new remedies is in harmony with the work of the American Medical Association. Standing in the way of this work are the proprietary claims of the manufacturers. An educational campaign having as its object the teaching of the profession to use monopolized materia medica products is contrary to the altruistic principle on which ethical medical and pharmacal practice is founded. This cannot be accomplished without converting the educational machinery of the profession into a great advertising bureau for the exploitation of commercially controlled products. Therefore, the suggestion of the delegation, in so far as it relates to so-called proprietary products, is not approved. But the Section does approve the testing of new materia medica products which are free to science and commerce. Such test should include the work of experts in pharmacognosy, pharmacy, pharmaco-dynamics and therapy dynamics as well as the work of clinicians. Only by cooperation between experts in these various branches of pharmacologic practice can the science of the materia medica and the arts on which this science is dependent be properly developed. Furthermore, as therapeutic verdicts are dependent on the cooperative investigations of many competent observers extended over long periods of time and conducted under such varying conditions of environment as to eliminate errors due to differences in climate, race and social conditions, the work of a Council of the kind proposed would have to be conducted in cooperation with the educational institutions of medicine and pharmacy throughout the world to be of much value to the practitioners of the pharmacologic and therapeutic arts. The Section approves the suggestion of the American Pharmaceutical Association delegation within these limitations.

Recommendation 3. Approved. The suggestions are in harmony with the work of the American Medical Association and in line with plans now in process of development.

Recommendation 4. Approved. The proper selection, preservation, preparation, compounding and dispensing of medicine requires proper education and training not included in the courses of instruction given in medical schools, but comprised in the courses furnished by schools of pharmacy. Physicians who have not duly qualified as pharmacists are not trained to undertake the work of the pharmacist. However, as stated in the recommendation of the delegation, there are conditions existing which require physicians to dispense their own medicines. The Section, therefore, recommends that physicians shall, as far as possible, relegate to pharmacists the dispensing and limit themselves to the prescribing of medicines; also that pharmacists place themselves in position to act in cooperation with the medical profession by refraining from counterprescribing, and recommending medicines for self-medication whether prepared by themselves or others.

Section 2.—Recommendation 1. The Section approves higher education on the part of pharmacists. Such education should include ethical instruction as well as instruction in the branches usually included in the courses given by colleges of pharmacy. The suggestion that a committee be appointed to draw up resolutions on this subject is approved.

Recommendation 2. The Section approves of the efforts to eliminate the sale of nostrums by pharmacists and others. The amendment suggested in relation to the Food and Drugs Act, making it a punishable crime to lie in advertising, would, if adopted, and put into operation, do much to control and limit the sale of this class of products.

Recommendation 3. The Section does not approve of substitution of one product for another, or one brand for another, without the knowledge and consent of the prescriber. Circumstances may sometimes arise when it is impossible to obtain consent beforehand. Under such circumstances the substitution of brands may be permissible but not the substitution of products. In such cases the prescriber should always be notified afterward and subsequent renewal of prescription be guided by the wishes of the prescriber.

Section 3.—The recommendation under this Section in regard to the revision of the U. S. Pharmacopeia, preventive medicine, and safeguarding the public health, the amplification of the materia medica, the fighting of fakes and fakers, drug adulteration, and the prescription commission evil, are in harmony with the work of the American Medical Association, and are therefore approved.

PROPOSED SECTION ON HOSPITALS

The Committee on Sections and Section Work, begs to report further on the following matters referred to it for consideration:

In regard to the request for the establishment of a Section on Hospitals, we submit that, at the St. Louis session of the Association a well signed petition was presented to the House of Delegates, asking for the creation of a Section on Hospitals. This petition was referred to the Committee on Sections and Section Work, and after brief consideration, was reported back with the recommendation that it lie over to give the proposers more time to demonstrate the need of such a section.

At this meeting of the Association, considerable additional information has been obtained by the Committee to indicate that there is a desire, expressed by letter and personal communications from many prominent members of the Association, to have a section that will constitute an avenue for the presentation of subjects pertaining to hospital work.

The Committee recognizes the particular function of the hospital as an educational influence, and the rôle it exerts as an instrument to promote the work of the physician and surgeon.

Furthermore, the hospital is an index of the standing and medical attainments of the men constituting its visiting and attending staffs.

The Committee recognizes further the great need for the standardizing of hospitals on a higher plane, consistent with the progress being made in all other lines of medical work, and is of the opinion that a betterment in hospital conditions can best be brought about through the influence of this Association; and,

Therefore, It recommends that a Section on Hospitals be established, and that the officers of this Section be appointed at this meeting to arrange a program for the session of 1912.

The Committee has also considered the request made at this meeting to establish a section on drugless therapeutics, but in view of the fact that a Section on Pharmacology and Therapeutics already exists, which is very comprehensive in its scope, covering the different therapeutic measures usually included under drugless therapy, the Committee reports adversely on the creation of a section on drugless therapeutics.

In this connection, the Committee begs to call to your attention that a Section on Genito-Urinary Diseases was created at the last meeting of the Association, and the officers have failed to provide a program for this meeting, so that the Committee feels it is in order to suggest an amendment to the By-Laws, that, whenever the officers of a Section fail to provide a program for the annual meeting, the Section should be discontinued.

It is further suggested that the Section on Dermatology, which also failed to have a program this year, could properly be combined with the Section on Genito-Urinary Diseases.

W. L. Bierring,
Seale Harris,
Edward Jackson,
A. F. Jonas,
R. R. Smith.

On motion, the report was accepted and the recommendations concurred in.

Report of Reference Committee on Constitution and By-Laws

Dr. Arthur T. McCormack, Kentucky, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

1. Your Committee, to whom the motion of Dr. Fairchild was referred, recommends that Chapter 7, Section 3, of the By-Laws relating to the duties of Secretary be amended by striking out the word "or" in the last clause and by adding after the words "Board of Trustees" the words "or the General Manager."

On motion, this section of the report was adopted.

2. Your Committee recommends that the amendments to the constitution, Articles 5, 8 and 12, printed on page 22 of the Handbook, be adopted; and that the proposed amendment to Article 9 be rejected.

On motion, this section of the report was adopted.

3. Dr. John B. Roberts, Pennsylvania, proposed the following amendments which the Committee approves:

Amend Article 11 of the Constitution by striking out in the first, second and third lines the words "by an equal assessment of not more than ten dollars annually on each of the members." (To lie over until next year.)

Amend Article 3 of the Constitution by striking out the entire paragraph and inserting after the title of the article the following:

All members in good standing of the component societies or their constituent branches shall be members of the American Medical Association.

Any member may become a fellow of the American Medical Association by making application on a prescribed form and fulfilling such conditions as may be required by the provisions of the By-Laws. (To lie over until next year.)

4. Referring to the proposed uniform regulation of membership, your Committee suggests the advisability of a full discussion of this important question in a Committee of the Whole of this body, that the Committee having the matter in charge be continued and that their reports be sent to the secretaries of the constituent associations for presentation to their respective houses of delegates.

A. T. McCormack, Chairman.
Charles S. Sheldon,
J. W. Young,
John B. Roberts,
W. B. Russ.

On motion, the report of the Committee was adopted as a whole.

Report of Reference Committee on Miscellaneous Business

Dr. Hubert Work, Colorado, Chairman, presented the report of the Reference Committee on Miscellaneous Business, as follows:

Your Reference Committee on Miscellaneous Business reporting on the report of the Committee on Relief Fund and Physicians' Sanatorium begs to recommend:

1. That the House of Delegates endorses the proposition to organize a corporation for the collection, care and administration of a relief fund and the supporting of a tuberculosis sanatorium; the relief fund to be expended, so far as possible, with the cooperation of local medical organizations.

2. That a committee of five be appointed, with authority to add to their number one member from each state medical society, one from the society of the District of Columbia, and one from each of the government medical services, to bring the subject of the Relief Fund and Physicians' Sanatorium to the membership of state and local medical societies.

It will be observed that the adoption of this report in no way obligates the American Medical Association financially or commits it to the support of such a project further than to lend its moral support to a philanthropic movement in the interests of physicians incapacitated by tuberculosis.

On motion, the report was adopted. The sanatorium report was as follows:

Report of the Committee on Relief Fund and Physicians' Sanatorium

To the Members of the House of Delegates of the American Medical Association:

The failure of the House of Delegates to take definite action on the general plan presented by the committee last year, or to make suggestions for the continuance of the work by the committee, has prevented the carrying forward of the movement so rapidly as might otherwise have been possible. A liberal appropriation for the purpose was made by the Board of Trustees, only a small part of which has been used. However, the committee has continued its work, tentatively, along the lines indicated in its first report, reaching results that are herewith offered in definite suggestions. It is hoped that these will receive sufficient discussion, and formal acceptance or amendment at the present meeting.

We have consulted, in regard to incorporation, the officers and members of the American Medical Association, who have been most familiar with the conduct of its business in recent years. On the question of a separate incorporation for the purposes of a relief fund and sanatorium there is general agreement that this is desirable. Although a few think this unnecessary, an equal number have been unwilling to have the trustees of the American Medical Association act, even temporarily, as custodians of the funds to be devoted to this purpose.

With reference to national incorporation under a special act of Congress, we have inquired of officers of somewhat similar associations organized under such authority, as to the advantages so conferred. For our purposes such incorporation would give no advantage, except, possibly, prestige and greater liberty as to holding meetings. It might have the distinct disadvantage of rendering the new corporation entirely independent of the American Medical Association. But under present political conditions it would probably be impossible to secure the necessary special act of Congress, at least for many years. The interests opposed to protection of the public health have recognized in the American Medical Association a most powerful influence in bringing about legislation which, while promoting public welfare, will diminish their excessive and immoral profits. Realizing this, they have undertaken to oppose everything emanating from the American Medical Association. The benevolence of our purpose in this direction would give us no greater advantage than the benevolence which led to the support of the pure food legislation, or the establishment of a department of public health. The difficulties of obtaining special legislation from Congress offer peculiar advantages for its defeat. The political forces opposed to us can readily prevent such legislation, through methods they are especially able effectively to use. It therefore seems unwise to seek national incorporation under a special act of Congress.

A charter under the general incorporation laws of the District of Columbia would have no advantage over a charter obtained under the corporation laws of one of the states. Inquiry has shown no particular advantage to be derived from a charter granted in the State of Illinois, the state under the laws of which the American Medical Association has been incorporated. For the American Medical Association the advantage was that of becoming a corporation of the state in which its property was situated. This advantage, which might be of considerable importance, will accrue to the new enterprise by incorporation under the laws of the state in which the sanatorium is to be located.

This brings forward the question of choosing a location for such an institution. We believe that this question should be decided by the House of Delegates, or by a larger committee than the present one, representative of all sections of the country. But it seems obvious that a sanatorium for the treatment of tuberculosis should be situated in the elevated region of the western part of the United States; and that a location in the eastern part of this region will be nearest to the mass of our membership, the prospective patients, and to those who are interested in them, or in the conduct of the institution. A decision as to the general region in which the sanatorium should be located might well be reached at any time. The selection of the exact tract of land for it may need to be delayed until the project has reached a considerably later stage of development.

In such an undertaking, time is absolutely necessary for the growth of funds to be devoted to these purposes. The administration of a relief fund can begin at any time that there is revenue for the purpose. The opening of a sanatorium might be accomplished in a few months. But the accumulation of a financial basis for such an undertaking will necessarily require years.

It would seem then that after the adoption of a general plan, which can be put forward as the purpose for which money is to be raised, the first thing to be done is to arouse the interest of our more active and influential members; to the end that we may collect from the medical profession, and those they can immediately influence, the nucleus of a fund, which, growing as such funds do by time and with increasing rapidity, shall render it possible to effect our purpose.

The collection of funds will immediately render necessary the designation of a custodian for them. Inquiry seems to show no serious reason why the Board of Trustees of the American Medical Association should not be entrusted with the care of this fund, to be held in trust until the organization contemplated for its permanent care and administration can be perfected.

When a definite purpose has been formulated and a custodian designated, a committee authorized to extend its organization into every state society should be appointed to raise the money needed for making a practical start. Your committee has already ventured to call the attention of presiding officers of state medical societies to the movement, with the suggestion that it be brought before their respective bodies.

We would recommend:

1. That the House of Delegates formally endorse the proposition to organize a corporation for the collection, care and administration of a relief fund and the supporting of a tuberculosis sanatorium; the relief fund, to be expended, so far as possible, with the cooperation of local medical organizations; the sanatorium to be located in the elevated region of the United States, west of the one hundredth meridian of longitude.
2. That a committee of five be appointed, with authority to add to their number one member from each state medical society, one from the society of the District of Columbia, and one from each of the government medical services, to bring the subject of the Relief Fund and Physicians' Sanatorium to the membership of state and local medical societies: to receive money for the purpose, and to pay it to the designated custodian.
3. That the trustees of the American Medical Association be authorized and instructed to receive and hold as trust funds through such custodian as they may designate, all moneys collected for the above purpose; subject to the direction of the House of Delegates.
4. That a committee of five be instructed to prepare a plan of incorporation under the laws of the state of ...... and submit the same to the House of Delegates at its next annual meeting.

EDWARD JACKSON, Chairman.
JEFFERSON R. KEAN.
A. T. BRISTOW.
H. B. ELLIS.
A. C. MAGRUDER, Secretary.

Report of Reference Committee on Legislation and Political Action

Dr. J. N. Hurty, Indiana, Chairman, read the report of the Reference Committee on Legislation and Political Action, as follows:

Your Reference Committee on Legislation and Political Action has the honor to report that it has considered the resolutions of the St. Louis Medical Society relating to a reduction of tariff on imported surgical and optical instruments and glassware and scientific books written in English; and indorses the same, respectfully recommending that the House of Delegates adopt it.

J. N. HURTY, Chairman.

On motion, report was adopted.

Reconstruction of Judicial Council

Dr. John B. Roberts, Pennsylvania, moved a reconsideration of the motion adopted at a previous session of the House with reference to the formation of a Judicial Council, which motion was duly seconded and carried.

Dr. Arthur T. McCormack, Kentucky, chairman of the Reference Committee on Amendments to the Constitution and By-Laws, then moved the adoption of the following substitute for the amendment to Chapter IX of Section 4 of the By-Laws which had been offered at a previous session, which motion was duly seconded and carried:

Section **4.** JUDICIAL COUNCIL. The Judicial Council shall consist of five members, who shall be nominated by the President and elected by the House of Delegates. At the annual session in 1911 one member shall be elected to serve for five years, one for four years, one for three years, one for two years and one for one year, and thereafter one member shall be elected each year to serve for five years. It shall select a chairman from its membership. The Secretary of the Association shall be, *ex officio*, Secretary of the Council. It shall expend money and contract debts only on the authority of the Board of Trustees. It shall keep a permanent record of its actions at its office which shall be at the headquarters of the Association. It shall make an annual report of its decisions and the results of its investigations to the House of Delegates.

The judicial power of the Association shall be vested in the Judicial Council, the decisions of which shall be final, and shall extend, (1) to all cases arising under this constitution and by-laws; (2) to all controversies to which the American Medical Association is a party; to controversies, (3) between two or more recognized state or territorial associations, these being constituent associations within the meaning of Article 4 of the Constitution; (4) between a constituent association and members of another association; (5) between members of different constituent associations.

In all cases in which the American Medical Association or one of its constituent associations is a party the Judicial Council shall have original jurisdiction. In all other cases before mentioned the Judicial Council shall have appellate jurisdiction, both as to law and fact, with such exceptions and under such regulations as it may adopt and publish in THE JOURNAL, provided that such regulations must be approved by the next ensuing session of the House of Delegates, and be officially certified to each constituent association. The Judicial Council may investigate professional conditions and all matters pertaining to the relations of physicians to one another and to the public and shall make such recommendations to the House of Delegates and the constituent associations as it deems necessary.

Dr. A. R. Mitchell, Nebraska, moved that the proposed amendment be printed and distributed before final action is taken by the House at to-morrow's session. Seconded and carried.

Report of Committee on Awards in Scientific Exhibit

The Secretary read the report of the Committee on Award of Prizes in the Scientific Exhibit, as follows:

Your Committee on Award of Prizes in the Scientific Exhibit, after careful inspection and mature deliberation, has unanimously agreed on the following awards:

A. FOR THE BEST RESEARCH EXHIBIT

1. *Gold Medal*, awarded to the exhibit of the United States Public Health and Marine-Hospital Service for its exhibit of preparations and material concerned with research in plague and leprosy.
2. *Certificate of Honor* for research exhibit on investigation of pernicious malarial infection with reference to malarial hemolysins, awarded to Dr. Walter V. Brem, Colon Hospital, Cristobal, Canal Zone.
3. *Certificate of Honor* for research exhibit on nephritis, awarded to Drs. William Ophuls and Ernest C. Dickson, Cooper Medical College, Leland Stanford University.
4. *Certificate of Honor* for research exhibit on classification and identification of the parasites of the order of *Trematoda*, awarded to Drs. Henry B. Ward and E. F. Hirsch, Zoologic Department, University of Illinois.

B. FOR THE BEST GENERAL EXHIBIT

1. *Gold Medal*, awarded to pathologic exhibit of Hendryx Laboratory of the Los Angeles Medical Department, University of California.
2. *Certificate of Honor* awarded to Cooper Medical College, Leland Stanford University.

H. GIDEON WELLS,
M. P. RAVENEL,
W. E. MUSGRAVE.

On motion, the report was adopted.

Message to Taft on Pure Food and Drugs and on Department of Health

Dr. Hubert Work, Colorado, offered the following preamble and resolutions:

WHEREAS, It is believed by those best informed on the subject that there are 2,000,000 cases of sickness and 500,000 deaths in the United States every year from the use of impure food and drugs, and from diseases which are practically preventable and which ought to be prevented.

Resolved, That in the name of the medical profession and people of the United States, the American Medical Association extends its cordial thanks to President Taft for the magnificent fight he is making for pure food and pure drugs, and for the creation of a bureau or a department of health to insure the same protection to the health and lives of the people that the Department of Agriculture is so properly and ably giving to domestic animals and crops.

Resolved, That the Secretary of the Association be instructed to wire this resolution to the President of the United States.

On motion, the resolutions were adopted.

Resolution on Department of Health

Dr. Arthur T. McCormack, Kentucky, presented the following preambles and resolution:

WHEREAS, Honorable Robert L. Owen, Senator from Oklahoma, has introduced in the Senate of the United States Senate Bill No. 1, to create a department of public health for the purpose of giving the proper study to the causes of disease; and

WHEREAS, Such a department has been formally approved in the platforms of all our great political parties, and by President

Roosevelt and President Taft, in order that our country might be placed on a plane with the other civilized nations of the world in the conservation of our greatest national asset—the health and lives of our people; and

Whereas, Through sinister and corrupt efforts of the "patent-medicine" manufacturers, and those opposed to the honest administration of the pure food and drugs laws, many worthy persons have been misled into believing that this great measure, designed solely for the protection of the public health and for the prevention of disease, is designed to have any jurisdiction in limiting the practice of medicine; now, therefore, be it

Resolved, That the American Medical Association pledges its support to the principles of the Owen bill, Senate Bill No. 1, to create a department of public health; that it repudiates and denounces the misrepresentation of this measure and the base slanders against the medical profession distributed through the corrupt efforts of the interests which are behind the so-called League of Medical Freedom; that it declares itself as distinctly opposed to any efforts now or hereafter by Congress to regulate or control the practice of medicine, or to discriminate for or against any school or system of practice as a violation of the Constitution of the United States; and in order better to give effect to the principles set forth, be it further

Resolved, That the Board of Trustees, and the Council on Health and Public Instruction, The Journal and every other agency of this Association, be, and are hereby, instructed to use every honorable means to secure the passage of this measure; and that the Committee on National Health Organization be continued with the addition of Dr. J. B. Murphy, the President of the Association, and Dr. G. B. Young, representing the United States Public Health and Marine-Hospital Service, and that this committee, acting with the Council on Health and Public Instruction, shall consider and determine all matters and policies relating to national health legislation, and may invite the cooperation of and cooperate with state and county medical associations, and all other organizations having the same purpose in view.

On motion, the rules were suspended, and the resolution was adopted.

Trustees Empowered to Adjust Postoffice Matter

Dr. W. C. Woodward, District of Columbia, offered the following resolution, which was referred to the Board of Trustees:

Whereas, The Postmaster-General is endeavoring to carry into effect the laws and postal regulations relating to the carriage of second-class mail matter.

Resolved, That the Board of Trustees be and hereby is instructed to take such action, if any, as may in their judgment be necessary to make the business methods of the American Medical Association relating to the publication and distribution of The Journal conform with the laws and regulations aforesaid.

Proposed Committee on Obstetric Nomenclature

Dr. A. E. Benjamin, Minnesota, reported from the Section on Obstetrics and Gynecology, for the action of the House of Delegates, that in that Section Dr. T. Mitchell Burns, Denver, moved that a committee be appointed on obstetric terminology, especially in reference to the anatomy of the bony pelvis, the bony floor, and the reproductive organs and the fetal head. This was carried.

The resolution was referred to the Reference Committee on Sections and Section Work.

Discussion of Universal Membership Plan

Dr. John B. Roberts, Pennsylvania, moved that the House of Delegates go into a committee of the whole for the purpose of discussing the subject matter presented by the Reference Committee on Amendments to the Constitution and By-Laws relating to membership, which motion was duly seconded and carried.

The House then went into a committee of the whole.

When the committee arose it reported to the House, recommending that it appoint a committee of five from its own membership, who shall formulate definite amendments to the Constitution and By-Laws on the advice of counsel, and, on their approval by the Board of Trustees, shall submit them, together with these amendments, the discussion of to-day, and such other data as they may deem necessary to make the question clear, to the constituent associations and through them to the general membership.

On motion, the report was adopted.

Discussion on Official Button

Dr. Samuel P. Gerhard, Philadelphia, was given five minutes in which to speak on the official button, which he did, after which the President suggested that Dr. Gerhard appear before the Reference Committee on Reports of Officers, who still had this subject under consideration.

Honorary Membership Plan Called For

Dr. Oscar Dowling, Louisiana, requested the Council on Health and Public Instruction to report on a resolution that had been referred to it at the annual session of 1910, recommending the establishment of a form of honorary membership to include old and distinguished physicians in the national organization.

Preventive Medicine Resolutions

The Secretary read the following resolutions from the Section on Preventive Medicine and Public Health; which were referred to the Reference Committee on Hygiene and Public Health.

The Section on Preventive Medicine recommends to the House of Delegates, for its adoption, the following proposals on the investigation and control of syphilis and gonococcus infections:

1. That syphilis and gonococcus infections be made reportable.
2. That boards of health be supported by the medical profession in controlling the sources of infection of these diseases without prejudice as to sex or occupation.
3. That the medical profession do everything in its power to advance the moral and ethical issues involved.
4. That measures for popular education relating to these diseases be encouraged by every member of the Association.
5. That the American Association for Sex Hygiene be invited to confer with the Council on Health and Public Instruction in order to develop practical methods for obtaining the desired results.

L. M. Powers,
Frances M. Greene,
William F. Snow,
Committee.

On motion, the report was adopted.

And further:

To the Chairman and Members of the Section on Preventive Medicine and Public Health: If the following resolution has not already been passed by the House of Delegates on some previous occasion, we desire to make it as a supplementary report:

Whereas, The belief and teaching on the part of some of the laity and possibly on the part of some of the medical profession that sexual intercourse on the part of the adult male is essential to sound health is calculated to encourage promiscuous intercourse among those not better informed:

Resolved, By the American Medical Association that in the opinion of the Association continence is not inconsistent with perfect health on the part of individuals of either sex, and promiscuous intercourse seriously jeopardizes the health of the individual and gravely menaces the integrity of the race.

L. M. Powers,
Frances M. Greene,
William F. Snow,
Committee.

On motion, the House of Delegates adjourned until 2 p. m. Thursday.

Fifth Meeting—Thursday Afternoon, June 29

The House of Delegates met at 2 p. m. and was called to order by President Murphy.

The Secretary called the roll and ninety-seven members responded. On a second calling of the roll, 119 members were recorded as present.

Dr. D. Chester Brown, Connecticut, Chairman, presented a supplementary report of the Committee on Credentials, which showed that 131 delegates had registered.

The minutes of the previous session were read and approved.

Election of Officers

The election of officers being in order, the President appointed as tellers Drs. C. S. Sheldon, Wisconsin; Oscar Dowling, Louisiana, and W. L. Brittin, Illinois.

The following were elected:

President, Abraham Jacobi, New York.

First Vice-President, Dr. William Jarvis Barlow, Los Angeles, Cal.

Second Vice-President, Dr. F. W. McRae, Atlanta, Ga.

Third Vice-President, Dr. W. R. Tipton, Las Vegas, N. Mex.

Fourth Vice-President, Dr. A. L. Wright, Carroll, Iowa.

Secretary, Dr. Alexander R. Craig, Chicago, Ill.

Treasurer, Dr. William Allen Pusey, Chicago, Ill.

Trustees, Dr. Philip Marvel, Atlantic City, N. J.; Dr. Philip Mills Jones, San Francisco, Cal.; Dr. W. T. Sarles, Sparta, Wis.

Chairman of Committee on Transportation and Place of Session. Dr. J. Rawson Pennington, Chicago, Ill.

On nomination by the President, the House elected the following:

Council on Health and Public Instruction (one member), Dr. Henry B. Favill, Chicago, Ill.

Council on Medical Education (one member), Dr. John A. Witherspoon, Nashville, Tenn.

Judicial Council. Dr. Hubert Work, Denver, Colo., five years; Dr. James E. Moore, Minneapolis, Minn., four years; Dr. Alexander Lambert, New York City, three years; Dr. A. B. Cooke, Nashville, Tenn., two years, and Dr. Frank Billings, Chicago, Ill., for one year.

Honorary Member Elected

Dr. A. F. Jonas, Nebraska, presented the name of Mr. Harold J. Stiles, Edinburg, Scotland, from the Section on Surgery, for honorary membership, stating that this section had recommended his election.

On motion, the recommendation was concurred in.

Report of Reference Committee on Reports of Officers

Dr. George W. Guthrie, Pennsylvania, presented the report of the Reference Committee on Reports of Officers, as follows:

Your Committee Recommends:

1. *Public Lectures at Annual Session.*—That the President be authorized to appoint a committee of five to arrange for a demonstration to the public by a series of appropriate lectures as a part of the annual exercises attending the next session.

2. *Clinics at Annual Session.*—That another committee of five be appointed by the President to arrange for one clinic day before and one day after the close of the annual session.

3. *Small Medical Journal.*—That the President be authorized to appoint another committee of five to investigate and report at the next annual meeting as to the advisability of publishing a small medical journal as suggested in the address of the president.

4. *Health Journal for Laity.*—That another committee of five be appointed to investigate and report at the next annual meeting the advisability and feasibility of publishing a health journal for distribution among the laity.

5. *Greetings to Educational Association.*—That the House of Delegates heartily approves of the suggestion of the President that a committee of five be appointed to bear the greetings of the American Medical Association to the National Educational Association, which meets in San Francisco, July 8-14, 1911.

6. *Judicial Council.*—The committee reaffirms its approval of the President's recommendation for the recreation of a Judicial Council concerning which action has already been taken by this body.

George W. Guthrie,
D. S. Fairchild,
J. R. Kean,
Oscar Dowling.

On motion, the report was accepted and the recommendations concurred in.

President Murphy appointed as a committee to bear the greetings of the American Medical Association to the National Educational Association, Drs. Joseph L. Milton, Oakland, Cal.; Philip King Brown, San Francisco; H. L. E. Johnson, Washington, D. C.; R. W. Corwin, Pueblo, Colo., and F. W. Snow, Sacramento, Cal.

Report of Reference Committee on Section Work

Dr. Walter L. Bierring, Ia., Chairman, presented the report of the Reference Committee on Sections and Section Work with reference to a resolution referred to it from the Section on Ophthalmology, as follows:

PROPOSAL FOR BETTER OPHTHALMOLOGIC TRAINING

Whereas, A thorough preparation for ophthalmic practice requires the study of certain subjects not demanded of the candidate for the degree of doctor of medicine,

Resolved, That the American Medical Association, through its Section on Ophthalmology and its House of Delegates, expresses the desire that at an early date courses in ophthalmology requiring previous graduation in medicine and one year's work in an accredited ophthalmic hospital and dispensary service shall be established in each medical school possessing the necessary facilities.

Resolved, That the Council on Medical Education is hereby requested to consider the curriculum for such a course.

These resolutions were unanimously approved by the Section, and we recommend that they be approved by the House of Delegates.

On motion, the resolutions were approved.

The Committee on Sections and Section Work presented two other matters which were referred to it, as follows:

1. We recommend that the resolution received from the Section on Obstetrics and Gynecology, introduced in that Section by Dr. T. Mitchell Burns, of Denver, be referred to the Committee on Nomenclature and Classification of Diseases.

PROPOSED AMENDMENT TO PRINCIPLES OF ETHICS

2. The following has been received by the Committee from the Section on Preventive Medicine and Public Health:

"The committee on the reporting of typhoid fever of the American Public Health Association respectfully recommends to the American Medical Association that the principles of Medical Ethics be amended as regards Chapter III, Section 2, Enlightenment of Public on Sanitary Matters—Duties in Epidemics, as follows: It is the province of physicians *engaged in public health work* to enlighten the public in regard to quarantine regulations; to the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails, it is their *the* duty *of all physicians* to face the danger, and to continue their labors for the alleviation of the suffering people, even at the risk of their own lives, *not omitting the foremost duty at any and all times of notifying the properly constituted public health authorities of every case of infectious or contagious disease of which they become aware!*" (Italicized words are proposed for insertion.)

Your committee refers this matter to the House with the suggestion that the subject be referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Officers of Section on Hospitals

The President stated that as a new section had been established, namely, the Section on Hospitals, it became necessary for him to name the officers of the section: Chairman, Dr. W. B. Russ, San Antonio, Tex.; secretary, Dr. John A. Hornsby, Chicago; executive committee, Dr. Joseph Beckton, Greenville, Tex.; Dr. Edward Jackson, Denver, and Dr. A. L. Brittin, Athens, Ill.

Report of Reference Committee on Hygiene

Dr. Alexander Marcy, New Jersey, Chairman, presented the report of the Reference Committee on Hygiene and Public Health, as follows:

Your Reference Committee on Hygiene and Public Health strongly endorses and urges the adoption of the following recommendation:

For generations these infections have been destroying the lives of men, women and children, have been causing misery and unhappiness beyond words to express, and yet the medical profession, fully cognizant of these conditions, have not unitedly tried to overcome them.

At the present time, there is no greater problem for the profession to solve, or more important work for the American Medical Association to undertake than the question of the study and control of venereal diseases, and while your Committee recognizes the fact that this question is not alone a medical one, yet there is so much of it that is purely medical that we feel that the Council on Health and Public Instruction should be instructed by this House of Delegates to appoint a special committee to investigate and study this subject and to report their conclusions to the next session of this Association.

Gardner T. Swarts,
W. E. Musgrave,
T. D. Tuttle,
Alexander Marcy, Jr., Chairman.

It was moved and seconded that the report, with its recommendations, be adopted, and after discussion, which was participated in by Drs. A. T. Bristow, New York, W. C. Woodward, District of Columbia, and Alexander Marcy, New Jersey, the motion to adopt was put and carried, and the report was referred to the Council on Health and Public Instruction, to report next year.

Election of Associate Members

The Secretary presented a list of names submitted by the Section on Stomatology and the Section on Pharmacology and Therapeutics, with the recommendation that they be elected to associate membership, and on motion the recommendation was concurred in.

The list is as follows:

Dr. C. Deiehmiller, Los Angeles, Cal.
Dr. Robert T. Moffatt, Boston.
Dr. H. B. Shnman, Boston.
Dr. Walter Bradford, Boston.
Dr. Joseph E. Farnnm, Providence, R. I.
Dr. M. Evangeline Jordon, Los Angeles, Cal.
Dr. Benjamin A. Green, Three Rivers, Mass.
Dr. Henry James Fettus, Baton Rouge, La.
Dr. Alvin Wallave Viney, Pasadena, Cal.
Dr. Harry Alonzo Fulsom, Los Angeles, Cal.
Dr. H. G. Chappel, Oakland, Cal.
Dr. W. H. Wherry, Ogden, Utah.
Dr. Charles W. Greene, Columbia, Mo.

Report of Reference Committee on Constitution

The President called for a report from the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. Arthur T. McCormack, Kentucky, Chairman, stated that the committee recommended the adoption of the amendment to Chapter IX, Section 4, of the By-Laws, relating to the Judicial Council, which was printed and distributed yesterday. Accordingly he moved its adoption.

Motion seconded and carried.

Report of Reference Committee on Reports of Officers

BUTTON DESIGN REAPPROVED

Dr. George W. Guthrie, Pennsylvania, Chairman, stated that the Reference Committee on Reports of Officers had a supplementary report to make relative to the matter of the button of the Association. The committee believes the difficulty of manufacture of the button at a reasonable cost will be overcome by competition, and the committee recommends that the wishes of the Association, as expressed at the last session, be carried out.

On motion, the report was adopted.

The President called for a report from the Committee on Transportation and Place of Session.

Dr. M. L. Harris, Illinois, Chairman, reported that the association had been invited to three places, namely, St. Paul, Louisville and Atlantic City. The committee recommended that Atlantic City be chosen as the place for holding the next annual session.

On motion, the recommendation was concurred in.

Report of Judicial Council

ADMISSION OF PORTO RICO DEFERRED

Dr. Alexander Lambert, New York, reported for the Judicial Council as follows:

The Judicial Council desires to make the following report on the admission of the Medical Association of Porto Rico as a component part of the American Medical Association:

The documents presented have been examined and found to comply technically with the requirements of the American Medical Association. A copy of the constitution and by-laws, a certified list of the members of the association and a resolution requesting admission into the American Medical Association are all present. But there are provisions in the constitution and by-laws of the Porto Rico Association which conflict with the standards requisite for admission of component parts of the American Medical Association. Your Committee therefore recommends that the Secretary of the American Medical Association be instructed to send to the Medical Association of Porto Rico a copy of the Constitution and By-Laws of the American Medical Association and a sample copy of the constitution and by-laws of a component association to the American Medical Association which do not conflict with the rules and regulations of the American Medical Association, necessary for admission as a component society thereof, and that further action be deferred until such a constitution and by-laws have been adopted by the Porto Rico Medical Association.

On motion, the report was adopted.

Committee on Uniform Membership Announced

The President appointed the following as the Committee on Uniform Membership: Dr. Thomas McDavitt, St. Paul, Minn.; Dr. E. W. Weis, Ottawa, Ill.; Dr. Joseph Martin, New Orleans; Dr. E. J. Goodwin, St. Louis, and Dr. Claude A. Thompson, Muskogee, Okla.

Thanks Expressed to Los Angeles Entertainers

Dr. Hubert Work, Colorado, offered the following resolution of thanks:

The House of Delegates, representing the American Medical Association, desires to express its thanks to the Los Angeles Chamber of Commerce, to its Convention League and to the Los Angeles County Medical Association for their prodigal hospitality and for opening to us a score or more palatial auditoriums for the use of the Association and its subdivisions for sectional work. It particularly wishes to voice its appreciation of the services of that masterly executive and prince of entertainers, Dr. H. Bert Ellis, Chairman of the local Committee on Arrangements and of the official services of Dr. Philip Mills Jones, for years California's representative in the House of Delegates and later the representative of the Pacific Slope on our Board of Trustees. To the retiring officers, who have so signally dignified the American Medical Association through their professional achievements in impartial rulings and in patience in petty matters so essential to the integrity of the profession and its organization, we wish to express our unqualified admiration.

Los Angeles will never again be called on to defend her title, "The Queen Hostess Among American Cities," and with one voice we shall say on departing, "Not good-bye, but *au revoir*."

On motion, the resolution was adopted unanimously by a rising vote, it having been presented after unanimous consent had been obtained.

Better Paid Public Health Service Approved

Dr. W C. Woodward, District of Columbia, asked unanimous consent, which was granted, to present the following resolution:

Resolved, That the American Medical Association expresses its approval of legislation looking toward the bettering of the compensation of officers in the United States Public Health and Marine-Hospital Service, and urges the enactment in its present form by the House of Representatives of the bill just enacted by the Senate, to accomplish that end.

On motion, the resolution was adopted.

Appreciation of Dr. Simmons' Work

Dr. John B. Lowman, Pennsylvania, asked unanimous consent, which was granted, to present the following:

The House of Delegates desires to express its appreciation of the great services to the American Medical Association of its Secretary for many years, Dr. George H. Simmons, whose ability as an executive officer has done so much to bring the detail work of the Association to such a high state of efficiency. It congratulates itself on the fact that Dr. Simmons' declination this year to succeed himself as Secretary, and the consequent election of another member, will not cause the Association to lose his unusual powers in the services of this body as the Editor of its Journal.

On motion, this was declared to be the sense of the House.

President Murphy stated that there were other committees to be appointed, and with the permission of the House, he would postpone these appointments until a later date.

There being no further business, on motion the House of Delegates adjourned *sine die*.

Members of House of Delegates in Attendance

[The figures indicate the number of delegates to which the state is entitled.]

ALABAMA—3

S. L. Ledbetter...Birmingham
Seale Harris ....Mobile

ARIZONA—1

Aneil Martin ....Phoenix

ARKANSAS—2

Joseph T. Clegg..Siloam Spgs.
G. A. Warren......Black Rock

CALIFORNIA—3

Joseph L. Milton.....Oakland
O. D. Hamilton......Oakland
G. MacGowan....Los Angeles

COLORADO—2

Hubert Work ....Pueblo
Edward Jackson ......Denver

CONNECTICUT—2

E. J. McKnight......Hartford
D. Chester Brown....Danbury

DELAWARE—1

H. R. Spruance....Wilmington

DISTRICT OF COLUMBIA—1

W. C. Woodward..Washington

FLORIDA—1

GEORGIA—2

Dunbar Roy..........Atlanta
W. C. Lyle...........Augusta

HAWAII—1

IDAHO—1

A. A. Higgs............Boise

ILLINOIS—9

W. F. Grinstead.........Cairo
G. S. Rainey...........Salem
J. E. Allaben........Rockford
A. L. Brittin..........Athens
J. L. Wiggins.....E. St. Louis
E. J. Brown..........Decatur

INDIANA—4

Edwin Walker .....Evansville
J. B. Garber.........Dunkirk
Allison Maxwell..Indianapolis

IOWA—3

D. S. Fairchild........Clinton
F. E. V. Shore....Des Moines
E. Hornibrook.......Cherokee

ISTHMIAN CANAL ZONE—1

W. C. Gorgas..........Ancon

KANSAS—2

P. S. Mitchell............Iola
M. Trueheart ....Sterling

KENTUCKY—4

C. Z. Aud............Cecilian
W. W. Richmond......Clinton
M. E. Alderson....Russellville
A. T. McCormack.Bowling Gr'n

LOUISIANA—2

Jos. D. Martin...New Orleans
Oscar Dowling ....Shreveport

MAINE—1

A. D. Sawyer....Fort Fairfield

MARYLAND—2

Randolph Winslow..Baltimore
James J. Carroll....Baltimore

MASSACHUSETTS—6

Horace D. Arnold......Boston
Roger J. Lee..........Boston
Fred T. Murphy.......Boston
F. H. Thompson....Fitchburg
F. G. Wheatley...N. Abington
Hugh Cabot ....Boston

MICHIGAN—3

A. D. Holmes..........Detroit
R. R. Smith.....Grand Rapids

MINNESOTA—2

C. F. McComb.........Duluth

MISSISSIPPI—2

J. W. Young.........Grenada

MISSOURI—5

J. Franklin Welch...Salisbury
J. D. Brummall.....Salisbury
C. R. Woodson.....St. Joseph
E. J. Goodwin.......St. Louis
R. M. Funkhouser...St. Louis

MONTANA—1

T. D. Tuttle..........Helena

NEBRASKA—2

F. A. Long...........Madison
A. R. Mitchell.........Lincoln

NEVADA—1

J. E. Pickard...........Reno

NEW HAMPSHIRE—1

C. B. Nichols. Los Angeles, Cal.

NEW JERSEY—3

Alexander Marcy ....Riverton
E. L. B. Godfrey......Camden
G. N. J. Sommer.....Trenton

NEW MEXICO—1

L. L. Cahill........Springer

NEW YORK—11

J. C. MacEvitt.....Brooklyn
W. H. Thornton.......Buffalo
W. W. Strang..New York City
J. E. Weeks....New York City
D. H. Murray........Syracuse
A. T. Bristow.......Brooklyn
E. E. Cornwall......Brooklyn
S. W. S. Toms.........Nyack
James W. Fleming...Brooklyn
W. B. Hambidge..Ogdensburg
Edgar A. Vander Veer..Albany

NORTH CAROLINA—2

NORTH DAKOTA—1

Victor H. Stickney..Dickinson

OHIO—7

B. R. McClellan........Xenia
P. B. Brockway........Toledo
B. H. Blair..........Lebanon
G. E. Robbins......Chillicothe
J. E. Tuckerman....Cleveland
E. J. March..........Canton
E. O. Smith........Cincinnati

OKLAHOMA—2

Claude Thompson....Muskogee
E. E. Rice...........Shawnee

OREGON—1

C. J. Smith........Pendleton

PENNSYLVANIA—9

W. B. Scull.....Philadelphia
John B. Roberts..Philadelphia
Geo. W. Guthrie..Wilkes-Barre
John B. Lowman...Johnstown
T. D. Appel.......Lancaster
G. S. Nutt.......Williamsport
M. H. Fussell....Philadelphia
Lewis H. Adler...Philadelphia
A. C. Morgan....Philadelphia

PHILIPPINE ISLANDS—1

W. E. Musgrave.......Manila

RHODE ISLAND—1

G. T. Swarts......Providence

SOUTH CAROLINA—2

John L. Dawson....Charleston
Edgar A. Hines........Seneca

SOUTH DAKOTA—1

T. B. Smiley......Mt. Vernon

TENNESSEE—3

John L. Jelks.......Memphis
A. B. Cooke.........Nashville
S. R. Miller........Knoxville

TEXAS—5

W. B. Russ.......San Antonio
W. L. Brown..........El Paso
A. C. Scott...........Temple
Vard H. Hulen.......Houston
Joe Becton ....Greenville

UTAH—1

A. A. Kerr.....Salt Lake City

VERMONT—1

VIRGINIA—3

W. E. Anderson.....Farmville

WASHINGTON—2

J. R. Yocum..........Tacoma
Wilson Johnston .....Spokane

WEST VIRGINIA—2

F. L. Hupp.........Wheeling

WISCONSIN—3

B. M. Caples.......Waukesha
C. S. Sheldon........Madison
Richard F. Werner. Eau Claire

WYOMING—1

H. R. Lathrop.........Casper

Delegates from the Sections

PRACTICE OF MEDICINE

Alex. Lambert..New York City

SURGERY

A. F. Jonas...........Omaha

OBSTETRICS AND GYNECOLOGY

A. E. Benjamin...Minneapolis

OPHTHALMOLOGY

LARYNGOLOGY, OTOLOGY AND RHINOLOGY

DISEASES OF CHILDREN

A. C. Cotton.........Chicago

PHARMACOLOGY AND THERAPEUTICS

Reid Hunt..Washington, D. C.

PATHOLOGY AND PHYSIOLOGY

Walter L. Bierring..........
..........Des Moines, Iowa

STOMATOLOGY

G. V. I. Brown.....Milwaukee

NERVOUS AND MENTAL DISEASES

E. D. Fisher...New York City

DERMATOLOGY

PREVENTIVE MEDICINE AND PUBLIC HEALTH

J. N. Hurty......Indianapolis

GENITO-URINARY DISEASES

Delegates from Government Services

Jefferson R. Kean..U. S. Army
C. P. Bagg........U. S. Navy
G. B. Young...............
...U. S. P. H. and M.-H. S.

Reference Committees of the House of Delegates

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...........Iowa, Chairman
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HYGIENE AND PUBLIC HEALTH

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....New Jersey, Chairman
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W. E. Musgrave..........
..........Philippine Islands
G. T. Swarts....Rhode Island
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MISCELLANEOUS BUSINESS

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A. D. Sawyer..........Maine
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THE OPENING MEETING OF THE ASSOCIATION

Tuesday Morning, June 27

The general meeting of the Association was held in the Baptist Auditorium, and was called to order at 10:30 a. m. by the President, Dr. William H. Welch, Baltimore.

Prayer was offered by the Rt. Rev. Joseph H. Johnson, Los Angeles.

Dr. W. Jarvis Barlow, President of the Los Angeles County Medical Association, was introduced, and delivered the following

Address of Welcome

Mr. President, Fellow Members of the American Medical Association, Ladies and Gentlemen:—On behalf of the medical profession of Los Angeles County, I extend to you a sincere and hearty welcome to a section of the country where many, who have stayed with us longer than a week, have considered it a veritable Paradise. This means that if any of you remain over Sunday with us our population will increase more than it has at its present rate, namely, ten thousand a month.

To have been selected by the medical profession to the position of welcoming this national body to our city is to me a great honor, for there is no organization on this earth of which one may feel more proud than that of the American Medical Association for its results already accomplished and its work now in progress. The meeting of this medical association in any community is an inspiration to the people who attend it, and I wonder sometimes if its leaders realize the good resulting to the Association by its occasionally selecting for its meeting new localities.

The different sections are brought into closer touch with each other. New people are taught the prevention of disease, and learn what scientific medical men are thinking and doing. We have felt inspiration here, both lay and medical people, and since the announcement of your coming our local society has gained nearly one hundred new members this year, now numbering something over five hundred. I hope some of you will stay and join us. We need well equipped medical men in every line. Although we enjoy the privileges of an equable climate, full of sunshine, and the possibilities of leading an outdoor life the whole year around, we feel isolated at times from the great centers of scientific progress and the well equipped laboratories which you great men of the East never miss. These are the difficulties which separate us, and which I feel are the only disadvantages of southern California.

Much has been done for our meeting and for your entertainment. We have taken the keenest pleasure in preparing for your coming, and I hope you will all enjoy yourselves to the utmost. We are a united family, take pride in our work, and continue to lift our eyes to the cause of human progress for the purpose of advancing civilization, and last, but best of all, for the prevention of disease. I thank you heartily for your presence here to-day and again welcome you. (Applause.)

Welcome From State Society

Dr. Thomas W. Huntington, San Francisco, President of the State Medical Association of California, speaking for that body, said:

Mr. President, Fellow Members of the American Medical Association, Ladies and Gentlemen:—Despite the embarrassment and the responsibility which goes with the circumstances, I feel a high degree of pleasure in being permitted on this occasion to bear the message of a hearty welcome from the State Medical Association of California to the greatest Association on the American continent. Four times within its history this Association has faced the setting sun and has crossed the Sierras. Once you came here in the middle seventies, and I doubt if there be anyone here to-day with a personal experience that compasses that period. Yes, I am inclined to think that there is one person here who was present on that occasion, and he is a Californian. In the middle of the eighties you were with us. We recognized you then as a very growing and prosperous body. You came to us again at Portland, Ore., in 1905, and again we saw what we see to-day, a magnificent body of men, but smaller, yet unequaled by any body of men in the world, and associated with a community which it is a delight to honor.

We as the members of the State Medical Association of California, as residents of California, and as members of a common brotherhood of the Pacific Slope, extend to this Association a very hearty welcome. We hope that you will come here to stay, but we know that you will not. We know you have your mission at home. You have your work to do, and you are doing it grandly, but those who can spend a week or a month here will not have spent their lives in vain.

In closing, you will pardon me if I take a second of time to make a purely personal allusion. I want to say to the members of this Association that we of California join with you in once more paying a tribute to one whom we love and whom you have honored as President of this great body, Dr. William H. Welch, who has exerted an influence on medical thought and on scientific endeavor which has proved an inspiration to all of us. He has increased the usefulness of life, he has smoothed the pathway, and brightened the lives of every medical man or woman within his jurisdiction. In grateful recognition of his well-sustained honor, and with generous appreciation of his personal work, in your wisdom you have chosen to honor him for like reason, and we of the Pacific Slope join with you in according to him a conspicuous place in the front rank of American physicians. (Applause.)

Welcome From the City of Los Angeles

Hon. George Alexander, Mayor of Los Angeles, said:

Mr. President, Ladies and Gentlemen:—It is a pleasure for me this morning to welcome to our city these delegates from all parts of our country, who have come here to discuss the great subjects connected with the medical profession. It has been my pleasure in the past two years to welcome many organizations to our city who have seen fit to hold their conventions here. But this convention is something unusual. This convention is composed of men who will bring more benefits to our people than the men of any other profession whom I have welcomed in the past. We need the members of the medical profession. Sometimes we need them badly. I want to say to you, that when you are not engaged in your work here I trust you will visit the city and other parts of southern California. We have got a good and splendid country to live in. We want all of you to see our mountains, our beaches, our Catalina Islands, and our orange groves. We want you to see what we have got. We think we have got something here that will entice many of you to become residents of Los Angeles. We want you to have a good time while you are here, and we hope you will be so lavishly entertained that you will be glad to come again. Our climate is very attractive for people who are in poor health. In my experience of eight years as a member of the County Board of Supervisors, I became aware of the fact that many people in the last stages of consumption came to our county and had to be cared for. Some of them came without friends, and others paid their fare here because they thought they might be benefited. But they came here to die. I want to caution you doctors not to send dying patients out here. It is not right. You should not send patients out here who are in the last stages of tuberculosis unless they have the means to be properly cared for. I speak from experience when I say that. It is cruelty to send people to this climate without means.

We hope to derive a good deal of benefit from the deliberations of this convention. Yesterday it gave me great pleasure to listen to Col. Gorgas, who spoke on the methods he had adopted in Panama. There are a great many other subjects we are interested in besides sanitation. At the present time our people need to be fully instructed not only on sanitary matters, but with respect to the disposal of garbage. The latter is a question which must be taken care of. The city of Los Angeles is not in as good condition from a sanitary point of view as it might be, and we trust our physicians here will listen to the discussions and give the people the benefit of them. It is something that is of vital importance to our city. While our climate is as good as any in the world, we must have the latest methods of sanitation, and we must make provision for the poor who come here. We have got to do it. Dr. Barlow is doing a great work, and I know from my own knowledge that he is doing good work. Many men of wealth can do something to help the poor and the needy.

I want to thank you for your close attention, and I trust that your meetings will result in great benefit to our city and the country at large. (Applause.)

Response by President Welch to the Addresses of Welcome

Ladies and Gentlemen:—In behalf of the members of the American Medical Association, I desire to express our thanks and appreciation of these cordial words of welcome which have been uttered in behalf of the medical profession and of the people of this city and of this state. The American Medical Association, which represents the entire profession of the country, has grown so large that there are relatively few cities in this country which can provide even physical accommodations for our annual session. We find here the most ample provision, not only for the actual needs of the meeting but for all entertainments in the most generous fashion, and it may be regarded as something of an indication of the marvelous growth of this city that it is able to make these remarkable provisions for our comfort and entertainment.

Those who have come here from the East and have never been to the Pacific Coast before have had a wonderful education as to the achievements of our people, as to the powers, and as to the possibilities of this great country in their journeying across the continent. But here in southern California we surely find the climax of this journey. Here in this land, so wonderous in its beauty, so magical in its charm, so interesting in its romantic history, and so remarkable in the energy and in the development of the people and of the country, we are very fortunate in having selected this place for holding our annual session this year, and I am sure that my colleagues who came from the East already feel that the journey has amply repaid them for what they have seen and heard here. It may perhaps be some reward for the toil of those who have labored for the success of this meeting to be assured, and I think I may express at the outset that assurance that we are to have here in Los Angeles at this meeting one of the most memorable and agreeable and successful of all the meetings of the Association in its history. (Applause.)

Dr. H. Bert Ellis, Chairman of the Local Committee of Arrangements, then announced the program of entertainments. [For particulars, see The Journal, May 20, 1911.]

Installation of President Murphy

Dr. Welch, in introducing his successor, said: It is now my pleasure and honor to present to the Association and to this audience one who needs no introduction to any medical audience in the civilized world; one who has brought distinction to American medicine and honor to his country by his valuable contributions to surgery; a leader and an ornament to our profession, President of the American Medical Association, Dr. John B. Murphy. (Applause.)

The First Vice-President, Dr. E. E. Montgomery, Pennsylvania, then took the chair, and President Murphy delivered his address. [This address appeared in The Journal July 1, 1911.]

The address was referred to the House of Delegates, to the Reference Committee on Reports of Officers.

The Secretary read a communication from Senator Owen. [In the publication of the President's address, this letter is given at the point where it is referred to.]

Dr. J. N. McCormack, Kentucky, moved that a rising vote of thanks be extended to Senator Owen for his able, persistent and courageous attitude and interest in humanity and his efforts to establish a national department of health, and to the President of the United States for his interest and assistance to this end. Motion seconded by several and carried unanimously.

Adjourned.

Medical Economics

CONTRACT PRACTICE

In order to discuss intelligently what is generally known as contract practice, it is necessary first to define what one means by the term, since it is used to designate everything from the employment of a surgeon by a railroad to lodge practice and employment of physicians by burial and aid societies. The term "contract practice" is a misnomer and should not be used, since it conveys the impression that the objectionable feature of this class of work is that it is based on a contract. This is entirely incorrect and misleading since, legally, all medical practice is based on a contract between the physician and the patient, which contract is implied if not specifically expressed. A physician has as much right to enter into a contract as has any other business or professional man. The objection to what is popularly known as contract practice is not that it is based on a contract but that it is based on an unfair contract. There are, in all such arrangements, four parties to be considered: the doctor, the patient, the medical profession and society at large. If none of these parties is injured by the proposed agreement, there is no reason why it should not be entered into. The question, therefore, is not whether a contract exists but whether the contract is fair to all concerned.

There are three questions which should be asked in each case:

1. Is there an economic justification for such an agreement?
2. Is the contract such a one that no one will be harmed thereby?
3. Is it a direct agreement between the physician and the patient or is the physician being exploited for the benefit of a middleman?

In the case of industrial corporations the employment of a competent surgeon, or surgeons, is necessary as a protection against unjust damage suits. Railroad companies, for instance, find it necessary to have employees and others, who are injured on or by their property, examined by a competent surgeon on whose opinion they can rely. If they did not do so, they would be constantly exposed to suits for damages, many of which would be without justification. Such professional services, therefore, come under the same head as fire insurance, for instance, and are really a form of protection. It should be clearly understood, however, that such companies are in no way justified in demanding that the surgeon in their employ shall treat their employees, except in cases of actual injury while on duty, and it should be particularly emphasized that such corporations are entirely unjustified in demanding that their surgeons treat or attend the families of their employees.

Another economic justification is found in the case of industrial establishments so located as to be inaccessible to physicians in private practice. Instances of this are to be found in lumber camps, mines, etc., so situated as to be inaccessible to private practitioners or where the amount of work does not justify a physician in locating near the mine. Here, if the company did not employ a physician and guarantee him a living income, the employees would be deprived of proper medical and surgical attendance. In such cases, if the location of the mine makes ordinary professional competition impossible, the company would be justified in asking the surgeon to attend the members of the employees' families.

These economic conditions, however, do not apply to lodges, fraternities, benevolent and benefit organizations, etc. On the other hand, contracts with physicians who are subject to ordinary professional competition soon become exceedingly harmful, since competition leads to cutting of rates and to a gradually lowering of compensation to a point far below the value of the services, which invariably means that the patient does not receive proper services, as the physician cannot afford to devote the necessary amount of time to each case. The competition, consequently, hurts the physician himself, since it leads him to do poor work; the patient, since he does not receive proper attention; the profession, since the standard of living is lowered, and the public, since a certain number of its members are pauperized.

The fact that the distinction between the different forms of contract practice has been obscured only makes it all the more necessary to consider each case separately. For instance, a railroad is justified in employing a surgeon at a fixed salary to examine and report on all cases of injury among its employees or patrons. This is a simple agreement between a company and an individual for the protection of the property rights of the company. The railroad company, however, is not justified in demanding, neither is the physician justified in agreeing that he should also care for the nonaccidental illnesses of employees or that he furnish professional services for employees' families. There is no justification for a lodge having a physician, except to make life insurance examinations, since furnishing free medical attendance or attendance at a nominal rate to its members is not a legitimate function of a fraternity. There is no excuse whatever for furnishing professional services at a nominal rate to members of benevolent aid societies, since this involves buying the services of the physician at wholesale and selling them at retail to the individual member, thus permitting the promoter or the company to profit and, in fact, to exploit the physician for personal benefit.

If we are to retain the confidence and respect of the public we must think more clearly on economic and sociologic questions than has been the custom in the profession heretofore. If we oppose an arrangement which is not only justifiable but necessary, we will not only fail to accomplish anything but we will injure our influence at the same time. If we submit to an economic wrong, we thereby lose the respect of the public. It is, therefore, necessary for us as a profession to analyze existing social problems and to discriminate carefully and accurately between those relations which are justifiable and those which are not.

Book Notices

Introduction to Practical Organic Chemistry. Including Qualitative and Quantitative Analysis and Preparations. With Special Appendix on the London University Syllabus, and Schemes of Analysis for Stages 1 and 2 of the Board of Education Syllabus. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg), Lecturer on Chemistry at the Middlesex Hospital, 1910. Cloth. Price, $1.35 net. Pp. 204, with 50 illustrations. New York: Oxford University Press, 1910.

This is a companion to "A Manual of Inorganic Chemistry," by the same author; it is intended for the preparation of English medical students for their examinations in organic chemistry. The material is particularly arranged and systematized to enable the student to make a rapid general review of the subject. The contents are divided into six parts, viz.: (1) "Qualitative Analysis of Organic Compounds for Elements;" (2) "General Laboratory Operations;" (3) "Preparations of Typical Organic Compounds;" (4) "Tests and Analysis for Special Compounds;" (5) "Detection of the Group to which an Organic Compound Belongs" and (6) "Quantitative Analysis." While this outlines an amount of chemical knowledge which would constitute several years of special work in our large universities, the book is nevertheless essentially a quiz compend, arranged for quick preparation for examinations. If the graduates of American medical schools were required to have the thorough training in chemistry, which it would appear the English graduates must have, the former would be less apt to become the dupe of manufacturers of fake synthetics and chemical impossibilities.

A Manual of Practical Inorganic Chemistry. Including Preparations and Qualitative and Quantitative Analysis with the Rudiments of Gas Analysis. Specially Adapted to Cover Preliminary and Intermediate University Courses and the First Three Stages of the Syllabus of the Board of Education. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg) Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Price, $1.35. Pp. 347, with 51 illustrations. New York: Oxford University Press, 1910.

This text is similar in nature to the one by the same author above reviewed, differing only in subject-matter and somewhat in scope. It is written and arranged in the same general way, making the material quickly available for rapid review.

The Sources and Modes of Infection. By Charles V. Chapin, M.D., Sc.D., Superintendent of Health, Providence, R. I. First Edition. Cloth. Price, $3 net. New York: John Wiley & Sons, 1910.

In this interesting book Dr. Chapin sets forth what is known of the sources and modes of infection in the case of the common, important infectious diseases, and with special reference to practical preventive measures. In Chapter 1 he reviews the evidence of growth of disease germs outside the body, reaching the general conclusion that in temperate climates this does not occur to such extent as to play an important part in causing disease. The second chapter is devoted to carriers and missed cases, the great importance of which, in spreading infectious diseases, is brought out clearly and forcibly. "Any scheme of prevention which fails to take into account carriers and missed cases is doomed to partial and perhaps complete failure." Chapter 3 deals with the limitations to the value of isolation and whether one agrees with all the statements or not, there is much here especially for health officers holding strictly to traditional methods to think about. Chapters 4, 5, 6, 7 and 8 discuss infection by contact, by fomites, by air, by food and drink, and by insects, respectively. Contact is held to be the principal way by which many infectious diseases are spread, while fomites infection is claimed to be of very much smaller importance than formerly and in many places at present believed. Dr. Chapin's views in regard to the value—or uselessness rather—of terminal disinfection are well known and they are restated without any essential modifications. Health officers, physicians and all who are interested in questions of hygiene and sanitation will find this a suggestive and valuable book. Its chief value lies in the fact that an earnest and thorough effort is made to point out the relative importance of different factors in spreading infectious diseases and to indicate on the basis of what we know the directions in which our preventive measures must be modified and developed.

The Effects of a Number of Derivatives of Cholin and Analogous Compounds on the Blood-Pressure. By Reid Hunt and R. de M. Taveau. Hyg. Lab. Bull. 73, U. S. P. H. and M.-H. S., Treasury Department, March, 1911. Paper. Pp. 135. Washington: Government Printing Office, 1911

Hunt and Taveau present a series of systematic studies on the physiologic action of the derivatives of cholin. Cholin occurs in various tissues of the animal body including the adrenals, and in certain vegetable preparations such as ergot. It exerts a depressor effect on blood-pressure. Some of the derivatives of cholin are extremely active in lowering blood-pressure. Thus acetyl-cholin is 100,000 times as active as cholin, and but three times as toxic. It is several hundred times as effective as nitroglycerin, and counteracts a dose of epinephrin several hundred times as large. The authors discuss this preparation and action of a number of other similar derivatives of cholin, and point out the great therapeutic possibilities in this group of substances.

Report of the Massachusetts Commission to Investigate the Question of the Increase of Criminals, Mental Defectives, Epileptics and Degenerates. January, 1911. Paper. Pp. 50.

This report, presented to the Massachusetts legislature by a commission of five appointed by the governor to investigate the subject, contains a large amount of data regarding criminals and degenerates in Massachusetts, including tabulations from 1890 to 1909. Analysis of the prison reports for Massachusetts shows that, contrary to popular impression, crime has diminished since 1890, the number of arrests for crimes against the person in 1890 being 3.44 per thousand, and the average during the period of 1905 to 1909 only 2.92. Commitments to prison for crimes against the person in the period from 1890 to 1894 were 0.832 per 1,000 of population, and in the period 1905 to 1909 they were 0.499 per 1,000. Commitments for crimes against property have diminished from 1.21 in 1890 to 1.05 in 1909; crimes against public order from 1.63 in 1890 to 1.25 in 1909; the total number of commitments for all crimes having diminished from 10.47 per 1,000 of population in 1890 to 9.25 per 1,000 in 1909. Criminal prosecutions and juvenile crime are also tabulated. Data regarding the insane show an increase from 2.168 per 1,000 in 1890 to 3,379 in 1909. The increase in admissions to insti-

Die Hernien und ihre Behundlung. Von O. Borchgrevink, Oberarzt des Diakonenhospitals in Christiana. Paper. Price, 5 marks. Pp. 311, with 40 illustrations. Jena: Gustav Fischer, 1911.

This is a small volume of 300 pages with 40 illustrations. Many of the latter are not up to the present-day standard. The major portion of the work is stereotyped and presents nothing new; in fact, it omits many of the modern ideas concerning the origin of hernia. The best chapters are those which deal with the statistics of strangulated hernia and with the treatment of this complication. Here the author is at his best and gives some excellent advice. A short appendix on hernia and accident insurance closes the volume.

tutions for feeble-minded and epileptic runs from 0.295 per 1,000 in 1890 to 0.651 in 1909. The commission is of the opinion that this marked increase is more apparent than actual, as many persons are now committed to public institutions who were formerly cared for at home. Tabulations regarding pauperism, based on the admissions to poorhouses and relief furnished by county boards, show that, in 1890, 25.28 persons per 1,000 were so relieved. In the period of 1895 to 1899, however, the ratio increased to 31.97. The report concludes with twenty recommendations, summarizing the findings of the commission, which include measures for the prevention of the birth of defectives and degenerates by an extension of custodial care; for the restriction of immigration; for the exercise of more discrimination in the treatment of first offenders and habitual criminals; for further study of the causes and prevention of juvenile crime; for the enactment and enforcement of stringent laws regarding firearms; and for further research in state institutions as to causes of various types of degeneracy and mental disease.

Feeble-Mindedness in Children of School Age. By C. Paget Lapage, M.D., M.R.C.P., Lecturer in School Hygiene to the Manchester University. With an Appendix on Treatment and Training, by Mary Dendy, M.A. Cloth. Price, $1.60 net. Pp. 359, with illustrations. New York: Longmans, Green & Co., 1911.

This book is Number XIII of the medical series of the University of Manchester publications and is written to emphasize the importance of the subject of mental deficiency, to show the prominent place that proper care of feeble-minded persons should take in measures for the public welfare, and to demonstrate the fact that feeble-mindedness is an inherited trait and is capable of being transmitted with growing frequency to future generations. The report of the Royal Commission on the Care and Control of the Feeble-Minded, published in 1908, has stimulated interest in this question in Great Britain. The book is intended for school medical officers, teachers, social workers and others who have to deal with feeble-minded children, and contains chapters on the physical and mental characteristics of such children, their defects of speech, special types of feeble-mindedness, methods of diagnosis, treatment and care and a discussion of the inherited and acquired causes of this condition. A comprehensive bibliography and an exhaustive index are added. The book is well printed and copiously illustrated, and is a valuable addition to the literature of the subject.

Prevention of Infectious Diseases. By Alvah H. Doty, M.D., Health Officer of the Port of New York. Cloth. Price, $2.50. Pp. 281. New York: D. Appleton & Co., 1911.

Dr. Doty's extensive experience as health officer at the port of New York peculiarly fits him for the preparation of this book. In the preface, he states that it has been his aim to "deal with the subject from a practical standpoint and to present the latest knowledge relative to the transmission of infectious diseases and the means by which they may be prevented." Small-pox, yellow fever, typhus fever, cholera and bubonic plague are considered, as well as disinfection, disinfectants and the rôle of insects in the transmission of infectious diseases. A chapter on the thermometer discusses the importance of careful temperature observations in the examination of suspects as well as the method employed at the New York Quarantine Station. This book is of special interest in that it is based largely on the personal experience of the writer.

1910 Blue Book of Surgery. Technic of the Surgical Clinic, Anesthesia and Anesthetics, Preoperative and Postoperative Care of the Patient, and Diagnosis and Treatment of Some of the Most Important and Frequent Surgical Diseases. Compiled for the Interns, Students and Nurses of the College of Medicine and Surgery, University of the Philippines, and the Philippine General Hospital. Under the Direction of John R. McDill, M.D., Professor of Surgery, College of Medicine and Surgery, Univ. of the Philippines. By Hans E. Schiffbauer, M.D., Instructor in Surgery, College of Medicine and Surgery, Univ. of the Philippines. (Published in part in the Bulletin of the Manila Medical Society.) Cloth. Pp. 66.

So far as we are aware, this is the first instance of a manual of surgery being issued in the form of a government bluebook. It has been prepared by Dr. McDill, professor of surgery of the College of Medicine and Surgery of the University of the Philippines, for the use of interns, students and nurses, and is the successor of two small pamphlets, one on anesthesia and one on technic, which appeared last year. Surgical and clinical technic, anesthesia, preparation of patients, postoperative care and the treatment of emergencies are discussed in separate chapters. The surgical conditions considered are appendicitis, peritonitis, surgical diseases of the stomach, tetanus, hernia and tubercular adenitis. An evidence of the widening of the scope of governmental scientific work is found in the notice from the bureau of printing which accompanies the book, stating that the bureau is experimenting with book coverings in search of a material immune from the attacks of insects, and asking for reports as to the durability of the binding of this volume. Dr. McDill's manual, while limited to sixty-six pages, is concise and comprehensive and should prove of value in the instruction of students, interns and others. The chapter on differential diagnosis of gastric disturbances is by Dr. Graham of Rochester, Minn.

The Principles and Practice of Dermatology. Designed for Students and Practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois. Second Edition. Cloth. Price, $6. Pp. 1079, with 356 illustrations. New York: D. Appleton & Co., 1911.

The author in this revision of his admirable book has found it necessary to add a number of new titles, among them being "Gangosa," "Sporotrichosis," "Brown-Tail Moth Dermatitis," "Dermatitis from Straw-Mites," "Cestode Larva in the Skin," "Paraffinoma" (an affection following the injection of paraffin for cosmetic purposes), and some others. In the article on syphilis several pages are devoted to salvarsan, which name the author does not use, still calling it "606." These pages are simply interpolated without explanation or apology, as if by afterthought, and are not connected with the rest of the text; in fact, they are inserted between pages 584 and 585, and divide a sentence on the treatment of syphilis. Nor do they correctly represent the latest opinions on dose or method of administration. Neither the drug nor the method of treatment is mentioned in the index. The section on radium and the author's method of treating skin lesions with solid carbon dioxid have been expanded. Otherwise few changes have been made.

Hand-Book of the Surgery of the Kidneys. By W. Bruce Clarke, M.A., M.B. (Oxon.), F.R.C.S., Senior Surgeon to St. Bartholomew's Hospital. Cloth. Price, $4 net. Pp. 199, with 50 illustrations. New York: Oxford University Press, 1911.

This is a good example of a custom which is more prevalent in England than in this country: the publication of personal experiences in the form of monographs. The description of each of the principal surgical diseases of the kidney is very concise and fairly thorough. The entire book reads like a clinical lecture, the personal element being prominent throughout. It is one of few modern books on renal surgery to mention the importance of an accessory renal artery to the upper pole of the kidney. Attention has been directed recently in this country by several writers to the possibility of severe hemorrhage occurring either during or after operations on the kidney from such an accessory vessel. The greater portion of the chapter on examination is devoted to the differential diagnosis of renal from other abdominal tumors. This is rather to be deplored, as there are many other surgical conditions of the kidney than those which give rise to tumor formation. A Luys separator, such as that shown on page 30, would seem to us to be superfluous in the present state of development of cystoscopy and ureteral catheterization, since the use of the separator has been practically discarded by the majority of workers in this field. No mention is made of the use of indigo-carmin as a means of testing the functional capacity of the kidney. The reference on page 41 to removal of a portion of the kidney for tuberculosis is unfortunate, as this method of operation has long been considered obsolete. The book is one of few which urge a search for the presence of stones in both kidneys. Under "injuries of the kidneys" an excellent description of the pathology and symptoms is followed by a one-sided view of treatment; reference is made to the operative treatment only.

There are but few illustrations, the majority being taken from the St. Bartholomew's Hospital Museum.

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, New London, Conn., July 11.
Oregon State Medical Association, Los Angeles, Cal., July 10.

AMERICAN SOCIETY FOR ADVANCEMENT OF CLINICAL INVESTIGATION

Third Annual Meeting, held at Atlantic City, May 8, 1911

The President, Dr. Joseph H. Pratt, of Boston, in the Chair

The officers elected were named in The Journal, May 27, 1911, page 1584.

Further Studies on the Internal Secretion of the Pancreas

Drs. Joseph H. Pratt, Fred T. Murphy and Lesley H. Spooner, Boston: In a dog, nine months after the pancreas was separated from the duodenum, total sclerosis of the gland was found at autopsy. The site of the pancreas was occupied by a thick-walled duct, the epithelium of which had proliferated. In the wall of connective tissue were no acini or islands of Langerhans, but here and there were a few epithelial cells. Although the tolerance for carbohydrates was greatly reduced in this dog it did not develop diabetes. At the operation a triangular portion of pancreas measuring 1 cm. on each side was left connected with the duodenum and surrounding a large pancreatic duct. At autopsy this part of the gland also was found completely atrophied. Trypsin was demonstrated in the duodenum and also in the dilated pancreatic duct. This as well as other observations show that a minute amount of sclerosed and atrophied pancreatic tissue is sufficient to prevent the development of diabetes.

A dog has been kept alive two and a half years after separating the pancreas from the duodenum and it has never developed diabetes. The intestinal contents of this animal do not contain trypsin. This dog's tolerance for glucose could be raised to the normal by feeding fresh pancreas either of the sheep or pig. It remained at the normal level for over a month after pancreas was withdrawn from the diet, and then slowly fell to a low point. This was a female dog and she was a puppy when atrophy of the pancreas was induced by separating the pancreas from the duodenum. She has never menstruated and there has been an arrest of mental development, so that she still behaves like a puppy although now three years old.

Bits of the pancreas were transplanted into the spleen. Dogs and cats were used in these experiments. Most of the grafts disappeared in a few days, but well preserved acini surrounded by granulation tissue were found after thirteen days. A graft of pancreas connected with a mesenteric stalk was placed in the spleen. Later the remainder of the pancreas was extirpated and the mesenteric vessels running to the graft in the spleen were cut. The dog did not develop diabetes. In fact its tolerance was higher than in animals in which atrophy of the pancreas was produced.

Some Experiments to Determine the Nature of the Toxemia in Acute Pancreatitis

Drs. John Speese, R. G. Torrey and Joseph Sailer, Philadelphia: In 1908 we reported investigations which showed that after the experimental production of acute pancreatitis the blood-serum becomes intensely toxic to guinea-pigs and dogs, the only animals on which it was tested. This toxemia had already been noted by Guleke and Von Bergmann, by Doberauer and inferred by Hildebrand and Williams, who were unable to find bacterial infection in certain cases of acute clinical and experimental pancreatitis. Guleke and von Bergmann believed that the symptoms were due to the absorption of trypsin.

Our results are as follows: Dogs were operated on in the usual way, that is the abdomen and the duodenum are opened and about 20 c.c. of oil injected into the duct of Wirsung. In from six to ten hours, if the injection is successful, the animals are moribund. They are then bled to death, the serum collected and tested in various ways. It is to be noted that the blood in these cases is usually of a chocolate-brown color. We have not yet endeavored to determine the cause of this change. The clot is soft and the serum is always deeply colored. The toxicity of the blood was tested in guinea-pigs in the manner described in our previous paper. Incidentally Dr. Rehfuss discovered ulceration of the gastric mucous membrane in all respects similar to that observed by him and Dr. Loeb in various experimental intoxications.

Our methods for detecting trypsin were as follows:

Blood-serum was diluted with an equal amount of one-fifth normal sodium carbonate solution and a small amount of chloroform-water added. This was digested for twenty-four hours. It was then tested for the amount of uncoagulable proteid by the Kjeldahl and the Volhard methods. There was no difference between the digested specimens and the controls. As nearly as could be judged there was no difference in the intensity of the biuret reaction. Other portions of the blood-serum were then mixed with equal parts of a saturated solution of ammonium sulphate and the filtrate tested for trypsin as before. There was no evidence of any digestive effect. The blood-serum was then mixed with varied proportions of an arbitrary solution of starch, incubated and tested with Fehling's solution for the presence of glucose, but the Fehling solution was not reduced. All these tests were repeated with commercial preparations of pancreas and were positive. As we could not find any evidence of a fat-splitting ferment in the commercial preparations of the pancreas we did not attempt to find it in the blood-serum.

The results are therefore negative. This may be due to the absence of either the proteolytic or the amylolytic ferments in the blood-serum or to faulty methods or to faulty technic. Negative results are always inconclusive because a single positive result will destroy their significance, but we feel justified in saying that at the present time there is no reason to believe that the toxemia of acute pancreatitis is caused by the absorption of any of the external secretions of the pancreas.

Some Observations on a Pancreatic Cyst

Dr. Henry A. Christian, Boston: In a man, aged 42, fourteen months before admission to the hospital swelling of the legs began, followed two months later by the development of ascites. During a period of two months the abdominal fluid was withdrawn three times, and after the third tapping did not reappear. Soon after the third tapping, about ten months before admission to the hospital a gnawing pain appeared in the upper abdomen with occasional sharp paroxysms. Four months before admission a large lump appeared in the upper abdomen to disappear after a month and a half. Five weeks before coming in this lump reappeared and continued to be present. There was a large bulging tumor extending from beneath the ribs to an inch and a half above the umbilicus, elastic, smooth, moving slightly with respiration, apparently a cyst, crowding the stomach up and the transverse colon down. At operation this was found filled with a slightly viscid fluid, dark brown in color, containing changed blood. The wall of the cyst showed granulation tissue and no epithelium. The fluid withdrawn from the cyst was slightly alkaline and did not reduce Fehling's solution. It failed to give a trypsin reaction and did not digest coagulated egg albumen at body temperature, either as it came from the cyst or after the addition of scrapings from the duodenum. In the incubator at body temperature at the end of twenty-four hours it had acquired the power of reducing Fehling's solution, and previous boiling did not prevent this reducing substance from appearing. Kept at a temperature, however, of 60 C., no such reducing substance appeared, and preservation in the ice box for one month did not result in its appearance. The reducing substance so produced was fermented by yeast with the production of gas.

The Production of Glycosuria with Extracts of the Hypophysis

Dr. Joseph L. Miller, Chicago: The work on this subject has been more or less conflicting. Borchardt has obtained positive results when using rabbits and in a few cases with dogs. Franchini, working with rabbits, was only able to produce a glycosuria in two instances and where extensive ulceration of the bowel was present. sufficient he thinks to account for the glycosuria. Pal also reports that he was unable to produce a glycosuria by this means. I have worked with extracts made from dried ox hypophysis. Extracts were made from both anterior and posterior lobes. Reducing substances. not sugar, are frequently found in dog's urine. In addition to Fehling's test, the polariscope and fermentation tests were employed. Ten animals received intraperitoneally and intravenously extracts of the anterior lobe. Only two showed a glycosuria, one 0.48 per cent. and the other 5 per cent. Nine animals received extracts of the entire posterior lobe. Only one gave glycosuria 0.5 per cent. Further experiments are necessary before we can arrive at a definite conclusion either as to the rôle played by the hypophysis in glycosuria, or the portions of the hypophysis responsible for it.

The Presence of Dextrose in the Exudate of Pulmonary Edema

DRS. I. S. KLEINER and S. J. MELTZER, New York City: An injection of epinephrin causes in animals, as it is now well known, hyperglycemia and glycosuria. It is further known that some rabbits die after an injection of epinephrin from pulmonary edema. An examination of the exudate in these cases revealed the presence of dextrose. In order to be able to study the subject at will the rabbits were made to inhale ammonia through a tracheal cannula. Without exception the animals died in a few minutes from pulmonary edema. A systematic study established, in the first place, the following fact: Exudates of pulmonary edema of animals which received adrenalin contain dextrose, no matter whether the pulmonary edema came on spontaneously or was brought on by ammonia. The amount of the dextrose in the exudate was in most cases larger than in the hyperglycemic blood. It was found furthermore that, even without the injection of adrenalin, exudates from pulmonary edema (brought on by the inhalation of ammonia) contained dextrose far above that belonging to normal glycemia. It was established further that the blood of the animal thus dying from pulmonary edema was definitely hyperglycemic. The explanation offered for the last-mentioned phenomenon is that animals which die of pulmonary edema are, of course, asphyxiated and it is the asphyxia which causes the hyperglycemia and the exudation of dextrose. The quantitative relations will be dealt with at a later date.

Orthodiascopic Observations Concerning a Certain Type of Small Heart and Its Relations to Some General Systemic Affections

DRS. I. ADLER and O. F. KREHBIEL, New York City: We have found by numerous orthodiascopic observations and measurements that a certain form of small heart is regularly associated with a typical clinical picture. There is commonly present gastric hyperacidity and flatulence and abdominal distension. Clinical and microscopic study of the stomach contents after test-meals and of the feces fails to find any anatomical lesion. They are neurotic phenomena. At the same time, there are in the great majority of cases psychic symptoms; above all, a tendency to mental depression, and frequently hypochondria. The heart itself is smaller than the minimum normal for corresponding size and weight, especially in the transverse diameter. The aorta may be abnormally narrow or not. The blood-pressure is, as a rule, somewhat low, but not necessarily so. There is no evidence of any muscular disease of the heart.

After years of observation, secondary symptoms, due to insufficiency of the heart, have never been found. The heart is simply small, and remains small. There are many clinical cases which correspond exactly to the type mentioned, without the small heart; but in all of these cases it must be noticed that they have been acquired. The type that we here record is always congenital and may be found in comparatively young children. The cases we mention have absolutely no hysterical symptoms. It is our belief that this form of microcardia associated with the symptoms sketched is probably a clinical entity; but it is not our opinion that the small heart is a causative factor. With Kraus, we do not look on the small heart as a hypoplasia or a separate disturbance of cardiac growth, but rather as one of many other deviations from the normal.

The Relation of Arteriosclerosis to Acute Infectious Diseases

DR. CHANNING FROTHINGHAM, JR., Boston: Do the toxins of acute infectious diseases produce any lesion in the arterial system? If so what relation does this lesion bear to the arteriosclerosis of old age? We know from the literature that in cases of acute infection diffuse aortic lesions exist. Are these lesions due to the infective agent or its toxins? After injecting bacterial toxins in rabbits arterial lesions have been found. Human tissue taken at random from the aorta, spleen and kidney was studied for arterial lesions. In practically all cases of persons above 30 years, whether acute or not, the same lesion existed. In the renal arteries there were fat droplets in the muscle fibers and occasionally an increase in connective tissue in some layer. In the spleen, besides fat droplets in the media there was a peculiar hyaline-like degeneration involving one or all the layers. The aorta showed an irregular thickening of the intima with fat present. In the media fat droplets were in the muscle fibers, and also fat was in the intima in spots with no thickening. Next, cases in persons younger than 25 were studied. No different lesion was found, but in many, whether an acute infectious case or not, one or more of the above-described lesions existed. Fat droplets in the muscle of the renal arteries occurred in all the cases above 2 years of age of typhoid fever, tuberculosis and pneumonia. The splenic arteries showed the hyaline change in all cases of tuberculosis, pneumonia and diphtheria above two years of age and in over 50 per cent. of septicemia cases. The aortic lesions were present in cases over 2 years in all those of tuberculosis, typhoid fever, and pneumonia and in the majority of diphtheria and septic cases. One case of glanders showed marked lesions in all three tissues. The fact that all cases under two years showed no lesions argues against their being due to toxins. The peculiar lesions in the splenic arteries and the thickened intima of the aorta must leave on healing a permanent sclerosis, which may or may not have some relation to the arteriosclerosis of old age. Attempts to produce a general lesion in guinea-pigs by injection of bacterial vaccines were unsuccessful.

Remarks on Nephritis

DR. MARTIN H. FISCHER, Cincinnati: The underlying cause of every nephritis is an abnormal production or accumulation of acid in the kidney, and this one factor acting on the different colloids of which the kidney is composed produces all the changes characteristic of nephritis. The proof for such a contention resides in the facts (1) that evidence of an abnormal acid production may be found in any case showing the signs and symptoms of a nephritis, (2) that any method which leads to an abornmal production or accumulation of acid in the kidney is followed by the signs of nephritis, and (3) that any method by which we can counteract the effects of acid on the colloidal kidney structures constitutes a means of relieving the signs and symptoms of nephritis.

The swelling of the kidney in nephritis represents an increased absorption of water by the colloidal proteins of the kidney (edema), produced under the influence of an acid, and analogous to the increased absorption of water by fibrin or gelatin when an acid is added to these. The grayness of the kidney (clouding) is due to a precipitation of another colloid, analogous in its behavior to that of casein, within the cells of the kidney. The two together constitute "cloudy swelling." Casts are produced because when an acid is introduced into the kidney, the kidney falls apart in such a way as to permit the epithelial cells to stick together, while they loosen in mass from their basement membrane. This marks the origin of the epithelial cast. Granular or hyaline casts are successively produced from the epithelial at will, if the acid is allowed to act for longer periods of time, or in greater concentration. A hyaline cast can be reconverted into a granular one by neutralizing the acid, or adding various salts. The disturbances in water secretion in nephritis are due to the effect of the acid in interfering with the normal production and loss of carbon dioxid in the parenchyma cells of the kidney, on which normal secretion depends. Reduction in the absolute quantities of dissolved substances secreted by the nephritic kidney is secondary to the decrease in the absolute amount of water secreted. Changes in the proportion to each other of the dissolved substances secreted as compared with the proportion that these bear to each other in normal urine, are dependent on the effect of the acid in changing the adsorption properties of the kidney colloids.

The general rule to observe in the treatment of nephritis is to avoid all conditions which favor an abnormal accumulation or production of acid in the kidney—hence diets rich in alkalies and low in acids are indicated. The giving of water is not to be restricted, but to be encouraged, for the kidney cannot make water out of nothing, and plenty of water dilutes the toxic substances (including the acid) which are responsible for the injury to the kidney. The only danger of giving water resides in washing out salts and so favoring the action of acid in bringing about those deleterious effects on the kidney which are characteristic of nephritis. This danger is to be avoided, and can be, by giving salts, including sodium chlorid. Sodium chlorid restriction is not only not good but thoroughly bad. Experimental observations on animals show how the most intense grades of nephritis may be relieved by giving salts (concentrated sodium chlorid or concentrated Ringer solution) and alkalies (sodium carbonate). Such methods also lead to the disappearance of the generalized edema. Cases of nephritis with complete suppression of urine for several days were studied by Drs. James J. Hogan (Vallejo, Cal.) and Kennon Dunham (Cincinnati) in which relief of all symptoms and disappearance of all signs occurred after giving strong aqueous sodium carbonate-sodium chlorid injections per rectum.

All nephritides showing clinical symptoms are parenchymatous nephritides. Chronic interstitial nephritis without albumin or casts is not primarily a nephritis, but an atrophy of the kidney, and must be treated from this point of view. In this disease there is no evidence of an abnormal acid content in the kidney, and so also no decrease in urinary output. Primarily this is a vascular disease and the atrophy of the kidney and the hypertrophy of the heart are secondary to this. When the chronic interstitial nephritic shows albumin and casts then he also shows evidence of abnormal acid production in the kidneys, fails to secrete a normal amount of urine and develops an edema. At the same time his kidneys show the evidences of a parenchymatous nephritis added to his so-called chronic interstitial nephritis.

The Influence of the Administration of Potassium Salts on the Elimination of Chlorids in the Urine

Dr. R. S. Lavenson, Philadelphia: The administration of potassium salts causes an increased elimination of chlorids in the urine. The administration of 3 drams of potassium acetate daily for a period of two or three days, to a normal individual, increased the elimination of chlorids in the urine from 6 to 9 grams. Potassium nitrate administered in relatively slightly smaller quantities was attended by a slighter increase in the chlorid elimination. In subjects without edema, there is usually a compensatory chlorid retention after the administration of potassium is stopped. Sodium acetate did not cause any increased elimination of chlorids. It appeared that the amounts of chlorids eliminated have a direct relationship to the amount of potassium administered. This effect of potassium salts is of direct therapeutic value in connection with non-nephritic edemas, but it is doubtful if it is of any value in the treatment of edema resulting from nephritis.

The Leukocytic Enzymes in Leukemia in Neutral Media

Drs. R. S. Morris and T. R. Boggs, Baltimore: We made a study of the enzymes of the leukocytes in neutral media in two cases of acute myeloid leukemia, two of chronic myeloid and two of chronic lymphoid leukemia and pus from an empyema. Before testing, the cells were washed with physiologic salt solution to remove the blood-plasma. In all instances the following enzymes were found: protease, amylase, maltase and lipase. Invertase, lactase, and a glycolytic ferment were not demonstrable. It thus appears that in neutral media, so far as examined, no biologic differences were found between the cells of the myeloid and the lymphoid series.

Vital Staining of "Stipple Cells" in Malarial Blood

Dr. Thomas R. Boggs, Baltimore: Looseness in terminology and inaccuracy of description have led to confusion of two distinct types of granulation in the red blood-cells in malarial fever. These are: (1) The basophilic granulation of Plehn which is none other than the well-known Grawitz granulation seen in many anemic conditions. (2) The second type is the so-called Schüffner's, or Mannaberg's granulation which is weakly basophilic or amphophilic, and is found only in the infected cells, while the Plehn, or Grawitz granules, are found in uninfected cells only. We have observed several cases of malarial fever in which the anemia was marked and both types of granulation occurred simultaneously. In these cases studies were made of the unfixed blood with a large number of dyes. Very fine particles of the dyes were allowed to dissolve in the plasma of the unfixed fresh smears and their selective action on the two types of granulation observed. In brief, it may be said that the Grawitz, or Plehn, granules in the uninfected cells stained strongly with most of the basic dyes, while the Schüffner granules showed a weaker staining, being unstained with methylene-blue, faintly stained with crystal-violet, methyl-violet and azur I, and brilliantly stained with safranin. This latter stain (safranin) did not stain the Grawitz or Plehn granules at all. Lastly, the Schüffner granulation (which is limited to those cells containing parasites) was always peripheral in arrangement, suggesting a change in the envelope of the red cell, while the basophilic Grawitz granules were scattered and often central in position.

The Etiology of Actinomycosis

Dr. Frederick T. Lord, Boston: Actinomycosis involves the head and neck in somewhat more than one-half of the cases. In a considerable proportion of those with the disease in this region its point of origin can be traced to the tissues in or about the buccal and pharyngeal cavities. When the disease involves the maxillary region, trouble with the teeth often precedes the onset of the affection and if an operation is performed, a sinus may be traced to the root canal of a carious tooth. The disease involves the thorax and the abdomen in about 40 per cent. of the cases, each of these regions being affected in about 20 per cent. The initial lesion in such instances is usually either in the lung or the gastro-intestinal tract. Here too the buccal cavity may be regarded as the probable source of the infection, invasion taking place from organisms which have been inhaled or swallowed. Organisms resembling actinomycetes in morphology and staining reaction can be demonstrated in the contents of carious teeth and in the yellowish, hard or soft masses in the tonsillar crypts of patients without actinomycosis. The intraperitoneal inoculation of guinea-pigs with the contents of carious teeth and the crypts of the tonsils gives rise to omental tumors histologically identical with actinomycotic tissue and containing typical club-bearing actinomyces granules. Similar lesions have been produced in animals inoculated with scrapings from sound teeth. The inoculation of material scraped from coated tongues has given inconclusive results.

To completely establish the identity of these organisms and their relation with actinomycosis, pure cultures should be obtained. With such cultures, it should be possible to produce in animals lesions like those obtained with pure cultures of actinomycetes obtained from human or bovine actinomycosis. Attempts to accomplish this by various means have thus far failed. The isolation of the organism from material obtained from the teeth and the tonsils and from the experimental lesions in animals is rendered especially difficult by the abundance of the contaminating bacteria. From these considerations, until proof is offered to the contrary, actinomycosis may be regarded as arising from organisms harbored in and about the teeth and in the crypts of the tonsils.

Practical Tables of Food Values

Dr. Edwin A. Locke, Boston: The tables represent an attempt to simplify the methods of calculating the weights of the various nutritive constituents and the fuel values of the common American foods and beverages. So far as possible they have been arranged to obviate the actual weighing of foods and of tedious calculations which are necessary when the ordinary tables of chemical analyses are employed. Furthermore for the foods which are ordinarily served cooked, the values are given for them as prepared for the table. In the case of made dishes, however, so many factors combine to make the composition variable that the values chosen can be considered only approximate. No original analyses have been made but all calculations are based on actual weighings. The average helping has been uniformly chosen as the basis of the determinations, and in order that the size of the portion may be more definite, the actual quantity in common measure and the exact weight in grams are also given. The number of grams of water, protein, carbohydrates and fat in the average helping is stated, as well as the fuel value in calories represented by each. The last two columns of the tables include the total calories as well as the number of calories per 100 grams.

From these tables one is enabled to calculate by simple addition the total protein, carbohydrates and fat ingested at a single meal or during the twenty-four hours, or to make direct comparisons of different articles of food according to the calories represented by each ingredient. When food is taken in amounts other than the average helping, its value can be reckoned from its weight and the value for 100 grams given in the last column.

Observations on Venous Blood-Pressure Under the Influence of Certain Drugs

Dr. J. A. Capps, Chicago: The importance of the venous blood-pressure has been overshadowed by the interest in arterial pressure. The study of venous pressure has been further limited by the lack of simple, accurate apparatus. A series of animal experiments were undertaken by the method of Morawitz and Tabora. Of the cardiovascular drugs which raise arterial pressure, caffein, digitalin and strophanthin produced no change in venous pressure, epinephrin in large doses induced a rise in venous pressure, nitroglycerin, amyl nitrate and large doses of morphin set up a fall in venous, as well as in arterial, pressure. Alcohol in toxic doses on the other hand is followed by a rise in venous and a fall in arterial pressure.

A Clinical Cause of Hypotonia and Hypothermia

Dr. Haven Emerson, New York: A man with an entirely negative previous history and in apparently perfect physical condition, fell, during an attack of vertigo, and fractured the fifth and sixth cervical vertebræ. In addition to the clinical findings of a complete sensory and motor paralysis below the level indicated, the diaphragm action being unimpaired, there was a persistent low temperature and a low general blood-pressure. The rectal temperature fell from 97.8 F. on the first day to 96.2 F. on the second day and then remained at 90 F. or a little above or below for the remaining four days of life. The systolic blood-pressure remained at 88-90 Hg from the second day until the patient died three days later. These two observations agree with findings reported in experimental transverse section of the cord in rabbits and dogs. The clinical observation here reported has not been made before, I believe, and may be found if looked for where the functional lesion is high enough and complete enough to sever the greater part of the vascular system from control of the vasomotor and heat regulating centers in the medulla. It is to be expected that in such a case the coincident occurrence of infectious and usually febrile processes in the body might be overlooked owing to the failure of a rise of temperature.

AMERICAN PEDIATRIC SOCIETY

Twenty-Third Annual Meeting, held at Lake Mohonk, N. Y., May 31-June 2, 1911

The President, **Dr. Henry D. Chapin**, New York City, in the Chair

A list of the officers elected was given in The Journal, July 1, 1911.

The Fundamental Principles of Pediatrics

The address by the president, Dr. Chapin, will be published in full in The Journal.

The Therapeutic Utility of Diphtheria Antitoxin

Dr. Augustus Caille, New York City: The discovery of diphtheria antitoxin has revolutionized the treatment of diphtheria. The only reason for the present-day mortality is that the great divergence of clinical manifestations of diphtheria is not sufficiently recognized and the public is not sufficiently educated along these lines. Experienced physicians know that it is impossible to distinguish clinically between tonsillitis and diphtheria, and that it is useless to wait for the laboratory report. A running nose, usually one-sided, a thin blood-colored greenish discharge, an excoriated upper lip, a croupy cough with stridulous breathing, and finally cyanosis, are suggestive of the disease. It is not generally appreciated that certain forms of bronchopneumonia and pleuropneumonia can be favorably influenced by diphtheria antitoxin. Whenever a primary or secondary bronchopneumonia is suspected to be associated with diphtheria, antitoxin should be administered freely. Whooping-cough might be complicated by a visible throat diphtheria, and antitoxin is indicated as soon as the slightest throat or nose exudate is in evidence. In the event of a croupy cough in pertussis the prompt administration of antitoxin is life-saving, inasmuch as it makes intubation unnecessary. Immunizing injections should only be made with the serum other than that which comes from a horse. The scope and application of diphtheria antitoxin should be widened. I advocate a scratch test to detect hypersusceptibility. An animal serum other than that from a horse is needed, or an antitoxin not associated with albumin to avoid anaphylactic shock.

DISCUSSION

Dr. E. E. Graham, Philadelphia: In the Memorial Hospital for Crippled Children it has been the practice for a long while to give immunizing doses of antitoxin, and over a long period of years no injurious effects have been observed. In the Municipal Hospital in Philadelphia, also, they have not seen evidence of anaphylaxis, except of a very mild degree. It is very important to decide definitely whether or not there is any real danger from anaphylaxis and just how great the danger is, before influencing physicians against its use.

Dr. G. R. Pisek, New York City: As to the scratch test, very minute quantities of the protein will cause anaphylactic shock, and it would be almost impossible not to introduce even with a scratch enough to produce this condition. At the present time we should use antitoxin only in suspected cases, and not unless there is definite reason for it.

Dr. J. Mason Knox, Baltimore: I doubt very much whether, if it were found that the patient was susceptible to the skin reaction, it would be a definite indication that he would be susceptible to a subsequent injection of horse serum.

Dr. Matthias Nicoll, New York City: It would be a great mistake to allow the idea of a possible anaphylaxis to interfere with our use of antitoxin as a preventive.

Dr. C. G. Kerley, New York City: In the Nursery and Child's Hospital some of the children have had three or four repeated injections and no anaphylaxis has been observed.

Dr. John Ruhräh, Baltimore: It would be a great mistake to lay too much stress on this idea of anaphylaxis, as many physicians might be afraid to use immunizing doses.

The Value of Pertussis Vaccine in the Treatment of Whooping-Cough

Dr. Edwin E. Graham, Philadelphia: My earliest cases received only 20,000,000 bacteria for four days; this dose failed to produce any untoward symptoms, and was increased accordingly to 40,000,000 bacteria every four days. Careful study of these cases tended to show that the disease was modified by treatment. The same dose was then given every three days, and beneficial results seemed to be definite. Then 40,000,000 bacteria were given every two days. In not a single instance was there evidence of any local inflammation. I believe that the dose should be increased beyond 40,000,000, especially in severe cases.

SYMPOSIUM ON POLIOMYELITIS

The Extent and Distribution of Poliomyelitis in the United States and Canada

Dr. Robert W. Lovett, Boston: My report is based on studies made from two hospitals, the Children's Hospital in Boston and the New York Orthopedic Hospital. There had been a gradual increase in the number of cases during the past twenty-five years; the disease was especially prevalent in Massachusetts and Vermont during the first outbreak in the United States, which occurred in 1894. In the following eleven years there had been an average of fifteen cases a year. In 1905-06 no epidemics of the disease. In 1907 a large epidemic in New York City, 2,500 cases being reported. In 1908 the disease appeared quiescent. In 1909 a large epidemic occurred in various parts of the United States, 2,343 cases being reported. In 1910 a larger number of cases were reported than at any time before, and its distribution seemed to be greater than in any previous year; there were 8,700 cases reported.

Prevailing Clinical Manifestations of Poliomyelitis. The Cerebral Type

Dr. Henry Koplik, New York City: The cerebral forms of poliomyelitis were first brought to the attention of the profession in 1905 and in the epidemic described by Wickman in Sweden. Polioencephalitis, poliomyeloencephalitis of Strümpel, that form of encephalitis of Oppenheim, were included, as were also the forms of polioencephalitis, inferior and superior, of Wernick. All forms might be merged in some cases in one another. The greatest difficulties are offered by the cerebral cases which simulate either meningococcic meningitis, with isolated basic palsies, or meningitis of the tuberculous type.

Prevailing Clinical Manifestations of Poliomyelitis—the Spinal Type

Dr. John Lovett Morse, Boston: It is commonly known that paralysis comes on quickly in the course of a few hours, or at most three or four days; this is followed by a stationary period of from one to four weeks, and this by a period of improvement lasting from six months or a year, and finally the paralysis occurring, which is, as a rule, less than the initial paralysis. As a rule, spinal paralysis is mono- or hemiplegic, and it is comparatively unusual to have all the muscles of the extremities involved. It is not unusual for other muscles than those of the extremities to be involved. Diagnosis of infantile paralysis of the spinal type after the development of the paralysis is easy; the difficulty is in making a diagnosis before the appearance of the paralysis. Hyperesthesia is the most constant and the most important symptom. The only possible method of making a diagnosis of infantile paralysis of the spinal form before the onset of paralysis is by lumbar puncture.

The Present Status of Experimental Work on the Nature and Treatment of Poliomyelitis

Dr. Simon Flexner, New York City: It is now common knowledge that infantile paralysis, as it occurs in human beings, is readily transmitted to monkeys, though monkeys are insusceptible to the disease. The disease has not yet appeared spontaneously among monkeys as the result of contact; it is necessary that the virus pass the barriers of the external surface of the body. This is not possessed to the same degree in the human being, especially the young. There are two questions of importance: first, control by prevention; second, cure by treatment. Control of the disease by prevention is the mode of dealing with the disease which should be preferred. The fact has been established clinically that direct contact has a very important bearing on the transmission of the disease. Insects can be contaminated and be made a transmitter of the disease, but for the purpose of prevention the idea that human contact is an efficient means for the spread of the infection should be accepted. The house-fly fulfils the requirements for transmission, and it has been shown that flies contaminated with the virus can transmit it, but experiments in this line are not yet completed. Under certain conditions the virus is excreted with the secretions of the nose and throat; flies feed on these secretions, particularly among the sick, and those whose bodies are more or less paralyzed, or those who are delirious, and can become contaminated in this way. The question of therapy presents itself along two lines, one of which is serum-therapy. The value of the serum is slight, however. We possess in hexamethylenamin a drug which can act in the presence of this serum and prove of great value. Experiments have proved that it can prevent the disease in monkeys.

DISCUSSION

Dr. Samuel S. Adams, Washington: I addressed a letter to every children's hospital in the country last fall asking a number of questions as to the spread of the disease. Replies to the question as to the disease originating in the hospital were invariably in the negative.

Dr. A. C. Cotton, Chicago: I advocate depletion as a rational treatment; elimination of the unknown toxin; profuse catharsis; diaphoresis; diuresis and perhaps blood-letting. I also used a combination of ergot and bromids to diminish hyperemia of the spinal cord.

A Study of One Hundred Infants from Birth to the End of the First Year

Dr. Charles Hermann, New York: This work was originally undertaken for the purpose of determining what could be done in lowering the mortality in a series of infants by advising the mothers and supervising the infants from their birth. Briefly stated, the work was carried on as follows: From June 1, 1909, to June 1, 1910, 172 babies were born in the maternity ward of the Lebanon Hospital. After delivery the mothers were instructed in the care and feeding of infants, and a printed form containing a few of the most important points were given to them to assist the memory. Special emphasis was placed on the importance of breast feeding. They were also given a card to the Pediatric Department of the dispensary and requested to return to the dispensary within ten days after leaving the hospital. If they did not come in at this time, a postal card was sent, and if that failed, a visit to the house was made. Sick infants were to be brought to the dispensary immediately. Total number of infants born in the maternity ward, 172. Males 100, females 72. Deaths during the first year of life, 14. Number followed for one year or more, 125. Breast-fed exclusively for five months or more, 66 per cent.; breast-fed partially for five months or more, 83 per cent. The following points were demonstrated: (1) Breast milk may be made to reappear in a breast that has not functionated for more than two months; (2) a mother may believe that she has not sufficient breast milk, when, as a matter of fact, she has more than enough; (3) the great importance of proper advice to counteract the improper advice of neighbors; (4) an infant may show an insufficient gain in weight during the first three months, although the food, breast milk or artificial, may be of proper quality and quantity; at about the third month on the same food the infant will rather suddenly gain much more rapidly in weight; (5) cases presenting at different times during the first year the characteristic manifestations of the "exudative diathesis;" recurring attacks of loose mucous stools considered as one of the manifestations; (6) the importance of a baby's ward to which the very sick can be referred and the necessity of having breast milk for the extremely bad cases; (7) breast feeding may be possible in an infant even when several preceding infants of the same mother were artificially fed. Not a single death occurred in an infant that was breast-fed for more than five months; none of those that died were breast-fed at the time of death.

Recurrence of Scarlet Fever

Dr. J. P. Crozer Griffith, Philadelphia: Recurrence of the typical forms is a rarity, but that it does occur is supported by the testimony of many writers. A boy, 2 years old, on April 12 had nose bleed and vomiting. Next day he did not appear to be ill, but late in the afternoon again vomited. On the following day he had a scarletiform rash over the thorax and abdomen. He ran a mild course of scarlet fever. The efflorescence disappeared during the first week of illness. One week later he had some sneezing, cough, and there appeared a well-marked attack of measles. The desquamation of measles was concealed by the desquamation of the scarlet fever. The child remained well until May 14 of the following year—thirteen months later—when he became restless and feverish during the night. Twenty-four hours later he was covered with a typical scarletiform rash. There also developed a post-scarlet fever nephritis.

DISCUSSION

Dr. L. Emmett Holt, New York: I saw one case of recurrence of scarlet fever, the first attack at the age of 7 and the second at the age of 24; both were severe and typical; in one there was an otitis and in the second a nephritis.

Dr. C. Gilmore Kerley, New York: I saw two cases of recurrence of scarlet fever, the second of which was beyond question a true one.

Dr. A. Jacobi, New York: I have seen but two cases of recurrent scarlet fever. but they were decided cases.

Dr. Henry T. Machell, Toronto: I saw one case of recurrent scarlet fever.

Duodenal Ulcer in Early Life

Dr. J. P. Crozer Griffith, Philadelphia: This condition is such a rare one that the text-books take no note of it whatever. I saw two cases, the first one of which was uncertain, not coming to autopsy. The second was a child 6 months of age. Fed artificially for four weeks, he began to suffer from gastric disturbances and failed to gain in weight. Constipation developed and there was discharge of very hard feces. A milk mixture right in fat was given. Blood appeared in the vomited matter and there were dark and bloody stools. The child went into collapse, became moribund and died. At autopsy an ulcer was found just below the pylorus which measured about 5 mm. in diameter; there was no stenosis of the pylorus.

Means of Protection Against Contagious Diseases in Hospital Work

Dr. William P. Northrup, New York: At the Presbyterian Hospital we use, first, the "Grille" or bed screen; this is 4 feet high and entirely encloses the child's bed. The psychologic effect is to indicate that no one is to approach. The idea is based on that of contact infection. Second, we use an examination table which enables the physician to work with comfort in intubations, aspirations, punctures, etc. A crib-warmer consists of an asbestos box containing an electric heater. The electricity sufficient for an ordinary 16-candlepower lamp is all that is necessary. Bath-tubs have been abolished, as they are thought to be a great source of infection, and marble slabs sloping to a sink have been substituted with sprays for cleansing the skin.

The Preservation of Health in School Children

Dr. R. G. Freeman, New York City: The following are essential for the preservation of good health among school children: There should be short school hours; frequent recesses, open or well-ventilated school rooms, roof playgrounds in the cities, individual study of the backward or feeble-minded children. Every public school child should be supervised at play as well as at study. There should be a medical supervisor who should have control of the preservation of the health of school children; exclusion of all school children who suffer with colds, as well as those suffering with other contagious diseases; dismissal from school during the period of intubation of all children who have been exposed.

Diabetes in a Seven Months' Old Child

Dr. P. J. Eaton, Pittsburg: The baby appeared to be thriving well until December, 1910, when it had a swelling of the toe of the left foot. The following week the toe of the right foot presented a similar appearance. Toes were red and swollen, but not painful to touch. Urine was collected; specific gravity, 1.037; typical reaction for grape sugar; acetone and diacetic acid were present—over 10 per cent.

Dr. A. Jacobi, New York City: I advocate the use of four drugs in the treatment of the condition: salicylic acid, arsenic, codein and atropin.

Which is Preferable in Colon Irrigation—the Long or the Short Tube?

Dr. Henry T. Machell, Toronto: I analyzed 200 cases. For the amount injected the short nozzle has the advantage; the fluid is retained for a longer time and the amount permanently retained is larger.

DISCUSSION

Dr. Charles G. Jennings, Detroit: Dr. Yates made some interesting experiments along this same line and showed that it is practically impossible to introduce a long tube into the colon; it simply folds on itself and remains in the lower part of the bowel.

Dr. A. Jacobi, New York City: It is more than thirty years since I have attempted to use the long tube.

Dr. Henry D. Chapin, New York City: You could get the same effect with much more safety with the short tube than with the long tube.

The Use of Malt Sugar and High Percentages of Casein in Infant Feeding

Dr. J. Lovett Morse, Boston: I am not yet prepared to accept Finkelstein and Meyer's statements regarding their method of treatment in all disturbances of nutrition in infants which are accompanied by diarrhea. There is a strong argument against sugar as the etiologic factor in fermentation, and the treatment of fermentative conditions by a food very low in sugar and high in proteids is rational. The substitution of dextrin-maltose mixtures for lactose also seems rational. It seems that it would be possible to take advantage of what was best in the method and at the same time avoid the disadvantage of a routine food and the superfluous buttermilk by applying them in modification of the milk by the percentage method. By the use of cream containing a high percentage of fat it is possible to reduce the amount of unprecipitated casein to a very low percentage. The precipitated casein is prepared according to Finkelstein and Meyer's method, the casein from 1 quart of milk being made into an emulsion with sufficient water added to make 1 pint.

DISCUSSION

Dr. A. Jacobi, New York City: The great principle in the treatment of these cases is little fat, little milk sugar and more carbohydrates.

Dr. R. G. Freeman, New York City: The advantage of the Finkelstein method is the low fat and low sugar. While I have found it very good in children that were vomiting and had bowel trouble, children would not gain on it unless more sugar or fat was added.

Mikulicz' Disease with Report of a Case of Lymphatic Leukemia in a Child with Marked Enlargement of the Salivary Glands

Dr. Wilder Tileston, New Haven, Conn.: A child 2 years old, had large tumors in both parotids, both submaxillary glands, the lachrymal gland not being involved. Autopsy showed that there could be but little doubt that it should be classified as above. The term should be reserved for those cases of chronic bilateral enlargement of the salivary and lachrymal glands in which pseudo-leukemia and leukemia can be excluded. The cases occurring in the last-named disease should be classified as pseudo-leukemia or leukemia with the Mikulicz syndrome. The cause of Mikulicz' disease is probably some infectious agent. It is likely that a number of different organisms might cause the symptoms of the disease.

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Second Annual Meeting, held at Shreveport, May 30-June 1, 1911

(Concluded from page 42)

Antityphoid Vaccination

Dr. C. C. Bass, New Orleans: Although typhoid vaccines are variable, and although there is considerable experimental work necessary before the most can be accomplished, the evidence of immunity is so strong and the amount of inconvenience and discomfort are so small that doctors, nurses and others frequently exposed to typhoid infection should take advantage of vaccination. The agglutination test should be used both to determine when immunity has been secured, and as a guide to vaccination, and also as a check on vaccines, with low immunizing powers. A quick macroscopic typhoid agglutination test can be made in one or two minutes and has many advantages over the usual microscopic test for this and other purposes. Of 247 persons whom I vaccinated, 1 has had typhoid, and in fact had it when he was vaccinated. At least six students of the medical college had typhoid during the session, but none of them had been vaccinated.

The Relation of Gall-Bladder Diseases to Disturbances of Digestion

Dr. J. E. Knighton, Shreveport: In a long series of autopsies, published recently by McGlenn, 506 cases of gall-stones were found, being about 6 per cent. of the total number of autopsies, and out of this entire number of 506, only 21 were diagnosed before death. It seems to me that we are forced to the conclusion that only a small percentage of the cases present atypical and characteristic paroxysms of hepatic colic, jaundice, etc. As so many gastro-intestinal lesions are associated with gall-stones, and that in many cases where no definite lesion exists there is a disturbance of gastric secretion, it is obvious that a greater percentage of diagnoses should be made than are reported.

Experience with the Modified Wassermann Reaction

Dr. A. A. Herold, Shreveport: Out of my last twenty-two cases, I have secured thirteen positives, and nine negatives. The Wassermann reaction is a practical aid to the clinician, and some of my cases show conclusively its value. Probably, however, its greatest utility is in cases which give a perfect history of infection, but where we are not satisfied that the treatment which they have undergone has cured them. Given a case with a typical Hunterian chancre, followed in a few weeks by classical secondaries, we are justified in treating that patient without a confirmatory laboratory test. If, after leaving off treatment four to six months, he presents no clinical symptoms and gives a negative Wassermann, you may pretty safely tell him he may marry.

Influence of Southern Louisiana Climate on Pulmonary Tuberculosis

Dr. E. L. McGehee, New Orleans: The precipitation is above the average, the flat surface exposing so large an area for rapid evaporation, and with sandy porous sulphur-laden soil which rapidly absorbs, generating ozone and preventing humidity. A mild climate with seldom rapid changes, and more seldom extreme temperature. Though a long summer, the heat is tempered by an ocean breeze, the moisture of which is absorbed in passing through the pine forests. Hence the flat, pine-covered sandy lands, of south Louisiana especially, will not make heavy drafts on vital energy, thus hasten retrograde change, but seem to retard old age and make death more remote, as is shown by the number of prolific octogenarians living in this region.

Cryptorchidism

Dr. H. B. Gessner, New Orleans: I have had two cases of cryptorchidism operated on by the Bevan method. In case one, primary union resulted. The final result was satisfactory, the testis remaining comfortably in the scrotum. The patient was discharged two weeks later. In case two, primary healing occurred, and the patient went home a fortnight later.

The Rôle of the Gametes in Relapsing Malaria

Dr. William Krauss, Memphis, Tenn.: We have recurrences of malarial fever by means of reinfection from without, by reinfection from one's own gametes, by resegmentation of macrogametes, without the aid of anophelines and reintroduction, and, possibly, by the conjugation of plastogamy, according to Craig. In any case, it should be remembered that it is just the symptomless gamete carriers which perpetuate the infection, and that every opportunity should be made use of to examine the blood of persons who have suffered from malarial attacks, and, if gametes are found, to use active and persistent cinchonization for at least thirty days. In my experience it has seemed more desirable, although I am not borne out by tropical workers, to interrupt this quinin therapy from time to time, and continue it somewhat longer. It is my opinion that a campaign directed against gametes is worth more in eradication of malaria than all the other methods combined. We will probably always have gametes; let us see that they remain sterile.

When Shall We Operate in Crushing Injuries?

Dr. J. L. Wilson, Alexandria: I believe the opinion today among surgeons is that we should wait until the patient has reacted from shock and hemorrhage before any operative procedure is attempted. The length of time that operation should be delayed with safety in these cases will depend on the location of the injury, the probability of early infection, and the condition of the patient with reference to shock. I have seen a number of patients recover after severe multiple injuries of the extremities, simply for the reason that sufficient time was allowed for shock to pass before any attempt was made to operate. On the other hand, I have witnessed deaths in such cases in which the added shock of the operation hastened the end.

Conservative Surgery of the Shoulder Joint

Dr. William M. Perkins, New Orleans: We should attempt to preserve shoulder function even though there is small chance of success. By no means should one advocate unwise conservatism; much can be accomplished by taking advantage of every opportunity for saving tissue and function, and retreating before disease only when we must.

The Abortive Treatment of Acute Gonorrhea in the Male Urethra.

Dr. J. M. Bodenheimer, Shreveport: I have treated thirty-four cases of beginning gonorrhea by sealing argyrol in the urethra. Two cases were given only one injection with prompt results. The remainder were given two and three injections. I saw untoward effects in only two cases.

Treatment of Tetanus

Dr. Joseph D. Martin, New Orleans: From May 1, 1905, to January 1911, there were treated in the Charity Hospital forty-six cases of tetanus in adults. Of these twenty-eight were males and eight females. In twenty-eight cases the injury was in the foot; fourteen were due to nails and ten to splinters. Of the forty-six cases, nine recovered. The average incubation period for those who recovered was sixteen days, for those who died, seven and a fraction days. Twelve of these thirty-seven died in the first twenty-four hours. According to the records, only nineteen of the cases received serum. The dose was anywhere from ten to fifty c.c. Bromid or chloral was used in every case, the dose ranging from twenty to forty grains of bromid, and five to ten grains of chloral, every two, three, or four hours, as indicated. Twenty-two of the cases had convulsions. Trismus and pain in the back of the neck were always the first symptoms complained of. The wound should be as thoroughly asepticized as possible, freely opened, and any foreign body removed, then swabbed out with pure carbolic acid, followed by alcohol. Fifteen hundred units of antitetanic serum should be given each day at least five or six days and chloretone in thirty-grain doses should be given by rectum. I prefer this route because by mouth it is liable to upset the stomach as the occasion arises, and I believe the respirations are a good guide to go by. When the respirations go above thirty, it means the diaphragm muscle is having a hard time and if not relieved it is only a question of how long it will be able to last. Morphin should be given only when there is pain. Liquid nourishment is to be given. A most important part of the treatment is to keep the bowels open.

Senile Hypertrophy of the Prostate

Dr. A. Nelken, New Orleans: My preference is for the suprapubic operation. It is undoubtedly the easier and the more rapid one. The danger of wounding the rectum, with all the disagreeable sequelæ of recto-urethral fistulæ, is absent. The vesical cavity can easily be inspected by the eye, if thought necessary, but, as a rule, the trained finger will give as much or more information. I have never had insurmountable difficulty in removing a fibroid prostate. The careful use of the scissors, although very rarely required, will prove of great assistance in clipping restraining bands, where the prostate will not peel readily from its sheath. I have had but one case of troublesome hemorrhage, and its management was not difficult. I have operated on seventeen cases of enlarged prostate, with three deaths. My deaths have all occurred in Charity Hospital cases, where conditions both as to the physical condition of the patient and the after-care were not ideal. One of my patients died of pneumonia two days after the operation, due to exposure during the preparation of the field for operation. Another patient died of kidney failure three weeks after being operated on, and the third death was in a man of 84, a bad surgical subject, and a case which I do not believe that now, with a larger experience, I would attempt to do a radical operation in. In the remainder of the cases that I have been able to follow, the ultimate results have been uniformly good.

Intermittent Hydronephrosis.

Dr. Marion Souchon, New Orleans: I saw a typical case of intermittent hydronephrosis in a male, aged 45, due to the passing of renal calculi. I performed perineal-ureterolithotomy.

Primary Extra-Uterine Abdominal Pregnancy

Dr. I. M. Callaway, Shreveport: A woman, aged 26, entered the hospital Feb. 25, 1911. Her case was considered one of ordinary pregnancy. After one or two weeks she was attacked with nausea and pains in the abdomen. Thinking it was the beginning of labor, I examined her and found the fetal head in the left hypochondriac region. The abdominal walls were so thin that the hands could be palpated and observed to move. The fetal heart was heard and movements were freely observed. In the right iliac region a mass was palpated, which afterward proved to be the enlarged uterus with placenta attached. Vaginal examination showed long patulous cervix in the right pelvis, and a mass of feet and knees in the left pelvis. The woman gave a history of hemorrhage from the uterus lasting six weeks, about seven and a half months previous to this examination, then cessation as to time of delivery. During this period she, at times, had a whitish membranous discharge, and with these symptoms a diagnosis of abdominal pregnancy was made. As the fetus was alive and the woman in good condition I delayed as long as possible abdominal section, hoping to let the child go to viable age. This was her third pregnancy; the two other labors were normal, the youngest child being 2 years old. On March 29, 1911, after a severe attack of general abdominal pain and vomiting, I opened the abdomen. The abdominal wall was very thin. I found a very friable placental sac, which ruptured on handling, and a fully developed child was delivered.

Enterostomy as a Life-Saving Measure

Dr. F. W. Parham, New Orleans: I believe the guide in doing enterostomy in all cases should be the condition of the patient and the duration of the obstruction. If his condition should permit, the obstruction should be found and radically treated, otherwise enterostomy should be done. No matter what the nature of the obstruction, enterostomy should be preferred, if the patient's condition does not warrant radical intervention. But the ease and safety of the operation must not be made the excuse for avoiding a responsibility which the surgeon should shoulder. Enterostomy must be reserved for the exceptional cases where relief must be quick and no radical procedure is justified. The indication being clear, we must do the enterostomy in the simplest and safest way.

Other Papers Read

The following papers were also read:

"Albuminuric Retinitis of Pregnancy, With Detachment of the Retina," by Dr. M. Feingold, New Orleans; "Diagnosis of Abnormal Stomach Evacuations," by Dr. F. E. LaMothe, New Orleans; "The Pathology of Pregnancy," by Dr. George B. Lawrason, Shreveport; "Treatment of Old Intracapsular Fracture of the Hip Joint, Illustrated," by Dr. Edward S. Hatch, New Orleans; "Epithelioma of the Lip," by Dr. J. C. Willis, Shreveport; "Insurance Companies in Their Relations to Sanitary Science," by Dr. J. H. Florence, Houston, Texas; "The Various Anesthetics as Applied to Obstetrical Work," by Dr. A. C. King, New Orleans; "Surgical Relief of a Case of Gastroptosis," by Dr. M. H. McQuire, New Orleans; "The Office Treatment of Rectal Diseases," by Dr. Charles Chassaignac, New Orleans; "Sanitation," by Dr. L. Lazoro, Washington; "Preliminary Notes on the Ammonia Content of the Blood Under Different Conditions," by Dr. Ralph Hopkins, New Orleans; "The Pigment and Plasmodia in the Tissues of Pernicious Malaria," by Dr. William H. Harris, New Orleans; "Vaccine Therapy in Leprosy," by Dr. C. W. Duval, New Orleans; "The Relative Value of the Neutrophilic Blood Picture as a Guide in the Administration of the Tuberculins," by Dr. Wallace J. Durel, New Orleans; "Results of My Investigations Concerning the Extent of Hookworm Infection in Louisiana," by Dr. S. D. Porter, New Orleans; "Dietetics in Typhoid Fever," by Dr. J. B. Guthrie, New Orleans; "A Case Illustrating the Dangers Following the Use of the Bladder Catheter," by Dr. S. M. D. Clark, New Orleans; "Some Notes on the Pathology of Labor," by Dr. D. O. Willis, Leesville.

THE MASSACHUSETTS MEDICAL SOCIETY

One Hundred and Thirtieth Annual Meeting, held in Boston, June 13-14, 1911

The President, Dr. George B. Shattuck, Boston, Presiding

Officers Elected

A list of the officers elected was given in The Journal, July 1, page 32.

The next meeting will be held at Boston, June 12-13, 1912.

The report of the secretary showed that 145 new members had been admitted during the year; that the total membership June 14 was 3,361, and that there was a balance in the treasury on April 15, 1911, of $14,745.31.

In response to a communication from the Board of Trustees of the American Medical Association requesting an expression of opinion on the subject of making in the future all members of state societies *ipso facto* members of the American Medical Association, the Massachusetts Medical Society adopted a resolution stating that it "is impossible to devise a scheme whereby the desired object may be attained," and therefore that it considered the proposition "inexpedient."

The Case of G. W. Galvin

The findings and recommendations of the board of trial convened to try George William Galvin of Boston, a member of the society, on charges of advertising his methods of practice, to-wit, that he was guilty, and that he be and is expelled from his membership, were approved by a unanimous vote.

Amendment on Change of Residence

The following proposed amendment to the by-laws was offered and referred to the next annual meeting for action:

Add to By-Law 9 the following: "Any fellow wishing to change his membership from one district society to another may petition the council in writing to grant such change, stating his reasons therefor. Such petitions shall be referred to the Committee on Membership and Finance, who shall consider the petitions, shall consult with the officers of the two districts involved in the change, and shall report recommendations to the council. The council shall decide by vote whether or not such petitions shall be granted."

Suits for Alleged Malpractice

Dr. G. W. Gay, Boston: Malpractice suits have little effect on a medical man's reputation or on his practice. Reputation is established by a long process. Suits should be contested in every case to the last stage. A function of a medical society is to furnish counsel for defense of its members; seventeen state societies now do so. In New York State 147 cases have been tried and none lost. Reputable physicians recognize their duties to themselves and to the public; they give their services to poor and rich alike, gladly and freely, and to hospitals and dispensaries and receive no compensation. Members of the profession should stand together to contest all cases against them and should not compromise or settle out of court. All reputable physicians should act as a unit. Let the profession understand this and suits will be rare.

Coexistent Epidemic Cerebrospinal Meningitis and Malaria

Dr. W. J. Collins, Northampton: I have seen three cases of epidemic cerebrospinal meningitis, one tertian malaria and one cerebrospinal meningitis coexisting with tertian malaria. The five cases came to Northampton from the same locality in Lamia, Greece, on different ships. Two of the patients died. In the case of coexistent cerebrospinal meningitis and malaria, elevation of temperature to 106 F. occurred one week after treatment, consisting of large doses of quinin for a month, had been omitted; all the symptoms of malaria returned and the malarial organisms were again found in the blood.

Why and When to Operate on Fractures

Dr. F. J. Cotton, Boston: Operations should be performed only because the non-operative results are bad in certain cases and classes. I was one of the first in this community to do routine open operative work on fractures, and as time has gone on I have become more radical as the results in this field have improved. Applying plates to fractures is not a difficult proceeding. The point that is hard to settle is when to apply them. In compound fractures interference is called for perforce, and the chances of infection are greater than with the wound made deliberately. Radical intervention is indicated in nearly all fresh compound fractures. Operative fixation at the time a compound fracture is cleaned should be avoided as a rule; sometimes it is better practice to let the wound heal and cut down later to secure fixation of the fragments. The only uncomplicated fracture which should be always treated by open operation is fracture of the patella with separation of the fragments, but this statement is to be qualified by saying that non-operative treatment gives very tolerable results and is to be preferred in the aged and infirm. In all other fractures non-operative treatment should be tried first—incision being used only after failure. The use of the *x*-ray within a fortnight will test the results obtained by non-operative treatment.

After considering the proper treatment of the different varieties of fracture, I made the following summary:

Operable as a routine: Compound fractures; fractures complicated with vessel lesions; fractures complicated with nerve lesions; patella fractures; olecranon fractures; fracture-luxations, especially at the shoulder; acromid-clavicular luxations.

Usually operable after trial of milder methods: Carpal injuries; fractures of the shaft of the femur.

Often operable: Fractures of the humerus and of the leg.

Operable on occasions: In patients in good condition all fractures that promise a bad result if treated by the older methods, provided we can show good reasons for expecting a better result from operation.

Circulatory Disease. Its Prevalence in New England, Massachusetts and Boston

Dr. E. W. Dwight, Boston: Statistics show a great improvement in mortality as a whole; that the average duration of life has largely increased, and that the chances of a new-born infant reaching the age of 30 have multiplied. But this increase in the expectation of life has taken place among the younger ages, and, while the number reaching the age of 30 has increased, the proportion of those of that age who live to be 70 has not only relatively but actually diminished.

ARKANSAS MEDICAL SOCIETY

Thirty-Fifth Annual Meeting, held at Fort Smith, May 2-5, 1911

The President, Dr. R. C. Dorr, Batesville, in the Chair

Officers Elected

A list of the newly elected officers appeared in The Journal, May 20, p. 1486.

The president was given authority to appoint a state organizer. There are seventy-five counties in the state, sixty-two of which have component societies, leaving thirteen unorganized.

State Medicine and Public Hygiene

Dr. St. Cloud Cooper, Fort Smith: Medical men are the logical guardians of the public health, and by reason of the tireless investigations and assiduous labors of the profession, the span of human life has been sensibly lengthened; unhealthy places made habitable and diseases formerly virulent have lost their terrors. Thousands of babies are saved annually by better milk and proper care.

The Control of Tuberculosis

Dr. J. D. Southard, Fort Smith: Conscientious, energetic, patient effort should secure the cooperation of the laity, and we should educate the laity as to the value of pure air. Ample provision should be made in every household for fresh air supply. Ventilation of public halls, conveyances, churches, schools and lodges should receive proper consideration. Every public-spirited citizen should lend his sympathy and support and join in a strong effort to abate its ravages by prophylactic measures.

Sanatoriums and Hospitals for Tuberculosis

Dr. J. S. Shibley, Paris: Arkansas contributes 3,000 lives annually to this disease. Our only salvation lies in prevention. Every county should have a tuberculosis hospital. Every community must handle the problem within its own borders. No single state institution can meet the needs of the commonwealth.

Recent Legislation

Dr. R. C. Dorr, Batesville: I wish to congratulate the society on the supreme court decision sustaining the medical practice law, giving the state board authority to revoke a license for illegitimate practice. Candidates for license should be required to make several laboratory tests in addition to the written examination. Arkansas should have a state hospital for inebriates and sufferers from drug addictions, after the plan of Iowa and Minnesota, where very satisfactory results are reported. Statistics gathered at the Iowa institution show that nine-tenths of the victims contract these habits between the ages of 15 and 39, the reproductive period, when families are reared and fortunes accumulated; therefore, the economic value of such a safeguard cannot be overestimated.

Tabes and Pseudotabes

Dr. E. P. Bledsoe, Little Rock: All the so-called parasyphilitic diseases are a single morbid entity. When recognized early and subjected to vigorous antisyphilitic treatment, prompt recoveries may be expected with remission of all tabetic symptoms. In true tabes we have parasyphilitic conditions in which antisyphilitic remedies are useless. In pseudotabes we deal with syphilitic spinal or cerebrospinal disturbances which are true, though rare, tertian manifestations—therefore amenable to vigorous antisyphilitic treatment.

Correlation of Diseases of the Digestive Tract and Respiratory Organs

Dr. E. G. Epler, Fort Smith: The morbid conditions created by sluggish kidneys are often so masked as to be discovered only by autopsy. Records of the Massachusetts General Hospital showed 50 per cent. of error in the diagnosis of interstitial nephritis. Many pathologic disturbances are directly traceable to deficient elimination by the kidneys. Early and accurate diagnosis is important. Alcoholics, tobacco, caffein, nitrogenous foods, nervous and muscular strain are harmful. Treatment should consist in the administration of calomel, digitalis, strophanthus, sweet spirits of nitre, extract of broom corn, honey, American hemp, physical exercise, good hygiene, hydrotherapy.

Rheumatism

Dr. M. G. Thompson, Hot Springs: Rheumatism is a by-product of gastric atony, torpid liver, sluggish kidneys. Meat-eaters bear the brunt. Heroic purgation is indicated to abort acute symptoms. Faulty elimination and stranded waste products are the prime cause. Hydrotherapy—abundant draughts of pure water are strongly recommended.

Serotherapy

Dr. Samuel Steer, Hot Springs: There has been a gradual decline in the use of gonococcic bacterins and vaccines. Inability to secure results has brought about the use of mixed injections of heroic size. The outlook in the treatment of chronic gonorrheal infection seems discouraging. Renewed attention is being given to auto-intoxication, faulty metabolism, insufficient or excessive secretions and elimination. Gratifying results have been secured by the Wassermann reaction in diagnosis. The therapeutic value of salvarsan has not yet been settled definitely; but if not a specific, it promises to be a valuable adjunct in treatment. I would warn as to the probable harm from false confidence inspired by temporary abatement of symptoms.

Prevention of Syphilis

Dr. Errett Myers, Hot Springs: I believe an increased prevalence of syphilis is manifest. The spread is due to ignorance, immorality and poverty. There is need for a united effort by profession and laity along moral, ethical, legal and medical lines. The systems of frequent medical examinations instituted in some parts of the world have proved futile as a prophylactic measure. Sociologic problems demand earnest effort and effective work on the part of all. The public should be enlightened, social reforms instituted, habits readjusted to correspond with modern sanitation, instruction of children physical examination of applicants for marriage licenses, better pay for working girls, abolition of dives, intelligent probation system for old offenders, rescue homes, investigation and suppression of fraudulent employment agencies, laws making centers of evil public nuisances, frequent rotation of policemen, women to be employed on the police force, vigilance in public parks, less liberty for children, except under parental watch care, or supervision and protection of competent guardian.

Gangrene of Skin

Dr. W. R. Bathurst, Little Rock: My case is of ten years duration. Patient, male, aged 45, used tobacco and stimulants; Wassermann negative; microscope negative; symptoms believed to be due to vasomotor spasm induced by faulty metabolism. Palliative measures: Alternate binding and releasing arteries at elbow; prognosis uncertain, but hopeful.

Surgical Treatment of Trachoma

Dr. Robert Caldwell, Little Rock: Trachoma is present in 60 per cent. of the inmates of the Arkansas State Institution for the Blind. Where granulations are numerous and large or papillary hypertrophy present, I recommend thorough rolling with Knapp's roller forceps under anesthesia with ether; remove all granulations; dry conjunctiva with cotton soaked in bichlorid solution, then milk well with Prince's forceps; be careful not to injure the cornea. Toilet: 1-500 solution bichlorid; irrigate well with normal salt solution. Apply iced cloths for thirty minutes; at intervals of two hours, for the next two or three days; follow with appropriate medication till conjunctiva is negative. For hypertrophied conditions not showing granulations massage with boric acid. Instil a few drops of 4 per cent. cocain solution at intervals of five minutes, three times. Results probably due to inflammation set up by the massage. Excellent results have been obtained from external canthoplasty in trichiasis, pannus, "wild hairs," etc. Entropin for chronic cases but rarely until after canthoplasty. Believe failures in entropion operation are due to not having a canthoplasty first.

Splenectomy Following Gunshot Wound

Dr. Preston Hunt, Texarkana: A young lady was injured by a 32-caliber pistol ball. The missile entered the abdomen at the median line, ½ inch below the apex of the xiphoid cartilage, penetrated the anterior wall of the stomach about the junction of the middle and left third, and made its exit at the fundus just below the cardiac opening, passing through the spleen, perforating the diaphragm and penetrating the inferior part of the lower lobe of the left lung, passing between the eighth and ninth rib and finally lodging under the skin. Operation: Perforations sutured; spleen excised; vessels ligated; incision closed by layers without drainage; gave water by stomach in three days; nourishment fourth day; semi-solid on eighth day after operation; fever developed on third or fourth day. Put in drainage, pus was discharged rather copiously for ten days, after which the wound closed by granulation. Blood-count, 45,000 leukocytes, with 25 per cent. polynuclear cells; 45 per cent. hemoglobin. Patient was given iron, quinin and strychnin with piper nigra for four days, when examination showed the hemoglobin increased to 85 per cent. At present it is 95 per cent., with 3,800,000 red blood-cells; 13,000 leukocytes. Patient now enjoys perfect health; blood is about normal.

Treatment of Fractures

Dr. J. A. Foltz, Fort Smith: Constant vigilance and thorough examination are important in the treatment of fractures. Best results are obtained from wood fiber splints and Lane splint; see that the injured limb corresponds in contour with its fellow; anesthetize always for foot reductions; remove splints and examine weekly, except in plastic surgery. Murphy's method of plastic surgery is best for injuries to the leg. The Roentgen ray is of great value. Amputation is rarely necessary.

Obstetrics and Gynecology in Country Practice

Dr. Frank B. Young, Springdale: The country obstetrician's armamentarium should comprise an ample supply of all the articles likely to be needed in accouchement; it should be packed in an ordinary traveling bag of liberal size, the obstetrical case not being large enough. The confidence of community will be readily bestowed on the careful, honest, clean operator. I prefer oil cloth or rubber sheet to cover the bed. Immediately after delivery examine for tears; sterilization of instruments by boiling, and insist on thorough sterilization of all accessories. In major gynecology skilful assistance is necessary; zealous bystanders should be excluded from active participation. Gloves do not diminish the sense of touch. Thorough asepsis and technic are the cornerstone of a successful practice.

NORTH DAKOTA MEDICAL ASSOCIATION

Twenty-Fourth Annual Meeting, held at Fargo, May 9-10, 1911

The President, Dr. H. H. Healy, Grand Forks, in the Chair

Officers Elected

A list of the newly elected officers was published in The Journal, May 20, p. 1489.

What the Association Has Done

Dr. H. H. Healy, Grand Forks: This is an era of preventive medicine. Perhaps the best work has been done by the antituberculosis league. At our last meeting the president was directed to appoint a special committee to draw up a new medical practice act, to collect money to defray the expense of the campaign, and to push the matter by all honorable means until it became a law. A committee of five was appointed soon afterward. This committee began the work and kept at it in the face of great obstacles until a very good medical practice act was passed. The present law raises the standard of medicine in the state very materially; provides a good reciprocity clause and protects the public from many classes of medical fakers. A medical defense scheme was advocated by my predecessor and, agreeable to his recommendations, a committee was appointed to perfect a plan for the association to protect its members against malicious malpractice suits. I believe this plan would not only give us insurance for a fraction of the cost we pay commercial companies, but, better still, it would tend to make membership in our association more desirable and would work for the benefit of all concerned. I recommend that the association dues be raised to at least $5. There is not a man in the state who would feel giving twice that amount. There should be sufficient money in the treasury so that it would not be necessary to call for contributions when something special arises. With the additional amount we could do more charity work, pay our secretary more, demand more of him and always have money on hand for an emergency.

Syphilis: Recent Advances in Diagnosis and Treatment

Dr. John Milton Armstrong, St. Paul, Minn.: Two lines of investigation are directly responsible for the advance in syphilology. These two activities in research—the study of animal parasitology and the problem of immunity—led to the discovery on the one hand by Schandinn, in 1905, of the *Treponema pallidum*, and on the other hand, in 1906, by Wassermann of the reaction which bears his name. In addition to the above, due credit must be given Metchnikoff and Roux, who successfully inoculated apes and monkeys with the disease in 1903, and to those following them who have produced the disease in laboratory animals. From our present knowledge, then, we may definitely define syphilis as an eruptive treponemosis, inherited or acquired, characterized by an initial lesion of infection, followed by an acute generalized eruption and by the possibility during the whole life of the individual of new lesions in accord with the persistence of the virus in the organism. Our knowledge of syphilis has been greatly added to during the last few years, and the newer studies have proved much in the laboratory that was suspected or known before from clinical observation.

Clinical observation is of vast importance to us, as practitioners, who are more interested in the welfare of our patients than in academic knowledge. Clinical methods will never be superceded by laboratory findings to the extent one might be led to believe. Laboratory methods will only be used to confirm and aid us in diagnosis, prognosis and treatment. It is in the primary stage of syphilis that our patients are most anxious to know whether the disease is syphilis or not. As early treatment has a great effect on prognosis, early diagnosis is extremely important. Mercurials applied to a chancre, or vigorous treatment by mercury or salvarsan lessens the chances of finding the parasite. Treatment in syphilis in the past as in the present has been mercury with iodin as an adjuvant. Arsenic, iron, antimony, quinin, gold and various vegetable drugs have been used, either for specific or tonic effect. Modern pharmacology and synthetic chemistry have furnished us with arsenic salts rich in arsenic with a minimum organotrophic effect and a maximum of parasitrophic action. I have used salvarsan a number of times and have noted its effects both on my own and on the patients of others. Its effect clinically in many cases has been no more than judicious and well directed mercurial treatment. It does, however, clean up mucous lesions more rapidly than mercury. Aside from the reports of others I must conclude that salvarsan is a most valuable addition to syphilo-therapy but by no means an absolute cure.

Cerebrospinal Syphilis

Dr. Will C. Nichols, Fargo: My study is based on a series of thirty-five cases of cerebrospinal syphilis. The series includes a few cases of tabes and of general paresis and a few on the border line where questions arose as to whether the process was an active syphilitic or a parasyphilitic lesion. Final diagnosis was ultimately based on the Wassermann reaction, either in the blood, spinal fluid or both. In all cases of hemorrhage or thrombosis we were often surprised by obtaining a positive Wassermann, especially was this true in cases where the early onset of the focal symptoms raised the question of whether the vascular lesion was dependent on a specific basis. In summing up the features of a characteristic cerebrospinal syphilitic, we find that the striking thing is the multiplicity of lesions of brain and cord giving diffuse symptoms dependent on pathology present. Indefiniteness and variability in symptomatology nearly always suggestive of a diffuse process. The unusual and unexpected combination of focal signs which can only be attributed to more than one lesion and the peculiar constancy with which ocular findings occur, all unite in forming a syndrome which in its very indefiniteness characterizes cerebrospinal syphilis. The outcome of these cases depends directly on the pathology present and the time in which proper treatment is instituted. When nervous tissue is destroyed, no amount of treatment will cause it to resume function. The varieties most amenable to treatment are the meningeal, especially in the early stages of round-celled infiltration. In the treatment of nervous syphilis neurologists rely chiefly on mercurials intensely used.

DISCUSSION

Dr. Edward S. Judd, Rochester, Minn.: What Dr. Armstrong said about the use of salvarsan is very important. We read enough about it in the journals and from what we see and hear we might be led to believe that one dose will cure every case of syphilis. What was said about continuing the treatment with potassium iodid and mercury or treating with mercury alone or with salvarsan is important. I made a list of cases with results obtained with the use of salvarsan, and some of the untoward results. I have given sixty-one doses of salvarsan, fifty-two were intravenous and nine subcutaneous. About 60 per cent. were very much improved right at the start. I have not had any cures because the first injections were given not more than nine months ago. The most marked improvement I have seen so far has been in cases of syphilitic lesions of the nose and throat. A number of cases injected, within two or three days following injection, were cured; no sign of any lesion, and one of the patients had a large ulcer on one tonsil. We treated two cases of general paresis with salvarsan and both patients gave a positive Wassermann. One was benefited, or thought he was, but in a month he was so much worse from general paresis that he could not come back for treatment. Another general paresis case shows a result of treatment we have not seen or heard of in literature, and that is that the optic nerve atrophied shortly after the injection. Whether that is something new or not, I do not know; it was just the one nerve, but it was very extensive. We have treated several cases of tabes in which it has done very well, temporarily at least. One patient in a spastic condition was so bad that he was walking on crutches, and in ten days after treatment he was able to walk with a cane. Another man with diabetic paresis claimed to be benefited by the injection, but returned a month later much worse than he had ever been before. We have had no mortality, but that one case of optic neuritis should be considered. We had one small spot of gangrene following intravenous injection, and six mild cases of cellulitis following subcutaneous injection. Forty-five out of fifty-nine gave a positive Wassermann reaction, or 9 per cent.

Dr. Layton Sarles: There is no neurologic lesion in which there is a greater variability or a wider range of multiplicity of symptoms than cerebrospinal syphilis. The point to emphasize is the importance of taking the Achilles jerk. We find cerebrospinal syphilis and tabes much more apt to be followed by the Achilles reaction than knee-jerk. You will find an almost constant rigidity and variability of pupillary findings. Another point I wish to emphasize particularly is the advantage of treatment in the active stage of the cerebrospinal syphilis. When you get sclerosis in any part of the cerebrospinal system the treatment aimed to dissolve or remove the conditions that exist in the active gonorrheal stage are not going to be of any value. The treatment does cure cerebrospinal syphilis; it does not cure sclerosis. I want to commend the author for urging the leaving out of consideration all functional disturbances such as neurasthenia and hysteria, until all organic lesions have been considered. We are too prone to set down minor complaints to neurasthenia or hysteria when if we should make a more careful study, we should find organic lesion.

Dr. W. A. Jones, Minneapolis: This is an age of doubt and suspicion. Many people who come into physicians' offices are under suspicion of having syphilis, and my practice is to give them the benefit of the specific doubt and treat them on that basis. It is said of most neurologists that when they fail to find a remedy in a nervous disease they give anti-syphilitic treatment, and they often prove the existence of syphilitic lesion. The more I see of nervous syphilis the more I see the existence of lesions in no definite portion of the nervous system. The treatment of syphilitic troubles depends on the individual and his history; it depends, too, on the usual method of procedure. Most of these cases are benefited first or last. They should be carefully looked into for a period of one or two weeks; they should be given a period of rest and observation and then the line of treatment can be suggested to be followed. It does not do in all cases to inflict them with mercurial or arsenical treatment; it is necessary first of all to put them in condition where they can be taken care of without drugs. In many apparently hopeless cases the symptoms can be relieved by anti-syphilitic treatment. It is only the old cases, of long standing, where arterial occlusion takes place, that might be given up from the start.

Dr. J. A. Gislason, Grand Forks: In the clinics of Dimmer and Fuchs there is quite a difference of opinion as to the effect on the eye after using salvarsan. In the Dimmer clinic they unqualifiedly condemn the use of salvarsan on account of the optic neuritis, which they claim it causes; they claim more cases of optic neuritis in syphilitics that have been injected with salvarsan than in those treated by the old method. In the Fuchs clinic, they think the proportion of syphilitics presenting optic neuritis is just about equal with the new and old treatment. In the Dimmer clinic their cases of optic neuritis are nearly all unilateral, they have not had a case where there was bilateral optic neuritis present. Some of the men in Fuch's clinic seem to think if it was caused by salvarsan it would most likely be bilateral. In the German clinics, they seem to think that salvarsan does not do very much good in old cases, and in gonorrheal clinics they think the earlier the injection is made the better. They like to see a case as soon as there is a suspicion of infection, making daily examinations and when they find a lesion which they think will become a sore, they make a bacteriologic examination until they find the spirochetes, when they make the injection. In this way they hope to get a portion of the poison while it is circulating in the blood. After it is known that a patient has syphilis on account of the finding of the spirochetes they start the ordinary old-time treatment, and in this way the most conservative men hope to limit the disease to a period of four months instead of four years.

Dr. H. A. Beaudoux, St. Paul: I want to emphasize the point of early diagnosis of syphilis for the reason that prognosis depends on the early diagnosis because that means early treatment. The Wassermann reaction in the second and third week chancre, was present in 75 per cent. of my cases. I have a case of chancre on the interior turbinate of the nose, a very unusual site, as it occurs usually on the septum. As to untoward results after giving salvarsan, I have had cases with a great deal of pain.

The Early Symptoms and Diagnosis of Pulmonary Tuberculosis

Dr. J. L. Anderson, Powers Lake: Tuberculosis is accountable for from 11 to 15 per cent. of the total death-rate in the United States and this could be greatly reduced if we were more alert and diagnosed more cases in their incipiency. In no other disease does the restoration to health and usefulness depend so much on the detection in its incipiency. In a large percentage of cases the evidence is sufficient to make a diagnosis if we note the symptoms and make a careful physical examination. The source of infection is important, but the tracing of an individual case to an infective origin is a matter of great difficulty on account of the endemic character of the disease. In the apparently healthy we often attribute the development of tubercular symptoms to a cold or grippe and make no physical examination. The person who is subject to a series of colds or an anemia of vague origin calls for a thorough examination. A persistent temperature is of great import in the early diagnosis; the record should be kept for a period of a week and the readings taken four times a day. Expectoration in the early cases does not reveal much; vague pains in the chest are of little significance, but pain in the super or infraspinous region, especially, is due to the hyperesthesia of the muscles over diseased lungs. Hemoptysis may be the first symptom that will cause a patient to consult a doctor. In some patients their complexion acquires a peculiar yellow tint while others suffer from a marked degree of anemia. Night sweats belong to the later stages of pyrexia and excavation. The early signs are best demonstrated by auscultation. The tuberculin test should not be put on the same basis as the clinical thermometer, history and physical examination. The value of the *x*-ray in the diagnosis of an incipient case is a disputed point. In the hands of an experienced man a great deal may be learned, but the majority of observers think that the older methods of examination give more trustworthy indications of the disease. The important points are: First, that tuberculosis has a definite history unlike that found in any other disease; second, afternoon tiredness which may or may not be accompanied by flushing of the face; third, slight rise in temperature in the afternoon and evening, which persists day after day; fourth, slight cough or huskiness of the voice accompanied by the expectoration of a little mucus; fifth, slight loss of weight; sixth, tachycardia, especially noticed in the afternoon or after slight exertion.

DISCUSSION

Dr. James Grassick, Grand Forks: In the Ruillard Sanitarium, in Massachusetts, the record of cured cases that have been detected in their incipiency is 78 per cent.; those fairly well advanced only 50 per cent. and in those still further advanced only 25 per cent. of cures. The history of the case has to be taken into account more than the physical facts. The disease will be latent a long time before we can detect it by any physical signs. The surroundings of a patient, his manner of life, his work hours and his business should be taken into consideration, and any deviation from the normal should be noted. If you wait until you get evidence of disease through percussion, the disease has already become well advanced; auscultation will give you earlier signs. The tuberculin test is one of great value, especially the negative side of it. It is well established that from 70 to 90 per cent. of the whole population have at some time in their lives been infected with tuberculosis, but there have been manufactured antibodies, and these antibodies, when you inject the tuberculin into the body, will cause the body to react and you have a reaction of tuberculin when there is no active tuberculosis present whatever.

Dr. J. E. Engstad, Grand Forks: In my experience the primary test of tuberculin is the only one we can rely on. After tuberculin has been used once antigen is produced, and, if it is desired to test the patient again, the patient will not show a reaction, due to the antigen produced by the first test.

Dr. J. L. Anderson, Powers Lake: In the house treatment of school children up to the age of 14 in Germany only 30 per cent. were definite, even suspicious cases, so that the tuberculin test, although positive, is of small value and does not show that all tubercular cases react. In regard to the injection of tuberculin, it depends on how long a time has elapsed before the second injection is given whether the first injection has any effect.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Sixth Annual Meeting, held at Atlantic City, N. J., May 23-25, 1911

(Concluded from page 1913)

Function of the Ovary

Dr. Robert T. Frank, New York City: Both from anatomical evidence and functional behavior the active portion of the corpus luteum must be regarded as an epithelial structure. A sharp distinction should be drawn between prooestrum and oestrum—menstruation is the homologue of prooestrum. Prooestrum and maturation of follicles coincide in all mammals, but as yet no proof has been forthcoming that maturation actually causes prooestrum. The period of desire (oestrus) is the climax of the preparatory changes occurring during prooestrum and probably due to the same causation. Ovulation is the end result of follicular maturation. In some species it occurs during or immediately after oestrus, in others the bursting of the follicle is postponed for months. Such differences in time relation are most probably accounted for by the rate of growth of the ovum and follicle. Ovulation may be accelerated by coitus. Ovulation is inhibited by the corpus luteum. The corpus luteum sensitizes the uterine mucosa and thus renders it responsive to mechanical stimuli with resulting formation of maternal placenta. The corpus luteum is essential in the early part of pregnancy as the ovum fails to obtain a foothold unless the uterus is sensitized. The corpus luteum lengthens the cycle by interfering with the maturation of growing follicles and ova. The factor which causes the persistence of the corpus luteum during pregnancy has not been discovered. Persistence of the corpus luteum may also be found independent of gravidity. Animals with interstitial glands in their ovaries may ovulate spontaneously, consequently the interstitial gland has not been shown to replace the function of the cyclical corpus luteum. Growth of the mammary gland is due to ovarian influences (maturation of follicles, activity of corpus luteum). The same factors which produce the persistence of the corpus luteum probably caused the breast hyperplasia of pregnancy.

Has the Ovary an Internal Secretion?

Dr. W. H. Morley, Detroit, Mich.: From present knowledge it is quite evident that the ovary possesses an internal secretion, produced by the corpus luteum. In so-called ovarian insufficiency relief may be obtained with an extract of the corpus luteum, No untoward symptoms result from its use in conditions where it is indicated, even if no relief is obtained. The extract should be properly prepared and given a fair trial before it is discontinued. The active principle of the ovary is not yet isolated.

Conservation of the Ovary

Dr. W. W. Chipman, Montreal: The loss of the ovaries means the loss of sex influence to the individual, with all the grave disturbances in general metabolism which this loss signifies. The earlier in life that it occurs, the greater is the calamity. Ovarian transplantation seeks to replace the lost or disabled gland. In animals this procedure has been so successfully carried out that conception has followed it, even in heteroplastic transplantation. In the human only one such case has been reported, that of R. T. Morris, although in homoplastic transplantation Morris and Frank have both reported cases. In homoplastic transplantation, the cases must be few wherein an ovary in whole or in part, is healthy enough to be removed and engrafted, and is not healthy enough to leave alone. In this connection it is wise to remember the value of the ovarian ligament, for this frequently contains active parenchyma tissue. It is also generally believed that the ovary possesses considerable capacity for regenerative tissue after its partial removal, and hence an additional reason for leaving the segments *in situ*. In selected cases the ovarian extract has a definite therapeutic value, although the results in different individuals are by no means uniform. I have seen no ill-effects follow its use, and in some instances the results are almost miraculous. In some cases I have found that the addition of arsenic or small doses of the thyroid extract give more favorable results. The natural and proper conservation of the ovary consists in leaving it alone.

Behavior of the Ovary After the Removal of the Uterus

Dr. R. L. Dickinson, Brooklyn: The conservation of ovarian structure after hysterectomy shows that four-fifths of the patients are free from disturbances of the surgical menopause. The results are somewhat better where both ovaries remain than where one is left or where resections are done. Where the disturbances have occurred, their character is less severe and more gradual than after bilateral removal of the ovaries. In married women, the conservation shows nearly uniform persistence of sexual desire. The practice of removing ovaries when taking out a uterus at or near the time of the menopause is strongly to be opposed, except in cases of malignant disease or when infected. Conservation after operations for incurable tubal infections leaves more tender and troublesome ovaries than after hysterectomies for fibroids, prolapse or the hemorrhages of chronic metritis. After removal of the uterus, particularly of one ovary, or a large fibroid, ovarian edema or hypertrophy is frequent. The menopause is likely to occur earlier than the average time in a woman who has lost her uterus. To preserve the functional activity of the ovary, its circulation must not be impaired. Removal of the tubes frequently comprises the ovarian blood-supply, and is a delicate and unnecessary adjustment. Barring disease and closed tubes and malignancy and tuberculosis, they should be disregarded and allowed to remain.

The End Results when Hysterectomy has been Done and an Ovary Left

Dr. John O. Polak, Brooklyn: The technic of the operation and the general health of the patient have much to do with the end results. A conserved ovary, if unhealthy, will leave the patient in a worse state mentally, nervously and physically than if a total extirpation had been made. When the woman is at the age in which the menopause should occur, or when she is past the menopause, a total ablation gives the best results. The nervous phenomena are more marked when the patient is operated on, when she is in comparatively good health, with a high preoperative blood-pressure, than when the blood-picture shows anemia or toxemia. The symptoms of the operative menopause are less after extirpation for pelvic inflammation than when the ablation is done for fibromyomata. This is probably due to the associated vessel changes which are found in fibrosis. And finally, when one or both healthy ovaries should be conserved it should be done, and the younger the patient, the more necessary is conservation.

Discussion on Symposium on the Ovary

Dr. Seth C. Gordon, Portland, Me.: In years past I performed a good many operations for the removal of the ovaries, and I have not regretted it. I have seen a great many women relieved by the removal of both ovaries. When we remove the ovaries, it is bad surgery to leave the uterus. I believe that when we are obliged to remove both ovaries we should always remove the uterus along with them. I do not know of any condition by which we can justify ourselves in leaving the uterus after the ovaries are removed.

Dr. A. Lapthorn Smith, Montreal: The unfortunate part of my professional experience has been so-called conservative gynecology. I was a happy operator before I began conservative work on the ovaries. Since I have been trying to save the part of an ovary I have had nothing but trouble. I believe in removing diseased ovaries and not trying to save parts of them.

Dr. W. Gill Wylie, New York: What is done to-day is a great improvement on the past, and I would accept most of what has been said by the authors of these papers; still the experience of some of us who are older in the profession has had a bad effect in one way and a good effect in another; that is, in the days when Battey proposed the removal of normal ovaries for dysmenorrhea, hemorrhage and other conditions they were even then cured. In those days I removed the ovaries for reflex troubles in some cases, but in very few. The reason I did not do more of these operations was because I found imperfect development had a great deal to do with the ovary, and that a faulty development of the ovaries had much to do with the growth and development of the women, not only as to how she menstruated, but as to the local condition and the effect on her growth.

Dr. Walter P. Manton, Detroit: I was the first in the Middle West, I believe, to take up the conservative treatment of ovaries. Years ago I published a list of 100 cases on which I had operated in a conservative manner and followed them carefully, and I found in that number a little over 94.6 per cent. of somatic cures and 5.6 per cent. of the women afterwards became pregnant. Since that time I have continued this conservative work satisfactorily, and the somatic cures have remained about the same.

Dr. Edward Reynolds, Boston: I have been working along the lines of conservatism in the treatment of the ovaries for many years, and I find that the conservative management of these cases, and the institution of operations for the correction of minor pathologic conditions in the ovaries have grown on me steadily, so that to-day I believe it is practically never necessary to remove all the ovarian tissue from a woman of child-bearing age, except in cases of malignancy, or tubo-ovarian abscess. or extreme inflammatory disease.

Dr. J. M. Baldy, Philadelphia: With reference to the internal secretion of the ovary, until absolute and unmistakable proof is furnished along this line, I do not propose to base my surgical methods and the health of my patients on any such nonsense.

Dr. George Gellhorn, St. Louis: I have used ovarian extract for a number of years, and frequently in patients who have reached the menopause, both natural and artificial, and my results have not been uniform, nor were they convincing. In the menstrual disorders of puberty the results have been a trifle better, but not constant.

Dr. Thomas J. Watkins, Chicago: I can see no logical reason for removing a normal ovary, but I can see much logical reasoning for leaving parts of diseased ovaries, especially in young women. I have left parts of suppurating ovaries, and I have never left part of a suppurating ovary that has given any trouble afterward, the sac of the abscessed ovary being very thoroughly excised.

Dr. I. S. Stone, Washington, D. C.: There is cause occasionally for leaving the uterus after the removal of the ovaries. The uterus is left frequently for the purpose of repair of intestinal injuries. It ought to be and can be used in that way. I know of nothing in my surgical work with reference to the saving of human life which has given me more satisfaction than conservative surgery on the ovaries.

Dr. Joseph Brettauer, New York City: I have had a good deal of experience with the administration of ovarian extract which came from the market, with practically no results in hundreds of cases. I have had most gratifying results in fighting the disagreeable symptoms accompanying the climacteric with very small doses of thyroid, which surely is not derived from the ovary. As to conservative surgery, I am extremely loath to open the abdomen, but when I do open it, I am very rarely conservative.

Dr. Frank T. Andrews, Chicago: For some time I have held to a theory that every rupture of a follicle consists of a spontaneous inoculation of the patient; that every rupture of a follicle is followed by a small amount of inflammation within the pelvic cavity, and that there is a response on the part of the tissues of the patient. If the spermatozoa passing into the ova exert an influence on the female, and we get future development and maturation of the ovum, that furnishes to the female the one thing which is needed to make a great many changes in the body. It furnishes the amboceptor and allows the working of Ehrlich's side-chain theory, and therefore, you have not an internal secretion, but a doubleheaded internal secretion, a combination of substances that brings about all changes in the site of attachment of the ovum in the uterus. The changes in the ovary lead to the changes in the corpus luteum, changes in the breast and general physique of the patient.

Dr. Lewis S. McMurtry, Louisville: I am sure that every man at the operating table would deal with ovarian disease in practically the same way. He will deal radically with all those cases in which there are long-standing, acute infections, and he will remove infection and remove useless organs. Others have been talking about moderate degrees of cystic degeneration, which is an entirely different subject both from a pathologic and surgical standpoint.

Dr. J. Whitridge Williams, Baltimore: In connection with the corpus luteum, when associated with the condition of hydatidiform mole, we frequently have tumors arising from the corpus luteum of very large size. We get double cystomata of the ovary, multilocular cystomata of the size of my two hands developing on either side. These cystomata are made up of cysts, of varying size, many of them reaching an inch and a half in diameter, lined by lutein cells. Whether they are the cause of the hydatidiform mole, or whether the hydatidiform mole brings about their production, I am not prepared to state, but an interesting point is this: A recent observation shows that many of these cases, if followed for a reasonable time, after extrusion of the mole, undergo absorption, and there are a number of cases in which tumors of some size have disappeared within six months after extrusion of the mole.

Dr. J. M. Munro Kerr, Glasgow, Scotland: All of us are agreed that there are certain cases in which the ovary should be conserved. On the other hand, in cases of malignant disease of the uterus, and suppurative conditions of the adnexa, it would not be considered good surgery to conserve ovaries. In such cases the uterus, tubes and ovaries should be completely extirpated.

Vaginal Cesarean Section in Eclampsia

Dr. Reuben Peterson, Ann Arbor, Mich.: Maternal and fetal mortalities are lower, the earlier the uterus is emptied after the first convulsion in antepartum eclampsia. Hence no time should be lost in employing the slower methods, but as soon as the diagnosis of eclampsia is established, the uterus should be emptied by the operation which will give the best results for mother and child. Vaginal Cesarean section means these requirements because it is based on sound surgical principles, is quickly performed, while its technic can be acquired by anyone familiar with the rudiments of obstetric surgery. Early diagnosis and early operation in antepartum eclampsia will lead to a marked reduction in both the maternal and fetal mortalities.

Anteflexion of the Cervix and Spasm of the Uterine Ligaments in Relation to Retroversion, Dysmenorrhea and Sterility

Dr. Edward Reynolds, Boston: For about eight years the muscular character of the so-called uterine ligaments has seemed to me of clinical importance in connection with the constantly accumulating evidence of the frequency of their spasms, which I have observed in the course of clinical work. This muscular tissue exists in especially important quantities in four situations, throughout the uterosacral ligaments, at the bases of the broad ligaments, along the upper edges of the broad ligaments. and in a sheath underlying the bladder and attaching the cervix of vaginal vault to the descending rami of the pubes. The insertion of the anterior vaginal wall into the cervix is also a uterine attachment of much importance. This wall is largely non-muscular and is attached at one end to the cervix and at the other to the arch of the pubes. Physiologic study of the muscular action of these structures is difficult or impossible since they are peculiar to the human female, and are commonly seen during life only when their possessor is under anesthesia. Their pathologic spasms could, however, be appreciated by the vaginal and rectovaginal touch, and can be shown to be spasms by the fact that they disappear under anesthesia and reappear spontaneously after the anesthetic is withdrawn. I believe that many cases of marked anteflexion of the cervix which are free from symptoms are also those which are free from spasmodic exaggeration of the deformity, and those which are attended by symptoms are usually the subjects of such spasm.

Epilepsy and Pregnancy

Dr. G. B. Miller, Washington, D. C.: Epilepsy has little direct influence on the course of a pregnancy, except that traumatism produced by epileptic seizures may cause a premature labor and abortion. The influence of pregnancy on epilepsy is of greater interest. In a certain proportion of cases the toxemias of pregnancy may influence very unfavorably the epilepsy, even to producing the status epilepticus. In women with epilepsy where pregnancy apparently causes the convulsions to become more frequent or more severe, one should always consider the necessity of terminating the pregnancy. In cases of pregnancy in epileptic women, one should watch with extreme care for indications of toxemia or the premonitory signs of eclampsia, and should put an end to pregnancy at the appearance of symptoms of much less gravity than would indicate this procedure in women who are not the subject of disease.

Repeated Ectopic Pregnancy, with a Report of Four Cases

Dr. Richard R. Smith, Grand Rapids, Mich.: In two of my cases the interval was about two years; in the others one year. In two of these women these pregnancies constituted the only ones, the other two having previously borne children. I have found about 170 similar cases in the literature, to which I add these, and a number of others obtained through correspondence. In a total of 2,998 cases, there have been 114 recurrences, or about 3.8 per cent. I point out the difficulty of following up hospital cases over a period of years to know of their welfare and the fact that age, social condition and lapse of time since operation are not taken into consideration in these figures. I believe the percentage will be higher in cases where a patulous tube is left and social conditions are favorable to pregnancy. These cases of repeated ectopic have occurred, as might be expected, in the child-bearing age and in the decades in which normal pregnancies are most prevalent. There was a high death-rate following the second ectopic, but later reports seem more favorable and apparently not higher than that following a single ectopic. In 116 cases of second ectopic, there were 101 recoveries, and 15 deaths with or without operation. The average length of the interval was about thirty months, but no rule can be formulated as to when a second ectopic may be expected. A considerable number occurred in less than six months. Baldy reports one occurring twelve years after the first. The percentage of interval pregnancies is small; most of the recurrences took place in the opposite tube, but a number are reported as recurring in the same one, also several ovarian pregnancies (doubtful), and an abdominal followed by a tubal. I have been unable to obtain exact data in any considerable number of cases as to further normal pregnancies following an ectopic, but believe them to be less frequent than ordinarily assumed. The matter of the disposal of the other tube should be discussed with the patient before operation whenever practicable. In young women and those desiring children the opposite tube may be saved; in those who have already borne as many children as desired, it should be sacrificed rather than to submit the woman to the distressing possibilities of a second accident. The appearance of a tube when patulous is no criterion as to its capabilities.

Medicolegal

Liability for Disfiguring X-Ray Burn—Measure of Physician's Legal Responsibility—Damages for Mental Suffering from Physical Injury

The Supreme Judicial Court of Maine overrules exceptions to a verdict in favor of the plaintiff for $3,500 damages in the malpractice case of Coombs vs. King (78 Atl. R. 468). It says that in 1901 the plaintiff was treated by the defendant for what she termed "scrofulous glands of the neck," and what the defendant said were enlarged "lymphatic nodes or glands." They were on both sides of the neck. The defendant cut them out. In 1903 bunches again appeared on the neck, one on the right side under the chin, and the other the plaintiff said on the right, and the defendant said on the left side. The defendant diagnosed the trouble as being possibly Hodgkin's disease, and advised *x*-ray treatment. It turned out not to be Hodgkin's disease, but that was immaterial, because it was not questioned that *x*-ray treatment was proper for the real trouble. However, an unintended result of the treatment was a very severe and greatly disfiguring *x*-ray burn on the left side of the plaintiff's neck and lower part of the face.

It was conceded that the defendant was a physician of great learning and skill. What the plaintiff rested her claim on was the proposition that the defendant failed to use ordinary care, which is reasonable care, and to apply his best judgment, in his treatment of her case. And, while she specified several particulars, the court notices only one, namely, want of attention and watchfulness.

The mere statement of the various phases of the *x*-ray treatment shows clearly, the court says, that it cannot be administered according to fixed and unvarying rules. All the medical witnesses concurred in saying that it is necessary to watch for the manifestations of burning during the entire period of treatment. The treatment should be adjusted to the person and the exigencies of the case. The physician may vary or temporarily discontinue the treatment. He must watch, examine, and use his best judgment. This was what the plaintiff said the defendant did not do, and what the defendant said that he did do. The court does not deem it necessary to undertake to analyze the testimony, it being sufficient to say that if that offered by the plaintiff was true, she was entitled to hold her verdict. On the other hand, if the jury should have adopted the version of the defendant, the verdict was wrong. There was nothing in the plaintiff's story which was inherently improbable or inconsistent. Unless the jury was not warranted in believing that story, the court cannot interfere. The court cannot substitute its own impression for any findings which the jury was authorized to make. While the burden was on the plaintiff to satisfy the jury of the defendant's liability, after verdict for the plaintiff the burden was on the defendant to make it clearly appear that the verdict was wrong, which, in the opinion of a majority of the court, he failed to do.

It was argued for the defendant that his responsibility must be considered with reference to the science of *x*-ray treatment as it was understood in 1903. That was true; yet it appeared from his own testimony that in 1903 he knew that *x*-rays could burn, and knew of the need of watchfulness to detect the signs of burning, in order that it might be prevented.

The measure of a physician's legal responsibility has been stated many times by this court. He contracts with the patient that he has the ordinary skill of members of his profession in like situation, that he will exercise ordinary or reasonable care and diligence in his treatment of the case, and that he will use his best judgment in the application of his skill to the case. The physician is not an insurer. He does not warrant favorable results. If he possesses ordinary skill, uses ordinary care, and applies his best judgment, he is not liable even for mistakes in judgment. Medical science is not yet, and probably never can be, in many respects, an exact, certain science. The practitioner cannot be expected to know, or be bound to diagnose correctly, that which is unknowable, as many of our hidden ailments may be. The rule of liability is not a hard one. It is a reasonable one. And the burden is on the plaintiff to show a malpractice.

Lastly, the court holds that when, as in this case, there is mental chagrin, mortification or discomfort at disfigurement, not independent of the physical injury, but the direct and natural consequence of it, the plaintiff may have damages awarded for it. There is good reason for the rule. The disfigurement is a physical injury. It is a continuing injury. The mental suffering may continue with it. The mental suffering is a real injury. It proceeds necessarily and inevitably from the physical injury. It is a natural consequence of the injury. Compensation, omitting this element, is not full compensation. One might be made repulsive to the sight for life with comparatively little physical injury, and yet, according to the rule contended for by the defendant, be entitled to but little compensation. The reason given in some cases that the amount of mental pain caused by disfigurement necessarily varies so much with the character, temperament and circumstances of the injured person that no just measure of damages from it can be found applies equally well to physical pain, though perhaps in a less degree. And damages are always allowable for physical suffering. Mental suffering is no more intangible and indefinite than physical suffering is. The damages from suffering, either mental or physical, cannot be weighed; it cannot be measured; it cannot be computed. It can only be estimated. The difficulty in making the estimate affords no good reason for failure to make it. The estimation must depend on the good sense, sound judgment and enlightened conscience of the jury, under all the facts and circumstances of the particular case, and the sensibilities of the particular person.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of the Johns Hopkins Hospital, Baltimore

June

1 *Carbohydrate Tolerance and Posterior Lobe of Hypophysis. E. Goetsch, H. Cushing and C. Jacobson, Baltimore.
2 *Distortions of the Visual Fields in Brain Tumor. H. Cushing and G. J. Heuer, Baltimore.

1. **Carbohydrate Tolerance and Posterior Lobe of Hypophysis.**—Their experimental studies have convinced the authors that the secretory product of the posterior lobe (pars nervosa et intermedia) is discharged into the cavity of the third ventricle and becomes dissolved in the cerebrospinal fluid, a medium which passes from the ventricles to the subarachnoid spaces and thence, in all probability, enters the blood-stream by way of the dural sinuses. Under various forms of operative manipulation of the infundibulum and hypophyseal stalk-structures which appear to hold the reserve deposit of posterior lobe secretion, a transient hyperglycemia is produced, presumably due to the setting free of an excess of this secretion, which in turn causes the discharge of stored glycogen. For the succeeding few days the assimilation limit for ingested carbohydrates is considerably diminished, "alimentary glycosuria" being produced by a smaller amount of sugar than was previously required. If the operation has been so conducted as to create a subsequent and permanent insufficiency of posterior lobe secretion (either owing to the removal of a considerable portion of this lobe with its epithelial investment, or thorough interference with its secretory discharge either by the placement of a "clip" on the stalk, or by so damaging it that an infundibular cicatrix forms) the temporary lowering of the assimilation limit is succeeded by an abnormal and enduring augmentation in the tolerance for sugars. The assimilation limit for carbohydrates, greatly increased under these circumstances, can be promptly lowered by the coincident intravenous or subcutaneous injection of posterior lobe extract. This extract, furthermore, has a pronounced effect in lowering the sugar tolerance of the normal animal in whom it may even cause glycosuria when given in sufficient dosage.

They believe also, contrary to the opinion advanced by Crowe, Cushing and Homans, that the tendency toward adiposity displayed by partially hypophysectomized animals is not due solely to a deficiency of anterior lobe secretion. In view of the fact that the products of the posterior lobe secretion enter the cerebrospinal fluid, it is apparent that any intracranial lesion occasioning stasis of this fluid will lead to symptoms of posterior lobe insufficiency. An internal hydrocephalus, therefore, of whatever origin, is doubtless the most common source of moderate grades of this condition. Tumors which arise in the interpeduncular space and directly compress and deform the infundibular attachment and thus "block" the secretion furnish another not infrequent source of the same symptoms. A third form of posterior lobe deficiency occurs as a late manifestation of a preexisting hypophyseal hyperplasia, much as, in the case of the thyroid, evidences of myxedema, in the course of time, are likely to supervene on states of hyperthyroidism.

2. **Distortions of Visual Fields in Brain Tumor.**—In a series of 200 cases of brain tumor, Cushing and Heuer secured reliable perimetric charts in 123 cases. These have shown (1) normal fields in twenty-seven cases; (2) simple color interlacing or inversion (dyschromatopsia) with more or less constriction, but without other field distortion in fifty-three cases; and (3) hemianopsia, or a tendency toward this defect, in forty-two cases.

Virginia Medical Semi-Monthly, Richmond

May 26

3 Incipient Insanity. W. F. Drewry, Petersburg.
4 Neuritis. M. W. Peyser, Richmond.
5 The Ureteral Catheter. R. C. Bryan, Richmond.
6 Lesions of the Sacro-Iliac Synchondrosis. J. Dunlop, Washington, D. C.

St. Louis Medical Review

May

7 Pubiotomy. A. Samuels, Baltimore.
8 The Hospital School for Backward Children. E. B. McCready, Pittsburg, Pa.
9 Treatment of Hydrocele. C. G. Cumston, Boston.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

June

10 Minnesota State Medical Association. H. H. Healy, Grand Forks, N. D.
11 *Mixed Tumors of the Parotid. E. S. Judd, Rochester.

11. **Mixed Tumors of Parotid.**—In twenty-two of the forty-one cases reported by Judd the tumors were in the right parotid. Twenty-five of the patients were females. The majority of these tumors occurred in the second decade. The youngest patient in the series was 15 years of age and the oldest 71 years of age. The average length of time in which the patient had the trouble before operation was eight years. One case appeared to be of one month's duration. In nine of these cases the endothelial element predominated, five were sarcomatous, three were mixed-cell tumors undergoing sarcomatous change, and three were mixed tumors undergoing endotheliomatous change. Ten of these patients came with recurring growths, or they had recurrences following operations. Twenty-seven of the forty-one patients have recently been heard from: twenty-four of them state that they are perfectly well, and three of them say they have a local recurrence. Two of the three had predominating sarcomatous elements at the time of operation; one, a man 70 years of age, had had a tumor for thirty years with a history of rapid growth during the last three months. This patient died, evidently of metastasis.

Judd claims that the endeavor to preserve all of the fibers of the seventh nerve may be said to be the cause of most of the recurrences following the removal of mixed tumors of the parotid, If we could deliberately excise the tumor with as much of the parotid as we deemed wise, there would be no recurrences in the early cases, but as long as these tumors are not severely malignant in the beginning it is a question whether we are justified in sacrificing the facial nerve. In the encapsulated cases it has been Judd's custom to excise completely the tumor with the capsule, and to pack the entire wound with gauze saturated with Harrington's solution, in order that the raw surfaces may be seared to prevent the grafting of any cells. It was not found necessary to remove any of the lymphatics if the growth was well encapsulated, and it was not observed that these tumors involve the lymphatics until very late in their development. On the other hand, if the disease is extending into the parotid and into the surrounding lymphatics, the parotid should be excised entirely, and with it the adjoining lymphatics. In a few of Judd's cases the tumor was very large, pressing into the mouth and throat, and causing considerable dysphagia and interference in swallowing. In these cases, in addition to the removal of the parotid, it was necessary to sacrifice the external artery and the internal jugular vein.

Kentucky Medical Journal, Bowling Green

June 1

12 Is the Doctor's Life Worth Living? R. B. Cassady, LaGrange.
13 A Few of the More Common Skin Diseases. J. L. Atkinson, Campbellsville.
14 The Scientific Significance of Dreams. C. Pope, Louisville.
15 The Border Land. M. Board, Louisville.
16 Meningeal and Cerebral Complications Involving the Silent Area of the Brain (Anterior Frontal Cerebral Lobes) as Result of Ethmoidal, Sphenoidal and Frontal Sinus Disease. J. A. Stucky, Lexington.
17 A Plea for Increased Efficiency and Greater Optimism in Postoperative Treatment. W. E. Senour, Bellevue.
18 Antiseptics in Typhoid. J. L. Quisenberry, Worthington.
19 Treatment of Typhoid. R. S. Plumlee, Glasgow.
20 Bronchitis. O. W. Brown, Lenoxburg.
21 Acute Osteomyelitis. J. A. Caldwell, Peach Grove.
22 Treatment of Tuberculosis. J. N. Bailey, Fredonia.
23 Care and Supervision of Abnormal Presentations in Labor. W. F. Grubbs, Hazel.
24 Treatment of Post-Puerperal Eclampsia. G. W. Payne, Bardwell.
25 Gleanings from Twenty-Five Years' Experience in Obstetric Practice. G. G. Thornton, Lebanon.
26 Forceps Delivery. A. E. Threlkeld, Wheatley.
27 Bronchopneumonia. T. Center, Hazel Green.
28 Syphilis. H. R. Simmons, Corinth.
29 Salvarsan in Syphilis. C. C. Garr, Lexington.

Journal of Nervous and Mental Diseases, New York

June

30 Diagnostic Value of Dyschromatopsia in Nervous Diseases. C. D. Camp, Ann Arbor, Mich.
31 *Neurologic Serology. D. M. Kaplan, New York.
32 *Bromid Intolerance and Bromid Poisoning. L. Casamajor, New York.

31. **Neurologic Serology.**—Kaplan's observations have convinced him that affections of the brain and cord leave definite impressions on the cerebrospinal fluid. Therapy and the curative power of the organism have been a definite influence on the prevalence of the pathologic constituents in the cerebrospinal fluid. The absence of any findings in the fluid in patients not treated, strongly argues against the involvement of the cerebrospinal system. The differentiation between the acute infective meningeal involvements and the chronic degenerative forms can be decided by a study of the cerebrospinal fluid. A history of syphilis and a positive Wassermann reaction do not signify in the presence of nervous manifestations, that the brain or cord are involved by a luetic process in the face of a negative cerebrospinal fluid analysis. As a therapeutic guide, the gradual disappearance of previously existing pathologic ingredients is an important aid in gauging therapeutic progress. Therapy affects first, the globulin content, then the serum Wassermann, third, the cerebrospinal fluid Wassermann, and lastly, the pleocytosis. The appearance of the Fehling's reducing substance, and the diminution in the inflammatory violet-color reaction take place with the disappearance of the polynuclear cells, although the lymphocytes may still prevail.

32. **Bromid Intolerance and Bromid Poisoning.**—The moral to be drawn from Casamajor's paper is the old plea for conservatism in the use of bromin salts in all conditions. Their toxicity, especially in view of the delirious states they can occasion, is far too frequently overlooked. Casamajor says that no weak or anemic patient should receive even small doses of bromids without a full realization of the danger by the physician. In such individuals the use of the bromids as local sedatives is contra-indicated. Once having prescribed bromids to these patients the dangers may be obviated by a careful watching for the early signs of poisoning, especially the thick-tongued speech, bromic breath and mental dulness. As soon as one of these symptoms is observed the drug should be discontinued, and large doses of sodium chlorid given to replace the bromid by the normal chlorid. and this, with vigorous eliminative treatment, should prevent an entirely unnecessary drug intoxication.

American Medicine, New York

May

33 Height and Weight in Relation to Life Insurance. G. F. Little, New York.
34 Obliteration of Craving for Narcotics. C. A. Rosenwasser, New York.
35 Diagnosis of Chronic Appendicitis. S. Floersheim, New York.
36 Treatment of Diabetes Mellitus. W. C. Schoenijahn, Brooklyn.
37 Hemorrhoids in Children. M. L. Bodkin, Brooklyn.
38 Bismuth Paste in Hydatid Cyst of Liver. L. M. Alofsin, New York.
39 Vasomotor Conditions in Surgery. W. C. Abbott, Chicago.
40 Mastoiditis Without Apparent Involvement of the Middle Ear. C. E. Perkins, New York.
41 Auto-Intoxication and Chloroform Poisoning. J. M. Lynch, New York.

Journal of the Missouri State Medical Association, St. Louis

June

42 Roentgen Rays in Diagnosis of Tabetic Osteo-Arthropathies. R. D. Carman, St. Louis.
43 *Modern Medicine and Medical Education. G. Dock, St. Louis.
44 *Id. J. Howland, St. Louis.
45 Lanfranchi. F. J. Lutz, St. Louis.

43 and 44. **Modern Medicine and Medical Education.**—This is an address delivered before a business men's club and deals with many problems in medicine in which laymen are interested and on which they need enlightenment.

American Journal of Urology, New York

May

46 Calculus in Bladder and Its Management, with Special Consideration of Litholapaxy. F. Kreissl, Chicago.
47 Chronic Gonorrheal Prostatitis. R. B. Anderson, Brooklyn

Long Island Medical Journal, Brooklyn

May

48 *Central Origin of Diphtheritic Paralysis. A. Spingarn, Brooklyn.
49 Surgery of Peripheral Nerves. A. T. Bristow.
50 *Extensive Denudation of Pneumogastric Nerve. L. S. Pilcher, Brooklyn.

June

51 The German Hospital of Brooklyn. W. Browning, Brooklyn.
52 Metatarsalgia. W. Truslow, Brooklyn.
53 Torsion of Pregnant Uterus. R. S. Fowler, Brooklyn.

48. **Central Origin of Diphtheritic Paralysis.**—As a further contribution to the abundant evidence that has already been accumulated in support of the hypothesis that diphtheritic paralysis, in most instances, is the result of central lesions, Spingarn reports two cases presenting points of unusual interest. The history of the first case differs in few respects from that of other fatal cases of diphtheritic paralysis, in most of which the cause of death is attributed to heart failure resulting from myocarditis, or from a neuritis of the pneumogastric nerve. That myocarditis was not responsible for the fatal issue in this instance may be concluded from the sudden onset of the cardiac symptoms in connection with other manifestations of paralysis, particularly the close association of the embarrassment of the heart and the muscles of respiration. The important points in the chronology of this case are the occurrence of paralysis of the soft palate nineteen days after the onset of the diphtheria, transitory difficulty of breathing eight days later, apparently due to transitory paralysis of the diaphragm or intercostals, and then in three days the onset of grave disturbance of respiratory innervation, and of failure of the heart's action. The association of the two last, Spingarn regards as more than a mere coincidence, and points to the vagus as the common cause of the two conditions. Furthermore, he regards the pathologic changes in this nerve as secondary to more fundamental changes in the medulla oblongata, changes either toxic or inflammatory. The simultaneous onset of vomiting, dyspnea, tachycardia with cardiac arrhythmia, apparently completes the chain of circumstantial evidence incriminating the medulla as the primary seat of disorder.

This complex of symptoms bears a striking resemblance to that which occurs in bulbar paralysis, particularly to that form occurring in the course of acute anterior poliomyelitis, of which there have been so many recent examples. The presence of temperature and the retraction of the head furnish additional evidence of the existence of some irritative condition at the base of the brain. There were several points of striking interest in connection with the second case. The diagnosis was obviously one of diphtheritic paralysis; yet, when the patient presented himself at the clinic there were being treated at the time a number of cases of poliomyelitis, which was then epidemic. Moreover, a surprisingly large proportion of the cases were of the encephalitic and bulbar or pontine types of poliomyelitis, in the former of which cerebral symptoms existed alone or in association with spinal involvement, and in the latter of which facial, ocular and hypoglossal paralysis existed alone or with paralysis of the extremities. This case also suggested the ataxic form of poliomyelitis, symptoms of which closely simulate those of Friedreich's ataxia. The later developments in this case, with the tendency to progressive increase in the paralysis, particularly its tendency to ascend, and the final fatal outcome, apparently from involvement of the heart and respiratory centers, gave this case a still more striking resemblance to the ascending form of poliomyelitis, with symptoms like those of Landry's ascending paralysis, in which the respiratory centers are involved. The diagnosis of this case was based on the occurrence of diphtheria three weeks before the onset of the paralytic symptoms, the absence of recent acute febrile symptoms that mark the invasion of poliomyelitis, the characteristic fluctuating and scattered distribution of the paralyses, and finally, the occurrence of sudden death from cardiac and respiratory paralysis.

50. **Extensive Denudation of Pneumogastric Nerve.**—Pilcher calls attention to possibilities of disaster from the interference with the pneumogastric nerve in the course of operations for the removal of neck tumors, even though the continuity of the nerve itself is not compromised. A man, 69 years of age, who had been subjected to an excision of a portion of the left side of the tongue for what was considered a cancerous ulcer, had a recurrence sixteen months later with a deep-seated, ill-defined, hard mass occupying the left submaxillary region. The general condition of the patient was still good.

At operation all the deeper tissues of the neck were found involved in the mass of carcinoma. In the course of the dissection the sterno-cleido-mastoid, digastric, stylohyoid and stylothyroid muscles were cut away, and the external artery and all its branches were extirpated. The entire internal jugular vein, already thrombosed where it was involved in the tumor, was removed. Sections of the hypoglossal and spinal accessory laryngeal nerves were cut out. The glossopharyngeal nerve was exposed and necessarily subjected to traction and pressure in the course of the removal of overlying tissue. It was possible to isolate and preserve the pneumogastric nerve, and the internal carotid artery. The sheath of the pneumogastric nerve was involved in the carcinomatous process, and was therefore cleanly dissected away from the trunk proper of the nerve, which did not seem to be involved. The great sympathetic plexus was also exposed in the bottom of the wound, but was not injured.

The patient, though somewhat shocked at the end of the operation, for several hours remained in satisfactory condition; at the end of five hours, however, without previous dyspnea or symptoms of respiratory embarrassment, he suddenly developed respiratory failure, from which no efforts at artificial respiration were sufficient to revive him. The apnea was definite and the patient died.

Searching for the cause of death, Pilcher directs attention to the following: The one peculiar element which first engages attention in this case is the condition of the trunk of the pneumogastric nerve, which for some 4 inches of its course had been deprived of its sheath. The conditions present were practically those of an abrasion of the nerve extending over the area described. The immediate result of this traumatism would be a certain degree of active congestion of the nerve capillaries and swelling of the trunk from infiltration of the interfibrillar spaces with serum. These results of traumatic reaction require some time for their complete development, but they would have arrived at a considerable degree of development by the end of four or five hours. It has seemed to Pilcher, therefore, as the most reasonable explanation of the occurrences in this particular case, that the condition of the pneumogastric, progressively developing traumatic congestion and infiltration over so considerable a portion of its extent, may have been an important source of the inhibiting influence which was exercised on the respiratory center, with which the pneumogastric is so intimately related.

Maryland Medical Journal, Baltimore

June

54 *Foreign Body Removed from Right Bronchus by Upper Bronchoscopy. New Method of Passing Bronchoscope. R. H. Johnston, Baltimore.
55 Salvarsan in Diseases of the Eye. H. Friedenwald, Baltimore.
56 *Review of Tonsil Question. H. E. Peterman.

54. **Foreign Body from Right Bronchus.**—Johnston refers briefly to a new method of passing the bronchoscope, which has made bronchoscopy much easier for him. The difficult stage of bronchoscopy is in passing the tube between the vocal cords into the trachea. The vocal cords once passed, it requires no special skill to push the tube further down. Johnston conceived the idea of placing the patient's head straight on the table and passing the old Jackson laryngoscope down between the incisor teeth. The epiglottis was pulled up and a clear view of the larynx obtained. In his earlier work, he placed a pillow under the head to secure flexion. Further observation has convinced him that flexion is not necessary; a straight position of the head, held firmly by an assistant, makes direct laryngoscopy easy. After working with the straight method of laryngoscopy for some time, it occurred to Johnston that it might be feasible to pass the bronchoscope in this position, thus eliminating the strain on the wrist and the force required to overcome the tense muscles in the extended position. It has worked admirably and has proved easy. The method of procedure is as follows: The patient is placed on the table with the head in the normal straight position. A general anesthetic is administered. The modified direct laryngoscope is passed straight down between the incisor teeth, and when the epiglottis comes into view the spatula end of the instrument is hooked behind it. By making slight pressure on the upper teeth the epiglottis and base of the tongue are pulled up and the larynx opened for inspection. A weak solution of cocain is now applied to the larynx through the tube to prevent reflexes. With the laryngoscope in position, the bronchoscope is passed through it to the vocal cords. With the eye fixed on the end of the smaller tube, a slight twisting motion is used, which sends the bronchoscope between the cords. The breathing is now distinctly tubal in character. The laryngoscope is removed and the head of the patient gently lowered over the end of the table. The examination is now proceeded with as in the extended position. In the above procedure the operator stands to the left of the patient and uses the laryngoscope in the left hand. Both direct laryngoscopy and bronchoscopy are easier because the muscles are relaxed.

56. Abstracted in The Journal, May 20, 1911, p. 1502.

The Laryngoscope, St. Louis

May

57 Practical Value of Lip-Reading. M. A. Goldstein, St. Louis.
58 Acute and Chronic Inflammation of Maxillary Sinus. Recognition and Treatment. T. C. Worthington, Baltimore.
59 Chronic Purulent Maxillary Sinusitis of Dental Origin. C. J. Koenig, Paris, France.
60 Postoperative Double Frontal Sinusitis. Extensive Osteoma of Frontal and Nasal Bones and Orbital Fossæ, with Superimposed Lipoma—Causal Factor, Frambesia (Yaws). C. D. Van Wagenen, New York.
61 Myxo-Fibro-Sarcoma of Nose and Nasopharynx, Removed by Bodine's Modification of the Boeckel Operation. D. S. Dougherty, New York.
62 Exostosis of the Septum. M. Metzenbaum, Cleveland.
63 Yankauer Operation in Chronic Middle-Ear Suppuration. H. Hays, New York.
64 Analysis of Weber Test in One Hundred Cases. R. Sonnenschein, Chicago.

Journal of the Medical Society of New Jersey, Orange

June

65 Serum Treatment of Epidemic Cerebrospinal Meningitis. F. S. Hammond, Trenton.
66 *New Treatment for Fractured Patella. C. H. Finke, Jersey City.
67 Relations of Vaccine Therapy to Infections and to Serum Treatment. G. H. Dexter and J. D. Smith, Brooklyn.
68 Glimpses of Medical History. S. E. Robertson, Newark.
69 Coffee. H. Chavanne, Salem.

66. **New Treatment for Fractured Patella.**—When using Finke's method no attempt should be made to reduce the fragments until nearly all the fluid is removed from the knee-joint. Reduction is accomplished by immobilization of the knee-joint, by fixation of the lower fragment and by traction on and fixation of the upper fragment. The leg should be extended completely and the knee immobilized on a posterior splint. Two strips of adhesive plaster, 2 inches wide, are then applied to the outer and inner part of the thigh extending downward from its upper third to about parallel with the upper border of the patella; here they leave the thigh still running downward for about 2 inches; this extension is inverted and turned into loops, these loops hanging free from the limb on both sides. These longitudinal strips are reenforced by the thigh being strapped transversely with adhesive plaster, from its upper third down to the upper margin of the upper fragment of the patella, against which it fits snugly. The posterior splint, which is properly padded, extends downward from the gluteal fold to within a few inches of the os calcis. The lower fragment of the patella is then fixed temporarily by a gauze bandage applied against its lower border. The lower limb having been covered with a white stocking, a plaster-of-Paris bandage is applied so as to set snugly against the lower border of the lower fragment, fixing it permanently and extending downward, covering both limb and splint. The thigh is then covered with gauze; over this the plaster-of-Paris bandage is then applied, which covers both thigh and splint down to the upper margin of the upper fragment of the patella.

Care should be taken when applying upper and lower sections of plaster at the patella, that the upper section is carried down lower and the lower section is carried up higher posteriorly. This causes the plaster bandages to lap at right angles posteriorly, which gives them greater leverage, and by thickening the edges at the patella, forms a fenestra or window where frequent observations and auxiliary approximation of fragments by gauze packing can be made. Attached to the loops of adhesive plaster on each side of the knee is a half-inch rubber tubing, which, somewhat taut, extends downward to the foot, passing under the arch, unites with its fellow from the opposite side. This acts like a Bucks extension, pulling down the quadriceps and keeping the fragments in apposition, the upper plaster cast acting like a cuff. The object of the rubber tubing is to regulate strength of extension, thereby obviating the necessity for rest in bed with extension by weight and pulley. To keep the fragments from tilting upward, a pad is placed over the fractured patella and a roller bandage is applied. The patient is then given a pair of crutches and allowed to go about. At the expiration of eight or ten weeks, passive or active motion at the knee-joint may cautiously be allowed. The great advantage of the foregoing method is due to the posterior splint which keeps the limb fully extended, the lower plaster-of-Paris bandage fixes the lower fragment; the rubber tubing, which is attached to the loops of adhesive plaster from above, acting like a Buck's extension, pulling down the quadriceps, the fenestra or window, where frequent observations can be made; and last, and above all, the patient is allowed to get up and go about on crutches during his convalescence, and is not confined to his bed for eight or ten weeks.

Ophthalmic Record, Chicago

May

70 Treatment of Phlyctenular Conjunctivitis. J. R. Hicks, New Brighton, N. Y.
71 Leech Bite of the Cornea. E. B. Coburn, New York.
72 Trachoma Bodies from Non-Trachomatous Eyes. H. McKee, Montreal.
73 Electric Injuries of the Eye. A. C. Sautter, Philadelphia.
74 A Case of the Stinger of a Bee Embedded in the Upper Eyelid for Three Months. O. Orendorff, Canon City, Colo.
75 Necessity for Extra Care in the Prognosis and Treatment of Diabetic Cataract. H. Gifford, Omaha, Neb.
76 A Case of Bilateral Choked Disc Produced by a Cyst at the Cerebello-Pontile Angle. A. Murray, Chicago.

Mississippi Medical Monthly; Vicksburg

June

77 *Intestinal Parasites of North Mississippi. L. Kohlheim, Guntown.
78 *Blennorrhea; Syphilitic Keratitis. I. W. Cooper, Newton.
79 *A Forgotten Use of Calomel. S. Myers, Vicksburg.
80 *Oysters and Typhoid. H. S. Capps, Gulfport.

77, 78 and 79. Abstracted in The Journal, May 20, 1911, p. 1503.

80. **Oysters and Typhoid.**—The examination of three samples of oysters by Capps proved that each set of oysters contained the colon bacilli, the normal bacteria of the intestinal tract of men and many animals. The presence of typhoid bacilli was not demonstrated, although many tests were made for this purpose. Capps concludes that oysters taken from deep water, or from a considerable distance from shore or any infected point, are reasonably safe, provided they are handled carefully and are fresh. On the other hand, those taken from shallow water near sewers or other infected points are probably contaminated and are unfit for human food, and their use should be prohibited by law.

Buffalo Medical Journal

June

81 Surgical Treatment of Exophthalmic Goiter. M. B. Tinker, Ithaca, N. Y.
82 Differential Diagnosis of Intra-Uterine Pregnancy Based on Clinical Observations. L. Schroeter, Buffalo, N. Y.

American Journal of Surgery, Philadelphia

June

83 *Surgical Treatment of Cleft Palate. J. H. Jacobson, Toledo, Ohio.
84 *Panhysterocolpectomy. A. E. Gallant, New York.
85 Finger Infections. J. H. Long, Brooklyn.
86 Primary Suture in Simple Mastoidectomy. H. Hays, New York.
87 *Transplantation of Epithelioma. R. T. Morris, New York.
88 *Dilatation of Stomach. E. Lanphear, St. Louis.
89 Postoperative Dilatation of Stomach in Children. W. A. Sherwood, Brooklyn.
90 Congenital Hypomastia with Acquired Hypertrophy of the Opposite Breast. H. Neuhof, New York.
91 Inguinal Hernia in a Child Six Weeks Old, Containing Tube, Ovary and Horn of Uterus. A. S. Morrow, New York.
92 *Extraction of Foreign Bodies from the Eye by Corneal Curet. J. M. Wheeler, New York.

83. **Surgical Treatment of Cleft Palate.**—Jacobson again emphasizes the importance of the early operation; the fact that a higher percentage of successful closures is obtainable by the Lane methods than by any other; the advisability of a careful preliminary preparation of the patient, and the great importance of postoperative training in articulation and phonation.

84. **Panhysterocolpectomy.**—The indications for colpectomy, according to Gallant, are: In a woman suffering from cystocele, with or without prolapse of the uterus or rectum, either before or after hysterectomy, especially when other operations have failed to secure a permanent cure, provided she has passed the child-bearing period or is otherwise debarred from child-bearing, if her husband is willing to forego sexual relations, or if she is usually "frigid," the Edebohls-Martin operation, viz., complete excision of the vaginal mucous membrane, with the uterus, if present, and columnization of the vaginal tube, is a safe and sane operation which will ensure an absolute and permanent cure of the prolapsus at a minimum of danger and loss of time, with a maximum of security against recurrence. Practically the only contra-indications are the child-bearing, and in married women, at least, the loss of sexual relations.

87. **Transplantation of Epithelioma.**—This case presents two points of special interest. Fifteen years ago, a woman 44 years of age was sent to Morris with tuberculosis of the peritoneum, and was operated on. The peritoneum was thickly studded with masses of miliary tubercles, and a small amount of free fluid was present. She made a complete recovery from the peritoneal tuberculosis. Last year she returned with a watery sanguineous discharge from the vagina, and erosion of the cervix uteri, a segment of which, removed for examination, showed epithelioma. The cervix was curetted, but not cauterized, and a panhysterectomy was done by way of the abdominal route, in order that at the same time a weak point in the abdominal wall at the site of the old drain opening might be repaired. It is probable that the cervix touched the abdomen while being removed, for five months later the patient developed a mass at the lower angle of the wound. Morris removed the mass, and on microscopic examination it proved to be epithelioma. Here is, he says, a definite case showing the need of cauterization of the cervix, as well as curetting, in order to avoid such accidents of direct transplantation.

88. **Dilatation of Stomach.**—This case is unusual in the following points: 1. A remarkable degree of chronic dilatation of the stomach due to an ulcer of the duodenum. 2. Complete separation of an 8-inch incision on the thirteenth day after operation. 3. Recovery after the stomach and a loop of intestine had lain eight hours outside the abdominal cavity.

92. For a description of Wheeler's instrument for removing foreign bodies from the cornea, see Wheeler: A Corneal Curette; The Journal, March 22, 1909, p. 1666.

West Virginia Medical Journal, Wheeling

June

93 Treatment of Recently Insane. J. R. Bloss, Huntington.
94 Physician's Responsibilities in Relation to Defective Classes. G. H. Benton, Chester.
95 Tuberculosis Among the Nez Perces Indians of Idaho. J. N. Alley, Fort Lapwai, Idaho.
96 Surgical Treatment of Hypertrophied Prostate. J. E. Cannady, Charleston.
97 The Nobility of Medicine. M. M. Hoff, Philippi.
98 Herpes Zoster Ophthalmicus Causing Bilateral Ptosis. C. F. Mahood, Alderson.

California State Journal of Medicine, San Francisco

June

99 *A New Sign (Pastia) in Scarlet Fever. G. H. Taubles, San Francisco.
100 The Cell in Modern Medicine. H. Tyler, Redlands.
101 *Intestinal Hemorrhage in Hernia. R. Brown, Santa Barbara.
102 Skin as Influenced by the Thyroid. H. E. Alderson, San Francisco.
103 Diagnosis and Surgical Treatment of Tuberculosis of Kidney. E. C. Moore, Los Angeles.
104 Relation Between the Tonsils and Tubercle Bacilli. C. C. Warden, Los Angeles.

99. **A New Sign in Scarlet Fever.**—Taubles examined a number of cases of various infectious diseases with a view to confirming Pastia's observation. The sign referred to by Pastia was described as consisting in an intense continuous, linear

pigmentation of the skin folds across the anterior surface of the elbow, varying in color from rose red to dregs of wine, and even appearing ecchymotic. These lines vary in number from one to four, and the eruption on the skin lying between them, when they are multiple, resembles that on the rest of the skin. The time of appearance of this sign is simultaneous with the appearance of the rash. It persists not only during the eruptive period, but for a varying time afterward, even until desquamation is complete. Its occurrence in the skin folds of the axilla has been observed, but is neither so constant nor as permanent in this region as in the arm.

Taubles' cases seem to confirm that this reddening of the skin folds is not present during, or due to, a mere elevation of temperature of shorter or longer duration. In eighteen cases of scarlet fever seen almost daily from the onset until completion of the desquamation, every one showed the sign. Of these cases, four presented, instead of the typical rash, a mottled blush over the chest and rendered the immediate diagnosis, aside from the sign, uncertain until the typical rash appeared. In the majority of cases (thirteen) the sign lasted for from one week to three weeks after the rash had disappeared. Three showed it in the elbows only. In the others it was visible in other flexures. In scarlet fever Taubles has not seen the sign as darkly red as Pastia describes it, a claret color being the darkest. In the measles cases it was very dark, however. In most of the cases which were seen on the first day of eruption (five), the sign was not as deep in color as on the succeeding day when the eruption had become more pronounced in color. No cases of the series were seen before the eruption took place. In addition to the elbow folds, the skin of the folds of the groin, nates, popliteal space, axilla, wrists and base of the neck were observed. While the sign was recognized in these situations in many of the cases, it was not so pronounced nor so constant as in the elbow, and always disappeared sooner than the elbow sign. Taubles is convinced that the sign really exists as a part of the picture of scarlet fever, both during and, in the majority of cases, after the eruption has manifested itself.

101. **Intestinal Hemorrhage in Hernia.**—Hemorrhage from the stomach or rectum in a patient who has had a hernia for some considerable period of time with a history of several attacks of pain in the hernial tumefaction, no matter how slight, Brown says, justifies the consideration of the hernia and its environs as of major importance in a differential analysis as to the source of the blood. During operation, if the conditions within the sac do not satisfy as to the origin of bleeding, and the adjacent intestines cannot readily be inspected through the hernia incision, an immediate exploration celiotomy is indicated.

Journal of Oklahoma State Medical Association, Muskogee

June

105 Medical Organization and Medical Legislation. D. A. Myers, Lawton.
106 Conservation of Child Life as Economic Factor to State. W. G. Little, Okmulgee.
107 Progress of Medicine. J. H. Scott, Shawnee.
108 Necessary Points for a Progressive Physician. B. W. Freer, Nowata.
109 Laryngeal Tuberculosis. M. K. Thompson, Muskogee.
110 Pellagra. F. B. Ervin, Norman.

Western Medical Review, Omaha, Neb.

June

111 The Future of Medicine. H. P. Lord, Omaha, Neb.
112 Prevalent Professional Psychasthenia in Relation to Psychotherapy. H. S. Munroe, Omaha, Neb.

Medical Record, New York

June 17

113 New Operating Pavilion for Thoracic Surgery at German Hospital, New York. W. Meyer, New York.
114 Rational Treatment of Laryngeal Tuberculosis. S. Von Ruck, Asheville, N. C.
115 *Reflex Contraction of Muscles Associated with Pulmonary Disease. E. F. Cyriax, London, England.
116 Incontinence of Urine in Women. H. C. Taylor, New York.
117 Criminal Abortion. W. B. Jennings, New York.
118 *Pronounced Case of Splenomyelogenous Leukemia with Autopsy. M. Solomon, Washington, D. C.
119 Etiology of Epidemic Poliomyelitis and Its Possible Relation to Beriberi. O. V. Huffman, Cincinnati.
120 *Trachoma in Cuba. F. M. Fernandez, Havana, Cuba.

June 24

121 *Vaccine Treatment of Typhoid. J. G. Gallison, New York.
122 *Some Observations on Organization of Hospital Staffs. J. A. Blake, New York.
123 *Organization of University Hospital Medical Staff. W. G. Thompson, New York.
124 Case of Addison's Disease. L. Weber, New York.
125 Pennsylvania's Work in Rural Sanitation. H. B. Bashore, West Fairview, Pa.

115. **Reflex Contraction of Muscles and Pulmonary Disease.**—Priority over Pottenger is claimed by Cyriax on the subject of spasm of the chest muscles, particularly on spasm of the intercostals, as a physical sign of disease of the lungs. Pottenger stated in 1909 that so far as he was aware this symptom, except as occurring in pleurisy, had not been hitherto described. In 1903 it was briefly described by Cyriax in a volume entitled "The Elements of Kellgren's Manual Treatment." This work expounded the Ling system of medical gymnastics, with special reference to the modifications and improvements introduced by H. Kellgren.

118. **Splenomyelogenous Leukemia with Autopsy.**—Solomon cites a case of splenomyelogenous leukemia in a man, aged 30, who became insane after a life of steady alcoholism, in whom the blood examination showed the presence of leukemia. The disease came on after the patient had entered the Army and had been sent to the Philippines, where he had severe malaria. The patient while at the Government Hospital for the Insane had delusions and hallucinations. He did not know his own relatives and accused himself and others of serious crimes. He had internal and external hemorrhages of small size, a peculiar pallor, enlarged lymphatic glands, and marked blood changes. Hemoglobin was 30 per cent., the white cells were much increased and there were many myelocytes of all kinds in the blood. The cerebrospinal fluid showed lymphocytes, large mononuclears, polymorphonuclears and macrophages.

120. **Trachoma in Cuba.**—The method employed by Fernandez in the treatment of trachoma is as follows: With a cotton swab immersed in a 10 per cent. cocain solution, the conjunctiva of both lids is bathed to produce anesthesia. One minute later another cotton swab, well soaked with distilled water, is impregnated with powdered sodium salicylate and rubbed with some strength against the granulations in front and behind the cul-de-sac. The lids are, of course, very well averted. In some cases the drug causes some burning; in others this is intense, but in all cases the burning sensation disappears in a short time. For two or three days it can be seen how the conjunctiva becomes more and more smooth, the granulations disappear by reabsorption and by destruction; friction used destroys many and increases a limited inflammation provoked by the salicylate. The treatment is repeated every three or four days, and more than half of the cases received five or six applications. Of nearly 400 cases in which this treatment was employed, Fernandez has failed in less than ten cases.

121. **Vaccine Treatment of Typhoid.**—Callison has treated with vaccines all of his typhoid patients. Beginning with the small dose of 25,000,000 he has increased this to 500,000,000 at intervals of two to three days. In prophylactic vaccination three injections are given each at an interval of ten days. Antibodies begin to develop on the fifth to the tenth day; they are bacteriolysins, opsonins and agglutinins. There is an incubation period between the injection and the beginning of formation of antibodies, and then the amount of these bodies rises for twenty to twenty-five days, after which it gradually falls during a period of one year. In an attack of typhoid there is a rise of temperature for eight or ten days until the bacillus may be demonstrated in the blood. Then there is a period of even high temperature and the Widal reaction becomes evident in smaller dilutions, followed by a gradual decline. This is to be compared to the similar rise of antibodies in vaccination. Recovery from typhoid and the development of immunity are brought about by a similar mechanism. Thus one should expect little effect from the vaccines in the first eight or ten days; then the antibodies natural to the disease and those artificially developed combine to cause improvement of the symptoms. The author gives an account of the systematic treatment of typhoid by vaccines as reported by various authors, and reports twenty-three of his cases.

Three of these are excluded because not treated in the proper stage of the disease. Among the twenty remaining cases there were three deaths and one relapse. There were three failures, all of them becoming septic in their temperature curve. The deaths were from rare complications; femoral phlebitis, lobar pneumonia and meningococcus septicemia. There were hemorrhages in three cases. Other complications were rare. The patients seemed better, showed a better appearance and were more comfortable, having better appetite and sleep. In 214 collected cases the mortality was 5.6 per cent.; relapses occurred in 5.1 per cent. The vaccine does not seem to have done harm. The inoculations were subcutaneous. Almost universally where used the treatment is considered to have done good. It lessens complications and relapses.

122. **Organization of Hospital Staffs.**—A true university hospital, Blake holds, should contain branches for all sorts of services and laboratories. It should be managed by a board of men versed in the business affairs of a hospital, who should administer it prudently and with economy. Electioneering for officers should be replaced by nominations by the university. The hospital staff should include physicians and surgeons attending the patients, and men engaged in the scientific work of the laboratory. Each laboratory department must be an individual, and yet be correlated with every other and with the clinical and teaching departments. Each clinical division should be a complete unit, and do all its own diagnostic and laboratory work, giving only the more complicated examinations to the special laboratory division. There should be cross-representation between and among all of them. A surgical division would include ward and operating room, laboratory for surgical pathology, and laboratory for experimental surgery. The main bond between the surgical and laboratory divisions is the laboratory of surgical pathology. The different members and divisions of the hospital staff are carefully described.

123. **Organization of University Hospital Medical Staff.**—Thompson gives an interesting description of the present assignments of the Cornell staff in its work at Bellevue Hospital. The essential features are continuity of service throughout the year; the utilization of student clerks for the benefit of the service; the coordination of the university laboratories with clinical work. There are ninety beds in the service, and 110 others are supervised by the university in connection with this work. A special nurse is employed by the university to assist the student clerks, so that the hospital work is not interfered with by their presence. The student clerks do not idle, because they are supervised by the staff. There is an opportunity to develop close alliance with the university laboratories, which do all the complicated work of examination needed in connection with the hospital wards. This organization follows the method in use for years in the German universities, and is of great value in the instruction of students.

Journal of the Indiana State Medical Association, Fort Wayne

June

126 Rabies. H. R. McKinstray and H. S. Thurston, Indianapolis.
127 Pathology, Symptoms and Treatment of Burns. G. W. Anglin, Warsaw.
128 Diphtheria Antitoxin; Action and Dosage. E. B. Mumford, Indianapolis.
129 Foreign Body in Orbit Discovered by Magnet After Failure by Roentgen Ray. F. A. Morrison, Indianapolis.

Boston Medical and Surgical Journal

June 22

130 *Results of Treatment of Two Thousand Cases of Miscarriage at Boston City Hospital. J. T. Williams and E. B. Young, Boston.
131 *Relation Between Laboratory Work and Clinical Work. R. C. Cabot, Boston.
132 Resumé of the History of Cesarean Section. E. T. Gray, Boston.
133 Indications for Cesarean Section. M. F. Hobart, Boston.
134 Technic of Cesarean Section. M. A. Smith, Boston.
135 Immediate Results of Cesarean Section. J. T. Williams, Boston.
136 End Results of Cesarean Section. N. R. Mason, Boston.
137 *Further Experience with Benzidin Test for Occult Blood in Diseases of the Digestive Organs. F. W. White, Boston.

130. **Treatment in Two Thousand Cases of Miscarriage at Boston City Hospital.**—In over half the cases (1,333) studied by Young and Williams, the miscarriage was incomplete; in only 199 cases was it complete; infected at the beginning in 111; infected afterward, 135. Excluding the cases in which infection determined the necessity for interference, there are 1,683 cases in which the ability of the uterus to empty itself spontaneously could be studied. The authors found that about 13.2 per cent. of all miscarriages may be expected to complete themselves spontaneously; the likelihood of a miscarriage to be completed without interference increases in direct proportion to the duration of pregnancy. When it becomes necessary to use artificial means to complete the miscarriage, the finger followed by the curet in later miscarriages, and of the curet alone in the earlier months of pregnancy, has given uniformly satisfactory results at the Boston City Hospital. Experience has shown that where the cervix is extremely rigid it is better to introduce the curet and break up the fetus and placenta and remove them piecemeal than to attempt to dilate the cervix sufficiently to introduce the finger. Packing the vagina and lower segment of the uterus is an unsatisfactory and often unsuccessful method of emptying the uterus. No success whatever was obtained in treating incomplete miscarriages in this way. Packing is, however, of great value in two classes of cases. First, in exsanguinated patients, to stop the hemorrhage and give the woman a chance to recover somewhat from the loss of blood before emptying the uterus. Second, when the cervix is very rigid, a tight cervical pack for twenty-four hours will soften it so that dilatation may be attempted with safety. The results of artificial methods are as good, but not better than where Nature has succeeded in emptying the uterus. Artificial methods are necessary in a majority of cases, however, simply because Nature has failed. In infected cases the essential thing is to get rid of the infectious material by emptying the uterus, the particular method employed making little difference. The later in pregnancy miscarriage occurs the smaller the liability to become infected, but the greater the likelihood of developing grave septic complications if infection does take place. The mortality is practically the same at all periods of pregnancy. Induced abortions have a greater mortality than accidental. The mortality of patients admitted to the hospital after criminal abortions was 10 per cent.

131. **Laboratory Work and Clinical Work.**—The essential difference between clinical work and laboratory work, Cabot says, is not in the technical methods employed, nor in the degree of their accuracy, nor in the methods of reasoning used. The essential difference consists in the predominance of psychical elements among the data used in the wards and in their elimination in the laboratory. The clinician cannot safely utilize at the bedside the results of laboratory tests which he knows only by reading. He should familiarize himself with these tests in the laboratory, in order to understand the sources of error and the limits of reliability. No laboratory worker should remain out of touch with the clinical aspects of the cases which furnish him his material. In the absence of any single dominating personality as an integrating factor in the hospital system, Cabot says the best available substitute seems to be combined ward visits in which the pathologist, surgeon, physician, chemist and physiologist work together for the increase of their practical and scientific fruitfulness. The evils of specialism may be thus in a measure neutralized and its benefits enjoyed.

137. **Benzidin Test for Occult Blood.**—Blood tests, White believes, are a very great help in clinical diagnosis, and it is his opinion that the Schlesinger and Holtz benzidin test is the best one to use, on account of its simplicity, clearness and degree of delicacy.

Southern Medical Journal, Nashville

June

138 Prevention and Cure of Disease. W. H. Blake, Sheffield, Ala.
139 Organization. H. A. Moody, Mobile, Ala.
140 *Treatment of Heart and Kidney Diseases. J. B. Guthrie, New Orleans.
141 Salvarsan in Syphilis. R. H. Von Ezdorf and J. O. Rush, Mobile, Ala.
142 *End Results of Surgical Operations on Nervous Women. S. T. Rucker, Memphis, Tenn.
143 *Operating in Inguinal Hernia. J. Smyth, New Orleans.
144 Diseases Produced by the Bacillus Coli Communis in Intestines. F. B. Turck, Chicago.

145 Dermatitis Factitia. J. M. King, Nashville.
146 Operation of Turbinectomy and Method of Packing. G E. Vaughan, Clarksville, Tenn.
147 Drinking Water with Meals. G. M. Niles, Atlanta ,Ga.
148 Ethyl Chlorid Anesthesia in Eye, Ear, Nose and Throat Work. L. Levy, Nashville.

140, 142 and 143. Abstracted in THE JOURNAL, Dec. 3, 1910, pp. 2004, 2005 and 2006.

Colorado Medicine, Denver

June

149 Possible Explanation of Etiologic Relation Between Certain Intra-Abdominal and Pelvic Diseases. E. Hadley, Telluride.
150 Recent Experimental Work on Etiology of Malignant Growths. F. W. Bancroft, Denver.
151 Observations in Gall-Bladder Diseases. J. G. Hughes, Greeley.
152 Case of Carcinoma of Uterus Complicated by Pregnancy. O. M. Shere, Denver.
153 Etiology of Pelvic Inflammations. F. C. Buchtel, Denver.
154 Modus Operandi of the Acquisition of Gonorrhea by the Male and the Rationale of Its Prevention. W. M. Spitzer, Denver.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 10

1 Preventive Medicine. Sir J. Barr.
2 *Importance of Pneumonia as a Cause of Death. F. M. Pope.
3 *Features of Aortic Regurgitation in Young Subjects. J. M. Clarke.
4 *Blood-Pressure in Mental Disorders. S. G. Longworth.
5 Interpretation and Significance of Some Irregularities of the Pulse. W. E. Hume.

2. **Pneumonia as a Cause of Death.**—It is pointed out by Pope that pneumonia, far from diminishing in frequency, has now obtained the bad preeminence of actually causing in England more deaths in a year than any other disease (irregular groupings by the registrar-general excepted) and also of having caused in 1907 more than double the deaths it did in 1881. If, he says, this disease had suddenly appeared among us we should have seen a kind of panic seize the public, and leagues would have been founded and large sums of money contributed to combat it; but because it is an old friend we see it calmly accepted as an inevitable concomitant, as well as a mode of termination of life.

3. **Features of Aortic Regurgitation in Young Subjects.**—Of 3,300 cases studied by Clarke, there were 96, or nearly 3 per cent., of cases of aortic valve disease; of these, thirty-three, or 1 per cent., were under 28 years of age. Cases in which there was any possibility of congenital heart disease were excluded. In the thirty-three in-patients under 28, acute rheumatism was the cause in twenty-one, chronic rheumatism in four, and chorea solely in four, a total of twenty-nine, or 87 per cent., in which there was a history or present evidence of some rheumatic manifestation. Two of the thirty-three cases were known to develop infective endocarditis. Of the four cases which owned chorea only as the cause, in two cases there had been eight, and in one, seven attacks. In twenty-seven out of the thirty-three patients other murmurs were present, although as regards signs and symptoms the active lesion predominated the case. In nine of the twenty-seven, the second murmur was an aortic systolic one, which of course does not by any means imply actual aortic stenosis, nor necessarily any serious complication; in the other eighteen there were mitral murmurs.

This difference from the adult is probably again connected with the etiologic factor of rheumatism. In five patients acute pericarditis was observed at some time, either preceding the appearance of the diastolic murmur, or both murmur and pericarditis were present on admission. In those cases in which aortic disease was complicated with mitral regurgitant murmurs, in at least four cases the aortic disease was certainly primary, and later on, as the heart enlarged, mitral regurgitation ensued. In another case a murmur, which was at first mid-diastolic and regarded as an aortic murmur conducted to the apex, became three years later a definite and characteristic presystolic crescendo murmur. In the majority of these cases of combined lesions both valves were affected, as evidenced by murmurs, at the time they first came under observation.

Clarke found that pain in the precordial region is the most frequent and prominent symptom in young subjects. Next in frequency to pain comes palpitation, or rather a violent throbbing of the heart and great vessels. Then comes dyspnea, either persistent on exertion or in the form of attacks in which the patient gasps for breath and has a most distressing sense of being unable to breathe. Attacks of syncope may occur, and in one case this was the cause of death. Certain forms of hemorrhage are not infrequent. Epistaxis is by far the most common. Hemoptysis and hematemesis also occurred; a purpuric rash was observed in another patient, with no evidence of malignant endocarditis. One patient with aortic disease (purely) of eight years' standing, of no great severity and without much enlargement of the heart, had a typical attack of embolism at the age of 20, resulting in right hemiplegia and aphasia. In another patient, aged 18, persistent insomnia and mental symptoms in the form of delusion were the prominent features. Edema, as in cases of heart disease generally in children as compared with adults, is conspicuously absent until the terminal stages of heart failure. In thirteen out of the thirty-three cases albuminuria was present. It did not occur with greater frequency in those patients who had a mitral as well as an aortic lesion. As a rule, the amount of albumin was small, and in eleven cases out of the thirteen it disappeared after a few days' rest in bed. Renal casts were either absent altogether or there were a very few hyaline ones. In the other two patients there was a considerable quantity of albumin, which persisted and was due to coincident renal disease.

Great enlargement of the heart itself is an even more marked feature of aortic disease in children than it is in adults. With this goes in a considerable number (36 per cent. of Clarke's cases) pronounced dilatation of the aorta, causing extension of dulness to each side of the sternum and upward, even as high as the sternal notch. The large vessels share to a less extent in the dilatation. With regard to the heart murmurs, the only point to which Clarke alludes in the aortic diastolic murmur of the young subject is that it is often very long, running almost up to the first sound, and to its loudness or harshness, and its variability. The murmur is more frequently heard at the apex than in adults (Flint's murmur); this was the case in 51.5 per cent. of the patients, and in 34 per cent. it was accompanied by a well-marked diastolic thrill. Not infrequently the murmur at the apex is mid-diastolic. Clarke believes that the dictum is correct that in cases in which Flint's murmur is present, in which there is a history of rheumatism, it is possible to exclude with certainty mitral stenosis. An analysis of these cases shows that in every instance in which the aortic incompetence was concomitant with enlargement (dilatation) of the right heart (from mitral disease) the aortic diastolic murmur was loudly and plainly conducted down and outside the right edge of the sternum; the conduction might be to the apex as well, but that to the sternum was very marked.

4. **Blood-Pressure in Mental Disorders.**—From Longworth's observation of a considerable number of cases it appears that maniacal and melancholic states are not associated with any constant modification of the arterial blood-pressure, or any marked departure in it from the normal. The same applies to other types of mental disorder, with the exception of congenital states in which the pressure tends to be low. The pressure bears some relation to the bodily tone, and increases as age advances; and as melancholia is on the whole a disorder of more advanced years than mania it is only associated with higher manometer readings on this account. Sedative drugs have a slight influence in lowering blood-pressure. The manometer readings bear a fairly close relation to the sclerosis of the vessel wall.

Lancet, London

June 10

6 Progress of Dermatology Since Hunter's Time. J. H. Sequeira.
7 *Rôle of Fat in Etiology and Progress of Cancer. G. T. Beatson.
8 Position of the Present Reform Movement in Anesthetics. F. W. Hewitt.

9 Explosives in Coal Mining and Their Effect on Miners. Sir T. Oliver.
10 *Ten Cases of Operation for Ménière's Disease (Aural Vertigo). R. Lake.
11 Twenty-Two Consecutive Cases of Extra-Uterine Pregnancy Successfully Treated by Operation. J. A. Kynoch.
12 *Prophylactic Inoculation Against Hay Fever. L. Noon.
13 Suppurative Arthritis of Knee-Joint, Due to Influenza Bacillus, Occurring in a Baby Aged Six Months. E. T. Fraser.
14 A Case of Acute Phthisis Following Typhoid. W. Scarisbrick.
15 Endemic Tetany in the Gilgit Valley. R. McCarrison.
16 Recognition of the Public Schools. Sir H. Morris.
17 An Investigation of Certain Substances Used in Coloring Foods. S. Rideal.

7. **Fat in Cancer.**—Beatson's attention has been chiefly directed in cancer to the fat of the human body, as circumstances have led him to think that possibly it is the tissue that plays an important part both in the etiology and certainly in the progress of the disease. Several reasons have weighed with him in adopting this view. For instance, he has frequently observed at post-mortem examinations the very pigmented condition of the fat in some cases of cancer, where it presented a reddish-yellow vermilion appearance, and evidently had in it a coloring matter not usually present in ordinary fat. Again, when operating in cases of mammary cancer, he has often been struck by the oily and fluid state of the circummammary fat. What, however, influenced him most in this matter were the results observed in those cases of oöphorectomy for inoperable mammary cancer in which there had been a complete disappearance of the outward manifestations of the disease after the operation, this disappearance of the signs of the disease being accompanied by improvement in general health, and an increase in the subcutaneous adipose tissue.

Working on this line of thought, it seemed to him that it would be of interest to examine chemically the fat of cancer patients and also of the body before and after puberty, so as to ascertain if any facts could be elicited that would in any way encourage research in this direction, for it seemed to him that if his explanation of the beneficial effects of oöphorectomy in mammary cancer was correct, there might be opened up a successful line of therapeutic action in the treatment of cancer generally. This inquiry was done for Beatson by Dr. W. H. Duncan. The results were as follows: 1. Twenty-two specimens of normal human fat between the ages of 26 and 38 years examined. The iodin values obtained ranged from 60.8 to 64, and the average for the twenty-two was 62.1. 2. In forty-three specimens of fat from patients between the ages of 39 and 68 years examined, the average iodin value obtained was 72.6214. 3. In twelve specimens of normal human fat examined from subjects between the ages of 52 and 65, the average iodin value was 63.981. 4. In three specimens of normal human fat after puberty examined, the iodin value was 61. 5. In five specimens of normal human fat in children under 11 years examined, the average iodin value approximated to 44. 6. In twelve specimens of normal human fat examined from children between the ages of 9 and 11 years, the average iodin value was 44.477. 7. In twelve specimens of normal human fat examined from subjects between the ages of 16 and 19 years, the average iodin value was 60.88. Speaking generally, the outcome of Dr. Duncan's observations is that a decided difference exists in human fat before and after puberty, the low percentage of 44.477 of non-saturated fatty acids between 9 and 11 years of age being replaced by the high one of 60.88 from 16 to 19 years of age. Further, that a similar increase takes place in the fat of cancer patients, the percentage rising from 62.1 in health to 76.62 in that disease. Beatson holds that the important rôle played by fat in many of the phenomena of life may be said to justify further inquiries and research.

10. **Operation for Ménières Disease.**—It is emphasized by Lake that in true Ménière's disease no treatment, operative or otherwise, can effect the least degree of improvement on the condition. In cases of aural vertigo, whether accompanied by tinnitus or not, the case is very different. In such cases Lake recommends vestibulotomy, consisting in opening the vestibule and destroying its contents. His results have been good. He says that in these cases relief may be promised with certainty. The slight risk of a temporary facial paralysis does not in reality require a passing thought; the hearing is the only important factor. Where the cochlear division of the eighth nerve is relatively intact, Lake says no operation should be considered, unless one is able to demonstrate without a shadow of a doubt that the vertigo is of purely aural origin.

12. **Inoculation Against Hay-Fever.**—The plan of experiment followed by Noon was to obtain a numerical measure of the sensitiveness of the patients to the pollen toxin and to observe whether this was increased or decreased by subcutaneous inoculations of various quantities of pollen toxin. It was found that, with well-regulated dosage, it was possible in every case to raise the patient's resistance to a marked degree, within the lapse of a few months, while, on the other hand, ill-regulated dosage was at once made evident by a decrease in the resisting power.

Journal of Tropical Medicine and Hygiene, London

June 1

18 Recurring Keratitis Caused by Trypanosomes. C. W. Daniels.
19 Tetanus. Severe Relapses Due to Development of "Latent or Dormant" Spores. L. G. Fink.
20 Pathogenicity of Bacillus Pyocyaneus in British Guiana. E. P. Minett and W. J. Duncan.
21 Trypanosomiasis in North-Eastern Rhodesia. A. Brown.

Clinical Journal, London

May 24

22 Medical Treatment of Ulcer of the Stomach. W. E. Wynter.
23 *A Study of the Life-Histories of Fifty Cases of Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

May 31

24 Surgical Treatment of Certain Forms of Obstructive Jaundice. A. W. M. Robson.
25 Pruritus. G. Pernet.
26 A Study of Fifty Cases of Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

23. Also published in the *British Medical Journal*, April 22, 1911.

Practitioner, London

May

27 Mediastinal Growths. Sir R. D. Powell.
28 *Anomalous and Obscure Symptoms Associated with Movable Kidney. W. B. Clarke.
29 Plague in Northern China. W. J. Simpson.
30 Appendicitis. E. S. Bishop.
31 *A Review of Some Methods of Gastrostomy. E. M. Corner.
32 *Acute Pyelitis, Pyelonephritis, Suppurative Nephritis. J. W. T. Walker.
33 *Mode of Production of Apparent or Simulated Doubling of the Second Sound of the Heart. E. H. Colbeck.
34 Edema Occurring in the Course of Disease of the Gastro-Intestinal Tract in Infants. H. T. Ashby.
35 Guipsine as an Apressor Remedy in Cases of High Arterial Blood-Pressure. O. K. Williamson.
36 Modern Views of the Causation and Treatment of Mucous Colitis. F. Hernaman-Johnson.
37 Diagnosis of Scarlet Fever. A. K. Gordon.
38 Diagnosis and Treatment of Acute Suppuration in the Frontal, Maxillary and Anterior Ethmoidal Sinuses. J. A. Jones.
39 A Case of Retained Menses. I. Cowen.
40 Fluoroscopic Diagnosis of Direction of a Plane Mirror on the Screen. W. Cotton.

28. **Movable Kidney.**—Every one of the five cases related by Clarke is remarkable on account of the anomalous and puzzling symptoms which it presented. Vomiting is well known to be associated with what may be described as the gastric type of movable kidney. As a rule, however, it is exceedingly severe and is associated with other symptoms of movable kidney, so that it is readily ascribed to its true cause and an appropriate line of treatment is carried out. These cases are, however, one and all, remarkable from the fact that, though in some instances the vomiting was severe, no associated signs or symptoms were present to give aid in the diagnosis, and thus the true significance of the vomiting was for a long time unappreciated. If, however, one reviews carefully the condition of vomiting which existed in every one of these cases, it is clear that, with the exception of the single fact that the patients were quite well and in the enjoyment of their health between the attacks, there is little to distinguish this type of vomiting from that which is associated with many other ailments. Besides the fact that the patients were all in the enjoyment of their usual health between their attacks, Clarke says attention should be called to the circumstance that great intestinal distention was present in most of the attacks. In several of the cases when once the suspicion has

arisen that the kidney might be the prime cause of the mischief, an examination of the right kidney revealed the fact that it was more movable than it should be. In one case, in which jaundice formed a prominent feature, there was ample evidence of kidney trouble on various occasions during previous years, but the true relationship which existed between the jaundice and the kidney trouble was cleared up only by operation.

31. **Methods of Gastrostomy.**—Corner urges that the methods of gastrostomy described and based on the principles of Depage's operation offer a means of doing a gastrostomy with good results comparatively early in the course of esophageal obstruction while the patient is in good condition. By such means it will be possible to diminish the mortality and improve the results of the operation of gastrostomy in a marked manner. Corner has applied the principle of Depage's method to the formation of a cecostomy where for some reason or other the operation of appendicostomy could not be done or was a failure.

32. **Acute Pyelitis, Pyelonephritis and Suppurative Nephritis.**—Walker has performed nephrectomy in three cases for the late results of pyelonephritis, in which nephrotomy had been performed years before. The patients had survived the acute attack, although the operation did not protect them from chronic pyelonephritis. Two patients on whom he performed nephrotomy during the acute stage recovered. The best results have been obtained by nephrectomy in the acute stage. When and in what circumstance this should be performed, he says, cannot be laid down dogmatically, but it should be understood clearly that these patients are suffering from suppuration, which, in the great majority of cases, is confined to a single organ, and, if improvement does not take place within a reasonable time, to be measured by days, not weeks, the organ should be removed. To put off operation until the patient's life is in danger from chronic suppuration, because there is a doubt that the second kidney may be diseased, when such information could readily be obtained, is a reproach to surgery.

33. **Second Sound of the Heart.**—In Colbeck's opinion the second element of the double sound that is heard at the apex in cases of mitral obstruction is due to tension vibration of the large anterior flap of the mitral valve.

Dublin Journal of Medical Science

May

41 Cheyne-Stokes' Breathing. J. Little.
42 Tetany. C. W. C. Myles.
43 Diabetes and Pancreatic Secretion. R. A. Albertijn.

Journal of Obstetrics and Gynecology of the British Empire, London

May

44 Pathology of Tumors of the Corpus Uteri. R. F. C. Leith.

Annales de Gynécologie et d'Obstétrique, Paris

May, XXXVIII, No. 5, pp. 257-320

45 *Remote Functional and Obstetric Results of Pubiotomy. A. P. Ramos.
46 *Laparotomy for Irreducible Retroversion of Pregnant Uterus. Goullioud.
47 The Mechanism of Spontaneous Delivery. (Des différents mécanismes de l'évolution spontanée.) J. Rouvier.

45. **Remote Results of Pubiotomy.**—Ramos recently has been examining anew eighteen patients at Buenos Aires from three months to five years after pubiotomy, and states that their present condition shows that the operation is harmless. The patients were able to be up the twentieth day and except for a slight heaviness in the left leg in some cases, which promptly subsided as the leg was used, there were no by-effects. One patient had had sciatic pain after a previous delivery, at which no operation had been done, and there was transient pain of the same kind after the pubiotomy. The incision was subcutaneous in the majority, and this he regards as the preferable technic rather than the original Gigli method. Eight of the women have passed through a pregnancy since and delivery occurred spontaneously in seven, while pubiotomy was done on the other side in the eighth case. The pelvis is not permanently enlarged by the pubiotomy unless there is defective consolidation, and it is unwise to strive for this as it might entail complications, while repetition of the pubiotomy at need is a simple and harmless procedure. Ramos has been able to find records in the literature of thirty other cases in which pubiotomized women passed through a pregnancy later; in eighteen cases delivery occurred spontaneously or after version or extraction of a living fetus, while in twelve cases the pubiotomy had to be repeated or Cesarean section done.

46. **Irreducible Retroversion of Gravid Uterus.**—In Goullioud's case the uterus was held down by a stout, fibrous band passing from the left upper corner of the uterus into the small pelvis. The organs were all sound and as soon as the band was cut the uterus righted itself, which it never could have done without the laparotomy. The diagnosis had been confirmed by the emission of a little urine whenever the posterior vault of the vagina was pushed up. This lifted the retroverted uterus and, as the fundus pivoted upward, the bladder mouth was opened (Laroyenne's sign of retroversion). Goullioud reduces the retroversion when there is no mechanical hindrance by introducing two fingers of the right hand into the vagina, striving to reach the promontory as if to measure the diameter of the superior inlet. In doing this with the gravid uterus in retroversion, the uterus is lifted up a little and by lightly touching it at a tangent, as one starts a ball to rolling, the fundus is pushed forward and lifted at the same time. With the slight impetus thus imparted, the fundus rises out of the cavity in which it has been practically impacted and spontaneously assumes the normal position, the cervix swinging around into place below at the same time. There is less traumatism of the uterus, he says, with this maneuver than with other technics, while the desired result is obtained more readily than by direct pressure.

Archives Générales de Chirurgie, Paris

April, V, No. 4, pp. 361-480

48 Kinking of Splenic Flexure After Removal of Large Abdominal Tumor. (Occlusion intestinale post-opératoire par coudure de l'angle colique gauche.) L. Heully.
49 Traumatic Diffuse Aneurysm of the Leg Cured by Ligation of Popliteal Artery. (Anevrysmes traumatiques de la loge jambière postérieure.) M. P. Bertein.
50 Total Saphenectomy: Twelve Cases. (Cure radicale des varices par la saphénectomie totale.) Bergasse.

Archives des Maladies de l'App. Digestif, Paris

March, V, No. 3, pp. 109-168

51 *Intercostal Pain as Sign of Cholelithiasis. M. E. Binet.

April, No. 4, pp. 169-228

52 Duodenal Ulcer. (Que faut-il entendre par ulcus du duodénum?) P. Caille.
53 Non-Malignant Stenosis of the Esophagus. (Etude clinique et thérapeutique des rétrécissements non cancéreux de l'oesophage.) L. Sencert. Commenced in No. 1.

51. **Intercostal Pain as Sign of Gall-Stones.**—Binet found a tender point in the interspaces in forty-seven, that is, in 63 per cent. of seventy-three patients with cholelithiasis. He found Abraham's sign (pain on pressure of a point midway between the umbilicus and the cartilage of the ninth rib) only in thirty-two. The intercostal neuralgia with gall-stones occurs in the ninth, tenth and eleventh right interspaces, but the most striking sign is a sharp pain felt on pressure of the anterior end of the eleventh rib. These pains and tenderness seem to be characteristic only of cholelithiasis, and they are frequently the first signs of a tendency to gall-stones and may prove the forerunners of an acute attack. The pain is generally elicited only by pressure.

Bulletin de l'Académie de Médecine, Paris

May 23, LXXV, No. 21, pp. 577-624

54 Displacements of the Uterus. L. Picqué and L. G. Richelot.
55 Epidemic Poliomyelitis in 1910. A. Netter.

Obstétrique, Paris

May, IV, N. S. No. 5, pp. 481-592

56 Cholesterin in the Blood During Pregnancy and the Puerperium. (Evolution de la cholestérinémie.) A. Chauffard, G. Laroche and A. Grigaut.
57 Interstitial Pregnancy: Five Cases. (Quelques cas de grossesse interstitielle.) P. Lequeux.

Presse Médicale, Paris

May 31, XIX, No. 43, pp. 445-452

58 Diagnosis and Treatment of Cerebrospinal Meningitis. P. Debré.

June 3, No. 44, pp. 453-468

59 *Vaccination by Way of Intestines Against Typhoid. J. Courmont and A. Rochaix.
60 *Chronic Enlargement of the Parotid. (Le mangy.) M. Fontoynont.

59. **Vaccination by Way of the Intestines Against Typhoid.**—Courmont and Rochaix report as the result of years of experiments that it is possible to vaccinate against typhoid by high injection into the intestines of a complete eight-day culture of typhoid bacilli killed by heating to 53 C. Goats, guinea-pigs and rabbits thus vaccinated survived intravenous inoculation of two, three or four times the fatal dose of typhoid bacilli rapidly fatal for the controls. The immunity thus conferred lasts for several months and possibly longer. The serum of the animals acquired antitoxic, bacteriolytic, bactericidal and agglutinating properties as also the serum of human beings vaccinated in the same way. As the human serum acquires these properties by the tenth day this is accepted as proof of successful vaccination although it is impossible in man to apply the final touchstone of intravenous inoculation with virulent cultures. The vaccination by way of the intestines was done in injections of 100 c.c. each, through a long cannula, adding 10 or 15 drops of laudanum to the fluid, and giving a total of three injections at five-day intervals. The injection was retained for twenty-four hours. The agglutinating power did not become very pronounced, not over 1 to 30; the bacteriolytic power, 1 to 20; but the bactericidal power rose to 1 to 200, 500 or 1,000. It is possible that by this direct application of the vaccine to the intestines the mucosa becomes more resistant to the passage of typhoid bacilli than if the injection had been made by the subcutaneous route. The facts observed suggest the possibility that the toxins are not absorbed from the intestines and that it is the dead bodies of the bacilli which are taken up into the tissues and start the defensive processes. Attempts to obtain the same results by ingestion of the vaccine gave uncertain results, sometimes positive but far more often negative. The vaccine was made from typhoid bacilli from eight sources so as to ensure polyvalent action.

60. **Enlargement of Both Parotids.**—Fontoynont says that this affection is very common in the hill districts of Madagascar. It seems to be to the parotid gland what ordinary goiter is to the thyroid.

Semaine Médicale, Paris

June 7, XXXI, No. 23, pp. 265-276

61 *Morphin Addiction. (La désintoxication rapide de la morphine et de la diacétylmorphine, considérée au point de vue hématologique.) M. Chartier.

61. **Treatment of Morphin Addiction.**—Charlier lauds the superior advantages of rapid—not sudden—suppression of the morphin, aided by stimulation of elimination of the poison by every possible route. His article is mainly devoted to study of the blood-picture during the course of treatment. the findings all confirming the advantages of this method and showing the dangers of sudden suppression or too gradual tapering off, the blood not becoming regenerated as under the influence of the rapid method.

Beiträge zur klinischen Chirurgie, Tübingen

May, LXXIII, No. 1, pp. 1-260

62 *Early Diagnosis and Early Operation for Metastatic Suppuration in the Adipose Capsule of the Kidney. (Metastatische Eiterung in der Nierenfettkapsel.) L. Rehn.
63 Action of Antiferment Serum. Boit.
64 Experimental Research on Healing of Lung Tissue Surfaces Together. (Ueber Gegenheilung pleurafreier Lungenlappen.) W. Gundermann.
65 Successful Removal of Tumor in Vagus Nerve. H. Semel.
66 Malignant Transformation of Papilloma in Bladder. (Ueber Metaplasie von Blasenpapillomen in Carcinom.) R. Syring.
67 *Inguinal Operation for Femoral Hernia. A. Reich.
68 *Operative Treatment of Peripheral Facial Paralysis. R. Eden.
69 *Origin and Treatment of Perforating Ulcer of the Foot. (Zur Entstehung und Behandlung des Mal perforant du pied.) M. Hofmann.
70 Megacolon and Its Connection with Anomalies of the Sigmoid Flexure. (Ueber die Hirschsprung'sche Krankheit und ihre Beziehungen zu kongenitalen und erworbenen Form- und Lageanomalieen des Colon sigmoideum.) G. E. Konjetzny.
71 Gunshot Wounds of the Pancreas. (Pankreasschussverletzungen.) L. H. Diehl.
72 Lymphangiomas in Bone. L. Wrede.
73 Chondromatosis of the Bones. P. Frangenheim.
74 Restoration of Nasal Septum. (Ersatz des Nasenseptums.) P. Frangenheim.

62. **Metastatic Suppuration in the Kidney Capsule.**—Rehn discusses the bacteriology, anatomy and etiology, diagnosis and operation and reports nine cases in detail and some experimental research. The latter shows that metastatic perirenal suppuration may result from the passage of virulent germs through the capsule, destroying it, but also by primary metastasis in the vessels of the fibrous capsule. Some possibly slight injury of the parenchyma of the kidney is probably required and some focus of virulent staphylococci in the body, sending out at intervals its products, while the diameter of the capillaries is too small at certain places for the clumps of cocci. An early operation is the only salvation, and he thinks it is possible to recognize the metastatic abscess in its incipiency by the violent pain, its localization corresponding to the area of the adipose capsule of the kidney. There is also chilliness or an actual chill. followed by remittent fever. These symptoms accompanying furunculosis or a carbuncle point directly to suppuration around the kidney, and the diagnosis is confirmed by tenderness in the kidney region. If the manifestations are severe. operative treatment should follow at once. In one of Rehn's cases the first sign of trouble was violent delirium. There may be polyuria but negative findings in respect to the urine do not exclude suppuration in the kidney and its adipose capsule. Exploratory puncture is of little use and may prove dangerous. The kidney should be amply exposed and the abscess must be sought close to the surface of the kidney until it is found.

67. **Inguinal Operation for Femoral Hernia.**—Reich gives an illustrated description of the technic which he commends for femoral herniotomy. He attacks the sac from the rear, through the inguinal canal. drawing the sac out through this canal and putting an end to the tendency to hernia by suture of the muscles, periosteum and ligament in the inguinal region.

68. **Surgical Treatment of Facial Paralysis.**—Eden reviews the experiences in this line to date, the ultimate outcome of nerve-grafting operations not being very satisfactory. He then reports a plastic operation on the masseter muscle for the purpose, the results of which have been excellent. The improvement secured by the operation was immediate and it seems permanent, neither of which is secured by a nerve-grafting operation.

69. **Perforating Ulcer of the Foot.**—Hofmann was unable to find any other cause for the perforating ulcer of the foot in his fifteen cases than chronic alcoholism and labor requiring long standing; the patients were all elderly men. During the three years in question he never encountered a case of the kind in a tabetic. The abscess was on one foot only in five; both feet were affected in the others. Treatment was operative in every case and he insists on the necessity for radical measures to avert serious complications.

Berliner klinische Wochenschrift

May 29, XLVIII, No. 22, pp. 973-1020

75 *Fatality After Salvarsan in Tabes. (Ueber einen Todesfall nach Behandlung mit Salvarsan bei spinaler Erkrankung mit mikroskopischer Untersuchung des Rückenmarks.) A. Westphal.
76 Roentgenography of the Stomach. (Röntgenographische Bestimmung der Lage des Magens.) S. Talma.
77 *Quantitative Determination of Albumin in Stomach Content. (Bestimmung gelöster Eiweissstoffe im Mageninhalt.) W. Wolff and P. Junghans.
78 Experimental Surgery of the Esophagus. E. Unger, M. Bettmann and W. Pincus.
79 Metastatic Suppurative Focal Pneumonia After Tonsil Abscess. F. Cohn.
80 *Anaphylatoxin. H. Ritz and H. Sachs.

75. **Recent Syphilitic Meningitis with Tabes: Death After Salvarsan.**—The necropsy findings in Westphal's case indicated recent syphilitic meningitis with true tabes. The patient was a woman of 33 who had never taken treatment for her syphilis, until 0.4 gm. of salvarsan was injected in the gluteal muscles. Seven hours afterward there was sudden trouble in breathing soon leading to complete arrest which proved permanent notwithstanding artificial respiration for an hour. The fatality was evidently due. he thinks. to sudden paralysis of the phrenic nerve from pressure from the hyperemia and edema in the spinal canal induced by the

action of the drug—all the regional tissues, including the phrenic nerve, being already pathologic from the syphilitic disturbances. This conception of the case harmonizes with the frequent experience of neuropathologists that nerves suffering from toxic, infectious or other injurious influences are peculiarly liable to become paralyzed even from some slight injury such as moderate pressure. If the necropsy had been omitted and the preexisting, clinically latent inflammation of the phrenic nerve had not been discovered the fatality might have been ascribed to the toxic action of the drug alone. Westphal agrees with Ledermann that it is highly probable that the salvarsan is liable to rouse a latent syphilitic neuritis to active manifestations, but the case here reported is the first one, he thinks, in which anatomic testimony as to such an occurrence has been presented. He adds that the study of the neurorecurrences under salvarsan treatment is extremely important to throw light on the earliest stages of nerve syphilis. One practical conclusion from his case is that the slightest suspicion of any syphilitic affection in the upper spinal cord should impose the greatest caution in the administration of salvarsan. It should be begun with minute doses to avoid an acute stormy reaction. Extreme care is necessary if anything points to an affection of the phrenic, vagus or other important nerves or their nuclei. At the same time, he would not summarily exclude all such patients from salvarsan treatment.

77. **Albumin in Stomach Contents with Cancer.**—Wolff and Junghans state that the dissolved albumin in the stomach content does not afford any exact information as to the proteolytic function of the stomach but, at the same time, in connection with other signs, it may be found very useful in differentiating gastric cancer. In eight cases of gastric cancer the proportion of dissolved albumin in the stomach content was very high while the proportion of pepsin and hydrochloric acid was remarkably low. He thinks this combination is certainly suggestive of cancer; it is evidently the result of several factors including the proportionately large amount of albumin in the secretions of the ulcerating tumor. (This is the basis of the Salomon test for gastric cancer.) Another factor is the presence of the peptid-splitting ferment (the basis of the Neubauer and Fischer test). It is also possible that with gastric cancer the mucosa is injured to such an extent that absorption is materially reduced. They apply the test for albumin by diluting the stomach content obtained one hour after the test breakfast. The beakers contain the dilutions in turn from 0.025 to 10 up to 1 to 10. In each beaker 1 c.c. of the reagent is superimposed on the diluted stomach content. The reagent is a mixture of 0.3 parts phosphotungstic acid; 1 part hydrochloric acid, 20 parts 96 per cent. alcohol, and water to 200 parts. The standard is the dilution in the first beaker in which no ring forms in contact with the reagent. The findings with this simple test compare favorably with those of various other methods. The albumin index is the dilution, so that the figures are 10, 20, 40, 100, 200 and 400.

80. **Anaphylatoxin.**—Ritz and Sachs report extensive research showing among other things that kaolin is able to prevent the formation of anaphylatoxin by the reciprocal action of bacilli and guinea-pig serum. Kaolin is also able to deprive a solution of anaphylatoxin of all toxicity.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 20, XLI, No. 15, pp. 528-560

81 *Combination of Tuberculosis and Syphilis. (Tierexperimenteller Nachweis, Züchtung und Färbung des Syphilis-Erregers.) C. Spengler.
82 The Sphygmometer. (Ein neuer Apparat zur Prüfung der Herzfunktion.) H. Schulthess.

June 1, No. 16, pp. 561-592

83 Sphygmobolography. (Ueber die Verwendung moderner Sphygmographen, speziell des Jaquet'schen, zu sphygmobolometrischen Untersuchungen. Die Sphygmobolographie, eine klinische Methode.) H. Sahli.

81. **Mixed Syphilis Plus Tuberculosis.**—Spengler says that in many cases of pulmonary phthisis with much expectoration the disease is in reality a combination of syphilis and tuberculosis although the syphilis may not manifest any signs of its presence. He has been able to cultivate spirochetes from the sputum in such cases, along with the tubercle bacilli, finding both the pallida and the refringens type, and obtaining positive results on inoculation of animals. Rabbits which have been once or several times inoculated with syphilis and have spontaneously recovered are sensitized and respond with peculiar sensitiveness to inoculation of syphilis germs when the germs are scanty or the syphilitic infection latent. He discusses the simplest and most reliable means of determination of the spirochetes and interpretation of the findings.

Deutsche medizinische Wochenschrift, Berlin

June 1, XXXVII, No. 22, pp. 1009-1056

84 *Heredity. (Ueber Vererbung.) H. Ribbert.
85 *Salvarsan in Syphilis of the Central and Spinal Nervous System. G. Treupel.
86 *Sensitive Skin of the Tuberculous. (Die Toxinempfindlichkeit der Haut des tuberkulös infizierten Menschen.) J. Sorgo.
87 *Pulmonary Tuberculosis and Pregnancy. (Zur Frage der Lungentuberkulose und Gravidität.) L. J. Rabnow and K. Reicher.
88 *Serodiagnosis of Pregnancy by Epiphanin Reaction. (Experimentelle Studien mit artgleichem Synzytiotoxin; Schwangerschaftsdiagnose mittels der Epiphaninreaktion.) E. Mosbacher.
89 Improved Technic for Cultivation of Typhoid Bacilli. F. Dennemark.
90 *Chloroform not an Antidote for Poisoning from Nitrous Gases. F. Curschmann.
91 A Normal Pregnancy After Nephrectomy. J. P. Haberern.
92 *The Wassermann Reaction in Lead Poisoning. Schnitter.
93 *Homeopathy. (Hahnemanns Lehre und die heutigen Homöopathen.) E. Harnack.

84. **Heredity.**—Ribbert argues that inheritable pathologic changes in the body must have appeared first in the germ-cell, not in the developed organism, insisting that there can be no inheritance of acquired properties.

85. **Salvarsan in Syphilis of the Central Nervous System.**—Treupel has treated sixty-two patients in this category with salvarsan, making a total of 100 injections. He tabulates the details in the various groups, his conclusions being that intravenous injection of salvarsan is justified in tabes and paralysis when the interval since infection has not been too long and the nervous troubles are of recent onset. He has not witnessed an unmistakable arrest of the affection in any instance; it is possible that the dosage—a total of 1.2 gm.—was too small. He insists strictly on the patient's keeping quiet and under his supervision for a time after each injection.

86. **Skin of the Tuberculous Extrasensitive.**—Sorgo found that the skin of the tuberculous reacted with a specific intensity to other toxins as well as to tuberculin, showing that the skin is extrasensitive. The organism reacts in an abnormal manner to all toxins, not merely to tuberculin, thus disproving the assumption of a special allergy to the tuberculosis toxin. The allergy is merely an extrasensitiveness to the action of toxins in general. This explains a number of hitherto puzzling facts, such as the extrasensitiveness of rabbits bought in the market in comparison to those raised by the experimenter; the rabbits were already tuberculous when bought and thus extrasensitive. Sorgo's experiments were made with diphtheria, dysentery or cholera toxins or a combination of two or more, injected into groups of from thirteen to fifty patients at a time. Further evidence in favor of his theory is that after a new injection of tuberculin there was a lively reaction at the points where the tuberculin, diphtheria toxin or dysentery toxin had been injected long before.

87. **Pulmonary Tuberculosis and Pregnancy.**—Rabnow and Reicher state that ten pregnant working women who were under treatment for pulmonary tuberculosis during 1909 passed through a normal childbirth and some of them nursed their children, and yet the pulmonary tuberculosis has shown no signs of a progressive course in seven of the women. Only one has lost over 10 pounds in weight and four have gained from 2 to 22 pounds and over. Only one of the women was a primipara; the others had borne from one to eight children previously and two have borne two children since they have been coming to the tuberculosis dispensary. Seven of the ten children are living; three others died between the fourth and the seventh months from tuberculous enteritis. Five of the women have tubercle bacilli occasionally in their sputum, one out of four examinations giving positive findings.

88. **Serodiagnosis of Pregnancy by the Epiphanin Reaction.**—This serologic surface test is somewhat similar to the meiostagmin reaction. The epiphanin reaction was described in The Journal, Jan. 21, 1911, p. 228, and the meiostagmin reaction was discussed editorially May 28, 1910, p. 1790. With this physiochemical test, Mosbacher states that it is possible to determine whether a woman is pregnant before any other signs of conception have become apparent. He found that gravid guinea-pigs succumbed with symptoms of anaphylaxis when injected with a filtrate of guinea-pig placenta, while non-gravid animals and gravid animals near the end of gestation bore the injection without harm. The tolerance increased in proportion to the interval since conception. The animals all died with signs of anaphylaxis when the injection was made soon after the guinea-pigs had been fecundated.

90. **Treatment of Industrial Intoxication from Nitrous Gases.**—Curschmann has been investigating the assumed efficacy of chloroform as an antidote for industrial poisoning with nitrous gases, and has found that not only is chloroform not an antidote but that it does direct harm, superposing the intoxication from the anesthetic on that from the gases. Oxygen, on the other hand, answers the therapeutic indications, especially if supplemented with blood-letting.

92. **Wassermann Reaction in Lead Poisoning.**—Schnitter obtained a positive reaction in four of sixteen patients with severe lead poisoning. Three of the four were free from syphilitic taint but all in this group had been working in lead for years.

93. **Homeopathy.**—Harnack comments on the absolute sterility of the adherents of homeopathy in respect to original scientific work. Not one has ever made the slightest contribution, he declares, to the progress of scientific or practical medicine.

Jahrbuch für Kinderheilkunde, Berlin

LXXXIII, Supplement, pp. 1-288

94 *The School and Scoliosis. A. Schanz.
95 Experiences with Diphtheria at Moscow, 1903-09. W. Colley and B. Egis.
96 *Meningeal Symptoms in Scarlet Fever; Sixteen Cases. (Meningismus bei Scharlach.) H. Sachs.
97 *Study of the Viscosity of the Blood. (Viskosimetrische Studien.) J. Trumpp.
98 *Simplest Dietetic Treatment of Digestive Disturbances in Infants. (Zur Behandlung ernährungsgestörter Säuglinge mit einfachsten Mitteln.) K. Oppenheimer and O. Funkenstein.
99 *Hemorrhages in the Parathyroids and Their Relation to Tetany in Children. (Epithelkörperchenblutungen und ihre Beziehungen zur Tetanie der Kinder.) P. Auerbach.
100 The Fat Content of Infants' Stools. (Ueber den Fettgehalt der Fäzes der Säuglinge nebst einigen anderen Bemerkungen.) H. Saito.
101 Research on Metabolism of Infants on Whey. (Ueber Ernährung debiler Kinder mit molkenreduzierter Milch an der Hand von Stoffwechseluntersuchungen.) E. Müller.

May, No. 5, pp. 545-674

102 Idiopathic Osteopsathyrosis. S. Miura.
103 Influence of Sugar on Intestinal Flora of Children. (Einfluss des Zuckers auf die Darmflora der Kinder.) E. Hartje.
104 Changes in the Mineral Constituents of Infant's Body in Acute and Chronic Loss of Weight. (Veränderungen im Mineralstoffbestand des Säuglingskörpers bei akuten und chronischen Gewichtsverlusten.) L. Tobler.
105 Infectious Myelocytosis. (Beitrag zur Frage der myeloischen Blutbildung.) P. Jungmann and P. Grosser.
106 *Chronic Familial Tetany. F. Schiffer.
107 *Adenoid Vegetations are Generally Congenital. (Sind die adenoiden Wucherungen angeboren?) E. Erdely.

94. **The School and Scoliosis.**—Schanz argues that the school does not cause curvature of the spine but in reality protects against it as the spine does not have so much burden to bear when the child is seated as when it is running about. The child at its desk seldom keeps in the same position for any length of time, it is constantly changing its position, and when it rests on its elbows or rests its head on its hand, this relieves the spine of just so much weight. He is convinced that the tendency to curvature is inaugurated before the child enters on its school life, from the mechanical stress of the burden on the spine. During school life the child grows so fast that the curvature is liable to develop or increase, as a growth curvature, and under the debilitating influence of puberty and of the acute infectious diseases, which are generally contracted during school life. Consequently the scoliosis which is observed in children during school life has nothing to do with the school itself except as the indoor confinement has a depressing influence on the general health. In prophylaxis frequent pauses for gymnastic exercises or recess are necessary, and measures to ward off infectious diseases. Still more important is the early recognition of the tendency to scoliosis, and here the medical school inspectors are especially useful as they should learn to detect scoliosis and exclude such children from the general gymnastic exercises and notify the parents that they must be taken to a specialist for treatment of the beginning deformity. The school inspectors and the orthopedists can thus work together in a most fruitful field, but he warns that the medical inspectors must beware of trying to treat the scoliotic pupils themselves. They have not the time, appliances or skill and precious time is liable to be wasted so that proper treatment will come too late.

96. **Meningeal Symptoms in Scarlet Fever.**—Sachs encountered sixteen cases of scarlet fever with the clinical manifestations of meningitis among 400 scarlet fever patients in the course of nine months. There were two adults in the group and three children, 2, 4 and 5 years old; the others were between 8 and 11. The necropsy findings in two of the five cases with a fatal termination are reviewed. Nothing was found to explain the severe meningitic symptoms, the condition being more a meningism, a pseudomeningitis. When the fluid escaped under high pressure on lumbar puncture, great relief followed, but when the pressure was not high, the lumbar puncture did not seem to benefit, but it proved very instructive by permitting the exclusion of a suppurative or serous meningitis. The prognosis did not seem to be affected by the pseudomeningitis as the severity of the scarlet fever was what determined the outcome. The meningeal symptoms seemed to be due to a combination of vasomotor changes and injuries affecting the central nervous system, similar to the meningeal symptoms observed with influenza. The cases reported show that hyperesthesia, rigidity of the neck and Kernig's sign may be present without any increase in the pressure in the lumbar sac.

97. **Viscosity of the Blood.**—Trumpp devotes sixty-four pages to the findings with the viscosimeter and the influence of various factors on the viscosity of the blood, tabulating the findings in over 213 patients, young and old. They throw so much light on the condition that he declares that viscosimetry is indispensable for estimating one property of the blood which is extremely important for the work of the heart. The great drawback of the method is that the peripheral blood has to be used and this varies so widely in its composition, on account of the work of the heart at the moment, the body and room temperature and other factors.

98. **Treatment of Infants with Digestive Disturbances.**—Oppenheimer and Funkenstein present here a detailed study of 158 infants with more or less serious digestive disturbances who were treated with the simplest measures, such as milk, tea, soup and flour. They do not know of any extensive research of the kind with these ordinary, simple measures, although the literature teems with reports of similar research on the effects of buttermilk, albumin milk, malt soup, etc. A favorite and very useful method was to boil the milk and then keep it on ice and give the infant 1 or 2 teaspoonfuls every half hour, very cold. The total in the first twenty-four hours was only a tumblerful, but benefit was apparent at once as a rule and the infant ceased to lose weight. This iced milk gave especially good service in cases of alimentary intoxication; in these cases it was preceded by a day in which no food was given the infant.

99. **Hemorrhages in the Parathyroids.**—Auerbach found five parathyroids at autopsy of one of thirty-three infants, four in nine, three in ten, two in five infants and only one parathyroid in eight. All but thirteen of the children had shown an unmistakable spasmophilic diathesis during life. Examination of the parathyroids showed traces of hemorrhage in them in fully 76 per cent. of all the infants, including those both with and without the spasmophilic tendency. Cysts were also found occasionally in the parathyroids. Birth asphyxia cannot be responsible for all these cases of hemorrhage.

106. **Familial Chronic Tetany.**—Schiffer reports the case of a healthy couple with five children, all the children developing tetany before they were 1 year old, three dying in convulsions before they were 2 years old, and the other still with severe tetany. There were no signs of tetany in any of the children until after they were weaned. Necropsy of one of the children failed to reveal anything pathologic in the parathyroids.

107. **Congenital Adenoid Vegetations.**—Erdely's experience has been that these vegetations are generally congenital and that they should be removed when they cause symptoms. It is better to wait until the child is 6 months old. Thirty-two cases are reviewed.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

May, XXXIII, No. 5, pp. 553-676

108 *Formation of Vagina. (Ueber den Ersatz der Vagina bei vollkommenem Defekt derselben.) J. A. Amann.
109 Deformity of Cartilage in the Fetus. (Ueber Chondrodystrophia foetalis.) R. Basset.
110 *Origin of and Operation for Prolapse of the Uterus. O. v. Franqué and A. Sippel.
111 Retroversion and Prolapse of the Uterus. L. Heidenhain.
112 Vaginal Methods in Gynecology. T. Dobbert and D. v. Ott.

108. **Vagina Made from Rectum.**—The anterior wall of the ampulla of the rectum was unusually large, and Amann drew it down to make a vagina in the case reported in which the vagina was entirely lacking. A segment of the anterior wall of the rectum might be used, excising it between the flexure and the anus, leaving the latter intact, but excision was not required in his case. The article is illustrated.

110. **Operative Treatment of Uterine Prolapse.**—Franqué has performed the Schauta-Wertheim operation for extensive prolapse in sixty-four cases, and has been much gratified at the results.

Münchener medizinische Wochenschrift

May 30, LVIII, No. 22, pp. 1169-1224

113 *Salvarsanized Milk. (Salvarsanmilch.) A. Jesionek.
114 *Changes in Thyroid and Hemoglobin Percentage in Chlorosis. (Schilddrüsenveränderungen und Hämoglobingehalt des Blutes bei Chlorose.) E. Handmann.
115 *Paralysis After Epidemic Poliomyelitis. (Zur Frage der poliomyelitischen Lähmungen.) R. Pürckhauer.
116 Present Status of Bilharziosis. (Unsere jetzigen Kenntnisse über die Schistosomiasis.) M. zur Verth.
117 *Treatment of Anemia with Salvarsan. C. Leede.
118 Syphilis at Outset of Secondary Phase Affecting the Labyrinth of the Ear. K. Hintze.
119 Dysentery Bacilli-Carriers. (Zur Frage der Bedeutung der Ruhr-Dauerausscheider.) K. E. Boehncke.
120 Technic of Clinical Myography. A. Jacquet.
121 Auto-Lavage of the Bladder. (Die Blasenspülung in der Hand des Patienten.) N. Meyer.
122 Interpretation of Roentgen-Ray Findings. (Zur diagnostischen Qualität des Röntgenbildes.) F. Dessauer.
123 *The Collodion Ring in Treatment of Furuncles. W. Fuchs.
124 Medical Impressions in England and the United States. (Reiseeindrücke aus England und den Vereinigten Staaten.) A. Hengge.

113. **Salvarsanized Milk.**—Jesionek reports experiences which seem to show that arsenic passes into the milk after administration of salvarsan. He was unable to confirm the good results obtained by Taege and Duhot in syphilitic infants nursing mothers who had been given salvarsan. In his cases the children did not do well and a severe eruption developed each time the day after the mother had had the injection of salvarsan. The eruption did not seem to be of a toxic nature nor a Herxheimer reaction, but seemed to be the result of flooding the infant with syphilitic virus. Something seemed to have been transmitted to the infant in the mother's milk which aroused the spirochetes in the infant to pathogenic activity or rendered such activity possible. Two such cases are described in detail; the prompt subsidence of the eruption on change to cow's milk confirmed the assumption as to the influence of the milk in question. He treated a goat with intravenous injections of salvarsan and fed the milk to a syphilitic 5-year-old child, and he thinks that the results justify wide application of this method in treatment of syphilitic children. It is more reasonable to assume that the salvarsanized milk is better for the child, being free from syphilitic toxins, than the milk of a syphilitic woman even when the milk contains antibodies. In any event the syphilitic woman had better refrain always from nursing the child for a few days after injection of salvarsan, allowing time for the elimination of the assumed endotoxins. The best of all methods would be to have the child nursed by a non-syphilitic woman who had taken salvarsan. As this is impracticable, the next best is to use the milk of a goat or cow under the influence of salvarsan, feeding the child with this salvarsanized milk until it is tided past the worst manifestations of the disease and the dangers of intense endotoxin action, following this with mercury.

114. **Thyroid Changes in Chlorosis.**—Handmann states that it must be more than a coincidence that goiter was apparent in twenty-five of his forty-four patients with chlorosis. In four cases the goiter had increased during the chlorosis and in three other cases there were symptoms of exophthalmic goiter. In more than half of the total forty-four cases, the hemoglobin proportion was above 80 per cent. and in twenty-three cases 100 per cent. or above 90. As the patients recovered under iron, no change was apparent in the goiter.

115. **Epidemic Poliomyelitis.**—Pürckhauer insists that the paralysis which follows this disease is in many cases not an actual paralysis but more the results of injury from overstretching of muscles in the course of the disease. The loss of elasticity in consequence of overstretching may simulate paralysis. If the muscle is allowed to retract by bringing closer together its points of attachment, it recuperates in time, but is liable to lose its hardly regained elasticity if subjected to new overstrain. He reports some instructive cases of this alternation of functioning and paralysis. Among nineteen cases of paralytic pes equinus, the extensors were overstretched but regained their functioning when permitted to retract. In management of a case of poliomyelitis, as soon as the painful stage has passed, every effort must be made to prevent overstretching of the muscles.

117. **Salvarsan in Anemia.**—Leede reports a case of what was supposed to be pernicious anemia in which great improvement was obtained under salvarsan, and the syphilitic nature of the anemia became evident later. The benefit from salvarsan may be accepted as differentiating the syphilitic nature of the anemia. In true pernicious anemia his experiences have been such as to contra-indicate its use in future.

123. **Collodion Ring in Treatment of Furuncles.**—Fuchs paints a circle of collodion around the base of the boil, leaving the inflammatory focus untouched. He repeats the concentric application several times a day, widening the ring outside but not encroaching on the boil. The effect is to force the boil to early ripening by the constriction from the collodion ring while the latter prevents the spread of the process. He has been applying this simple measure for years and commends it in high terms. In two cases described the collodion was applied repeatedly for three days with prompt spontaneous evacuation of the boil.

Wiener klinische Wochenschrift, Vienna

May 25, XXIV, No. 21, pp. 735-774

125 *Disinfection of Anthrax-Infected Hides and Skins. (Ein unschädliches Desinfektionsverfahren für milzbrandinfizierte Häute und Felle.) A. Schattenfroh.
126 *The Acetonitril Reaction, Especially for Differential Diagnosis of Exophthalmic Goiter. G. Ghedini.
127 *Symptomatology of Action of Salvarsan. V. Hrdliczka.
128 Stramonium Cigarettes. (Darf man den Stramoniumzigaretten eine arzneiliche Wirkung zuschrieben?) G. Günther.
129 Present Status of Plague in India. E. Wiener.

125. **Disinfection of Hides and Skins.**—Schattenfroh has found that hides and skins infected with anthrax bacilli can be effectually sterilized by pickling for several days in a solution containing 2 per cent. hydrochloric acid and 10 per cent. salt at ordinary temperature. The same effect can be realized in six hours with 1 per cent. hydrochloric acid and 8 per cent. salt, if a temperature of 40 C. is constantly maintained. He advocates compulsory sterilization by one of these methods before the skins are put on the market. The procedure, he says, is harmless for the hides.

126. **The Acetonitril Reaction in Differentiation of Exophthalmic Goiter.**—Ghedini has been applying for differentiation of the tendency to excessive functioning on the part of the thyroid gland, Reid Hunt's discovery that white mice become

more resistant to acetonitril when fed with thyroid. Ghedini used in his experiments white mice weighing 15 or 20 gm.; they were fed with bread, dipped in water, and he found that from 4.5 to 5.5 milligrams of acetonitril per gram of body weight was the fatal dose, killing the previously untreated animal in from half an hour to three hours. The blood from the patient under examination was evaporated in a vacuum, ground and mixed with zwieback into pills, each containing 0.2 gm. of the pulverized blood. The pills were given the animals fasting for about ten days, until each mouse had taken thus about 2 gm. of the blood-powder. About 25 c.c. of blood were required to produce this amount of powder for three mice. The mice were then injected with the acetonitril in the fatal dose, or ½ milligram more per gram of body weight. In his experiments the animals all died when the blood had been derived from patients with affections other than those suggesting the Basedow triad, while nearly all the animals bore the injection of the acetonitril without apparent harm when the blood had come from patients with exophthalmic goiter or other signs of excessive functioning of the thyroid gland. Ghedini has found this means of differentiating the tendency to exophthalmic goiter very useful already, he states, as in Vienna cases are encountered almost daily in which it is important to determine the prognosis in supposed exophthalmic goiter. He urges others to apply this method of differentiation to ascertain its reliability. (Reid Hunt's article on "The Probable Demonstration of Thyroid Secretion in the Blood in Exophthalmic Goiter" was published in THE JOURNAL, July 20, 1907, page 240, discussing the acetonitril reaction, but at the time he had applied the test to blood from only one cadaver, that of a woman who had had exophthalmic goiter and pneumonia.)

127. **By-Effects of Salvarsan.**—Hrdliczka reports a case which he regards as a fatal toxic encephalitis following injection of salvarsan in a robust young army officer, 33 years old, seven years after infection with syphilis. He had taken systematic, intermittent courses of mercury for five years, although there were no manifestations of the disease after the first two or three years. He applied for injection of salvarsan (Sarajevo Hospital) and the hospital records mention a two-weeks' periostitis in the leg and enlargement of glands with positive Wassermann reaction. The dose of 0.6 gm. of salvarsan was injected into the gluteal muscle without apparent local reaction and the officer returned to duty three days later, Oct. 27, 1910. During January complete loss of appetite and slight nausea developed, with general weakness, soon followed by disturbances in vision and vertigo. Hrdliczka then saw him for the first time and the patient told him that until this time he had had no manifestations of disease for the last five years; the Wassermann reaction was negative. Symptoms of encephalitis became evident and a sausage-shaped resistant patch could be felt in the gluteal muscle and was excised; large amounts of salvarsan and arsenic were found but there was no striking necrosis. March 1, vigorous mercurial and iodid treatment was instituted but without effect; the symptoms indicating encephalitis continued to progress and the patient died March 8. The report is followed by comment from Ehrlich who regrets that there was no necropsy as post-mortem examination revealed a tuberculous meningitis in one case recently which had been diagnosed as a syphilitic or salvarsan injury of the meninges. Ehrlich adds that the assumption of a toxic affection prevented the vigorous antisyphilitic treatment which should have been instituted earlier, and which might have saved the patient if the trouble had been, as he surmises, merely a recurrence of active syphilis. It is possible, he suggests, that syphilitic lesions in the stomach might have been responsible for the cachexia. In conclusion Ehrlich remarks that for months he has been doing all he could by pen and word of mouth to banish forever the intramuscular technic for injection of salvarsan, as he regards it as inadequate.

Zeitschrift für Urologie, Berlin

May, V, No. 5, pp. 321-408

130 *Diagnosis and Symptoms of Nephrolithiasis. K. Keydel.
131 *Surgery in Nephrolithiasis. (Zur Chirurgie der Nierensteine.) P. A. Müller.
132 Roentgenography of Nephrolithiasis. (Die Röntgendiagnose der Nephrolithiasis.) G. R. Hartung.
133 Bacteria of Normal Male Urethra. (Bakterien der normalen männlichen Harnröhre.) R. Picker.

130. **Kidney Calculi.**—Keydel discusses the lessons learned from fifty cases of nephrolithiasis; an operation was done in twenty-four and in nineteen the calculus was spontaneously voided. His cases show the increasing importance of the functional tests for determining the condition of the kidney. He prefers Luy's intravesical segregator to catheterization of the ureters for estimation of the amounts of urine secreted by each kidney; misleading inferences are liable from minute traumatic hemorrhage. The kidney is one of the most nervously sensitive organs in the body, so that a difference in the amount of urine from the two kidneys is additional evidence in favor of the presence of a stone. In none of his cases in which the amount of urine was approximately the same on both sides, was a stone perceptible in the skiagraph. The main questions with nephrolithiasis are the severity of the trouble and the functional capacity of the other kidney. A prostatic lesion may keep up an irritation in the urinary apparatus and thus induce secondary production of stones. In all his cases of the kind, there was a history of gonorrhea. The diagnosis in these cases was specially difficult as the disturbances indicated more an affection of the urethra and bladder than of the kidneys. It is especially in such cases as these that the tests of the sufficiency of the kidney, with obstinate although perhaps not very serious symptoms on the part of the urinary apparatus, rapidly clear up the diagnosis. It is almost beyond question that the functional methods will be constantly opening new perspectives and showing up new differentiating points in kidney disease. He agrees with Israel that there is danger that clinicians will learn to rely too much on skiagraphs.

131. **Surgery of Kidney Calculi.**—Müller has operated on four women and six men for kidney stones. The aseptic calculi were all single, composed of urates in four, of oxalates in three cases. In the septic cases the calculi were multiple and all either phosphates, carbonates or urates. One patient was a woman, aged 42, with bilateral infected kidney stones and left ureter stone, and six operations had to be performed before she was relieved; there is still a fistula left. The trouble was evidently an ascending infection from an infectious catarrh of the bladder, set up by catheterization at her last childbirth. The bladder trouble apparently healed but evidently latent infection persisted in the ureter and kidney pelvis. An exacerbation of the pyelitis simulated typhoid. Radioscopy failed to reveal the stones in this case, and cystoscopy and segregation of the urine proved deceptive and seemed to indicate normal conditions on the left side when in fact this was diseased more seriously than its mate. The functional tests showed normal conditions in the kidneys and these findings were confirmed in the course of the case, the patient bearing without injury the numerous operations and the necessary general anesthesia. No one symptom is pathognomonic for kidney stone. Frequent desires to urinate and pains may prove instructive when they come on after a concussion or violent exercise. In one of his cases the first attack of colic developed after gymnastic exercises. Radioscopic findings may be negative. He advises removing the calculus whenever its presence is certain, even although it may be causing no disturbance at the time. In the casually discovered cases he advises an operation even more readily, and invariably in every case of complete anuria for more than forty-eight hours. The renorenal reflex not only transmits the pain and spasm but may lead to sympathetic inflammation and further mischief. In the bilateral cases operative treatment should be advocated if in any way possible, under all circumstances. He does not anticipate any benefit from internal medication in nephrolithiasis. Spontaneous expulsion is the rare exception. The best means to prevent recurrence of stone in the kidney is to keep up a vigorous secretion of urine, especially on retiring and during the night, as the night urine is particularly inclined to have considerable sediment. He reiterates in conclusion that the cooperation of internists and surgeons is particularly beneficial in cases of nephrolithiasis.

Zentralblatt für Chirurgie, Leipsic

May 27, XXXVIII, No. 21, pp. 725-756

134 *Local Anesthesia in the Orbit and in Children. (Bemerkungen zur Braun'schen Lokalanästhesie.) L. Kredel.
135 Human Hair as Suture Material for Vessels. (Frauenhaar als Material für die Gefässnaht.) S. Sofoteroff.
136 *Improved Technic for Resection of Rectum. (Methode das exzidierte Rektum durch andere Darmteile mit Vermeidung der Gangrängefahr zu ersetzen.) A. Krogius.

134. **Local Anesthesia.**—Kredel discusses the behavior of the optic nerve with intra-orbital injections. He also refers to the question of local anesthesia for children. It is only rarely that it can be used for children but he advocates it for empyema operations. It can be successfully used for infants if the child is not fed before the operation and is given its bottle only when all is ready for the operation. By the time it has emptied the bottle it has become accustomed to what is going on and pays little attention to it, the sensation of comfort aiding to keep it quiet for a time. Even for harelip operations he urges that local anesthesia should be given a trial.

136. **Substitution for Rectum of Other Part of Bowel.**—Krogius seeks to show in his illustrated description that it is a simple matter to draw down a loop of the colon and suture it to the anus after excision of the entire rectum for cancer. Or a stretch of small intestine might be cut out and used to make a new rectum.

Zentralblatt für Gynäkologie, Leipsic

May 27, XXXV, No. 21, pp. 769-800

137 *Early Operation for Uterine Cancer. K. Ulesco-Stroganowa.
138 Serotherapy of Pregnancy Toxicoses. (Ein Versuch, Schwangerschaftstoxikosen durch Einspritzung von Schwangerschaftsserum zu heilen.) W. Rubsamen.
139 *Eclampsia Without Convulsions. (Zur Symptomatologie und Diagnostik der Eklampsie.) L. Gussakow.
140 The Electrothermic Sound. A. Schücking.

137. **Early Operations for Alleged Uterine Cancer.**—Stroganowa cites three cases from her experience which show that atypical proliferation of the uterine epithelium may occur so that the picture of malignant disease may be presented and yet there is nothing of the kind. This possibility should be borne in mind especially when there are coexisting processes, such as gonorrhea, erosions, syphilis or tuberculosis. It is better to treat such patients for the underlying affection instead of removing the uterus. A new exploratory excision later will show the true nature of the proliferating process. In two of the cases she reports the irritation from erosions was apparently responsible for the atypical proliferation; in the third case, gonorrhea.

139. **Eclampsia Without Convulsions.**—Gussakow reports a case of fatal eclampsia coming on with delivery, the patient soon dying with pulmonary edema but without actual convulsions at any time. He explains the trouble as the result of abnormal metabolism in the fetus, the resulting toxins passing into the maternal circulation and inducing anaphylaxis; death occurred too soon for any specially characteristic pathologic anatomic changes in the organs. In a second similar case of sudden death soon after delivery, the pathologic anatomic changes in liver, stomach, etc., were pronounced, but the symptoms had been the same as in the first case. All the data presented seem to indicate that the convulsions in eclampsia are merely one manifestation of the affection and they are liable to be missing in certain cases. The form of eclampsia without convulsions is unusually severe, the mortality ranging from 77 to 80 per cent.

Zentralblatt für innere Medizin, Leipsic

May 27, XXXII, No. 21, pp. 513-544

141 *Direct Determination of Free Acid in Stomach Content. (Wert des Fuld'schen Verfahrens zum Nachweis der Salzsäure im Mageninhalt.) E. Schütz.

141. **Direct Determination of Free Acid in the Stomach.**—Schütz discusses the method of determining the presence of free acid by the sounds of effervescence that follow when 2 gm. of sodium bicarbonate in 50 c.c. of water is ingested an hour after a test meal. (The method was described in detail in THE JOURNAL, Dec. 24, 1910, page 2274.) Schütz found positive findings extremely instructive and dependable in his examination of 100 patients, but negative findings were sometimes misleading.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 28, XXXII, No. 64, pp. 675-690

142 *Etiology of Pellagra. (L'ipotesi di L. W. Sambon.) M. V. Carletti.
143 Puerperal Psychopathies. (Secondamento artificiale e psicopatia in puerperio.) P. Romeo.

May 30, No. 65, pp. 691-698

144 Salvarsan in Inherited Syphilis. P. Pennato.

June 1, No. 66, pp. 699-706

145 *Wassermann Reaction in Cholera and Syphilis. M. Gioseffi.

142. **Sandfly Transmission of Pellagra.**—Carletti criticizes Sambon's theory of the sandfly transmission of pellagra, saying that the analogies between pellagra and syphilis and kala-azar, on which Sambon bases much of his arguments, are not very pronounced while none has the seasonal aggravation of the symptoms in the spring which is one of the features of pellagra. He comments also on the difference in the anatomic and blood findings in these various diseases. Carletti thinks that Sambon has greater basis for his assumption of the parasitic origin in the efficacy of arsenic preparations in pellagra, which Babes, Gherardini and others have reported. On account of the impossibility of isolating the parasite to date, Sambon accepts that it is ultramicroscopic and that it is transmitted to man by a sandfly. Carletti points out, however, that no case is known in which a healthy person sojourning temporarily in a sandfly-infested or pellagra-infested region contracted pellagra from brief exposure to the fly, while this is of frequent occurrence in respect to malaria. Sambon's argument that sandflies are more prevalent during a rainy season and hence the greater prevalence of pellagra, might apply equally well to the corn theory, as the corn in such seasons is likely to be poorer and spoil more readily than in more favorable seasons. In conclusion Carletti declares that the parasitic theory has much in its favor and that every effort should be made to run this assumed parasite to earth, inoculating animals, especially anthropoid apes, with the blood or organ extracts of pellagrins and striving to infect the apes by the mediation of the special flies in question. (Roberts discusses Sambon's theory in THE JOURNAL, June 10, 1911, page 1713.)

145. **The Wassermann Reaction in Cholera and Syphilis.**—Gioseffi endorses the advantages of the differential reaction in dubious cases of cholera, especially when the germs are of comparatively slight virulence. His experience with the test shows further that the mothers of infants with inherited syphilis do not contract syphilis, because they are already syphilized, not because they are immune. Infants giving a negative reaction with symptoms suggestive of syphilis should be treated the same as if the reaction were positive. He cites some instructive cases including one of an infant with severe inherited syphilis and yet both mother and the alleged father showed no signs of syphilis or of the Wassermann reaction, suggesting that the paternity must be sought elsewhere, which the mother confessed was the fact.

Riforma Medica, Naples

May 15, XXVII, No. 20, pp. 533-560

146 *Gastroptosis and Gastroneuroses. (Gastropatie dinamiche ed organiche. XIV.) G. Rummo.

May 22, No. 21, pp. 561-588

147 *Toxic Dermatosis Under Salvarsan. (Tossidermie consecutive ad iniezioni di Salvarsan.) V. Fisichella.
148 *Improved Technic for Detection of Tubercle Bacilli in Urine. (La eccellenza del metodo di Ellermann ed Erlandsen par la ricerca del bacillo tubercolare nel sedimento urinario.) S. Martinelli.

May 29, No. 22, pp. 589-616

149 *Albumin in Sputum. (La ricerca dell'albumina negli espettorati. Sua importanza clinica.) G. H. Roger.
150 *Cysticercus Cellulosæ of the Tongue. L. Fioravanti.

146. **Gastric Neuroses.**—Rummo comments on the fact that the muscular walls of all the hollow viscera are under the control of the nervous system, and consequently are liable to nervous disturbances without actual lesions. Treatment should aim to strengthen and give tone to the nervous system in general and especially the innervation of the organ in question, while at the same time measures should be applied

to reduce the irritability of the nerves innervating the organ. The mind and the body, the spiritual and the physical, are continually acting and reacting on each other, and in all the range of nervous troubles simulating the organic, treatment should be addressed to the mind first and foremost. Faith in ultimate recovery and the will to get cured are the most important elements in the cure. When the patient takes pleasure in eating proper food the battle is won.

147. **Toxic Dermatosis Under Salvarsan.**—Fisichella reported a few years ago a case of fatal mercurial dermatitis following subcutaneous mercurial treatment for syphilis, an evident idiosyncrasy. He here reports that two of the forty syphilitic patients whom he has treated with salvarsan developed a toxic dermatitis. One had intercostal herpes zoster come on thirteen days after an intramuscular injection of salvarsan. The symptoms were not quite so pronounced as in ordinary infectious herpes. The other patient had an itching erythema over the entire covered parts of the body. It subsided by the fifth day but returned again as the patient was given a course of Fowler's solution, the physician not knowing of the injection of salvarsan shortly before. De Luca has reported a similar case of herpes after injection of hectine.

148. **Determination of Tubercle Bacilli in the Urine.**—Martinelli extols the simplicity and reliability of the technic introduced by Ellermann and Erlandsen for detection of tubercle bacilli in urine sediment. It was described in The Journal, Sept. 19, 1908, page 1044.

149. A similar article was summarized in The Journal recently, May 27, page 1619.

150. **Cysticercus of the Tongue.**—The growth removed from the tongue contained the larva of the tapeworm of man. *Cysticercus cellulosæ.* The patient was a man 40 years old.

Upsala Läkareförenings Forhandlingar

Supplement, pp. 1-86

151 *Suggestions for Proposed Revision of Legislation on Marriage. (Upsala medicinska fakultets yttrande till kungl. medicinalstyrelsen med anledning af förestående revision af äktenskapslagstiftningen.) C. Henschen.

151. **Proposed Revision of Legislation Regarding Marriage.**—The Swedish government consulted the Upsala medical association (*Läkareförening*) in regard to modifying the present laws regulating matrimony. A committee was appointed to study the various questions involved and the report of the committee forms a pamphlet of eighty-six pages, taking up in turn epilepsy, insanity, venereal disease, alcoholism, leprosy, tuberculosis, impotency, deaf-mutism and close blood relationship as affecting marriage, as a cause for degeneration and as a cause for divorce, with consideration of various other questions, including the minimal age and the operative sterilization of criminals.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Jahrbuch für orthopädische Chirurgie. Von Dr. Paul Glaessner, Orthopädischer Assistent der chirurgischen Universitäts-Poliklinik in der Kgl. Charité zu Berlin. Mit einem Vorwort von Prof. Dr. Pels-Leusden, Oberarzt der chirurgischen Universitätsklinik und Leiter der chirurgischen Universitäts-Poliklinik in der Kgl. Charité zu Berlin. Vols. I and II; 1909 and 1910. Paper. Price, 10 marks. Pp. 114. Berlin: Julius Springer, 1911.

Monograph Series of the American Association for the Conservation of Vision. Vol. I. Douglas C. McMurtrie, General Editor. No. 1. Ophthalmia Neonatorum in Ten Massachusetts Cities. A Study by the Research Department of the Boston School for Social Workers. By Henry Copley Greene. Paper. Pp. 41. New York: American Association for the Conservation of Vision, 25 West Thirty-Ninth Street, 1911.

Diseases of the Ear, Nose and Throat. For the Family Physician and the Undergraduate Medical Student. By Henry Ottridge Reik, M.D., Associate in Ophthalmology and Otology in the Johns Hopkins University. Assisted by A. J. Neilson Reik, M.D., Surgeon in the Baltimore Eye, Ear and Throat Hospital, Baltimore. Cloth. Price, $3. Pp. 374, with 81 illustrations. New York: D. Appleton & Co., 1911.

The Mount Clemens Mineral Baths. The Physical and Chemical Nature of the Waters, Their Physiologic Action, Their Therapeutic Effects in the Treatment of Diseased Conditions, and Various Other Information Pertinent to the "Cure" at Mount Clemens. By Dr. Waldemar T. Lungershausen, Mount Clemens, Mich. Paper. Pp. 34.

Hymn to Hygiea. English and German Text. Words and Music by John C. Hemmeter, M.D., PHIL.D., LL.D., Professor of Physiology, University of Maryland, Baltimore. Dedicated to Prof. William Henry Welch of the Johns Hopkins University. Paper. Price for Score, $1 net. New York: Carl Fischer, 1911.

Die Röntgenstrahlen in der Gynäkologie mit einem Ausblick auf ihren künftigen Wert für soziale und sexuelle Fragen. Von Dr. Manfred Fraenkel, Charlottenburg. Paper. Price, 7.50 marks. Pp. 255, with 46 illustrations. Berlin: Richard Schoetz, Wilhelmstrasse 10, 1911.

Anatomy of the Brain and Spinal Cord. By J. Ryland Whitaker, B.A., M.B. (Lond.), Fellow of the Royal College of Physicians, Edinburgh. Fourth Edition. Cloth. Price, 5 shillings 6 pence. Pp. 228, with 98 illustrations. Edinburgh: E. & S. Livingstone, 1911.

Tuberculosis Hospital and Sanatorium Construction. Written for the National Association for the Study and Prevention of Tuberculosis. By Thomas Spees Carrington, M.D., Assistant Secretary. Paper. Pp. 164. New York: 105 East Twenty-Second Street, 1911.

Records of the New Hampshire Medical Society. From Its Organization in 1791 to the Year 1854. Published by Authority of the Society. Cloth. Pp. 439. Irving A. Watson, Chairman of Committee, Concord, N. H., 1911.

Fifteenth Report of the State Board of Health of the State of Maine. For the Four Years Ending Dec. 31, 1909 (1906-1909). Cloth. Pp. 318. A. G. Young, Secretary, Augusta, Maine, 1911.

A New Idea in Sanitation. The Great Menace to Public Health that Covers Every Mile of Railroad Track in the United States and Other Countries. Compiled by J. C. Salter, New York. Paper. Pp. 89. 1911.

Twenty-First Annual Report of the Eye, Ear, Nose and Throat Hospital of New Orleans, La. Jan. 1, 1910, to Dec. 31, 1910. Paper. Pp. 76. Joseph A. Hincks, Secretary, 1911.

Studies from the Rockefeller Institute for Medical Research. Reprints. Volume XII. Paper. New York: The Rockefeller Institute for Medical Research, 1911.

Verzeichnis der Behörden, Lehrer, Anstalten und Studierenden der Hochschule Zürich im Sommersemester 1911. Paper. Pp. 44. Zurich: Fritz Amberger, 1911.

New Patents

Recent Patents of Interest to Physicians

973998	Preparation of eugenol and albumin. Hans Belart, Huddersfield, England.
973634	Fumigating apparatus, Cornelius A. De Pree, A. Leenhouts and J. J. Hersen, Holland, Mich.
973770	Massage apparatus. Benjamin L. Gates, Chicago.
973992	Producing saturated lime water. Harry H. Sutro, New York.
974367	Massaging implement. Anna M. Dunder, Wilbur, Neb.
974494	Crutch. Chester L. Jensen and L. A. Lahey, Spokane, Wash.
974495	Hospital bed. Fred E. R. Jones and R. S. Barnum, Chicago.
974514	Sterilizing device. Henry W. Patrick, Elyria, Ohio.
974182	Obtaining olefin or saturated acids. Isaac K. Phelps, New Haven, Conn.
974294	Surgical bandage. Edmund M. Pond, Rutland, Vt.
974597	Manufacture of malted preparations from cereals. Louis C. Reese, Southfields, London, England.
974298	Disinfecting apparatus. Charles B. Rider, Ocean City, N. J.
974531	Syringe. Frederick Schwarz and H. Tauss, Vienna, Austria-Hungary.
975016	Hammock for douche and similar baths. Godfried L. H. Burger, Boston.
975029	Artificial limb. James A. Galvin, Astoria, N. Y.
975129	Stable mixture for producing hydrogen peroxid. Reinhold Gruter and H. Pohl, Charlottenburg, Germany.
974879	Surgical instrument. George E. Gwinn, San Antonio, Tex.
974789	Ozonizer. David S. Henney, Newark, N. J.
975151	Formic acid. Max Neumann, Wiesbaden, Germany.
975282	Sterilizer. George H. Reeves, Flat River, Mo.
975925	Disinfecting apparatus. Leon E. Bach, Rochester, N. Y.
975835	Electrolytically treating tannic infusions of plants. Hermann Damkohler and H. Schwindt, Bremen, Germany.
976051	Milk extract of wild spikenard. Frank H. Davis, Butler, Pa.
975854	Receptacle for sputum. William L. Gerard, Bellingham, Wash.
975866	Formic acid. Henry Howard, Boston.
975874	Apparatus for preparing infusions. Herrmann E. Korn and E. Kuhn, East Orange, N. J.
975436	Vibratory massage apparatus. Fred R. Kunkel, Edgewood Park, Pa.
975439	Artificial limb. Theodore M. Lawrence, Seattle, Was.
975702	Massaging apparatus. Eugene J. McCarthy, New York.
975447	Emulsifying oils, fats and the like. Armand Muller-Jacobs, New York.
975888	Artificial leg. Harry T. Odgers, Columbus, Ohio.
975996	Stretcher. Walter B. Reed, White Cloud, Mich.
975814	Mouth tablet. Albert Westlake, New York.

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THE PRESENT STATE OF OUR KNOWLEDGE OF ACUTE RENAL INFECTIONS

WITH A REPORT OF SOME ANIMAL EXPERIMENTS *

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NEW YORK

I have elected to present for consideration and discussion the results of some clinical and pathologic studies in acute renal infection. The subject is one which has interested me for several years, and at infrequent intervals and in a rather desultory manner I have followed out some experimental work, which at times has served only to confirm the work of others, and at other times has furnished a rational explanation of certain clinical phenomena observed in some of the severer forms of renal infection. The first series of experiments, which had to do with a determination of some of the more frequently encountered causes of acute hematogenous infections, has already been published. During the past year, however, some further experiments have been carried out with a view to determining the effects of some of the rarer etiologic factors, as the various degrees of anemia, passive hyperemia and aseptic infarcts, in the causation of hematogenous infections; as well as some observations on experimental ascending pyelonephritis.

As it is of advantage in any department of medical or surgical research in which advances are constantly being made to review from time to time the progress of the work, and as it were to take an inventory of our present knowledge based on the facts which have been definitely established, it occurred to me that it might be worth while on this occasion to make an inquiry into our present knowledge of the causation of renal infection, and the nature of the pathologic processes which result in the different clinical types of surgical infection of the kidney.

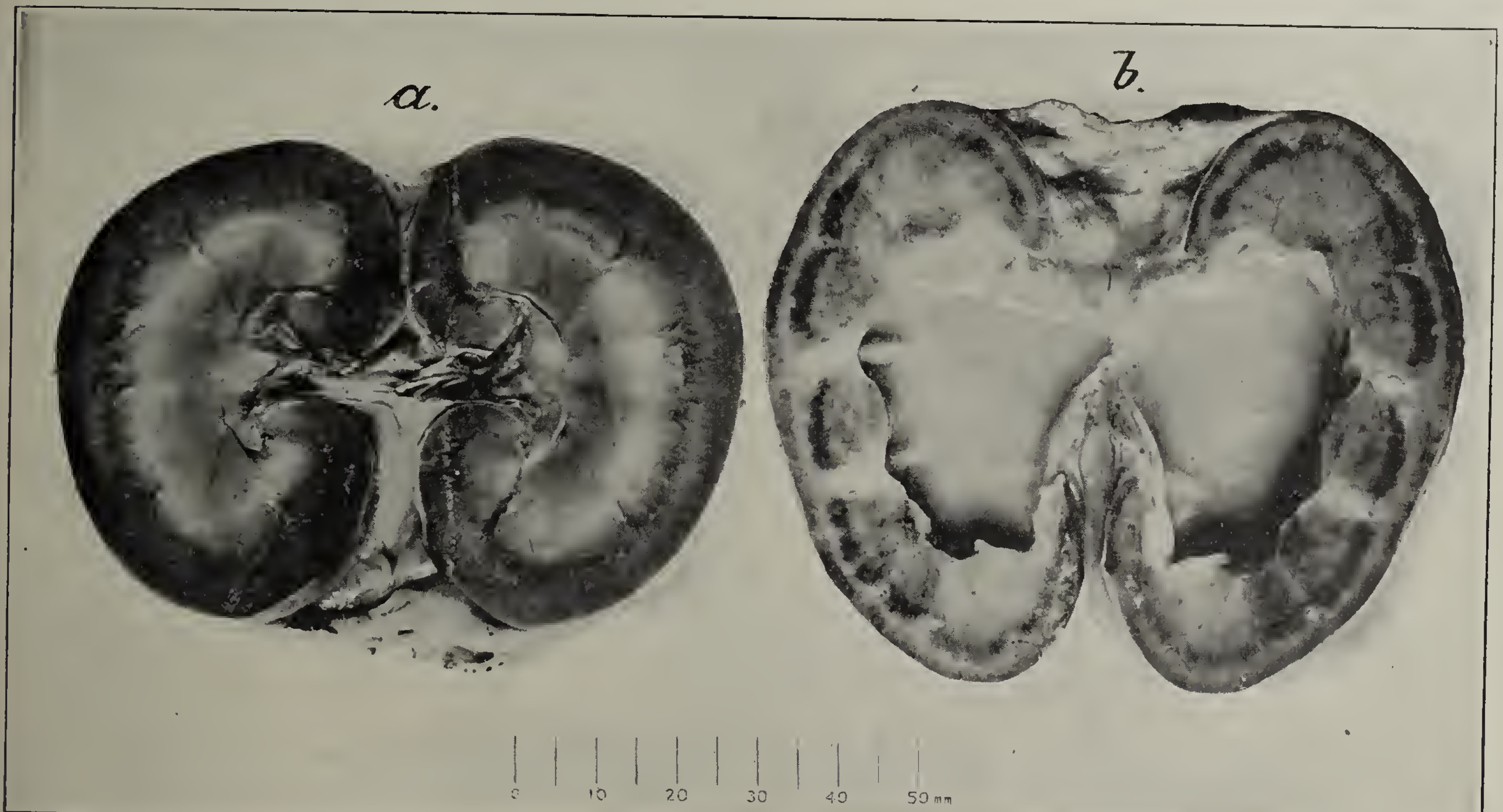

Fig. 1.—Right kidney (*b*) much enlarged and filled with pus (typical pyonephrosis); left kidney (*a*) apparently normal. Experiment 11.

I realize full well that I am addressing a body of men most of whom are doubtless familiar with the work that has already been done in this line of research; and I only regret that my own experimental work has not yielded more of practical interest and value to the clinical surgeon; but as the study of these conditions has been one of peculiar fascination and interest, I present it in the hope that it may be of value.

It is generally conceded that infection may reach the kidney in five different ways:

1. By a direct penetrating wound.
2. By direct extension from a neighboring focus.

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* Experimental work carried out in the Surgical Research Laboratory of the College of Physicians and Surgeons.

* The Oration in Surgery delivered before the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, June, 1911, at Los Angeles, Cal.

3. By catheterization of the ureter.
4. By an ascending process from the lower urinary passages.
5. By the blood-current.

It is with the last two groups, the ascending and hematogenous infections, that this communication will chiefly deal. That the kidney when infected acquires its infection by one or the other of these methods in the overwhelming majority of instances is the opinion of all who have investigated the subject; but as to the relative frequency of these two methods, the causes which determine the one or the other, their unilateral or bilateral character, the acuteness or chronicity of their clinical manifestations, the probable end results of each, as well as their symptomatology, prognosis and treatment, all are subjects on which there has been and is at present considerable difference of opinion.

ASCENDING INFECTIONS—GENERAL CONSIDERATIONS

Long before the days of kidney surgery the occurrence of renal suppuration was frequently observed, and the classical lesions, as pyelonephritis, pyonephrosis, renal abscess and perinephritis, described pathologically and occasionally recognized clinically.

As a result of the frequent association in autopsy findings of these lesions with cystitis, and a dilated and inflamed ureter, and the clinical history of many cases in which the symptoms and signs of cystitis preceded by a considerable period the fatal outcome, the opinion prevailed that the kidney infection was invariably due to an extension upward of the inflammation from the bladder by continuity of tissue. With a view to determining the frequency, the factors which favor an ascending infection, and the extent and character of the renal lesions resulting therefrom, considerable experimental research has, from time to time, been undertaken by a number of able investigators, a brief review of which may not be out of place.

In 1890 Guyon and Albarran demonstrated by animal experiments that virulent cultures of pathogenic microorganisms injected into the healthy bladder gave rise to no demonstrable lesion in the bladder, ureters or kidneys. If, however, the bladder contamination was associated with urinary retention produced by ligation of the urethra, an acute cystitis resulted, with a later infection of the renal pelvis and parenchyma. Zemblinoff sought to explain this ascent of microorganisms through the ureter during retention, by an antiperistaltic action on the part of the ureteral musculature. This view, explaining as it did the phenomena of ascending infection, was for a time generally accepted, until discredited by a second series of experiments by Guyon and Albarran, in which they injected into the bladder inert colored particles of vegetable charcoal, and various species of bacteria, and by producing an artificial retention as in the former experiments, noted the results in each series, particularly the relative time necessary for the inert powder and living organisms to reach the renal pelvis.

It was found that, under condition of complete urinary retention, forty-eight hours was necessary to effect the transfer of particles of charcoal powder to the renal pelvis, and even then they were found only in minute quantities; while the living bacteria were demonstrated in considerable numbers in three, nine and a half, and twelve hours from the time of inoculation. This difference the authors ascribed largely to the motility of the organisms, which certain species of bacteria, as the colon bacillus, are known to possess to a very considerable extent.

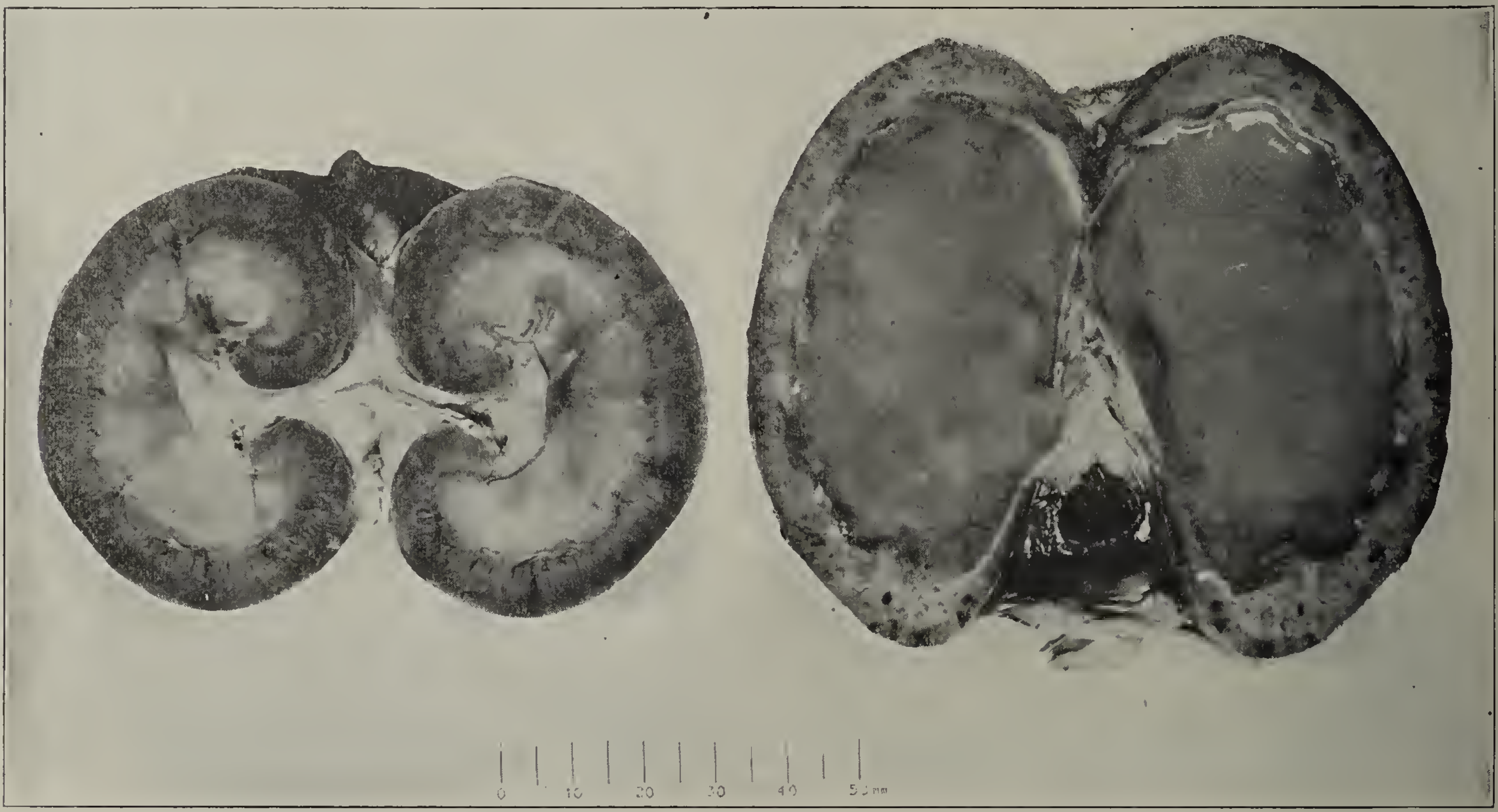

Fig. 2.—Typical pyonephrosis of right kidney. Experiment 12.

The length of time which elapsed before the charcoal powder could be detected in the renal pelvis, effectually disproved any real muscular antiperistaltic action. Some years later Ajevoli explained the ascent of inert particles or bacteria in the ureter, under conditions of urinary retention, as due to the ordinary laws of hydrodynamics, according to which, while the main current of fluid in the dilated ureter would move slowly downward, countercurrents, eddies, and to a certain extent, to-and-fro movements would be present which would account for the slow diffusion of particles contained in the ureteral urine, and their gradual ascent to the renal pelvis.

Following these original experiments, many confirmatory observations were made and published both in France and Germany, among which may be mentioned those of Lewin and Goldschmidt, who demonstrated the ease with which an ascending infection could be produced in rabbits as contrasted with the difficulty in producing it in dogs; and those of Albarran in which he invariably produced the typical picture of a severe ascending pyelonephritis by the injection of pathogenic organisms into the proximal segment of a ligated ureter.

These positive results were produced by a variety of organisms, as the *B. coli, Streptococcus pyogenes, Staphylococcus pyogenes aureus,* and a liquefying bacillus described by Albarran. In the human subject the colon bacillus undoubtedly plays the most important rôle, for in twenty-five cases reported by Guyon, it alone was responsible for the infection in sixteen instances, while in seven others it was present with other organisms as a mixed infection.

In 1898 Rovsing published the results of a series of animal experiments and clinical observations which cast considerable doubt on the importance of the *B. coli* in the causation of renal infection. While admitting that the colon bacillus gave rise to a certain number of comparatively mild infections of the urinary passages, he expressed the opinion that in the great majority of the graver infections, the causative microorganism was one of the pyogenic cocci or some other organism capable of decomposing the urea and giving rise to ammoniacal urine; and this view has been widely accepted by later observers.

In 1894 Courtade and Guyon published the results of an interesting group of experiments, which tended to show that the protection of the kidney against an ascending infection from the bladder, lay in two important factors: (1) the constant downward current in the ureter, which even when a reflux occurred admitting contaminated urine from an infected bladder into the ureter, constantly swept the infected material downward and finally again forced it outward into the bladder; and (2) the protective mechanism of the intravesical portion of the ureter. This by its oblique transit through the vesical wall, and the presence of a girdle of encircling muscular fibers from the bladder wall, allows no backward reflux of fluid from the bladder under normal conditions of bladder rest and contraction. Gradual distention, when unassociated with muscular contractions, even to the most extreme degree, does not permit the ureteral reflux. Distention, even moderate in extent, when associated with muscular contractions, particularly when this muscular contraction or spasm is premature, involuntary, or reflex in nature, does allow an opening of the ureteral orifice and a reflux of bladder urine into the ureter.

Albarran in 1899, reviewing the entire subject, stated that the clinical conditions necessary for the ascent of a given vesical infection to the kidney were: an incomplete urinary retention, from chronic prostatic enlargement, vesical tumor, or urethral stricture; the presence of a new growth, tuberculous ulceration, or some other injury or lesion which mechanically interfered with the normal sphincteric action of the ureteral orifice; or the occurrence of an acute cystitis or some other source of severe bladder irritation, resulting in tenesmus. The comparative rarity of these conditions associated with bladder infection, especially in the young, led Albarran to attribute a considerable number of the renal infections clinically observed, not to ureteral ascent, but to infection through the blood-current (hematogenous infections).

In older subjects, however, with a prolonged history of urethral stricture or prostatic disease, when the vesical dilatation has progressed to such an extent that the ureteral sphincter is wholly inoperative, and the

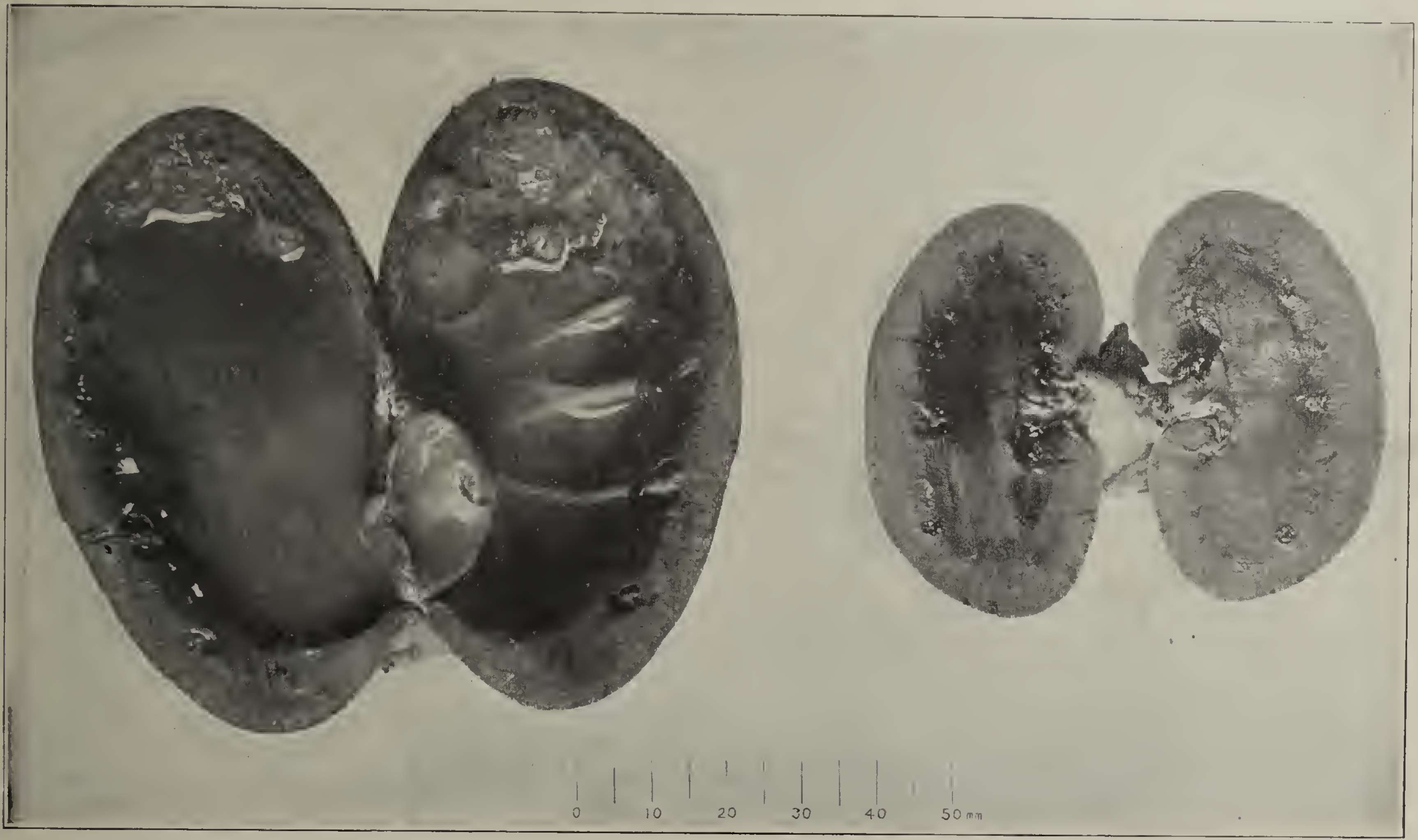

Fig. 3.—Typical appearance of pyonephrosis with extensive destruction of renal tissue. Experiment 13.

ureters are so dilated as to constitute a single cavity with the bladder, it is inconceivable to imagine a bladder infection not ascending to the kidney, for Völcker has reported numerous cystoscopic examinations in which, under these conditions, he has seen particles floating in the bladder fluid aspirated or drawn upward into the ureter by each respiratory movement.

During the past year Stewart, of Philadelphia, has published an interesting series of observations on ascending infections, noted during some experimental studies in intestinal transplantation of the ureters. He calls particular attention to the lymphatic route, and reports several instances in which the infection was evidently carried direct to the perirenal structures resulting in perirenal abscess.

Such, in brief, is the bare outline of the experimental investigations into the pathologic processes giving rise to ascending infections of the kidney. The chief factors of chronic retention, acute retention with spasmodic contraction of the detrusor, mechanical interference with the ureteral sphincter, are the predisposing causes now generally admitted to be necessary for a given vesical infection to ascend to the kidneys. Two other etiologic factors have been mentioned, but have not to my knowledge been proved experimentally; one, the effect of ureteric paralysis from spinal trauma or disease mentioned by von Frisch; and the other, an instantaneous paralysis of the ureteral musculature caused by the entrance of injection fluid into the ureter during vesical irrigation, described by Rothschild. As these are only other methods of forcing the ureteral orifices and depriving the kidney of the protection normally furnished by the ureteral sphincter, and as both seem highly probable in the light of the experimental studies noted above, they can be accepted as rare but possible etiologic conditions.

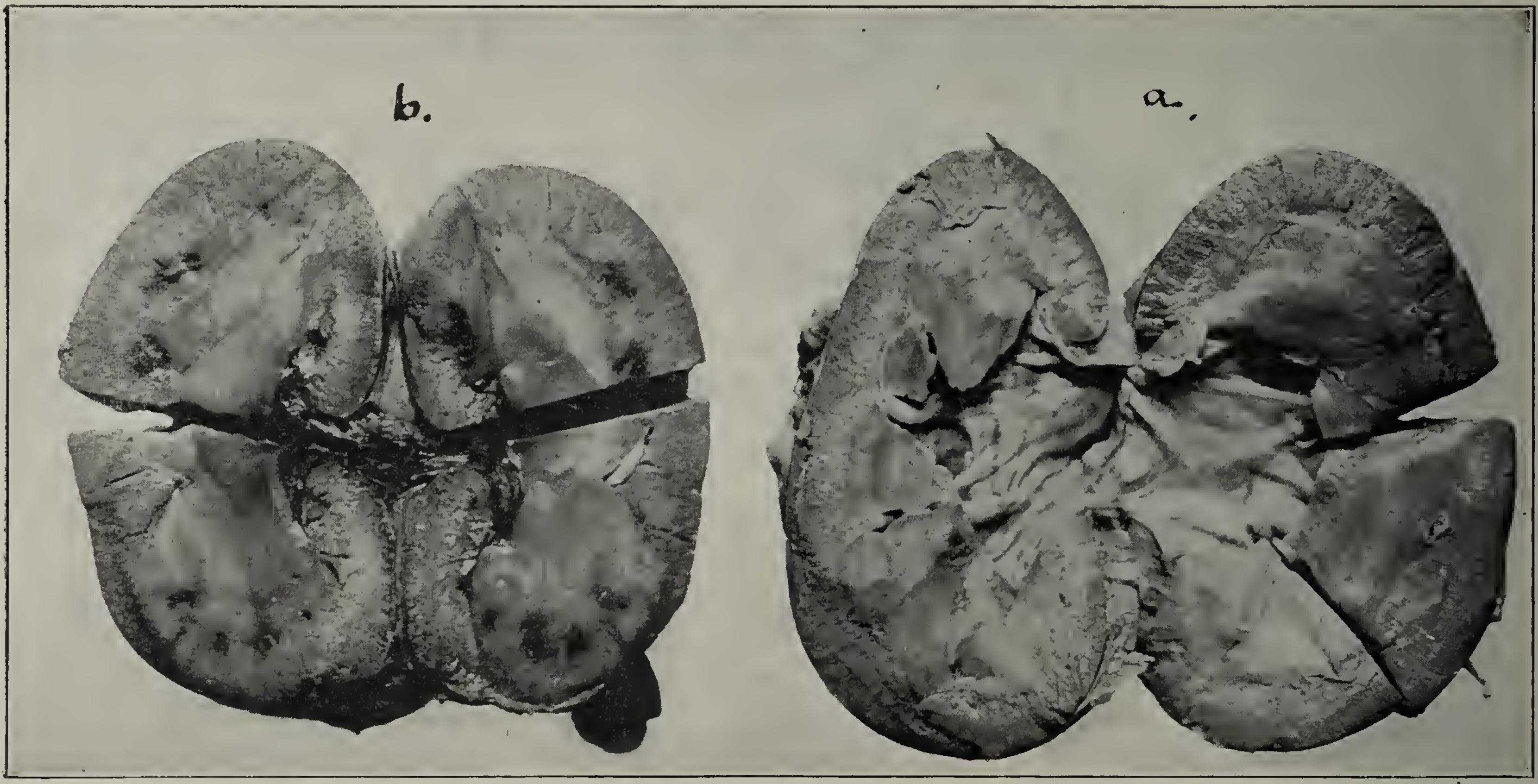

Fig. 4.—Dilated pelvis (*a*) ; normal kidney (*b*). Experiment 17.

EXPERIMENTS ON ASCENDING INFECTIONS

During the past winter an experimental study as to the etiology of both ascending and hematogenous infections of the kidney was carried out under my direction at the Surgical Research Laboratory of the College of Physicians and Surgeons, by Dr. John C. Vaughan. Many of these experiments were undertaken simply to verify the conclusions of former experimenters, or with a view to determining the ease or difficulty of producing renal lesions by the ascending process, as compared with another series in which hematogenous infections were studied. The following results bearing on the questions involved in ascending infections gleaned from a much larger number were both interesting and instructive to me and will be reported in detail.

EXPERIMENT 1.—Medium-sized fox terrier. Twenty-four-hour slant culture of *B. coli* was mixed with normal saline solution and injected into the bladder through a catheter under aseptic precautions. The dog showed no sign of illness. The urine was clear for one week. At the end of that period the dog was killed and the autopsy revealed no sign of infection of the urinary tract.

Microscopic examination of renal tissue was negative, except for congested vessels. There was blood pigment in epithelium of straight tubules and occasional areas of degeneration.

EXPERIMENT 2.—Medium mongrel. Same experiment as in former animal with the exception that the gonococcus was used instead of the colon bacillus. Autopsy at the end of one week was absolutely negative.

Microscopic examination was the same as in the last case, but changes somewhat less marked.

EXPERIMENT 3.—Small mongrel. Same experiment repeated with *Streptococcus pyogenes*. Autopsy at the end of one week negative. Microscopic examination of renal tissue normal.

In none of these experiments was there any interference with the normal discharge of urine from the bladder. None of these animals showed the slightest discomfort or illness which could be attributed to the infection, and in no instance did the mucous membrane of the bladder, ureters, or renal pelvis exhibit even the slightest reaction; and while the gonococcus is not under ordinary circumstances likely to produce infection in the urinary passages of the dog, the colon bacillus and the streptococcus are well-recognized causes of such infections. These experiments, therefore, serve to confirm the statements of Albarran and others, that something more than the presence in the bladder of pathogenic microorganisms is necessary for the production of a local or spreading infection of the urinary passages.

EXPERIMENT 4.—Washings from a twenty-four-hour slant culture of *B. coli* injected into the bladder of a dog, under the same conditions as in Experiment 1, and the urethra ligated for twenty-four hours. The dog showed no sign of illness. The urine when allowed to flow after the removal of ligature was clear. Autopsy ten days later showed no reaction in mucous membrane of bladder, ureters, or kidneys.

Microscopic examination showed only few epithelial tubules undergoing calcification in left kidney. The right kidney was normal.

EXPERIMENT 5.—Small mongrel. Same experiment and technic as Experiment 4, with the exception that the streptococcus was substituted for the colon bacillus. The urethra was released after twenty-four hours. Autopsy showed the bladder dilated, wall thickened and edematous, mucous membrane red and swollen. Urine contained pus and blood. The urethra was free, the kidneys were soft and gave signs on gross inspection of acute parenchymatous degeneration. Cultures from the pelvis of the kidney were negative.

Microscopic examination showed chronic diffuse nephritis (old process), slight glomerular degeneration. Ureter showed slight amount of round-cell infiltration.

EXPERIMENT 6.—Same as Experiment 5, except that one-half the dose of culture broth was used, and the urethra was ligated for only eighteen hours. The dog seemed sick but lived. Ten days later it was killed and the autopsy showed no gross lesions. The urine was clear.

EXPERIMENT 7.—Same as No. 5, except that the gonococcus was employed. The ligature was removed in twenty-four hours. The dog gave evidence of profound infection and died the following day. There had been no voluntary urination, although the urethra was clear. At autopsy the bladder wall was thick and edematous. The mucous membrane showed numerous hemorrhagic areas. The viscus was distended with cloudy urine containing pus and blood, the renal pelvis was distended with purulent urine. The kidneys were soft but normal in size. Cultures from the pelvis of the kidney showed mixed infection, streptococcus and an unidentified bacillus. Smears from the mucous membrane of the pelvis showed no gonococci. There was evidently a mixed accidental infection.

Microscopic examination showed marked hyperemia, calcification of straight tubules, local abscesses, bladder wall much infiltrated with polymorphonuclear leukocytes and submucosa of ureter infiltrated with round and pus cells.

These experiments demonstrate that the combination of a contamination of the bladder with pathogenic organisms, together with an artificial retention of urine for twenty-four hours, in certain instances may give rise to a virulent or even fatal ascending infection.

The next two experiments were undertaken with a view to ascertaining if retention alone without the added element of vesical irritation and probable tenesmus would overcome the normal protective mechanism of the ureteral sphincter.

EXPERIMENT 9.—A strong solution of methylene blue was injected into the bladder of a dog, and the urethra ligated for twenty-four hours.

EXPERIMENT 10.—Same experiment repeated, the ligation being allowed to remain in place for thirty-two hours.

In both instances the autopsy revealed an abundance of dark-blue urine in the bladder, but no blue discoloration or urine in the ureters or renal pelvis.

EXPERIMENT 11.—Fox terrier. The right ureter was exposed and ligated near the bladder and *B. coli* injected into the lumen of the ureter above the ligature. The dog appeared well for one week, then grew weak and refused food; it died on the fourteenth day. Autopsy showed the right kidney much enlarged and filled with pus, typical pyonephrosis; left kidney apparently normal (Fig. 1). Heart, liver and spleen showed acute degeneration.

Microscopic examination showed the cortex of the kidney acutely inflamed, many hemorrhages, purulent infiltration, medullary portion filled with pus cells, acute degeneration.

EXPERIMENT 12.—Same as No. 2. The dog (a bull terrier) appeared very ill and was killed on the fifteenth day. Autopsy showed typical pyonephrosis of right kidney (Fig. 2). Other organs showed no gross lesions.

On microscopic examination the kidney cortex was found to contain many areas of round-cell infiltration and hemorrhages. The medullary portion showed acute degeneration. The ureter was not inflamed.

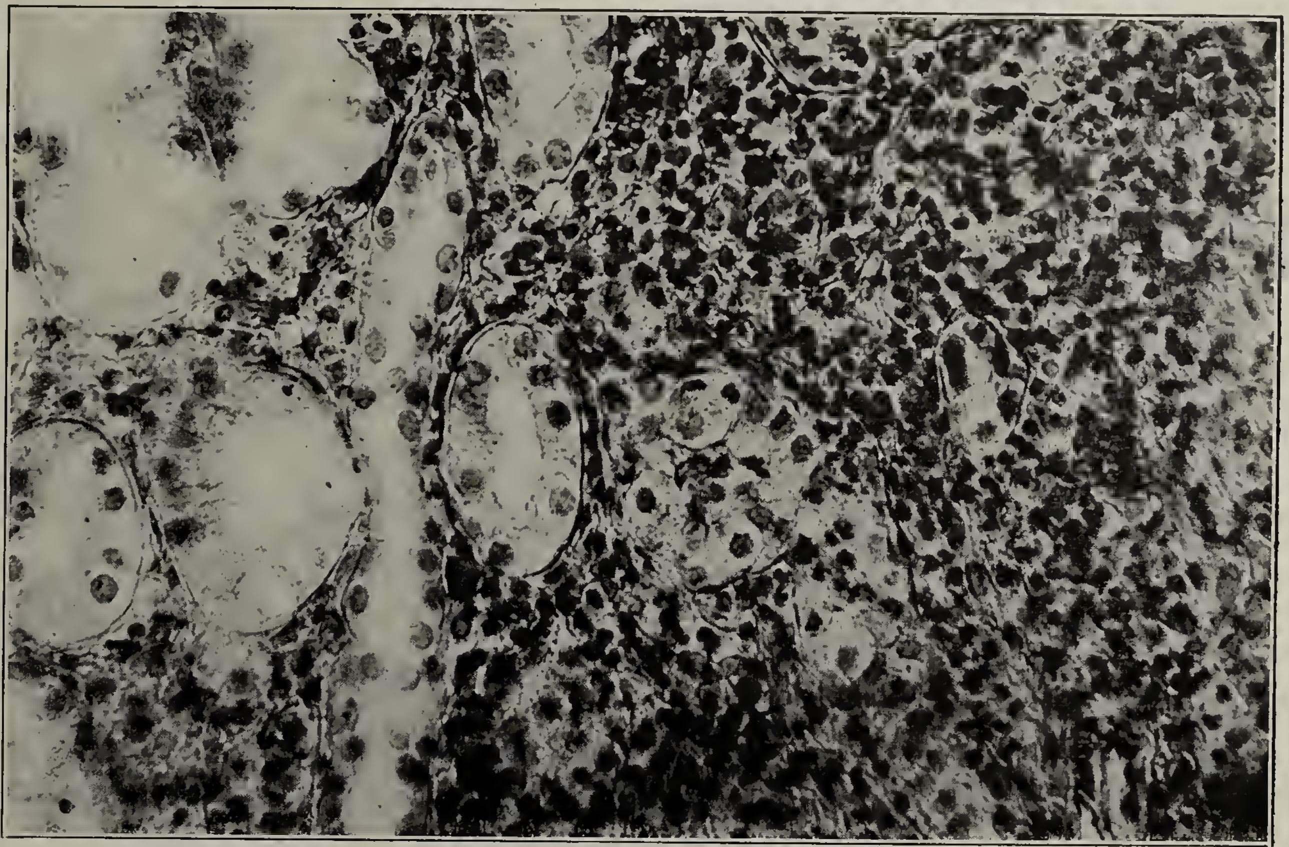
Fig. 5.—Microscopic appearance of section from Experiment 30, showing edge of infarct.

EXPERIMENT 13.—Same procedure as in last two experiments, with the exception that streptococcus was used. The dog (a small mongrel) was very ill and was killed on fifteenth day. Autopsy gave same typical appearances of pyonephrosis, with extensive destruction of renal tissue (Fig. 3). There was no other gross lesions.

These experiments confirm those of Albarran, and illustrate the importance of ureteral obstruction in the presence of an infected pelvic or ureter.

A number of experiments were next undertaken by the injection of bismuth paste into the renal pelvis or ureters with the hope of producing calculi, but unfortunately these experiments were failures, and will not be recorded. Other experiments were undertaken with a view to determine if trauma to one kidney with infection of the bladder, but without the added element of urinary retention, could result in an ascending process.

In one of these the kidney (Experiment 14) was exposed and almost pulpified by pinching and severely bruising its parenchyma, giving rise to considerable hemorrhage and edema. An injection of the usual amount of *B. coli* solution was made into the bladder; and, the dog remaining in good health, this injection was repeated two days later. Twelve days after the last injection, the dog, being apparently well, was killed and the autopsy revealed no lesion except a blood-clot slightly encrusted with urinary crystals in the pelvis. Cultures from the pelvis were negative. The most noticeable feature of the case was the great amount of repair which had taken place in the injured kidney in twelve days. Microscopic examination was negative, except for scattered areas of inflammation of renal parenchyma.

In another experiment (No. 15) the kidney was exposed and a suture passed through the renal pelvis in several directions, in the hope that this foreign body might serve as the nucleus of a calculus. The bladder was injected with a culture of the *B. coli*, the streptococcus and the gonococcus at intervals of three or four days. The dog seemed slightly ill, but took food well and apparently recovered. Autopsy twenty-nine days later showed a suture about half an inch long on interior of renal pelvis, slightly encrusted with urinary sediment. There had been no leakage and there was no evidence found of renal infection.

In another instance (Experiment 16) the kidney was exposed and after stripping it of its capsule a probe was passed through its substance several times. Bladder injected with culture of *B. coli* and later with streptococcus. Autopsy ten days later. No infection in any part of the urinary tract. Traumatized kidney appeared grossly normal.

In another dog (Experiment 17) the ureter was exposed and ligated two inches below the kidney, producing complete occlusion. *B. coli* and streptococcus were separately injected into bladder. There was no sign of illness or disturbed function. Ten days later autopsy revealed a dilated pelvis and ureter above the ligature, containing clear urine, but no sign of infection (Fig. 4). Cultures and microscopic examination were negative.

In two other dogs (Experiments 18 and 19) small seeds of blue moss were injected into the left renal artery. In one the bladder was injected with *B. coli*, in the other with the streptococcus. Autopsy was performed in each case at the end of one week. The left kidney was found to contain numerous infarcts but no sign of infection. The bladder in the streptococcus case was badly infected. Microscopic examination revealed no signs of infection. In the streptococcus case epithelium of many straight tubules filled with blood pigment granules.

These experiments tend to disprove the view which is not infrequently expressed and which I formerly held, that a diminished resistance on the part of one kidney through trauma or disease, favors an ascending unilateral lesion without etiologic elements other than an infected bladder. The importance of even slight traumata in the production of hematogenous infections has been abundantly established, as will be shown later in this report.

Up to the present we have been considering only those infections in which the microorganisms ascend or are carried up to the pelvis of the kidney by the column of urine in the ureter. In the great majority of instances of acute ascending infection, the infection reaches the kidney in this manner, the intervening mucous membrane of the ureter showing but slight or no actual anatomic change. Direct extension along the mucous membrane of the ureter from the bladder upward to the renal pelvis, or by the ureteral lymphatics, is generally admitted, although as late as 1899, Albarran stated that it had not been demonstrated anatomically.

I have not been successful in producing an ascending infection by direct extension along the mucous membrane in animals, although on two occasions when the bladder was infected and an artificial retention produced by ligation of the urethra, there was found a moderate round-cell infiltration of the submucous coat of the ureters.

Regarding the possibility of an ascending infection by the blood-vessels and lymphatics of the ureter, Stewart's experiments are suggestive, although not conclusive, as the ureters had been detached from the bladder and implanted into the bowel.

With a view to creating an ascending infection by the ureteral lymphatics, two experiments were made (20 and 21). In each case the peritoneal cavity was opened and an active culture of the streptococcus was injected into the wall of the bladder near the implantation of the left ureter. No apparent reaction occurred and, ten days later, the animals were killed. Autopsy in each case revealed inflammatory adhesions at the site of the injection. In one case the ureter appeared normal, and microscopic examination showed no inflammatory lesion; in the other the ureter was somewhat thickened, and the microscopic examination revealed a very marked round-cell infiltration in the peri-ureteral tissues. There was no gross lesion in either kidney.

A combination of these two methods of the ureteral ascent of infection, is occasionally seen clinically, as the following example will show.

An elderly woman convalescent from typhoid fever but suffering from a cerebral lesion with extremely obscure symptoms, was examined by me and submitted to an exploratory operation. Up to the time of operation there was no retention and no sign of bladder infection. Following the operation she suffered from retention and was catheterized on two or three occasions. Shortly thereafter she suffered from a severe cystitis with marked tenesmus and bloody urine. Rapid prostration followed and she died within ten days. At autopsy, in addition to the cerebral lesion, the bladder was found to be in a state of acute inflammation with a large gangrenous sloughing ulcer in the region of the trigone and ureteric orifices. The left ureter and peri-ureteral tissues were markedly edematous, with a gangrenous inflammation of the mucous membrane extending to and involving the entire renal pelvis. The kidney was completely destroyed by purulent infiltration. The right ureter was similarly affected in its lower segment, but the inflammatory changes gradually diminished and on gross inspection ceased before reaching the kidney. The right kidney showed extensive cloudy swelling of its cortex. There was no sign of infection of the operative wound which had healed primarily.

While most of us have seen occasional examples of this type of ascending infection, it is certainly rare as compared with that type in which the microorganisms ascend directly by the column of urine to the renal pelvis; and in this connection I feel compelled to take issue with Stewart, who expresses the belief that in ascending infections the route taken is more frequently a roundabout one through the lymphatics than the direct ascent of the organisms through the ureteral lumen.

From a review of the known pathologic evidence and the experimental investigations of others, and from our own animal research studies and clinical experience, I feel that we are justified in making the following statements:

1. An ascending infection is responsible for a certain proportion of the acute surgical infections of the kidney.
2. In the great majority of such instances, the infectious material is carried upward to the kidney by a reflux of contaminated urine into the ureter and renal pelvis through the ureteral orifice, as the result of some interference with its protective mechanism. The factors which favor this process are, in the order of their impor-

tance: (A) a chronic obstruction to the normal bladder outflow, as urethral stricture, obstructive prostatic hypertrophy, prostatic or vesical new growth; (B) acute cystitis with severe tenesmus and violent expulsive efforts; (C) severe inflammation, ulceration, calculus or new growth involving the ureteric orifices, interfering with the normal sphincteric action; (D) ureteral and detrusor paralysis from spinal injury or disease; and (E) the possible temporary paresis of the ureteric sphincter by the passage of a large ureteral calculus.

3. In certain rare instances the process may occur by a direct extension of the inflammation along the mucous membrane of the ureter by continuity of tissue, as proved by numerous clinical observations, although I have been unable to reproduce it in animal experiments.

4. In other rare instances the infection may ascend by the ureteral or peri-ureteral lymphatics, and this is more likely to occur if there exists an infection in the deep structures of the bladder wall involving the vesical lymphatics; and

5. As stated by Legueu, these methods in certain cases may be combined and concomitant.

HEMATOGENOUS INFECTIONS—GENERAL CONSIDERATIONS

This group of cases constitutes by far the most interesting series in all renal pathology, embracing as it does, cases illustrating the greatest variety in regard to etiologic factors, and the greatest difference in virulence, symptomatology, prognosis, and therapeutic indications.

The frequent association in autopsy findings of renal suppuration with cases of pyemia, septicemia, erysipelas, endocarditis, and other fatal septic conditions, had been observed by pathologists for many years before its significance was appreciated.

It was perhaps Lannelongue who, after observing this association in seven out of ten fatal cases of osteomyelitis, first emphasized the importance of renal infection through the blood-current, independent of the fatal general blood infections.

EXPERIMENTS ON HEMATOGENOUS INFECTION

The following report of the next sixteen experiments is quoted from my original communication, and while it does not include all of the experiments, it comprises all which exhibited definite lesions and in which microscopic examinations were made. As will be seen from the protocols, an effort was made in each experiment to lower the resistance of one kidney, either by trauma, the introduction of a foreign body, or the production of an artificial hydronephrosis.

Experiment 22.—Small black rabbit. Ether. Right kidney exposed by lumbar incision. Right kidney delivered and bruised with fingers. Wound united with silk and sealed with a cotton and collodion dressing. Two cubic centimeters of a streptococcus culture injected into ear vein. Control animal injected with same amount, but without injury to the kidney. Neither animal seemed to suffer from the experiment. Both killed on the fourteenth day. No gross lesions found on autopsy. On microscopic examination of the four kidneys, only hyperemia and slight degeneration, revealed, most marked in injured organ.

Experiment 23.—Large white-and-brown rabbit. Ether. Right kidney exposed and bruised, as in Experiment 1. Two cubic centimeters colon culture solution injected into ear vein. Control animal injected without injury to the kidney. Death of both animals in twelve hours from acute toxemia. At autopsy no gross lesions found. Microscopic examination negative as to surgical lesions.

Experiment 24.—White rabbit. Ether. Right kidney exposed and bruised; 1 c.c. virulent typhoid culture (from a fatal case of typhoid septicemia) injected into ear vein. Control animal injected without injury to kidney. Death of injured animal on fifth day from general sepsis. Abscess in lower pole of injured kidney, which had broken through and given rise to a perinephritic suppuration. In opposite kidney a single hemorrhagic infarct. Well-marked peritonitis present (culture negative), and other evidences of acute septicemia. Control animal killed; no gross lesions presented. On microscopic examination of injured kidney, multiple bacterial emboli seen in vessels, especially of glomeruli; surrounding these, more or less extensive areas of necrosis and inflammation. Entire kidney markedly hyperemic. Mild parenchymatous degeneration. In opposite kidney, a single large wedge-shaped hemorrhagic infarct extending to the surface of the kidney. Infarct area necrotic, presenting numerous bacterial emboli; separated from neighboring healthy kidney tissue by thick wall of leukocytes.

Experiment 25.—Brown rabbit. Ether. Right kidney exposed and bruised. One-half centimeter same colon solution as in Experiment 2 injected into ear vein. Control rabbit injected without injury to the kidney. Death of injured rabbit on seventh day. At autopsy lesion of injured kidney revealed. Opposite kidney apparently normal. Control animal killed. No lesions. On microscopic examination of injured kidney, single sharply circumscribed abscess in cortex found, midway between pelvis and external border. In opposite kidney, slight hyperemia of glomeruli.

Experiment 26.—Grey-and-white rabbit. Ether. Right kidney exposed and bruised. Two cubic centimeters streptococcus solution injected into ear vein. Control animal injected without injury. Death of injured rabbit on sixth day of sepsis. Ulcerative endocarditis found, and other viscera congested. Right kidney surrounded by hematoma and mass of fibrin. Hemorrhagic and necrotic area in lower pole. Parenchymatous degeneration. Opposite kidney showed only cloudy swelling. Control animal killed. No lesions.

Experiment 27.—Black rabbit. Ether. Left kidney injured by blow on lumbar region. Two cubic centimeters of *Staphylococcus pyogenes aureus* injected into ear vein. Animal killed at the end of sixteen days. Autopsy showed large septic infarct. Right kidney apparently normal. Microscopic examination of injured kidney. In addition to infarct, the cortex was studded with a number of small abscesses about four times the size of a glomerulus. Well-marked round-cell infiltration in stroma surrounding abscesses. Slight cloudy swelling. Right kidney, slight cloudy swelling.

Experiment 28.—White rabbit. Ether. Left kidney injured by external blow. Two cubic centimeters of typhoid in ear vein. No evidence of gross illness. Animal killed on sixteenth day. Injured kidney presented subcapsular hemorrhage. Large hemorrhagic infarct, with abscesses at base. On microscopic examination, extravasation of blood found beneath capsule of left kidney. Large wedge-shaped area of necrotic parenchyma; containing several bacterial masses. Moderate leukocytic infiltration. Right kidney normal.

Experiment 29.—Large white rabbit. Ether. Left kidney injured by external blow. Two and a half cubic centimeters pyocyaneus solution injected into ear vein. Death of animal in twenty-four hours. Left kidney deep red color, surrounded by blood-clot. Right kidney apparently normal. On microscopic examination of injured kidney, acute exudation nephritis found, with extensive destruction of convoluted tubules. Glomerular tufts compressed by albuminous exudate within capsule of Bowman. Extensive blood extravasation throughout parenchyma. Opposite kidney hyperemic, with parenchymatous degeneration.

Experiment 30.—Large white bull terrier. Ether. Right kidney exposed by lumbar incision. Pelvis of kidney injected with a pasty mass of bismuth subnitrate mixed with glycerin and water. One and one-half cubic centimeters colon solution injected into ear vein, animal becoming markedly ill. Killed on seventh day. Autopsy showed right kidney adherent to liver, colon and omentum by inflammatory exudate. Capsule very much thickened. On removal of capsule, two large triangular infarcts and several embolic foci seen on surface. Left kidney normal in appearance. On microscopic examination of right kidney, large triangular areas of intense hyperemia seen with extensive purulent infiltration. Necrosis, of tubular epithelium (Fig. 5).

Experiment 31.—Large brown mongrel dog. Ether. Right kidney exposed. Ureter ligated. Bismuth mixture injected into parenchyma. One cubic centimeter colon solution injected into ear vein, animal showing marked evidence of illness at the end of twenty-four hours. Killed on seventh day. At autopsy right kidney found to be surrounded by perinephritic abscess. Capsule greatly thickened. On removal, surface of the kidney seen to be studded with innumerable embolic foci. Left kidney normal in appearance (Fig. 6). Heart, lungs, liver, spleen, pericardium and peritoneum normal. Microscopic examination of right kidney, profuse purulent and fibrinous exudate on capsule. Beneath capsule, numerous bacterial emboli surrounded by necrotic areas, which are infiltrated with masses of pus cells forming multiple abscesses. Left kidney hyperemic. Moderate cloudy swelling.

Experiment 32.—Large brown rabbit. Ether. Right kidney bruised by blow on parietes. One cubic centimeter pyocyaneus injected into ear vein. Death in twenty-four hours. No pus lesions found at autopsy. Microscopically, in both kidneys extensive hyperemia and parenchymatous degeneration found.

Experiment 33.—Large black-and-white rabbit. Ether. Right kidney bruised by blow. Four cubic centimeters *Staphylococcus pyogenes aureus* injected hypodermically, animal becoming ill on third day. Killed on seventh day. Autopsy: In both kidneys, multiple septic infarcts present. Other organs normal. On microscopic examination, multiple small abscesses with parenchymatous degeneration found in both kidneys. Somewhat more marked change in injured kidney.

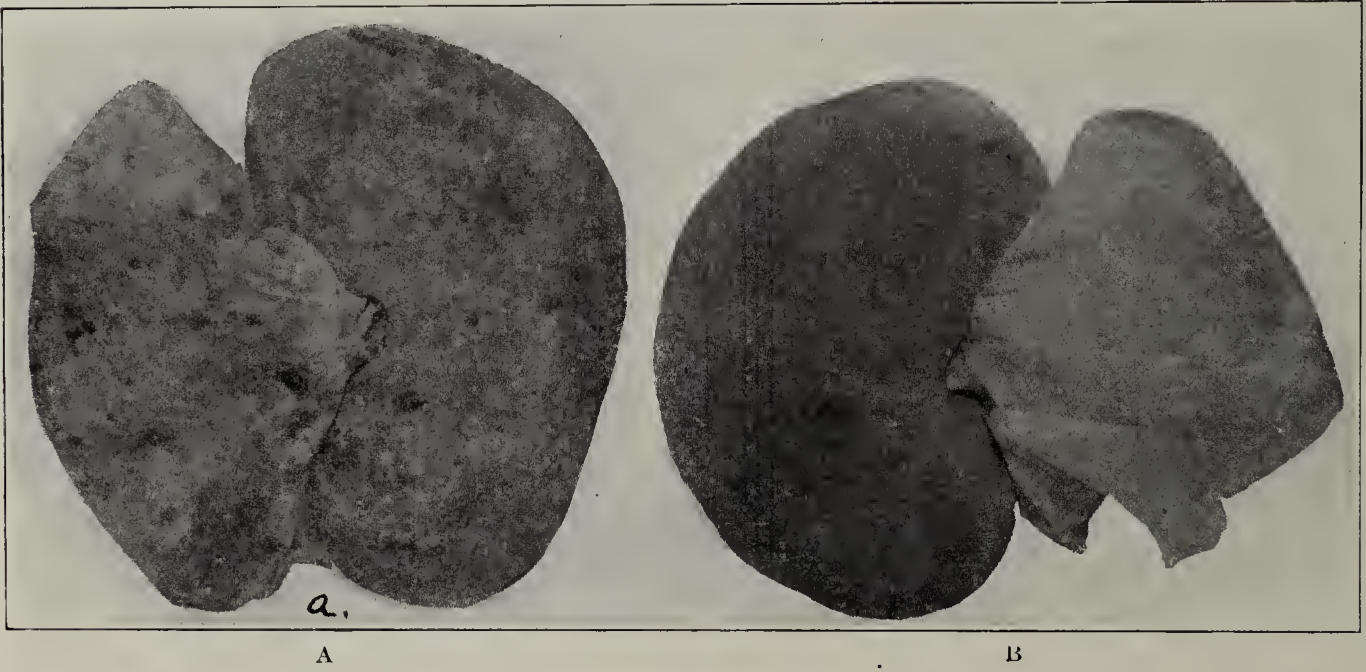

Fig. 6.—Diseased kidney (a) and healthy kidney (b), from dog. Experiment 31.

Experiment 34.—Small brown rabbit. Ether. Right kidney bruised by blow; 1.5 cm. streptococcus solution injected into ear vein. Animal died on fifth day. Autopsy: right kidney hemorrhagic infarct; left kidney normal; other organs normal. Microscopic examination of right kidney showed hemorrhagic infarct, with numerous bacterial emboli in surrounding necrotic area. Left kidney normal, except for a few deeply stained small areas near one papilla, probably bacterial emboli.

Experiment 35.—Small brown rabbit. Ether. Right kidney bruised by blow. One half cubic centimeter typhoid injected into ear vein. Animal killed on seventh day. No gross lesion of kidneys, except subcapsular hemorrhage in injured organ. Microscopic examination revealed hyperemia and degeneration, most marked in right kidney.

Experiment 36.—White rabbit. Ether. Left kidney bruised by blow. Two cubic centimeters typhoid injected into ear vein. Animal killed on seventh day. No gross lesion found at autopsy. On microscopic examination, parenchymatous degeneration of injured kidney seen. Opposite kidney normal.

Experiment 37.—Brown rabbit. Ether. Left kidney injured by blow on flank. Four cubic centimeters pneumococcus broth injected into ear vein. Death in thirty-six hours. At autopsy, right kidney apparently normal. Left kidney acutely congested. Subcapsular hemorrhages. Numerous areas of parenchymatous hemorrhage throughout cortex. On microscopic examination, cortex found studded with minute areas of extravasated blood. In and about these areas are seen very numerous groups of diplococci, some occupying region of tubules, the epithelium of which has undergone marked degeneration. On the periphery of these areas, masses of diplococci may be seen filling the lumen of the capillary vessels. Well-marked exudation of pus-cells surrounding these areas and in the stroma (Fig. 7). Right kidney showed marked hyperemia and cloudy swelling.

A review of these experiments will show that none of the control animals which had received a moderate dose of pathogenic bacteria directly into the circulation without other injury developed a surgical lesion of the kidney. Of the sixteen animals which, in addition to the inoculation, received an injury to one kidney, five showed no lesion, or only hyperemia and parenchymatous degeneration. Two of these animals died within twenty-four hours, of acute septic intoxication. Of the remaining eleven, all developed distinct surgical lesions of the kidney. In eight the lesions were unilateral, and limited to the injured kidney. In three, the lesions were bilateral. In one of the bilateral cases the lesions were practically equal in extent and in severity. In the other two, the lesions in the injured kidney were mild in character, and they undoubtedly would have recovered under favorable conditions.

The following experiments were undertaken to determine the effect of a more or less complete anemia in lowering the resistance of a kidney to a blood infection.

Experiment 38.—Small mongrel dog. Left kidney exposed and renal artery diminished in caliber by incomplete ligature. Pulsations, however, could still be felt in kidney. *B. coli* injected into ear vein. Dog apparently free from evidences of illness. Autopsy one week later revealed large abscess in upper half of kidney with strong colon odor. Opposite kidney and other organs negative. Microscopic examination: Local abscess, kidney parenchyma infiltrated with leukocytes. Acute degeneration. Right kidney normal, except for scattered hemorrhagic areas.

Experiment 39.—Small mongrel. Left kidney exposed and renal vein ligated. *B. coli* injected into ear vein, dog becoming sick and weak; blood passed in urine. Autopsy at end of seven days; left kidney completely destroyed by purulent infiltration and necrosis. Strong colon odor. Opposite kidney and other organs negative. Microscopic examination: Left kidney, acute degeneration of parenchyma; purulent infiltration and abscess formation. Right kidney, nearly normal; slight hyperemia; scattered areas of extravasated blood.

Experiment 40.—Small mongrel. Left renal artery tightly ligated. *B. coli* injected into ear vein. No sign of illness.

Autopsy at end of one week. Left kidney shrunken and anemic. A number of small abscesses in cortex, probably due to some small anastomosis or aberrant artery. Opposite kidney and other organs negative. Microscopic examination: In left kidney, acute parenchymatous degeneration; infiltration with leukocytes. In right kidney, only slight congestion of vessels.

Experiment 41.—Fox terrier. Left kidney exposed and upper branch of renal artery tied. *B. coli* injected into ear vein. No sign of illness. Autopsy one week later showed upper posterior half of kidney shrunken and anemic. One small abscess on outer surface. Opposite kidney and other organs negative. Microscopic examination: Medullary portion undergoing degeneration. Cortex infiltrated with leukocytes. Numerous hemorrhages filled with deeply staining tortuous areas, probably calcified tubules. Right kidney normal.

These cases illustrate the fact that anemia and passive hyperemia so lower the resistance of the organ to a blood infection as to result in definite surgical lesions. In this connection it is interesting to recall the experiments of Lucas and Burton-Opitz, who demonstrated that under conditions of increased pressure in the renal pelvis and ureter, the renal circulation was greatly diminished, for it explains the marked susceptibility to infection in cases of hydronephrosis.

A number of other experiments were undertaken to determine the effects of small inert emboli, in the production of surgical lesions by means of a blood infection.

The minute seeds of blue moss were employed. In nine instances (Experiments 42 to 50) these were injected into the general arterial circulation, and the animals subsequently inoculated as in the other experiments. All of these dogs died, most of them from symptoms of shock, probably due to cerebral infarcts. One had an acute hemorrhagic pancreatitis, while two showed a very few renal infarcts, but without evidences of sepsis. It is probable in these cases that only a few seeds reached the kidney and the damage done was not sufficient to lower its resistance in any great degree.

I regret that there was not sufficient time at my disposal to follow up this line of inquiry by further experimental study, as it might have a practical bearing on the probability of reinfection of a kidney which had recovered from a previous mild attack of infarcts.

In reviewing the microscopic study of the lesions produced in these experiments, definite lesions, where present, were found identical with those found in our clinical cases of hematogenous infections. In most instances they were found to be due to a plugging of the smaller arteries and capillary vessels with groups of organisms. These minute emboli are later surrounded by an encircling zone of round-cell infiltration. Where the larger trunks are thus involved, triangular infarcts are present; where the capillaries only are involved, minute abscesses are seen throughout the cortex and beneath the capsule. If the process is allowed to go on, the bacterial emboli are rarely recognized; only areas of necrosis and purulent infiltration are found. At a still later stage many of these collections of pus coalesce, forming larger parenchymatous abscesses, which may rupture through the capsule, giving rise to a perinephritis, or into the pelvis, giving the typical picture of pyelonephritis. In some of the cases, the condition has been described as an acute, purulent, interstitial nephritis. In my opinion, all of these appearances are but different stages of the same process.

From a study of the experimental data here recorded, the results obtained by other investigators, and the accumulated clinical experience of the past two decades, we may conclude, first, that during the progress of any acute infectious disease a certain number of microorganisms find their way into the blood-current, and that many of these organisms are excreted through the kidneys. If the number of these organisms is comparatively small, if their virulence is low, and if the kidneys are in a healthy condition, the transit of these organisms through the renal apparatus gives rise to no demonstrable lesion. If, on the other hand, the number of the organisms is large, if their virulence is high, or if one or both kidneys are diseased, lesions are produced which have been described above, and which may, at the outset, produce an overwhelming and fatal toxemia, or may precede more slowly to the development of any of the classical types of renal infection or suppuration; second, that while the disease may be bilateral, in a large number of instances it is unilateral, and that its unilateral character is due to the fact that the affected kidney has lost to some extent its normal resistance to infection, by trauma, abnormal mobility, previous disease, calculus irritation, anemia, passive hyperemia, complete, incomplete, or intermittent hydronephrosis; third, that the presence in the body of a kidney damaged by trauma or disease to such an extent as to lower its normal resistance to infection, is a distinct menace to the individual, in that it possesses a potential susceptibility to even the mildest forms of blood infection; fourth, that while I have been able to produce these lesions in animals by the *B. coli*, the *Streptococcus pyogenes*, the *Staphylococcus pyogenes aureus*, the *B. typhosus*, the pneumococcus, and the pyocyaneus; in clinical cases I have only been able to isolate the first four of these organisms. It may be added, however, that in a number of clinical cases, the results of my bacterial investigations have been negative, notably in one instance in which the disease was known to be a sequel of scarlet fever.

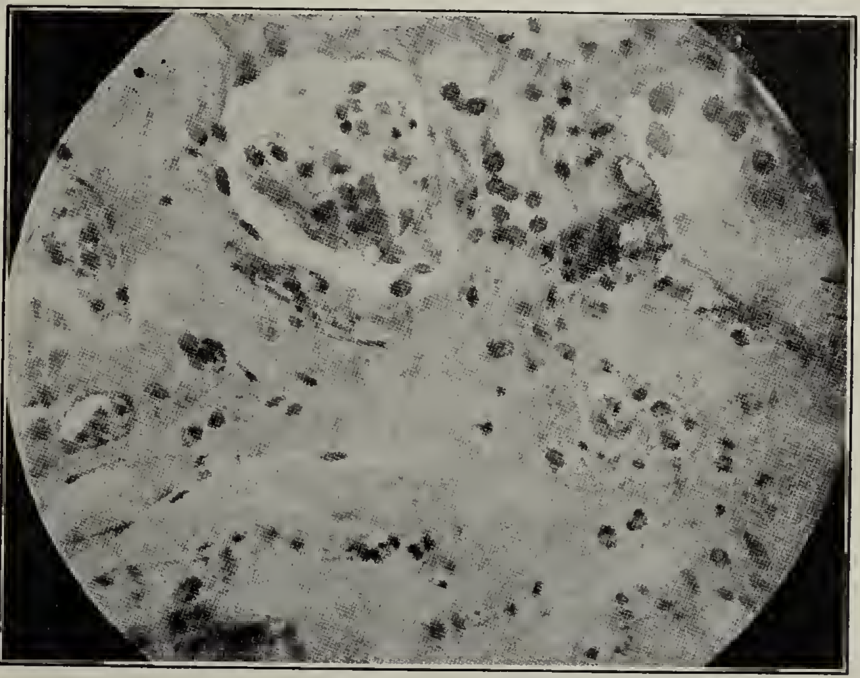

Fig. 7.—Microscopic appearance of section shown in Experiment 37. (High power.)

From this clinical and experimental study of these two types of renal infection, namely the ascending and the hematogenous, I have been impressed with the great difficulty in producing in animals an ascending nephritis, which is in marked contrast to the ease with which it is possible to induce a hematogenous infection. This would seem to corroborate my impression derived from clinical observation, that hematogenous infection was responsible for the greater number of cases of renal sepsis; and would tend to establish the fact to which Israel and others have already called attention, that even in septic conditions of the lower urinary passages, the concomitant renal lesion may be of hematogenous origin.

61 West Forty-Eighth Street.

VACUUM FIXATION OF THE LENS AND FLAP SUTURE IN THE EXTRACTION OF A CATARACT IN ITS CAPSULE *

VARD H. HULEN, A.M., M.D.
HOUSTON, TEXAS

No ophthalmic surgeon questions the desirability of extracting a cataract in its unbroken capsule. It is now more the problem of finding an intracapsular method that may be followed by the average operator with equal facility and no more jeopardy to the eye than from the capsulotomy extraction. Skilful operators working under exceptionally favorable circumstances may obtain brilliant results from methods not justifiable for general adoption.

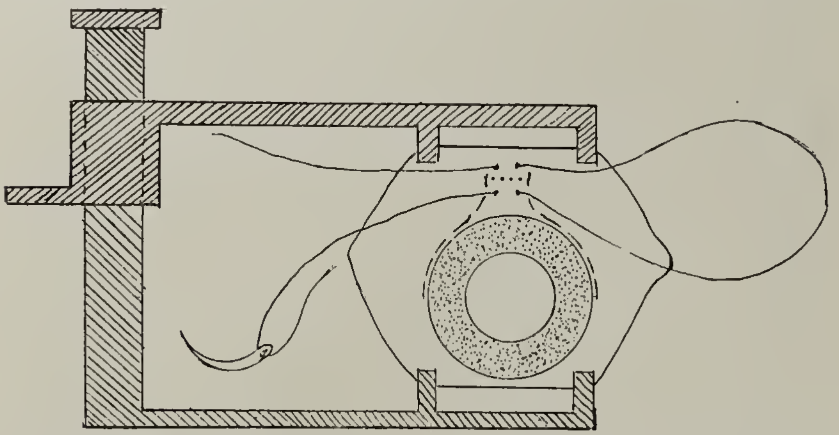

Fig. 1.—Diagram of method of inserting suture in conjunctival flap.

From subsequent experiences with a method of intracapsular extraction which I first described,[1] I believe it includes the necessary ease of performance and the indispensable good results to entitle it to consideration for general use. The steps are as follows:

1. The usual preparation of the patient and eye with the preliminary dilatation of the pupil.

2. Cocain and epinephrin are used for local anesthesia and blanching.

3. The speculum is introduced and section made in the limbus, which should include one-half of its circumference, and raise the conjunctiva above but stop short of severing the flap; a fine silk suture is introduced as shown in Figure 1; then the bridge is cut with one snip of the scissors.

4. Now the iridectomy is performed if a preliminary one has not already been made; a preparatory iridectomy is always desirable.

5. The speculum is next removed and if blood in the anterior chamber obscures the pupil it should be washed out with a gentle stream of warm saline solution.

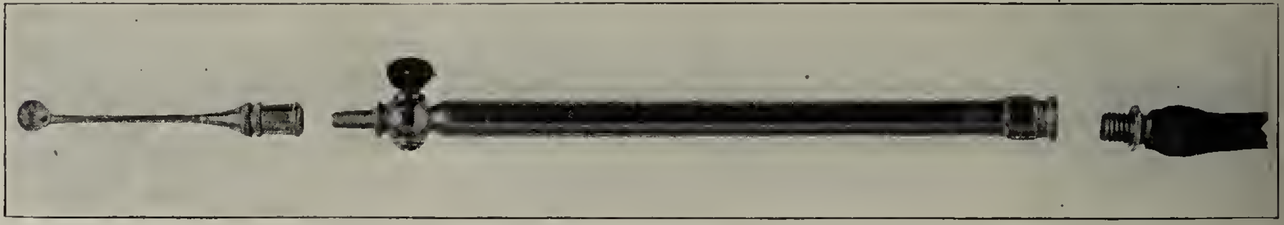

Fig. 2.—The vacuum lens-in-capsule extractor, with handle.

6. The assistant holds the upper lid with a lid hook and controls the lower with the thumb of his other hand. Under no circumstances must he permit pressure on the globe until the eye is finally closed; the patient at the same time should look straight ahead, *never down.*

7. The cup of the vacuum extractor (Fig. 2) is introduced from the side through the section and gently placed on the anterior capsule over the center of the lens. If the pupillary margin is everywhere free the nurse is directed to turn the cock at the gauge. The vacuum cup will then grasp the cataract most rigidly. Now the lens should be slightly lifted and rotated on its anteroposterior axis to sever the suspensory ligament; then with the upper edge slightly advanced the cataract in its capsule is slowly and gently lifted out through the pupil and section.

8. The suture is immediately tied. Safe from the loss of vitreous, we may now replace the edges of the coloboma with the iris repositor (introducing it to each side of the knot) and perform the usual toilet of the eye without apprehension.

Particular attention is directed to the advantages of the flap suture tied on delivery of the lens in all cases of extraction in capsule. After suturing the section I was gratified with the ease of iris replacement and safety in all manipulations of the eye. The advantages of this securely closed section obtain throughout the entire healing process. When the cornea is bisected, as is necessary in all forms of intracapsular extractions of cataracts, one must admit the great value of a sutured conjunctival flap from a nutritional standpoint. The presence of this suture well above the cornea seems in no wise objectionable.

My first efforts were along the line of making long conjunctival slits by continuing the section upward, but I found it impossible, for lack of room, to deliver the lens thus subconjunctivally with my apparatus. Further experience may perfect the subconjunctival extraction with the vacuum cup, and this perhaps without an iridectomy—an ideal operation indeed.

To remove a cataract in its capsule it has been necessary to either express it by external pressure-manipulation sufficient even in the hands of a careful operator to endanger the vitreous; or to transfix the lens internally with forceps or a sharp instrument, thus necessarily wounding the capsule and thereby possibly freeing the lens and defeating the very purpose of the method; a combination of these two manipulations courts the disadvantages of both methods. Fixing the cataract with the vacuum cup obtains firmer control of the lens than can be done otherwise and without injury to the capsule; it also dispenses with all pressure or manipulation to extract the lens. With vacuum fixation the delivery may be hastened or retarded as desired, and the section may even be "plugged" with the lens should occasion require it.

As regards the necessary vacuum apparatus (Fig. 3) but little need be added to the description already published. The cup, if correctly made, is practically no additional tax on the corneal section; the cataract fits into it when the vacuum is connected, so that to make the cup smaller or more shallow would only diminish its "pulling power." The silver shank is malleable but it would be a doubtful improvement to bend it at right angles, etc., as an interested friend has also suggested. There need be no embarrassment in the introduction of the straight shank extractor and it will not do to endaner the lumen by unnecessary angles. It is important o choose a tube for connecting the extractor to the acuum which is sufficiently flexible to permit any lesired movements in introducing the cup, and yet it nust be rigid enough not to collapse from the greatest acuum pressure required.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Ophth. Rec., December, 1910.

It is a problem for the future to determine the precise mount of vacuum for the fixation of cataracts of arious consistencies. Too little pressure will allow the ens to slip from the grasp of the cup, and too much may upture the capsule and disintegrate the soft lens, or ven threaten the integrity of the eye. I exhaust the ottle until my gauge registers from 20 to 25. This has een safe and sufficient for the usual senile cataracts.

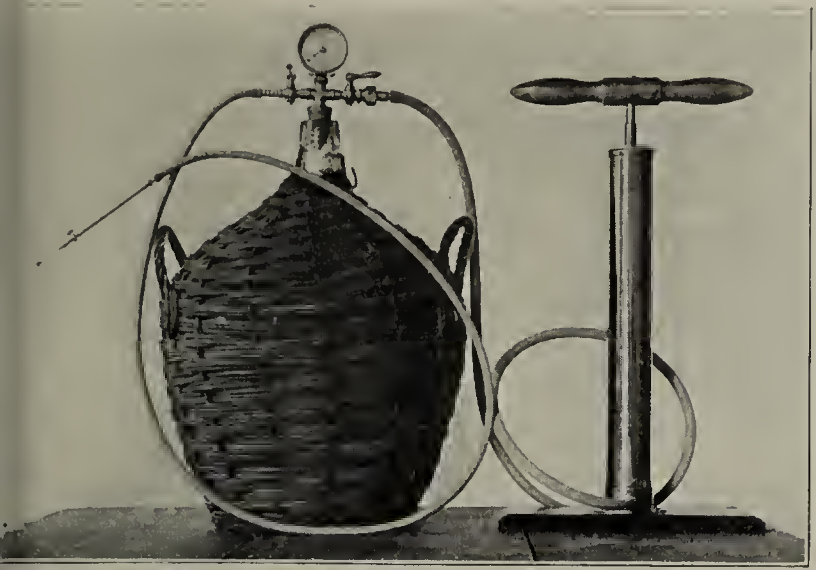

Fig. 3.—The complete vacuum apparatus, with the extractor.

A larger experience and its consideration by various perators should determine the future place of this ethod in ophthalmic surgery.

[THE DISCUSSION ON THIS PAPER WILL BE FOUND ON A ATER PAGE OF THIS ISSUE UNDER THE HEADING OF "SECTION ISCUSSIONS."]

CLINICAL AND HISTOPATHOLOGIC STUDY OF ANGIOKERATOMA OF THE SCROTUM

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KANSAS CITY, MO.

Although Cottle[1] described a case of what we now elieve to have been angiokeratoma as early as 1877, and rocker,[2] Colcott Fox[3] and Dubreuilh[4] reported examles of the disease as instances of unusual varieties of erruca a few years later, it was not until the publicaion of Mibelli's[5] classical description, in September, 889, that a careful and accurate delineation of the linical and pathologic features of the malady was available. Mibelli's case was in a young girl, and the disease, hich had been present for about five years, involved he dorsal surfaces of the fingers and toes.

The lesions varied in size from that of a hemp-seed that of the head of a large pin, and were distributed long the course of the superficial capillaries, which ere slightly dilated and more prominent than usual. he patient had for several years suffered from recurring ttacks of chilblains. Histologically, there were oval or irregularly rounded lacunar spaces in the rete, the majority of which possessed a regularly organized lining. Some of these cavities were partially or completely divided into two or more compartments by thin septa, and the majority of them were filled with serum or coagulated blood. Chronic inflammatory changes were to be noted in the papillary and subpapillary layers, and, in addition, an occasional distended lymph-space, partly filled with red cells, was found. The papillæ in the vicinity of the lesions were hypertrophied, and the interpapillary plugs in some instances extended far down into the corium. The horny layer, which was greatly thickened, exhibited evidence of serous exudation, with the formation of vesicles and medullary cavities. Numerous normal excretory sweat-ducts were present. Mibelli proposed the name "angiokeratoma" for the disease.

Pringle,[6] who next investigated the pathology of the affection, recorded two examples of the disorder. His first patient was an unmarried woman, aged 24. A younger sister was similarly affected. The malady had been present nine years. There was no evidence of illbalanced peripheral circulation, such as rosacea, blushing, heat, swelling, or hyperidrosis of the extremities, but there was a history of frequent attacks of chilblains. The lesions were distributed over the dorsal surfaces of the hands and feet, and varied in size from a pin point to a split pea. They were dark red in color, and blood exuded when they were pricked with a pointed instrument.

The second patient also was a woman, aged 24, and the malady, which affected the hands and feet only, had first appeared twelve years previously. Pringle found thickening of the corneous layer, and hypertrophy of the stratum lucidum, with large, waxy looking masses of eleidin scattered through the latter. The granular layer was very little changed. At the margin of the diseased area the rete Malpighii abruptly became very greatly hypertrophied, the basement membrane remaining constantly present, although broken in some places, and ill defined in others. The surrounding papillæ were enlarged, and proliferative changes were noted in the tips of the elongated interpapillary plugs, but the papillæ near the center of the lesion were flattened out, and the sweat-ducts, in their course through this region, were malformed, or even wholly obliterated. The rete

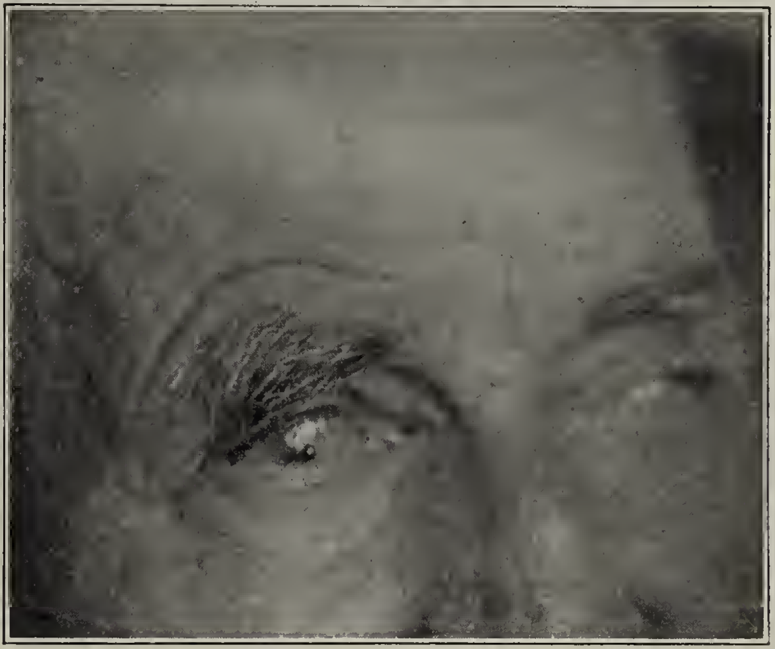

Fig. 1.—Case 2. Angiokeratoma of the conjunctiva.

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[1] Cottle: St. George's Hosp. Rep., 1877, ix, 758.

[2] Crocker: Diseases of the Skin, ed. 1, p. 512.

[3] Fox, C.: Westm. Hosp. Rep., 1888, p. 125; illustrated Med. ews, 1889, p. 73.

[4] Dubreuilh: Ann. de la polyclinique de Bordeaux, January, 889, i, 50.

[5] Mibelli: Gior. ital. d. mal. ven., fasc., 1889, iii.

[6] Pringle: Brit. Jour. Dermat., 1891, pp. 237, 282 and 309.

enclosed several large, irregularly oval spaces, as in Mibelli's case, some of which were filled with blood coagulum, while others were empty. The majority of these cavities were oblong in shape, the long axis being parallel with the surface of the skin, and many were traversed by one or more septa. There were chronic inflammatory changes, consisting of copious leukocytic infiltration, marked fibrosis, and general dilatation of the blood-vessels, in the papillary and subpapillary layers.

In Fordyce's[7] case the eruption was confined entirely to the region of the scrotum. The patient was a man of 60, and there was no appreciable vascular disturbance other than a double varicocele, which had been present for several years. On the body were several patches of leukoderma, a coincidence which was also noted in Zeisler's[8] case. There was no history of chilblains. Microscopically, the lesions consisted of lacunar spaces, lined with a thin layer of connective tissue, and filled with blood. These cavities occupied the papillary portion of the derma, although some of them were completely enclosed in the rete Malpighii. At various points in the epidermis, which was but slightly thickened, tiny lacunæ were found, but while these contained numerous blood-corpuscles, their lining was unorganized, and consisted only of disintegrated epithelial cells. Beneath the lower margin of the rete there was round-cell infiltration, with dilatation of the capillaries, and deposition of blood pigment.

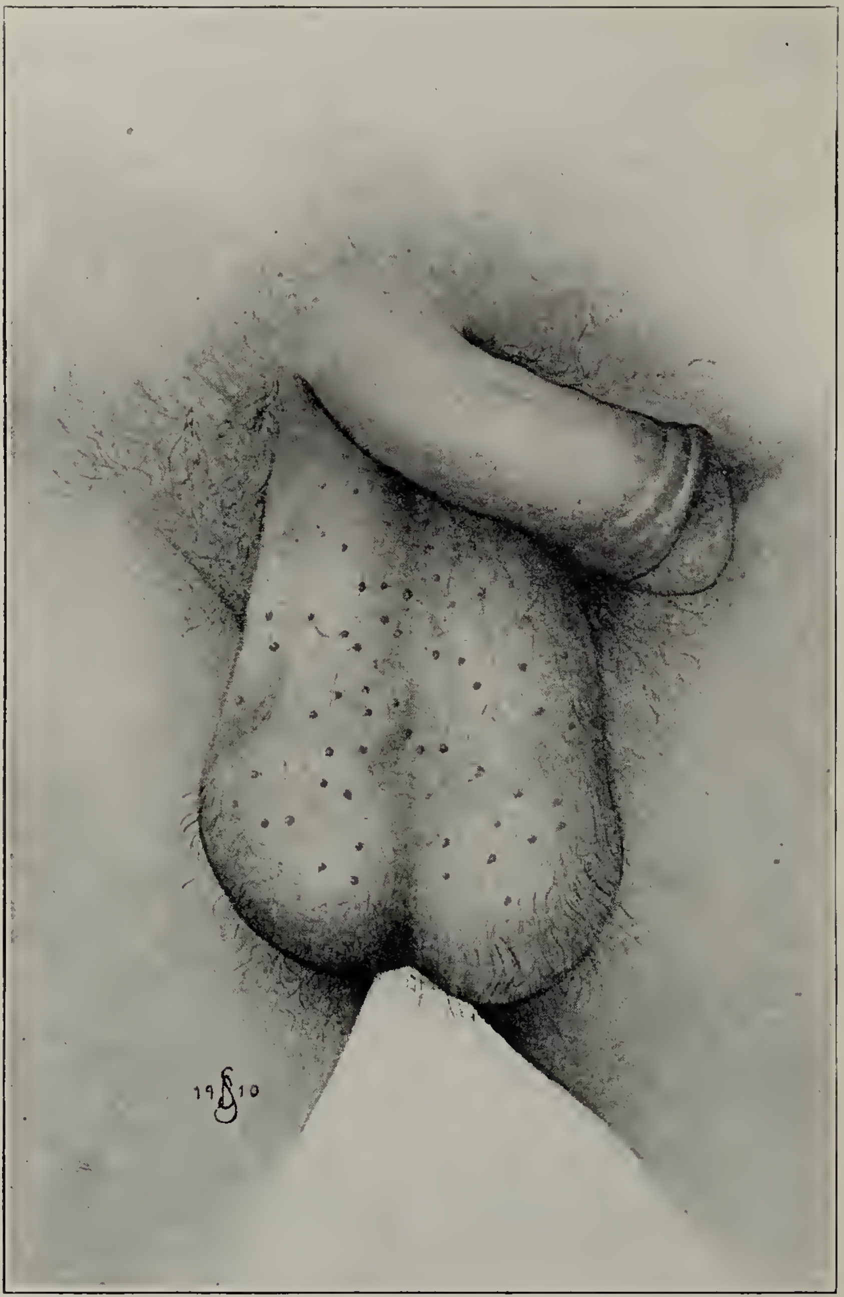

Fig. 2.—Case 2. Distribution of angiokeratomatous lesions on the scrotum.

Anderson's[9] patient was a man, aged 39, and there was a history of rectal hemorrhages, and albumin in the urine. There was also present a congenital deformity of the hands, a peculiarity also noted in a mother and sister, and in three out of four of the patient's own children, similar to that seen in Dubreuilh's case. The eruption was distributed over the trunk, limbs and genitals, and the lesions, which varied in size from a pinpoint to a hemp-seed, were of the characteristic purplish-red color, and showed no tendency to coalesce. On section, the papules were found to present a dilatation of the capillaries of the papillary layer, the enlargement of the lumen of the vessel reaching its maximum near the rete, there assuming a more or less spheroidal form, with resulting atrophy, and sometimes complete disappearance of the superjacent Malpighian layer of the epidermis, while the cuticle was either thinned or remained unchanged. The interpapillary processes were hypertrophied. Some of the larger vascular spaces were subdivided by septa.

Judin[10] has described a rather unusual case, occurring in a man 23 years of age. The disease involved the first and second fingers of the left hand, and had been present for almost fifteen years. The corneous layer was thickened, but contained no cavities, and there was no serous exudation in the epidermis. The stratum granulosum was hypertrophied, and some of the papillæ were greatly increased in size. The lacunæ, which lay mostly in the upper corium, were much larger than those commonly found in this malady. The surrounding connective tissue was dense, without infiltration. Elastic fibers appeared in the superficial layers in small amount. The caliber of the sweat-gland ducts was narrowed, but the canals persisted. A photograph of the affected hand shows that the lesions more nearly resembled those of angioma than those of angiokeratoma, and, taking into consideration the pathologic findings, it is very probable that the case was an anomalous one of the former disorder.

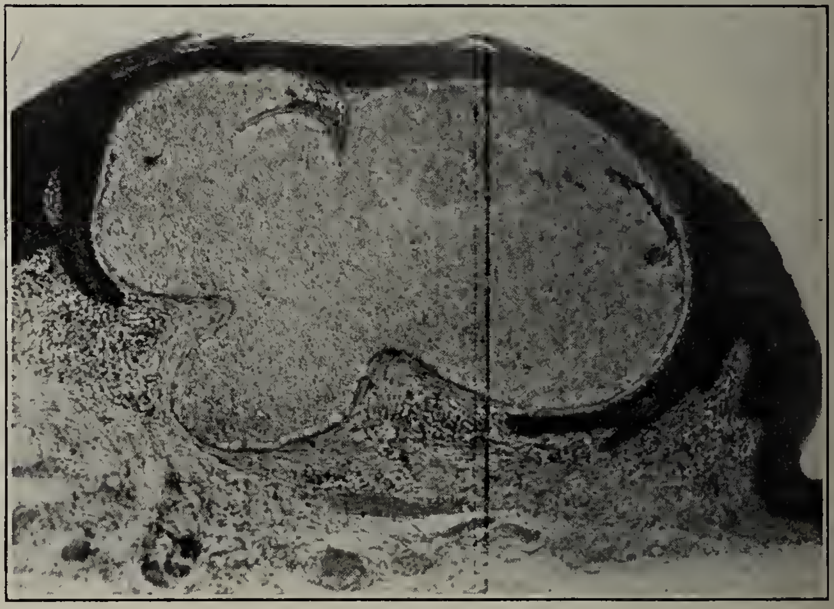

Fig. 3.—A typical angiokeratomatous lesion, showing slight keratoses, elongated interpapillary processes and changes in upper corium. (Spencer Obj.: ¼; no ocular.)

Guiellot[11] has reported, under the title "Lymphangiectasie du Scrotum," an example of angiokeratoma of the scrotum in a man 30 years of age, the eruption appearing subsequent to an operation for a tumor of the left thigh.

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[7] Fordyce: Jour. Cutan. Dis., 1896, p. 81.
[8] Zeisler: Tr. Am. Dermat. Assn., 1893.
[9] Anderson: Brit. Jour. Dermat., 1898, p. 113.
[10] Judin: Dermat. Ztschr., 1908, p. 36.
[11] Guiellot: Bull. et mém. Soc. de chir. de Paris, xxxiv, 237.

Buschke's[12] case of angiokeratoma of the scrotum was seen in a man of 58, and there was also present a prurigo of Hebra, which had first appeared one year previously.

In addition to the reports here reviewed, valuable contributions to the subject of angiokeratomata in general have been made by Crocker,[13] Audry,[14] Piffault,[15] Escande,[16] Renault,[17] Joseph,[18] Glawtsche,[19] Wisniewski,[20] Pautrier,[21] de Beurmann and Gougerot,[22] Frohwein,[23] Malinowski,[24] Dore,[25] Beck,[26] and others.

During the past year, I have had under observation two typical examples of angiokeratoma of the scrotum.

CASE REPORTS

Case 1.—*History.*—C. P. C., physician, aged 61, was referred to me by Dr. F. M. McCallum, of Kansas City. The cutaneous history of the family is negative. The patient is a native of Texas, and a resident of Missouri. He has never had a venereal disease. His general health has been good, with the exception of renal calculus, and, more recently, a small, nodular tumor of unknown nature in the right testicle. His circulation has always been excellent. He has never had chilblains. The superficial capillaries of the scrotum have been dilated and prominent for fifteen years, and the skin lesions have been present for about twelve years. The tumors have increased in number from time to time, and none of them have ever disappeared spontaneously.

Examination.—The patient is a well-built and fairly well-preserved man, 5 feet and 9 inches in height, and weighs 210 pounds. The skin on the trunk and limbs is smooth and unmarked. The integument covering the scrotum is somewhat thinner than usual, and there is a hard, knobby mass on the right testicle, in the region of the epididymis. The superficial scrotal veins are dilated, and distributed irregularly along their course are a number of hard, purplish, oval-topped, shiny papules, varying from the size of a mustard-seed to that of the head of an ordinary pin. When the peripheral circulation is obstructed by constricting the neck of the scrotum, the little growths become somewhat more prominent, although the increase in size is very slight.

Two of the tumors were excised for histologic examination, but owing to the clumsiness of a nurse the material was lost, and I have not yet succeeded in persuading the patient to submit to a second biopsy.

Case 2.—*History.*—A. M. J., farmer, aged 64, was referred to my associate, Dr. J. P. Kanoky, and me by Dr. R. E. Chaffin, of Belton, Mo. The patient sought relief from a pruritus of the anal region, and it was while treating this condition that I discovered the angiokeratoma on the scrotum. The cutaneous history of the family is negative. The patient is a native of Kentucky, and a resident of Missouri. He denies ever having had a venereal disease. His general health has always been excellent. He has never suffered from coldness of the extremities or attacks of chilblains, but has had a double varicocele for the past twenty years. The patient was entirely unaware of the dilated condition of the superficial capillaries of the scrotum, or of the presence of the accompanying tumors until I drew his attention to them.

Examination.—The patient is a large, powerfully built individual, over 6 feet in height, and weighs 208 pounds. On the right eyeball, at a point just below and to the right of the cornea, is a sharply outlined, oval-topped, shiny, purplish pin-head-sized tumor. It has been present several years, and has given rise to no subjective symptoms, although the surrounding conjunctiva is red and congested. The hands and feet are unaffected, and there are no lesions of any kind on the trunk. Numerous varicose veins are to be seen on both legs. The scrotum is elongated, and there are present many dilated superficial veins. There is a well-marked double varicocele. Scattered over the anterior surface and sides of the organ are a number, about one hundred in all, of the minute, hard, nodular, purplish tumors characteristic of angiokeratoma. In some of the lesions the blood has coagulated and undergone degenerative changes, as only a small mass of dark, gritty material is exposed when the tumor is incised. In others, however, a drop of venous blood exudes when the overlying epidermis is punctured.

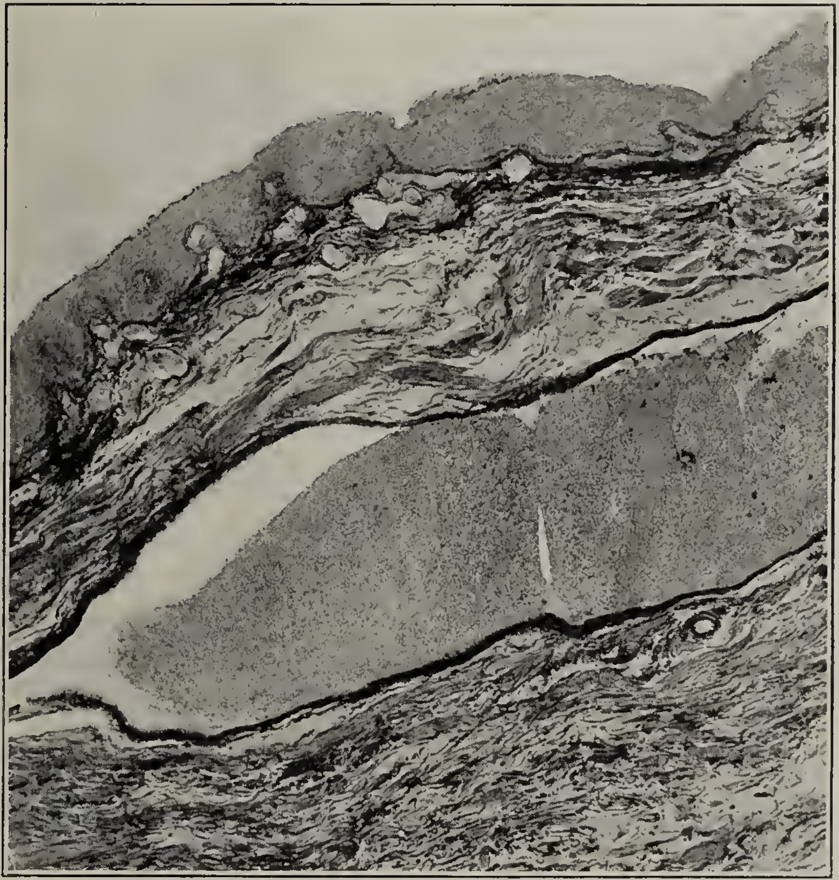

Fig. 4.—Section of normal skin from scrotum, showing character and distribution of elastic tissue (Weigert). (Spencer Obj.: ¼; no ocular.)

Microscopic Examination.—For laboratory purposes, eleven of the lesions were at various times excised, no anesthetic being employed. The growth on the eye, which was successfully removed by Dr. Chaffin, was also examined histologically and the clinical diagnosis verified. The pieces of tissue were fixed in formaldehyd solution or in alcohol, and a number of serial sections, about 600 in all, were studied. For staining purposes, methylene blue, hematoxylin, hematoxylin-eosin, and Gram-Weigert were used, with Unna's orcein, and Weigert's mixture for elastic tissue. For comparison, normal skin from the scrotum, obtained post-mortem, from a man 60 years of age, and the subject of a double varicocele, was employed. With the ordinary tissue stains, the changes noted were in every respect almost identical with those described by Mibelli, Pringle, and particularly Fordyce; oval or kidney-shaped, connective-tissue-lined and blood-filled lacunæ in the papillary portion of the derma, in some instances almost or wholly surrounded by cells from the hypertrophied rete Malpighii, and, occasionally, partly or completely divided into two or more compartments by thin, delicate fibrous septa; a slightly hypertrophied corneous layer, containing a few irregularly shaped, débris-lined cavities, filled with red or white corpuscles; a few malformed coil gland-ducts; elongated interpapillary processes and dilated capillaries, with fibrosis and leukocytic infiltration in the upper corium. As compared with normal skin, the

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12. Buschke: Dermat. Ztschr., x, 193.
13. Crocker: Brit. Jour. Dermat., November, 1891.
14. Audry: Ann. de dermat. et de syph., 1893, p. 381.
15. Piffault: Thèse de Paris, 1892.
16. Escande: Thèse de Toulouse, 1892.
17. Renault: Ann. de dermat, et de syph., 1894, p. 1248.
18. Joseph: Dermat. Ztschr., 1893, p. 16.
19. Glawtsche: Behandl. der Moskauer dermat. u. vener. Gesellsch., Nov. 13, 1898.
20. Wisniewski: Arch. f. Dermat. u. Syph., 1898, p. 357.
21. Pautrier: Arch. f. Dermat. u. Syph., 1904, p. 376.
22. De Beurmann and Gougerot: Ann. de dermat. et de syph., 1905, p. 875.
23. Frohwein: Monatsch. f. prakt. Dermat., 1906, p. 345.
24. Malinowski: Monatsch. f. prakt. Dermat., 1907, p. 439.
25. Dore: Brit. Jour. Dermat., 1903, p. 23.
26. Beck: Monatsch. f. prakt. Dermat., 1909, p. 349.

epidermis at the apex of the lesion was considerably thickened, although not nearly so much as in similar tumors occurring on the hands and feet. In the sections stained for elastic fibers there was a striking difference between the normal integument used as a control and the angiokeratomatous tissue. In the former, the elastic filaments were long, wavy, and sharply defined, and stained evenly and well. Surrounding the vessels there was a close, almost solid network of fibers, the appearance presented being suggestive of a small tube, snugly encircled by numerous turns of fine wire and passing at right angles through a mass of similar material, the strands of which closely encircled and intermingled with those forming the outer covering of the cylinder. In the affected skin, elastic tissue was to be found in all of the regions in which it usually occurs, but the fibers were short, fragmentary, and irregularly arranged, and apparently furnished very little support to the vessel walls. The coats of the capillaries appeared to be normal, but the surrounding network of "braces and guy-ropes," which was so prominent a feature in the control sections, was almost entirely lacking. This held true not only in the immediate vicinity of the tumors, but in the macroscopically normal areas as well. In those sections which contained lacunæ, the elastic tissue immediately surrounding the vessel was apparently normal in amount, although comparatively thinned because of the increased diameter of the capillary; but the short, slender, poorly stained strands in the immediately adjacent areas appeared even less numerous and weaker than those in the more remote parts of the interlesional regions.

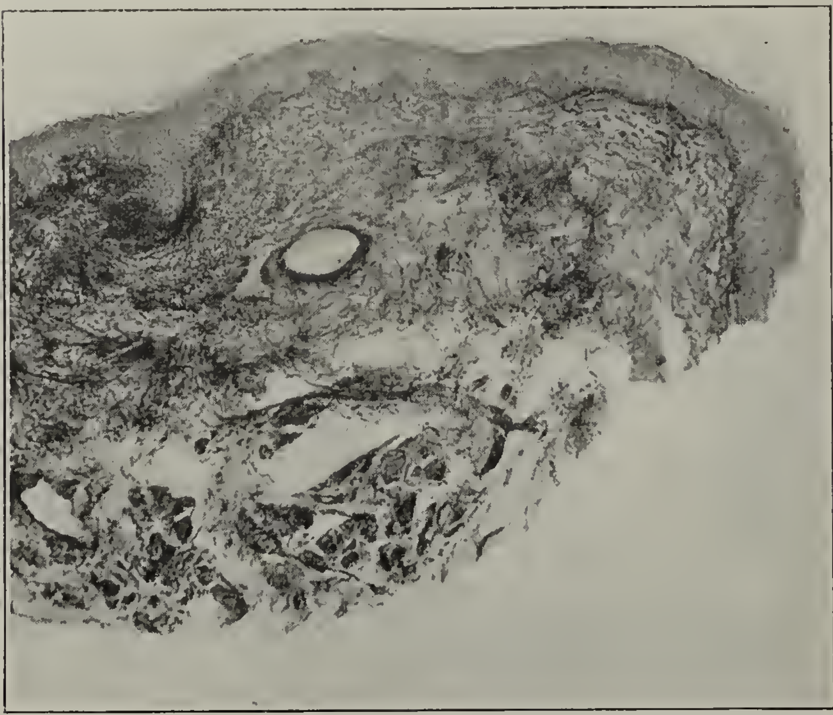

Fig. 5.—Section from Case 2, stained with Weigert's solution, showing deficient amount of elastic tissue. (Spencer Obj.: ¼; no ocular.)

The findings in this case are of very great interest as pointing to a probable explanation of the cause of angiokeratoma. While it is the consensus of opinion among those who have carefully studied the disease that the lesions are the result of capillary dilatation, followed by thickening and other hypertrophic changes in the epidermis, the fact that there must be present some antecedent pathologic condition in either the vessel wall or in the structures surrounding it has never been emphasized, although it was suggested by Fordyce[7] as early as 1896.

The majority of cases of angiokeratoma of the extremities have been seen in young persons, and practically all of the patients were subject to chilblains.

While some of the contributory factors to chilblain are well known, a careful and exhaustive histopathologic study of the affected tissue has never, so far as I can find, been made. We see very few instances of the disorder in the middle west, and I have not yet had an opportunity to secure material from a case. It is probable that alterations are to be found in the elastic elements in this disease also, but whether the changes precede, and, to some extent, superinduce, the localized congestion, or whether they develop as sequelæ, following repeated attacks of the malady, remains to be demonstrated. The matter is certainly worthy of thorough investigation. In those examples of angiokeratoma in which regions other than the extremities are involved, the case records enable us to wholly dismiss chilblain circulation as a possible contributory factor in the etiology. In the majority of cases, however, there is a history of venous obstruction, in the form of a varicocele, tumor of the epididymis, or postoperative venous occlusion, preceding the development of the angiokeratoma, and the evidence is almost conclusive that these little vascular tumors are simply the result of increased blood-pressure in superficial venous capillaries, the walls of which are insufficiently supported. The accompanying changes in the epidermis may be interpreted as Nature's attempt to prevent further dilatation, and possible rupture, of the involved vessels. Inasmuch as there is a fairly uniform insufficiency of elastic fibers throughout the integument of the scrotum, it is probable that the deficiency is congenital in origin.

The result of a careful consideration of the clinical histories of those cases of the disease in which the eruption was more generalized is also very suggestive of the possibility of a similar lack of elastic tissue in the affected areas.

610 Commerce Building.

INTRA-OCULAR NEOPLASMS *

WITH A REPORT OF FIVE CASES OF NEOPLASM AND ONE OF SIMULATED NEOPLASM

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BUFFALO, N. Y.

Malignant intra-ocular growths in children are rare, but in the eye-ball as in almost no other part of the body they are encapsulated. If they are discovered early enough, therefore, and enucleation is at once performed, life may thereby be saved. If, on the other hand, their presence is not recognized until the integrity of sclera or cornea has been destroyed and the orbital or extra-orbital tissues has become involved, the invasion of the brain and face with the separation of the cranial bones results in such a horrible method of death that even if the number of cases of retinal glioma is not great, it is worth while to emphasize the characteristic diagnostic features in order that no child may be denied the right of help—while help is yet possible.

The possibilities are that if all cases were reported, their aggregate number might not be so small. Wintersteiner considers that they constitute 0.04 per cent. of all eye diseases. Of 204,612 cases presenting at the New York Eye and Ear Infirmary in ten years, 0.017 were glioma retinæ. It is not at all unlikely that in the country districts or in the small towns remote from large eye clinics, cases which are never reported occur and many more children die than the records would lead one to suppose. The etiology is still uncertain. A number of instances are reported of several cases occurring in a single family, and the assumption has been drawn there-

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

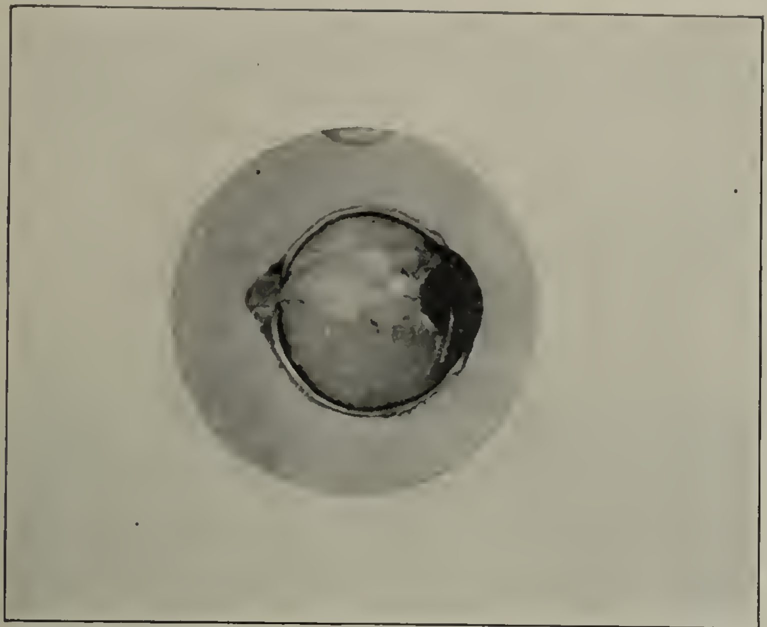

Fig. 1.—Case 1; long band of gliomatous tissue extends from optic nerve through the vitreous to the lens. May not a vestigial hyaloid artery have been the channel of development? No recurrence after nine years.

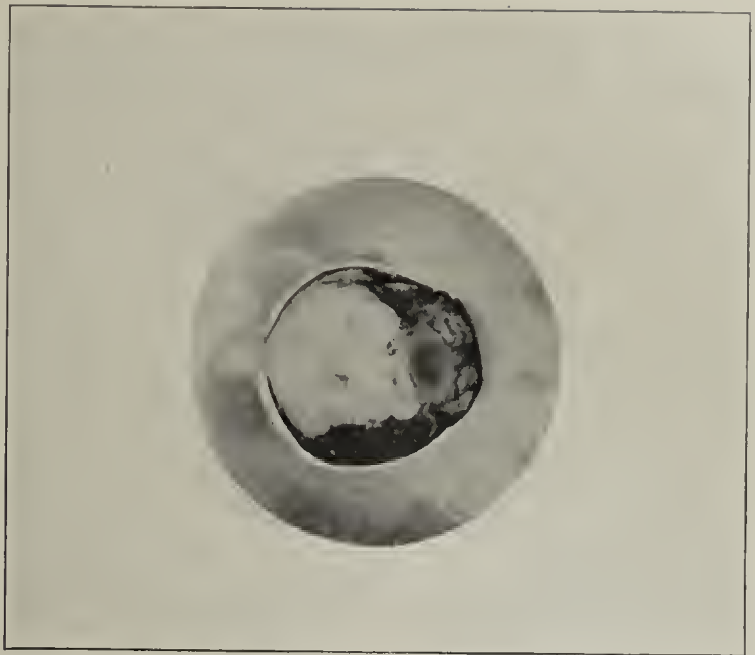

Fig. 4.—Case 3; glioma originating at margin of the optic disk. Beginning staphyloma. Enucleation. No recurrence after eleven years.

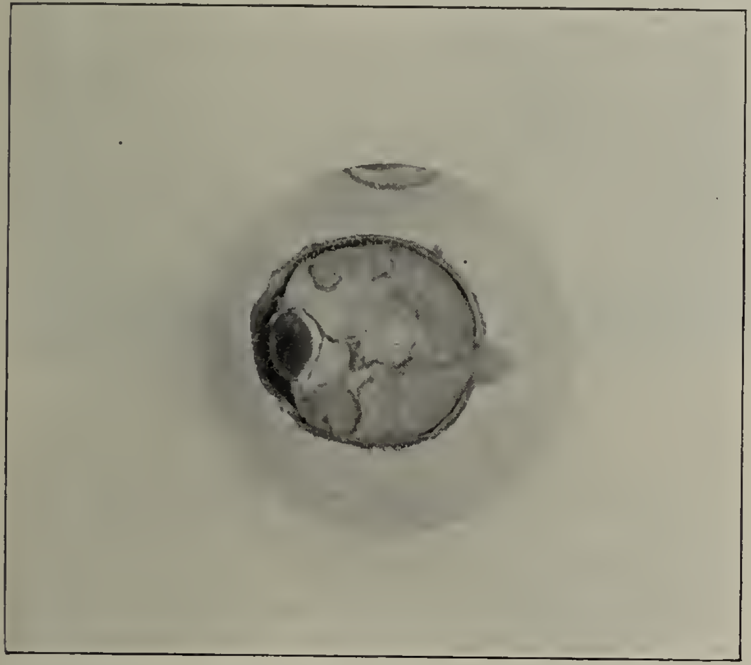

Fig. 2.—Case 2; glioma retinæ; neoplasm absolutely fills posterior chamber of eye. Partial ectasia of sclera with involvement of the optic nerve; enucleation; no recurrence after three years.

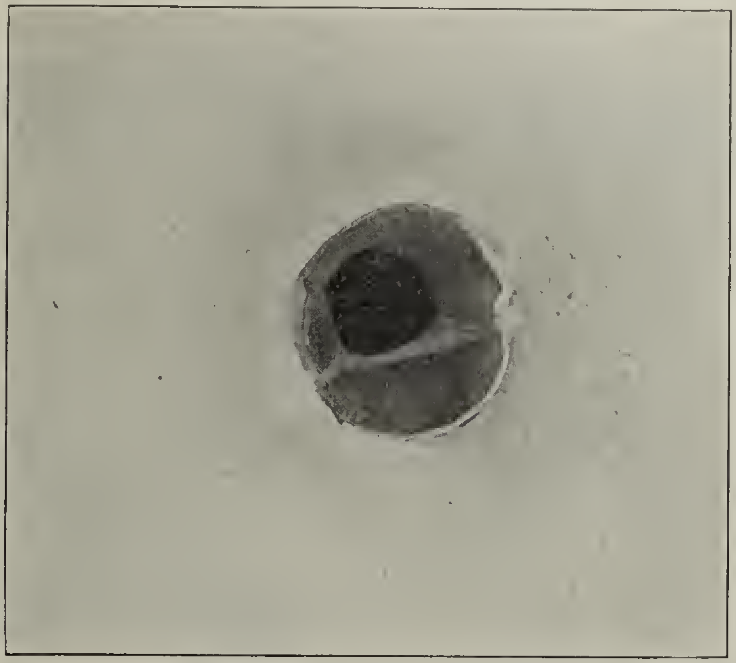

Fig. 5.—Case 4; melanosarcoma; enucleation; no recurrence after a year.

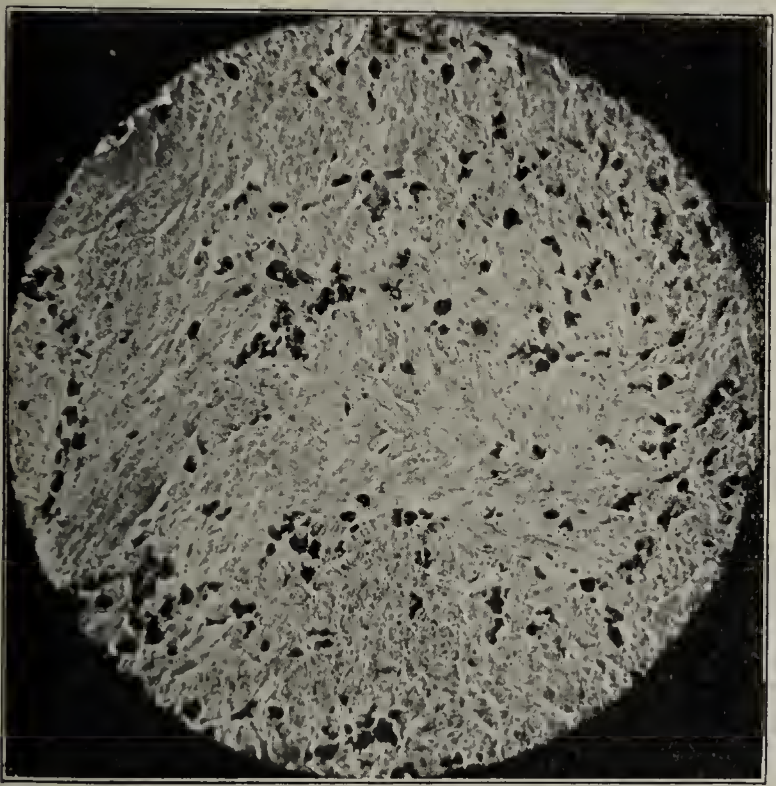

Fig. 3.—Case 2; glioma retinæ. Closely massed round cells, large nuclei; no rosettes found.

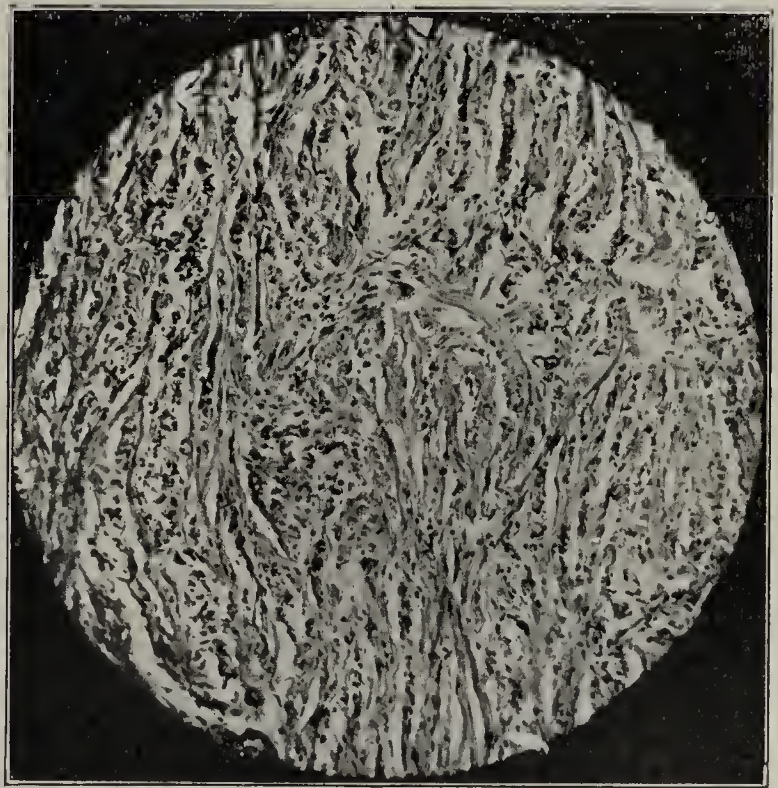

Fig. 6.—Case 4; melanosarcoma. Coarse masses of pigment interspersed with spindle-shaped cells, originating in the choroid.

fore that heredity exercises a controlling influence. Van Hoffman, Jr.,[1] at the last session of the Heidelberg Ophthalmological Society, described a double case of glioma in a mother and her infant child. The mother had been operated on about twenty-eight years before. In the Royal London Eye Hospital reports for 1905, Owen related a similar case. A woman operated on in 1859 later bore a child which also had a glioma, likewise removed. A full sister of the second woman bore two children who had glioma. One was cured by operation, the other died of the disease. The author reports a third family case. He operated on a boy 2 years old in 1872. This boy married at 21 and his wife bore seven children. The second and third both had gliomata at the ages of two years and five months respectively. The first was operated on but suffered recurrence in orbit and both eyes. An operation was refused in the second case and both children died.

Many cases are reported of several children in one family having this disease, but in all of these as in the classical one described in the *Australian Medical Gazette,* in which, out of a family of sixteen children, ten had glioma, it seems far more likely that some congenital fetal defect was present in each of them which made the development of the disease possible.

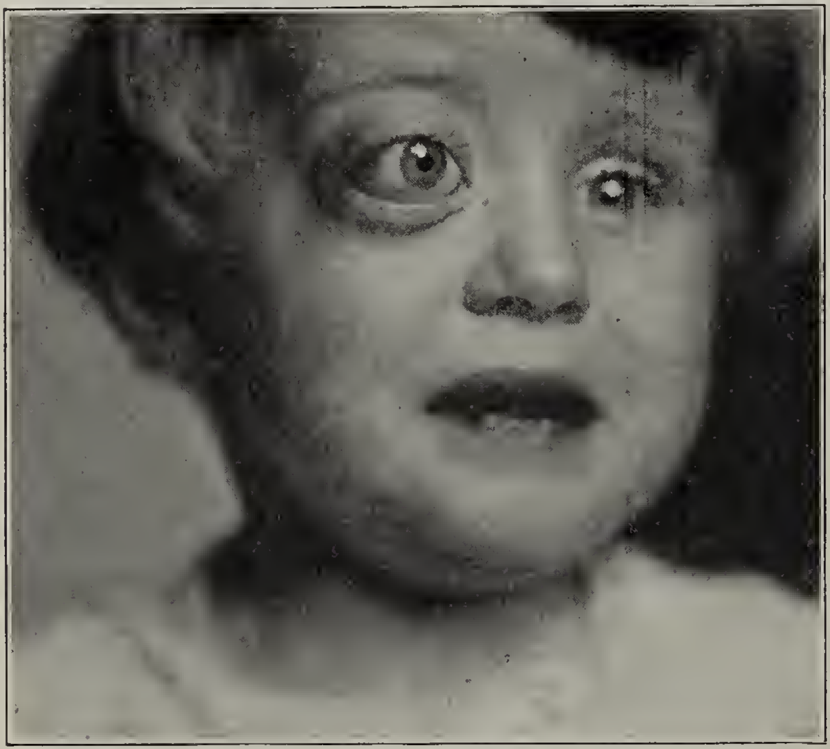

Fig. 7.—Case 5; extradural glioma of optic nerve; enucleation of orbit. No recurrence afterward, although probable later.

This is borne out by Fuchs' observations. A mother brought her 4-year-old child to his clinic with an advanced glioma of the right eye. The ball was much enlarged and the neoplasm was growing into the orbit. The entire orbital contents were removed, but the growth recurred and within a year the child died. Some months after the mother brought the second child, who likewise had a glioma which was removed, but which also returned, resulting in the death of the child. Soon afterward she brought her baby, then only a few months old, with a defect of its left eye. In this case it was not a glioma, but a congenital coloboma of the iris and chorioid from which Fuchs concluded that a congenital morbid disposition must have been present which was the basic cause of the glioma in each of the cases.

Recent pathologic studies have added little of value to our knowledge of the intrinsic nature of these tumors. The consensus of opinion seems to be in accord with Cohnheim's theory that an adventitious fetal development of the nerve fiber and ganglion cells results in the establishment of "rests." From these the glioma takes its origin. As Treacher Collins has shown, the glioma cells and those of the undifferentiated cells of the three-months fetus bear a close resemblance to each other, and it is more than possible that the developed tumor bears a direct relation to the halted development of the fetal retina, and the glia and ganglion cells may be in Axenfeld's opinion the outgrowth of the undifferentiated cells of the tumor.

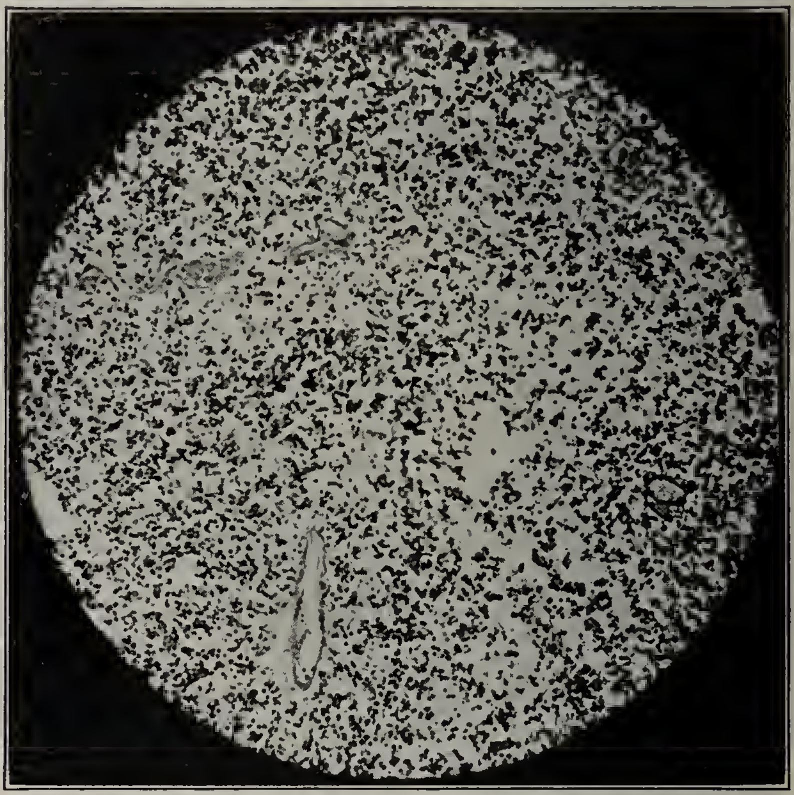

Fig. 8.—Case 5; extradural glioma of optic nerve; spider cells from glia.

While much has been written concerning retinal glioma, no new facts have been deduced from our recent studies which to any degree change existing views as to the nature of these malignant tumors. The purpose, then, of this report is not to add to our pathologic knowledge of these rare growths, although the four described are of sufficient interest to merit special reference; but it is to urge that these rare conditions be brought more frequently before the notice of the general profession, because they occur so infrequently that a physician in general practice may allow the possibility of such a growth to pass wholly out of his mind, and because without distinctive ophthalmologic appliances, the recognition is so easy on the part of any intelligent observer, and because by its early recognition life may be saved in a large proportion of cases.

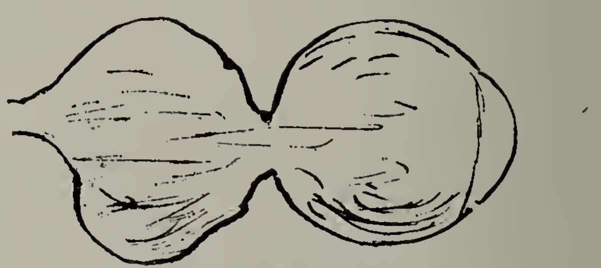

Fig. 9.—Case 5; extradural glioma of optic nerve.

Every case should, therefore, be reported and if possible a section of the tumor made and the character of the neoplasm determined. We shall in this way not only get fuller statistical records as to the actual number of cases which occur, but we may, by calling attention to its manifest characteristics, render it possible to make a diagnosis before the growth has passed outside of the eye-ball and while enucleation may yet save the life of the child.

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[1] Van Hoffman: Ann. d'ocul., 1910, cxliii, 32.

The yellowish reflex coming from the depths of the vitreous lead to the common name given to it by the earlier writers of "amaurotic cat's eye"; and if a light is allowed to shine obliquely into the large pupil, the whitish reflex coming from behind the lens together with the age of the patient is almost absolutely characteristic. When such cases present themselves, skilled advice, if obtainable, should be immediately sought. It is quite different in appearance from the whitish color of a cataract or the surface opacity of a leukoma. It may, indeed, be confounded with plastic deposits in the vitreous from the uveal tract, but these are rare in young children; and when they occur, the usefulness of the eye has probably already been lost.

The first three cases reported below are interesting as being typical of this form of neoplasm. The fourth, that having its origin in the optic nerve, is exceedingly rare. All of these cases occurred, as glioma almost invariably does, in children under 4 years of age. The fifth, that of melanosarcoma, was found in a boy of 13. At present there is no evidence of a recurrence. The sixth is of interest as being the result of an uveitis, possibly prenatal, developing a glaucomatous condition of the eye and simulating in appearance an intra-ocular tumor. An exact diagnosis was impossible until the eye had been removed and sectioned. The illustrations give more clearly than any verbal description the exact conditions which were found in the first five cases.

REPORTS OF CASES

Case 1.—Glioma retinæ; enucleation; no recurrence after nine years.

Patient.—A. F., of Pembrook, Genesee County, N. Y., the daughter of simple, honest, hard-working parents, was brought to my clinic on Nov. 26, 1910. She had nearly reached four years, and although there had been some pecularity noticed in the right eye since she was 1½ years old, it was only during the past four weeks that a marked difference was observed by the parents.

Examination.—The child manifested considerable uneasiness, pulling her hair on that side and occasionally manifesting evidences of discomfort in the eye. The pupil was dilated and maximum and immovable. The cornea and lens were perfectly clear, while a lobulated whitish yellow mass could be seen apparently filling the posterior chamber. It was traversed by fine vessels, giving in places a light reddish reflection. Tension was apparently slightly increased. There was no response to light, and the eye was evidently perfectly blind. The child was apparently in robust health and seemed to be unusually well developed.

Course of Disease and Operation.—The diagnosis of glioma was made and an enucleation advised. This was refused for the time, however, by the parents, and the child did not appear at the clinic until April 3, 1902. The tumor had then markedly increased, the eye-ball was flushed, injected and painful, tension plus 2, the lens pressed forward toward the cornea but still clear and in the upper portion of the mass, which was discernible when seen by reflected light, evidence of hemorrhage which had partially absorbed. It was no longer safe to postpone operative measures, so the child was taken into the hospital and an enucleation immediately performed. The eye was hardened and on section of it the diagnosis of glioma was confirmed. Figure 1 shows the extent to which the growth had filled the eye-ball. On April 15, 1911, the child was again brought to my clinic, when the orbit was found to be in perfectly normal condition and there was no evidence of any return of the growth, so that it may be considered to have been permanently cured by the excision.

Case 2.—Glioma retinæ; enucleation; no recurrence.

Patient.—C. S., the little daughter of well-to-do parents from another town in Genesee County, was brought to my office by her grandfather, a well-known physician of that place, on Feb. 15, 1908. The little girl was 3 years old. The previous summer she had fallen and struck her nose and from that time a glassy look appeared in the left eye, which seemed to diverge slightly. The day before bringing the child to me, the parents had covered the right eye and had discovered to their alarm that the child was unable to see from the left eye. The little girl had gray eyes, both pupils being normal and both reacting to light readily. There was no history of cancer and the family are quite sure that the child had been able to see out of the left eye for some time after she was born. Lately she had been running against objects and seemed unable to guide herself. For the past week she had been unusually irritable.

Examination.—The eye-ball showed no apparent redness externally; the cornea and lens were both clear, but in the vitreous, flocculent masses that seemed of a creamy whiteness could easily be seen by oblique light without the aid of the ophthalmoscope.

Course of Disease and Operation.—The diagnosis of glioma was made and assurance given that within a short time the eye must be removed. It was, however, two months before final permission was obtained. Then tension had rapidly become increased, the eye being injected. The child was immediately taken to the hospital and the eye-ball removed, the optic nerve being divided as far back as possible. A section of the eye was made after it was suitably hardened, and Figure 2 shows that the vitreous had become completely invaded by the gliomatous mass. Had enucleation been much longer delayed, the growth would have passed through the ocular structures, involving the orbit, when an exenteration of the orbit would have been required, and even that might not have saved the child's life.

Case 3.—Glioma retinæ; enucleation of eye-ball; no recurrence after eleven years.

Patient.—F. S., of Buffalo, was brought to my clinic at the Charity Eye and Ear Hospital on Oct. 16, 1900, aged 2½, one of eight children. The family was wretchedly poor, often lacking the necessities of life. The youngest of the family, a baby of 6 months, had had spasms from birth. F. had twice had measles; the left eye during the first attack had become swollen with much mucopurulent secretion. He had had a second attack last winter, at which time the eye had become inflamed but apparently had recovered again. The eye began to have a "hollow look," as described by the mother. Three weeks before I saw him, the child had fallen down-stairs, after which the eye-ball began to swell; and during the last three weeks, much of the time the child had held his hand to his head and given evidence of suffering.

Examination.—The cornea and lens were still clear, but a yellowish mass tinged with pink filled the vitreous. The red fundus reflex could still be seen around the margin of the enlarged pupil. The pupil did not react to light and tension was increased.

Operation.—An immediate enucleation was advised and made. The diagnosis of glioma on section was confirmed and the mass was found already occupying the vitreous space.

Case 4.—Melanosarcoma in boy of 13 years; enucleation; no recurrence. As differentiated from these cases, all of which seem to have originated in the optic nerve, and in none of which was the patient older than 4 years, this case is of interest and value.

Patient.—C. B., of Falconer, Chautauqua County, New York, a schoolboy of 13 years, was brought to my office by his parents, who gave a record of good heredity. The patient had, however, not been seeing from the right eye for some time.

Examination.—In this eye (the right) he was found to have light perception, recognizing only moving shadows, with entire loss of the temporal field, while the light could be perceived on the nasal side. In the left eye, with a plus .50 D. Sph. plus .50 D. Cyl. axis 180, vision equaled 20/20; external chorioidal degeneration with scattered pigment masses was found to be present. A grayish elevated mass was discovered on examination with the ophthalmoscope, occupying nearly a third of the nasal side and leaving a wide margin which was undisturbed between the growth and the optic disk.

The diagnosis of malignant neoplasm was made and the parents assured that enucleation must necessarily be made. The eye, however, was kept under observation for nearly a year before it was removed, when the growth which is shown in Figures 5 and 6 was shown to be a melanosarcoma.

Case 5.—Intradural glioma of the optic nerve; exenteration of the orbit. Glioma of the optic nerve is exceedingly rare. The report of the following case will be of value.

Patient.—Baby S. was brought to my office by Dr. William M. Mehl, of Buffalo, for consultation because of a marked exophthalmos. She is the little daughter of parents in moderate circumstances living in Allegheny County. One year previously, the mother noticed that the child frequently rubbed the right eye and shortly afterward it was seen to protrude. This protrusion had continued, slowly increasing to the time of examination.

Examination.—There was no evidence of pain and the child was well nourished. All the movements of the eye were still retained and notwithstanding the excessive proptosis, the child was still able to close the lids completely over the ball. It would seem that the lids had grown with the ball so as to accommodate themselves to the excessive protrusion. The eye could not be returned to the orbit with pressure, thereby excluding the possibility of an orbital vascular growth as the cause of the protrusion. There was no pulsation of the eye, nor was it apparently irritable or reddened. The pupil responded to light slightly. The vessels in the fundus were dark and tortuous, and a view of the disk, as far as it could be obtained in a nervous, unsteady child, showed a woolly and uncertain outline. The possibility of a gliomatous involvement was not considered because of the great rarity of tumors of this kind and it was thought that possibly a postauricular abscess or cyst might be causing the protrusion. The child, therefore, was placed under chloroform and an opening was made by the side of the eye-ball and the finger inserted, when it was found that a large roundish growth, apparently coming from the optic nerve, occupied the larger portion of the orbit. Incision was made into this growth, when it was found filled with a translucent honey-like yellowish mass, the tumor being separated by membranous septa. It was evident, therefore, that the growth was gliomatous.

Operation and Course of Disease.—The entire mass was removed on Aug. 13, 1910, by Dr. Mehl in my presence. Figure 8 indicates the character of the substance which was found to constitute the tumor. So extensive was the involvement of the optic nerve that the entire exenteration of all of the tissue in the orbit was made. It seemed inevitable that the growth must recur and an unfavorable prognosis was made. In March, 1911, however, the child was again seen and the tissues of the orbit had filled in apparently normally. The lid was not greatly sunken, and there was no evidence whatever of malignancy in the new tissue. It is quite possible, however, that ultimately the growth may recur.

Case 6.—Iridochorioiditis with occlusion of the pupil simulating an intra-ocular neoplasm.

Patient.—E. H., of Fillmore, New York, was referred for consultation by Dr. S. Mitchell of Hornell, in January, 1910. From the October previous the child had been suffering with the right eye. One night a sharp pain developed in the eye and the next morning the eye-ball was very red and swollen. The patient was not seen by Dr. Mitchell for some months; then the eye was found deeply injected, the pupil contracted and filled with a plastic gray mass, and lens and iris pushed forward until it was in contact with the cornea. The eye-ball was intensely hard and evidently exceedingly painful. Dr. Mitchell had advised enucleation. The eye was evidently entirely blind.

Examination.—The conditions present when the boy was brought to my office were quite the same as those which Dr. Mitchell had found with the exception that they were intensified. The grayish mass in the pupil had recently become more marked. Glaucoma following a general uveitis occurring in a child three years old and involving only one eye, all led to the suspicion that a glioma was present and was rapidly developing.

Operation.—The eye-ball was removed by Dr. Mitchell and a section made, when it was found that there was no tumor in the eye whatever. The glaucoma was the result of the obstruction of the filtration angle and of the intense iridocyclitis, which in all probability had existed for a long time before Dr. Mitchell was consulted.

The case is important as one simulating an intra-ocular tumor and showing the great difficulty in diagnosis prior to enucleation. Happily in either instance, the eye had to be removed and diagnosis was one of secondary, although scientific, interest.

454 Franklin Street.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

THE IMMEDIATE REMOVAL OF TRAUMATIC CATARACT *

JOHN A. DONOVAN, M.D.
BUTTE, MONT.

A paper relating to the treatment of eye injuries, to be properly understood, should be confined to specific cases.

The impossibility of the universal application of any single line of treatment is well known to all surgeons, but especially so to those most frequently called on to treat eye injuries. In these cases it is often the most experienced who find it hardest to decide on the line of treatment.

Sweet, in his report[1] of 702 cases, says: "Unlike other operative procedures on eyes in which there is uniformity of technic, each foreign body injury must be studied as a separate and distinct condition."

Bowman[2] is quoted as saying: "I have never laid down a method of extraction of cataract universally applicable. I always operated as seemed best at the time for the individual treated."

Another difficulty in obtaining uniform results is the difference not only in classes of people, but classes of injuries. Sweet's report, which probably fairly represents the proportion of cases in the large cities, gives 81 per cent. magnet cases, while my cases are in almost inverse proportion. He gives 5 per cent. lens injuries Here, among the penetrating wound cases the proportion of lens injuries is several times this percentage.

When the patient is seen immediately or soon after the injury, after he has recovered from the shock and before the local reaction has made careful work almost impossible, the lens should be extracted. This may be done under a local anesthetic, though a general anesthetic is preferable in many cases. If local reaction is already marked, the ophthalmologist should wait about four to six days when it subsides, then remove the lens before the secondary inflammatory symptoms have become severe.

A general anesthetic is necessary at this time. Though the breaking up of the lens and washing it out has been a recognized procedure for some time, a regular cataract extraction, combined or simple, has in many cases been more successful. If there is a large central corneal wound or if the lens is already badly mutilated, cutting it up with a cystotome and washing it out is the operation of choice. Unusual care must be exercised in doing this, as the zonula, if not already ruptured, may very easily become so in these cases, or if the wound extends into the vitreous there is likely to be some mixture of lens and vitreous. To wash this lens matter out, especially when there are fine particles of rock in the anterior chamber, often requires considerable force. Several times I have found it difficult to be certain just what the escaping fluid consisted of.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Sweet: Third Series of Cases of Injuries from Foreign Bodies, Tr. Am. Ophth. Soc., 1909.

[2] Wood's Ophthalmic Operations, p. 1155.

In children and young people, if there are no positive indications of a foreign body in the lens, a safer and more simple procedure is to extract by suction with a needle.

An ordinary hypodermic needle will answer in children. It is introduced well into the lens, care being taken not to pass into the vitreous. If the needle is turned so its opening can be watched during the suction it is under better control.

In older patients or when particles are in the lens, the regular combined or simple extraction is preferable. Though some may, and with apparently good reason, urge against an iridectomy at this time, as a rule I prefer it, especially in severe lacerated cases. As yet I have seen no bad results that could be attributed to this, while several simple extractions would have done better had iridectomy been performed. If there is a foreign body imbedded in the iris, iridectomy becomes necessary. The incision in the cornea should be made as near as possible to the imbedded body in the iris. After extraction I fill in between the lids with germicidal ointment (1-5,000 mercuric iodid) using the standard strength if the eye is perfectly clean, or the strong (double this strength), when infection is probable. The formula of this ointment is:

℞	Gm. or c.c.		
Hydrarg. iod. rub.	06		gr.i
Pot. iod.	3		gr.v
Aquae q. s.		or	
Adipis lanæ	30		℥i
Petrolati albi q.s. ad.	300		℥x

It has the advantage of being non-irritating at this time, a powerful germicide not precipitated by alkalies or albumins, thus of decided advantage over corrosive sublimate. Though in a normal eye this ointment may be irritating, in an injured eye, especially during the acute stage it acts otherwise. Besides being a germicide, it prevents adhesions of the lids and dressings and is easily applied. It also prevents that dry sticky sensation.

If this does not control infection, 25 per cent. argyrol in many cases does. Of course, one must not rely too much or too long on any particular remedy. The pupil must be kept dilated, the ointment used once, twice or oftener each day and any other treatment as indicated. Salicylates the first three or four days I believe to be of much value.

Case 1.—Man aged 50, blasted December, 1908; each eye contained several pieces of rock in anterior chamber and lens, besides innumerable specks in the cornea. On the fifth day general anesthetic given; the left anterior chamber irrigated to remove loose specks, and then lens cut up with cystotome and irrigated. When about three-quarters washed out, vitreous appeared and operation was stopped. In right eye, all loose foreign bodies were washed out, then iridectomy done and lens extracted by regular combined method. Very little vitreous was lost. Patient left hospital eleven days after operation; was able to distinguish objects in sixteen days. The eye from which lens was fully removed made much more rapid progress and required much less attention. Man is now wearing + 10.00 D. S. lenses and able to make his living working around the mine.

Case 2.—Man aged 25; back fire from rifle caused corneal wound and opaque lens. Patient was seen on fifth day; tension high, pain severe, lens much swollen. Twenty-four hours' treatment failed to relieve. Cornea was incised with knife; needle introduced into lens and most of it extracted. Uninterrupted improvement followed. Vision 20/20 with his glasses.

Case 3.—Man aged 25; steel penetrated lens, entering vitreous; large central ragged corneal wound. The other eye had been enucleated some years before from a similar accident, so it was decided best to take what was supposed no extra risks; magnet extraction, wound cleaned and touched with electrocautery. The swelling of lens with its slow exudation prevented permanent closure of corneal wound for some weeks. There probably was some vitreous exudation as well. It is now two years since injury; eye is shrunken to about nine-tenths normal size; pupil occluded; has light projection. Though an irito-ectomy may restore some vision, this case should be carefully compared with the following one, all conditions being very similar.

Case 4.—Man aged 24, injured same week as above patient, ragged wound entirely across center of cornea. Piece of steel was extracted with magnet from posterior of lens. General anesthetic was given and lens removed by combined extraction operation. Recovery was uninterrupted; patient working in three weeks. Vision after three months with a + 9.00 + 3.00 was 20/30.

Case 5.—Man aged 32; iron in eye-ball, its presence not suspected for eighteen days. Local anesthetic was given, magnet extraction done, and lens cut up and washed out through the same wound in lower part of cornea. In three weeks patient returned home, with eye in nice condition but only light perception and projection as yet. Secondary cataract will be operated on later. As infection was already markedly advanced in this eye, the result was unusually good.

Case 6.—Man aged 53 blasted, seen by me on the fifth day; both eyes full of fine rock. Right eye had rock in lens and cornea. Left eye was still very much swollen, so a thorough examination was impossible. General anesthetic was given and at least five pieces of rock removed from anterior chamber and lens of right eye; lens removed by simple extraction. Patient was taken care of by his physicians, Drs. Brook and Lanstrum in Helena, until able to be moved here three weeks later, when right eye was found in good condition but for secondary cataract and the foreign bodies around the eye-lids. Foreign bodies being now visible in left lens, it was removed by simple extraction under general anesthetic. Recovery slow but satisfactory.

Case 7.—Man, aged 33, came in office while this paper was being completed, injured two hours. Iron 3 by 9 mm. imbedded in posterior of eye-ball was extracted by magnet through lens and original corneal wound. Anterior chamber immediately filled with blood so no attempt was made to remove lens.

The above cases have been selected to illustrate better than can be described the salient points. As a general rule, notwithstanding the extra traumatism, the seemingly increased risk of infection, the removal of an injured lens immediately or a few days after its occurrence is followed by less reaction, less pain, less difficulty in maintaining dilatation of pupil and a very much more rapid recovery than if the case is left to Nature or future operation. In all properly selected cases and especially among the working classes or those unable to lose much time, the immediate removal of the injured lens as above suggested will give the best results.

Those of limited experience in this field, when not certain they are giving their patients the best possible treatment by immediate operation, by all means should not proceed, but treat carefully, study and watch developments as long as they continue favorable.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

THE PRODUCTION AND CONCENTRATION OF A SERUM FOR ROCKY MOUNTAIN SPOTTED FEVER

PRELIMINARY NOTE *

P. G. HEINEMANN and JOSIAH J. MOORE
CHICAGO

Ricketts and Gomez[1] have demonstrated that the horse is susceptible to inoculation with spotted fever virus, and that after recovery the serum has protective properties similar to the blood of guinea-pigs which have recovered from the disease. Two years ago one of us, associated with Ricketts, succeeded in obtaining from a horse a large amount of serum, which was used to a limited extent in the Bitterroot Valley. Owing to the small number of cases on which it was used, the results have so far thrown no light on its efficacy.

At the request of the counties of Ravalli and Missoula in western Montana, the necessary funds having been furnished by these counties, we proceeded to inoculate two horses with 200 c.c. of spotted fever virus each. The virus was divided into two parts in each case, one part being inoculated into the jugular vein, the other part subcutaneously back of the shoulder. This proceeding was adopted, because it is still undetermined which method is the more effective one. Three weeks after the first inoculation, Horse 1 was given another inoculation of 460 c.c. virus, the method of injection being both intravenous and subcutaneous as before.

The first injections produced a fever in both horses. Horse 1 had a temperature of 103.5 F. on the fourth day after inoculation. Blood was taken on each of five days, while the temperature was above normal, and each lot inoculated into two guinea-pigs. The blood taken on the fourth day, when the temperature had reached the maximum, was infective for guinea-pigs, and was transferred several times from the first guinea-pig, to prove that the infection really was spotted fever. The blood taken on the other four days proved non-infectious. This fact possibly bears out the statement of Ricketts that the concentration of the virus varies greatly in different susceptible animals. We interpret the results as indicating that the concentration of the virus in the horse is very low, and a sufficient amount of infectious material was contained in the blood of the horse only on the day of the highest fever.

Horse 2 showed a temperature curve similar to that of Horse 1. The maximum was reached on the fifth day (103.4 F.). We drew blood from this horse on four days of the fever, but missed drawing blood on the day of the highest temperature. The guinea-pig inoculations from the blood proved negative.

The protective value of the serums from both horses was tested by injecting guinea-pigs of an approximate weight of 250 gm. with 1 c.c. of virus and varying amounts of the serum, diluted with sufficient physiologic salt solution to make the volume of the serum injected uniformly 3 c.c., excepting when 5 c.c. of serum were given. The virus and the serum were injected separately into the peritoneal cavity, and not mixed before injection. We believe that this makes a more rigid test than if the serum and virus were mixed before injection, eliminating a possible restraining effect of the serum on the live virus. No preservative was added to the serums in these experiments.

Without giving the results in detail, we found that the serum had no protective value, even in as large a dose as 5 c.c. of undiluted serum, if the serum was drawn earlier than seven to eight days after the temperature of the horse was normal. Tests with a serum drawn from Horse 1 eight days after the temperature had become normal, protected guinea-pigs only if 5 c.c. of serum were injected with 1 c.c. of virus. Serum from Horse 2, drawn ten days after normal temperature had become constant, protected guinea-pigs, if 1 c.c. was given.

After Horse 1 had received the second injection of virus, there was no temperature reaction, excepting that within two hours after the injection, there was a temporary rise of two degrees, accompanied by profuse perspiration, possibly due to shock or an anaphylactic reaction. The potency of the serum drawn twelve days after inoculation had increased, so that 0.5 c.c. of serum gave complete protection against 1 c.c. of virus. Partial protection was evident in doses as small as 0.125 c.c., the fever appearing on the ninth, tenth or eleventh day.

Successful attempts have been made in concentrating the serum of Horse 1 after the second injection, and of Horse 2 after the first injection. The method of concentration is similar to the one in general use in the concentration of diphtheria antitoxin. The greater part of the antibodies is evidently connected with the pseudoglobulin fraction, as in diphtheria antitoxin. The concentrated serums protected in the following amounts:

Serum 1 B, .01 c.c. protected against 1 c.c. virus
Serum 2, .05 c.c. protected against 1 c.c. virus

Preliminary experiments on the value of immune horse-serum as a curative agent are encouraging and will be continued in the near future.

1405 East Fifty-Seventh Street.

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* From the Serum Division of the Memorial Institute for Infectious Diseases, Chicago.

[1] Ricketts and Gomez: Jour. Infect. Dis., 1908, v, 221.

THE PROPHYLAXIS AND TREATMENT OF SUMMER DIARRHEA

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There is hardly any subject in pediatrics about which more has been written than the one which I am to treat in this paper. This disease, or group of diseases, has suddenly come to be considered of national importance, to be compared in its ravages only with tuberculosis, and worthy of the full attention of national boards of health and of economists. It is, therefore, very clear that, in the short space of this paper, there can be no thought of covering the treatment of a disease of this magnitude, and that I must confine myself rather to a broad consideration of the principles involved. It would also seem that at the present time the subject is in such a chaotic state—for we can find authority for almost every conceivable method of feeding—that it would be untimely and to little purpose to go beyond the consideration of general principles into the realm of detail.

In the prophylactic treatment of summer diarrhea the greatest stress has been laid on the importance of nursing, and rightly so, as the statistics of all lands are in accord that, however we may explain the fact, the nursing baby is best safeguarded against gastro-intestinal disturbances. This, then, is the corner-stone of prophylaxis. For the infant depending on cow's milk for nourishment, however, and thereby gravely exposed to danger, we have concentrated our efforts in making a safe food available. This work includes the inspection of farms, of the milk in transit and in the stores, in requirements as to pasteurization or sterilization, in advice as to the preparation of the food, of the care of the milk in the home, of the bottles, and all other appurtenances which come into contact with the milk in its preparation for the baby. As all know, the propaganda to instill this teaching into the minds of the public has been taken up by municipalities, and by medical and philanthropic organizations throughout the United States. There is an implied if not an actual inference, that if all babies which are not breast-fed can be provided with pure and properly prepared milk, the greatest problem of infant mortality will have been solved, in that summer diarrhea will fade into tranquil obscurity. Now, although this pure milk "campaign" is praiseworthy, and we should strive to provide clean and suitably prepared milk for the infants, is it probable that if we succeed in these efforts, we shall escape the annual visitation of diarrheal troubles, and are we wise in concentrating our attention so exclusively in this direction? It is a long and a thankless task to enter into the discussion of the causes of summer diarrhea, and yet, if we would consider the prophylactic treatment of this disease, we must consider, if but briefly, its etiology. The difficulty in unraveling the causative factors and of comparing statistics compiled from various quarters is enhanced, as the case may be, by the inequality (1) in the number of infants artificially fed, (2) in the intelligence of the mothers, (3) in the purity of the milk, (4) in the variation of the food constituents, (5) in the variation of the social and housing status of the family, (6) in the difference in the temperature and humidity in the localities in which the results were obtained. Without going far afield in this subject, it may, to my mind, be safely stated that there are many considerations which must lead us to conclude that the summer heat in itself is a most important etiologic factor. The conception of heat and variations in temperature as a cause of summer diarrhea in infants was first suggested in this country by Rush in 1789, and has quite recently been brought forth again. The high mortality among infants in our cities, for instance in New York, where the milk-supply is exceptionally good, as compared with the mortality in other large cities, for example London or Berlin, where the supply is certainly not superior but the summer far cooler, is an argument in favor of this proposition. Another argument is the parallelism that has been brought out between excessively hot days and excessive infant mortality, a point well illustrated by Willim's chart for Breslau and Finkelstein's chart for Berlin. A further point to be considered in this relation is the fact known to us all, that, other factors being equal, a cool summer means a low infant mortality and a very hot summer a high mortality. I do not wish, however, to enter into a full discussion of this question, but rather to draw attention to the fact that it is an element to be reckoned with both in etiology and in prophylaxis. There are, therefore, three main phases to be considered in the prevention of this disease: the first—first by right of importance—namely, breast-feeding, it is not necessary for me to dwell on, nor on the second, that of pure and properly prepared milk, except to mention that I believe too little attention is being paid to the care of milk in the home of the baby. The third factor, that of combating the high temperature of summer, has not received sufficient emphasis to allow us to pass it by with mere mention. We should insist that in hot weather infants should wear light clothing and very little of it (the woolen abdominal band is not necessary), that they should be bathed once a day and sponged many times a day and that they should be given cool water frequently. It would be well if we could illustrate this teaching in the dispensary by giving each infant a bath, and by keeping the waiting-room cool, where the mothers are compelled to wait holding the infants in their arms. This cooling of the room for a couple of hours can be accomplished, I think, without great expense, by passing a current of air from an electric fan over a block of ice. The day nurseries should likewise be artificially cooled. Furthermore, opportunities should be provided for the tenement-house baby to escape from the enervating atmosphere of the room or street, and for this purpose large airy buildings, such as schools, armories, and churches, could well be utilized as recreation centers. We shall be forced to realize more and more that the question of infant mortality, including that of summer diarrhea, is no longer a purely medical problem, but, like tuberculosis, is sociologic, and must be combated by improving the social status of the masses.

When we turn from the prophylactic treatment to the treatment of the disease itself, we find but little unanimity of opinion. It is, however, generally realized that the attacks which apparently come on so suddenly in the warm weather are generally preceded by mild attacks of indigestion or dyspepsia in the months preceding. A baby who has been the subject of a mild derangement should be fed with care throughout the summer months. But here we meet a stumbling-block, for what is meant by careful feeding? I have but to mention that the proteids, the fats, the sugars, and the salts have each in turn been accused of being the disturbing element. An infant so predisposed should sedulously be guarded against overfeeding, and in my experience a high percentage of fat or of sugar is most to be feared. There is, at present, a wholesome fear of feeding too much fat to babies, so that this can be passed over with mere mention; but for the most part, the amount of sugar given is disregarded. Mothers and physicians alike, in detailing the preparation of the baby's food, do not consider it of sufficient importance even to mention the percentage of sugar that is being added. Nevertheless, most infants react to sugar to a surprisingly exact degree; when little sugar is given the bowels become constipated; by adding sugar, generally from 4 per cent. to 6 per cent., this condition is relieved. If we add still more sugar diarrhea is produced, or even without this addition in some cases. The reaction of the intestine to sugars, to some forms more than to others, is more rapid and constant than in the case of fats. It is generally the infants who have suffered from attacks of dyspepsia due to these factors, who are doomed to an acute relapse in the summer.

As soon as the diarrhea begins, castor oil should be administered and food should be withheld for at least twelve hours. During this period water should be given frequently, by mouth if there is no vomiting, by rectum if vomiting is present. The best treatment for the vomiting is lavage and starvation. If the infant presents symptoms of marked loss of fluid, such as a dry loose skin, parched tongue, depressed fontanel and sunken eyes, salt should be added to the water, so that a hypotonic solution of 0.3 to 0.4 per cent. is given. If we make use of a normal solution edema is apt to ensue. Fever should be controlled by means of occasional baths at 85 F., and frequent packs at this temperature or lower, if necessary. There is no medicine, except perhaps a stimulant in case of collapse or severe prostration, which has any value; bismuth, the astringents, and the opiates are ineffectual.

One of the fundamental principles of the feeding is that it should be begun in very small quantities, a teaspoonful every two or three hours. Another rule is that fats and sugars should be avoided. We must not forget, however, that the various food constituents differ in their action according to their correlation. For example, sugars when given with dextrin or starches lose their laxative effect. The same is true for both fats and sugars in combination with proteids. It is due to these considerations that we can begin with the feeding of the so-called "casein milk" of Finkelstein, which I saw successfully used last summer in his clinic in cases of summer diarrhea or, as he terms it, "intoxication." This is a food containing a high percentage of proteid, a moderate amount of fat, and but little sugar and salt. If we have not this food at our disposal, skimmed milk may be given in small doses. Whey is very unreliable. It is very often difficult to decide how rapidly the amount of food should be increased, for we certainly cannot judge by the stools or by the temperature curve alone, but must also take into consideration the general condition and appearance of the patient. Frequently, this period of scant feeding is, through excessive caution, prolonged for many weeks, until there is imminent danger of marasmus or atrophy following the acute attack.

In the active treatment, as well as in the prophylactic treatment of this disease, the control of the atmospheric heat is of great importance. The room should be kept as cool and airy as possible. The hospital ward should be cooled by means of ice and electric fans as mentioned before; indeed, it is worth considering whether it is not feasible to provide babies' wards in model hospitals with a cooling apparatus, which seems as indispensable for infants in this climate as the heating apparatus in winter. Office buildings now have cooling facilities; why not babies' wards?

Although older children do not suffer from summer-complaint to the same degree as infants under one year of age, nevertheless they are subject to intestinal disturbances in summer, to enteritis and to dysentery. For such children I have found the following treatment of great value: Following a preliminary dose of castor oil and subsequent starvation, as in the case of infants, we have recourse to a diet rich in proteid matter and poor in the fermentable sugars. In this connection I may add that the diarrheal stools of infants and children in most instances give evidence of fermentation as shown by an acid reaction. This diet is based on Finkelstein's principles, and is being used in his clinic. The child is given cream cheese, cottage cheese or pot-cheese twice a day on well-cooked toast, also well-ground meat once a day with a small amount of soup and vegetable. No milk is given; the only fluids allowed are a little soup and water, with or without the addition of proteid such as white of egg. I have seen children under 2 years of age with dysentery, having mucus and blood in their stools, rapidly get well on this diet. The same is true of older children with mild cases of diarrhea. A great advantage in this treatment is that the child does not lose much strength and weight, and that convalescence is short. Carbohydrate foods, such as cereals, are gradually added to the diet. I may state that cream cheese constitutes an excellent article of diet for children as soon as they are old enough to take any solid food. I can say this unreservedly, as for some months I have been giving it to 150 children in an infant asylum with which I am connected. Furthermore, I have found it an excellent diet for such children as have an idiosyncrasy for milk.

I realize that a great deal is omitted in this paper, which one might properly expect to have been considered, and that the details of treatment are scanty. It has been necessary for me, however, to confine myself to the general principles involved in the treatment, to outline the basis on which it is grounded, and to leave the details to another time.

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DISTORTIONS OF THE VISUAL FIELDS IN CASES OF BRAIN TUMOR

(*Second Paper*)

DYSCHROMATOPSIA IN RELATION TO STAGES OF CHOKED DISK *

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In a former paper,[1] introductory to this series, it was related that reliable perimetric observations had been possible in 123 patients in a series of 200 cases of cerebral tumors. These had shown normal fields in twenty-seven instances, a tendency toward hemianopsia in forty-two, and color interlacing or inversion (dyschromatopsia), with more or less symmetrical constriction, in fifty-three instances. It is our present purpose to give specific illustrations of the cases showing dyschromatopsia and to correlate them, so far as possible, with the stages of an advancing choked disk, especial emphasis being laid on the field deviations coincident with, or antecedent to, the earliest ophthalmoscopic changes.

There have been ten cases of tumor which have shown color-interlacing, either in the total absence of a choked disk or with a very incipient process observable in the eye-grounds. As the reader will surmise, therefore, these represent cases in which definite localizing (irritative) symptoms have led to a precocious surgical intervention and consequently to the best operative results. Thus in these ten cases the tumor was enucleated in five instances, was exposed and considered irremovable in one, and was unlocalizable and not disclosed by the operation (decompression) in four. In all of them the normal color relations were restored after the operation.

It is possible for convenience in this analysis to subdivide these cases which have exhibited early color distortion into three groups: (1) those in which, in the total absence of even an incipient grade of choked disk, interlacing was bilaterally equal; (2) those in which definite interlacing was unilaterally represented; (3) those in which interlacing coincided with a low grade of choked disk, but disappeared after a decompression, before the subsidence of the edema. Illustrations may be given of each of these groups.

GROUP I. DYSCHROMATOPSIA ANTECEDENT TO ANY OBSERVABLE CHANGE IN THE NERVE-HEAD

The following case shows that an enormous growth, if slowly advancing and unaccompanied by coincident cerebral edema, may progress for years without producing any of the usual pressure manifestations whatsoever, and that distortion of the color-fields may be the earliest indication of their appearance.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] The first paper in this series (The Johns Hopkins Hospital Bulletin, June, 1911) gave some statistical studies of the results of perimetry in our series of 200 cases of brain tumor. The succeeding three papers will be devoted, respectively, to the binasal, bitemporal and homonymous hemianopsias observed in these cases.

CASE 1.—Surgical No. 25,396. *Enormous endothelioma of right hemisphere causing focal epilepsy and hemiparesis but no pressure symptoms except a slight grade of color interlacing.*

History.—Dr. W., aged 49, was admitted Feb. 4, 1910. The patient received a blow on the cranial vertex in 1898, and six years later began having attacks of focal epilepsy, starting with an aura in the left foot. There was gradual loss of control of the left foot and hand, with marked spasticity. An examination in April, 1909, disclosed no pressure symptoms whatever, aside from the fact that though the color-fields were wide there was some slight interlacing of the blue and red outlines. During the succeeding ten months the patient, who was leading an active life, was repeatedly observed, but there was no apparent advance in the symptoms. He had never had a headache; never any nausea; never diplopia. There was some fulness of the retinal veins but no edema. Visual acuity was normal. The fields on Feb. 4, 1910, showed practically the same conditions as on the examination ten months before (Fig. 1).[2]

Operation.—On February 5 and February 9, in two stages, an endothelioma weighing 198 gm.—the largest tumor in our series successfully extirpated—was removed from the right hemisphere. In view of its large size one would have expected at least some pressure encroachment on the upper fibers of the radiation which would have produced a "slant" at least of the contralateral (left) fields in their lower portion.

February 25, the fields showed a complete restoration of the normal outlines. August 26 (six months later), the normal relations persisted (Fig. 2).

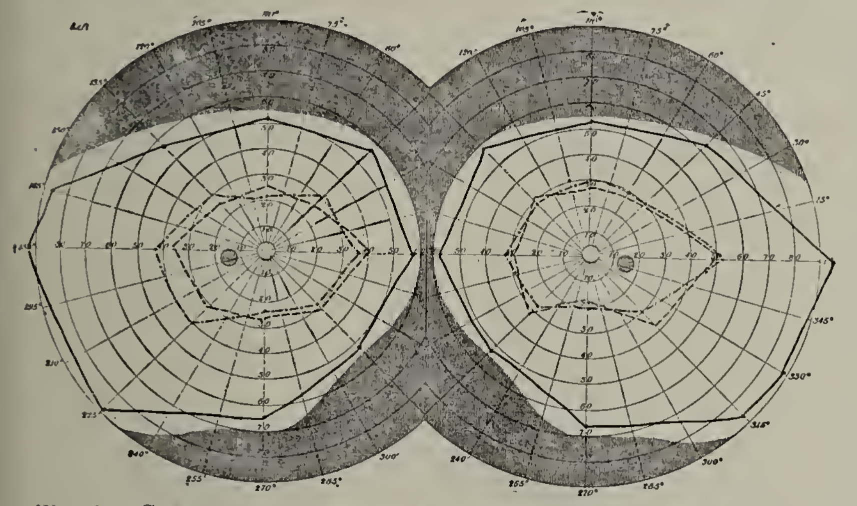

Fig. 1.—Charts of Case 1 before operation, showing characteristic blue and red interlacing with some constriction of color-fields.

There are two other cases in the series in which Jacksonian attacks represented the chief clinical manifestations of the lesion. Both came under observation at an early stage, before the occurrence of any recognizable changes in the eye-grounds. The distortion of the fields was more marked, if anything, on the side contralateral to the lesion in both cases.

CASE 2.—Surgical No. 18,602. *Glioma originating in left motor cortex, causing focal epilepsy with color-interlacing as the only evidence of pressure.*

History.—Miss T. M., aged 22, was admitted Dec. 31, 1905. Attacks of focal epilepsy with an aura in the right foot, succeeded by weakness of the leg, followed a cranial injury received six months before. There were no pressure-symptoms, except the very definite interlacing (at that time not recognized as an evidence of pressure). The ophthalmologic condition was normal in all other respects. No trace of neuroretinal congestion or swelling. On January 10 a glioma the size of a pigeon's egg was removed from the mesial end of the left precentral convolution.

It is to be noted that the right field (Fig. 3) shows some tendency toward an upper temporal defect which may indicate a beginning implication of the left visual pathway, though the defect is not bilaterally represented. An extradural clot formed in this case, and on the day after the operation the patient gradually became stuporous and a definite choked disk was then found. The flap was reelevated and the clot removed, but she did not survive. There are no postoperative fields, therefore.

CASE 3.—Surgical No. 23,150. *Syphiloma of right inferior parietal lobule causing focal epilepsy with sensory aura in left hand. Color-interlacing without choked disk.*

History.—Mr. A. S. J., aged 47, was admitted Nov. 3, 1908. The patient had had attacks of focal epilepsy beginning with a sensory aura in the left hand for the previous six months, with some right-sided headache.

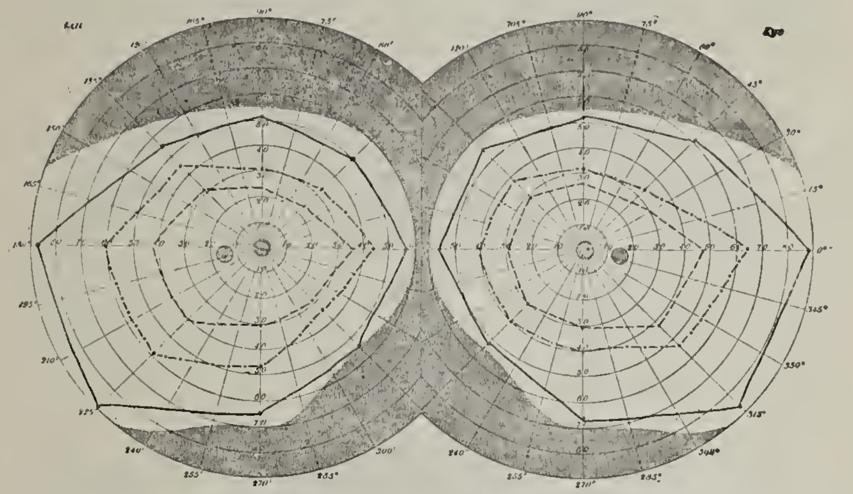

Fig. 2.—Charts of Case 1 after operation, showing restoration of normal color relations after tumor removal.

Examination of Eyes.—Pupils unequal; right 7 mm., left 4 mm.; irregular contour. This condition was noted a year before present symptoms were observed. Right pupil reacted promptly to light; left sluggishly. Consensual reaction poor from right to left; fundi negative; acuity normal. Fields (Fig. 4) showed typical interlacing, with superior constriction (due to deep-set eyes and overhanging brows), particularly of the left form field, and an almost total inversion of blue within red on the right. It is interesting that the patient is a buyer for a large drygoods establishment and is considered an authority on colors.

Operation.—November 7. A large fibrous tumor (histologically a syphiloma) was disclosed and removed from the right inferior parietal region. There were no postoperative complications. Inequality of the pupils had practically disappeared by November 10, though the right remained somewhat larger than the left.

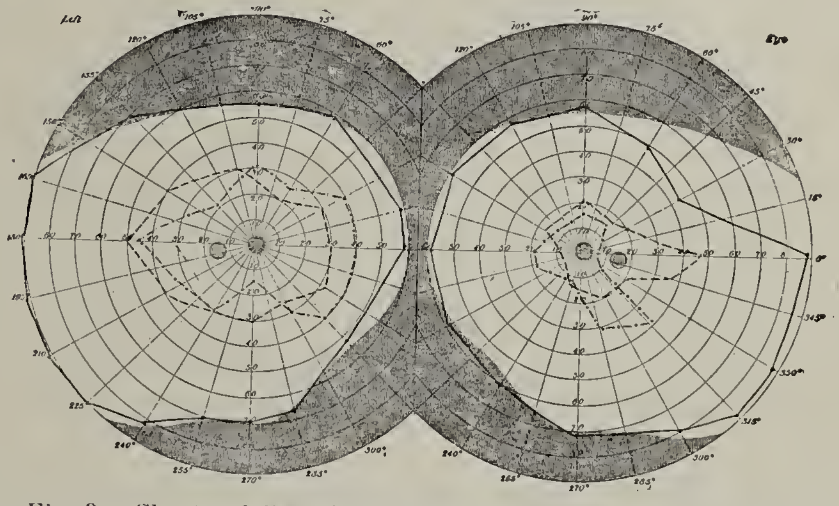

Fig. 3.—Charts of Case 2 before operation. Color-interlacing and constriction more marked on the right.

November 29 the color-fields were found to have resumed their normal relations without interlacing, though a slight irregular constriction persisted.

GROUP II. UNILATERAL DYSCHROMATOPSIA ACCOMPANIED BY AN INCIPIENT GRADE OF CHOKED DISK

A number of examples of unilateral dyschromatopsia accompanied by an incipient grade of choked disk occur in the series, both conditions being more marked on the side of the lesion. Two illustrations will suffice. In the first case it will be seen that the interlacing was much more definite homolateral to the lesion. In the second case the degree of interlacing was about equal on the two sides, but there was more constriction on the side of the lesion. These and other cases suggest that the degree of interlacing may possibly prove to be of some localizing value, so far as the hemisphere involved is concerned, in very much the same way as the relative degree of choking in the two eyes may sometimes prove of value in determining the side of the lesion.

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[2] In all of these charts the usual dot and dash indicates the blue; the broken dash, the red periphery.

Case 4.—Surgical No. 24,408. *Gliomatous "hypertrophy" of median right precentral convolution with focal epilepsy, headaches and color-interlacing, more marked on the side of the lesion. Incipient unilateral choked disk.*

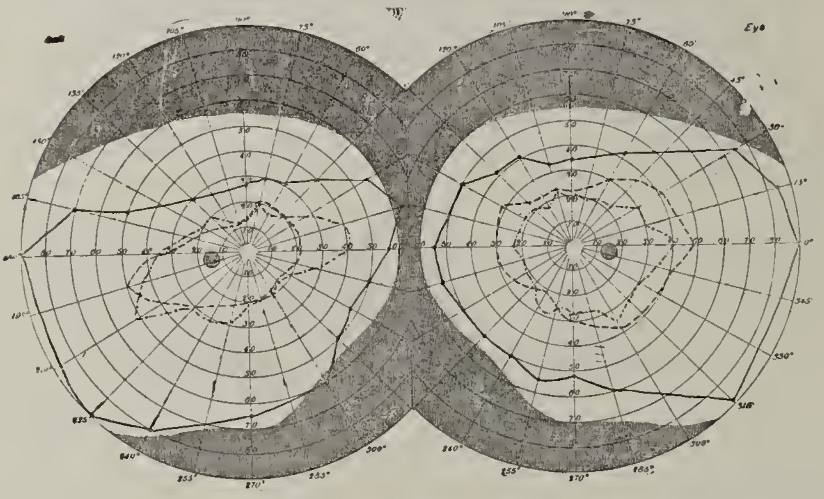

Fig. 4.—Charts of Case 3 before operation, showing interlacing, with almost complete inversion for the right eye. Superior flattening of the fields due to overhanging brows.

History.—Mrs. W. J., aged 33, was admitted July 12, 1909. Focal epilepsy with motor aura in left hand, of five years' duration; attacks more frequent and more severe of late, usually ending in a general convulsion; some headaches and occasional nausea; some slight subjective blurring of vision; progressive weakness of left hand and arm.

Ophthalmologic Examination.—Pupils equal; reactions normal; no oculomotor disturbances. Fundi: Some fulness and tortuosity of the veins and slight haziness of nasal margin on right; no measurable swelling; left fundus normal. The fields (Fig. 5) show characteristic blue and red interlacing, limited to the right eye, though the left shows a tendency in this direction. Acuity 20/20, both eyes.

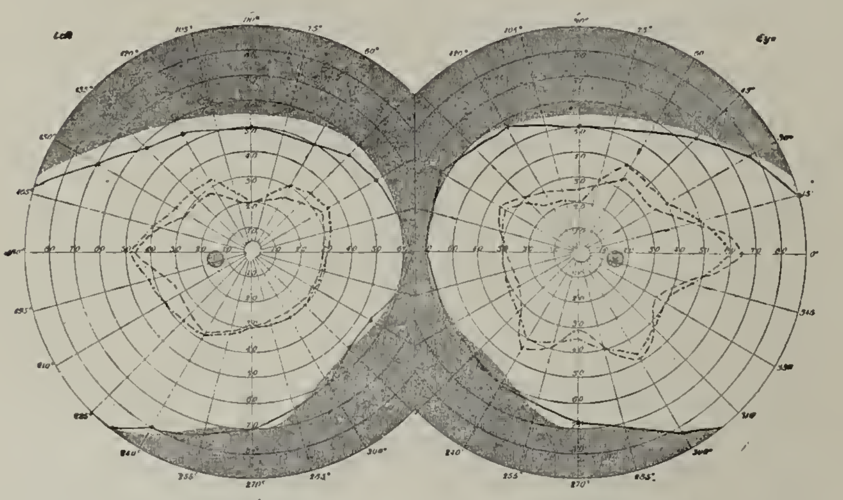

Fig. 5.—Charts of Case 4 before operation, showing interlacing confined to the right field, the side of the lesion.

Operation.—July 14. Extirpation of a large, firm and sharply outlined gliomatous tumor limited to the central portion of the pre-Rolandic gyrus; flap replaced without drainage; no subsequent complications. There was a slight postoperative edema of the disks in both eyes, with considerable haziness of the nasal borders.

The fields August 9, the day of the patient's discharge, showed a restoration of normal color relations, though there was still some constriction and irregularity of outline.

June 18, 1910, the patient returned for examination. She was well. The eyes were absolutely negative, with unusually wide color-fields (Fig. 6), with regular outlines and normal relations. Acuity: Right, 20/20; left, 30/20.

Case 5.—Surgical No. 27,397. *Tumor (uncertified) of left hemisphere, producing focal epilepsy. Homolateral color-interlacing and choked disk, disappearing after decompression.*

History.—Mrs. H. J., aged 49, was admitted Feb. 27, 1911. Attacks of focal epilepsy in right arm for several years, becoming severe, with occasional general convulsions. Some weakness of hand and foot of late, and thickness of speech. Headache, referred to left parietal region; never severe.

Examination of Eyes.—Pupils equal; reactions normal. Oculomotor: Some nystagmoid twitches both to right and left. Fundi: Right, practically normal with exception of some fulness and tortuosity of veins; left, obscuration of nasal margin and physiologic cup by edema; no measurable swelling; veins full and tortuous. Acuity: Right, 15/15; left, 15/25. Fields (Fig. 7) showed some constriction with definite interlacing on the left and irregularity of color outlines on right (presaging interlacing?).

February 28. Osteoplastic exploration revealed increased tension; no cortical lesion. Subtemporal decompression produced a complete subsidence of symptoms.

March 27. Examination revealed the following conditions: Fundi: Right, normal; left, slight haziness persisted on nasal margin and lamina cribrosa was still obscured. Acuity: Right, 15/15; left, 15/10. Fields (Fig. 8): Normal relations restored, though there was some constriction of all boundaries.

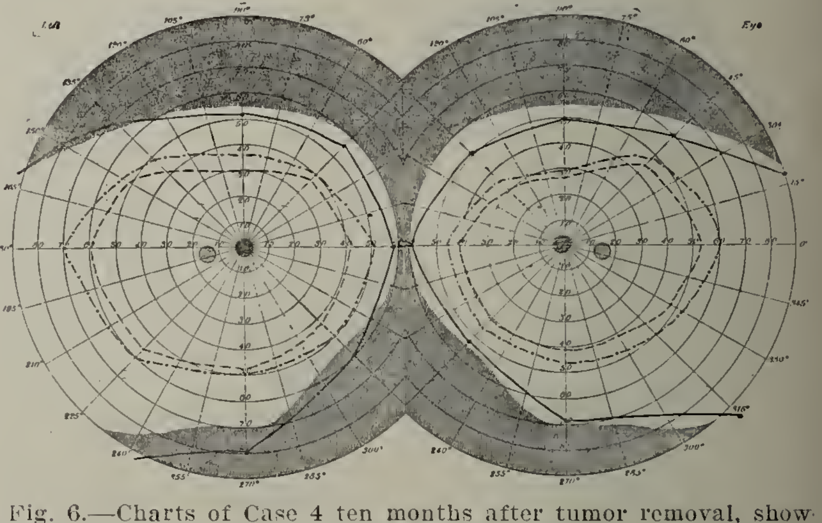

Fig. 6.—Charts of Case 4 ten months after tumor removal, showing unusually wide and non-interlaced color-fields.

GROUP III. DYSCHROMATOPSIA ACCOMPANYING EARLY STAGES OF CHOKED DISK. RESTORATION OF NORMAL COLOR OUTLINES BEFORE THE COMPLETE SUBSIDENCE OF THE EDEMA

These cases, of which there are several in the series, tend to show that the color-interlacing is a more delicate manifestation of pressure than an observable degree of neuroretinal stasis and edema. A single illustration will suffice.

Case 6.—Surgical No. 23,559. *Meningeal angioma of right temporal lobe. Recent headaches, color-interlacing and incipient choked disk the only symptoms of tumor.*

History.—H. R., colored, aged 39, was admitted Feb. 1, 1909. Transferred from Dr. Barker's service for decompression. Severe, constant temporal headaches for a few weeks. No localizing symptoms of tumor recognized.

Examination of Eyes.—Negative in all respects except for some haziness of disk margins, more evident on the left, where there was a measurable swelling of 1 D. The fields showed typical color-interlacing (Fig. 9).

Operation.—February 3. Left subtemporal decompression disclosed an unsuspected angiomatous tumor of the temporal meninges. There was complete postoperative subsidence of all symptoms. On February 11 the measurable swelling had disappeared. On February 15 the fields (Fig. 10) had resumed their normal outlines. On March 2 the disks, though fairly clear, still showed some slight engorgement and hyperemia.

PERIMETRIC DEVIATIONS IN RELATION TO GUNN'S SEVERAL STAGES OF CHOKED DISK

During the past few years there has been an increasing tendency on the part of those interested in the pathogenesis of choked disk to regard the process, from its incipient condition of vascular injection to the terminal secondary optic atrophy, as merely stages of one and the same underlying pressure disturbance. The studies of Alfred Saenger, Sir Victor Horsley, Leslie Paton, George E. de Schweinitz, Eugen von Hippel, Franz Schieck and others, based largely on the investigation of cases after surgical relief from pressure, have contributed much toward the common acceptance of the views originally advanced in large part by Schmidt-Rimpler and Manz.

One particular source of confusion was the tendency of ophthalmologists to designate the early condition as an "optic neuritis" and to reserve the term "choked disk" for the later manifestations, when a measurable swelling of the nerve-head occurs.

Marcus Gunn, in his discussion of J. S. Risien Russell's paper,[3] did a service in subdividing the gradations of choked disk—called by him "tumor papillitis"—into stages. These stages are necessarily more or less arbitrary and possess no sharp lines of distinction, but they are useful in conveying to others, without a long description, some fairly definite idea of the severity of the condition which is being considered. They have been adopted with some changes, by de Schweinitz in his admirable paper read before this section two years ago.[4] We too have ventured to make some modifications, though the main subdivisions remain about as Marcus Gunn originally gave them. To the mere description of the ophthalmoscopic picture we have added a note on the perimetric deviations and the changes in visual acuity which may be expected in each stage. It is important to bear in mind that the changes in one eye are apt to be in advance of those in the other. This is particularly true of such supratentorial lesions as are unaccompanied by ventricular hydrops—cases, in other words, in which the tension in one hemisphere is greater than in the other.

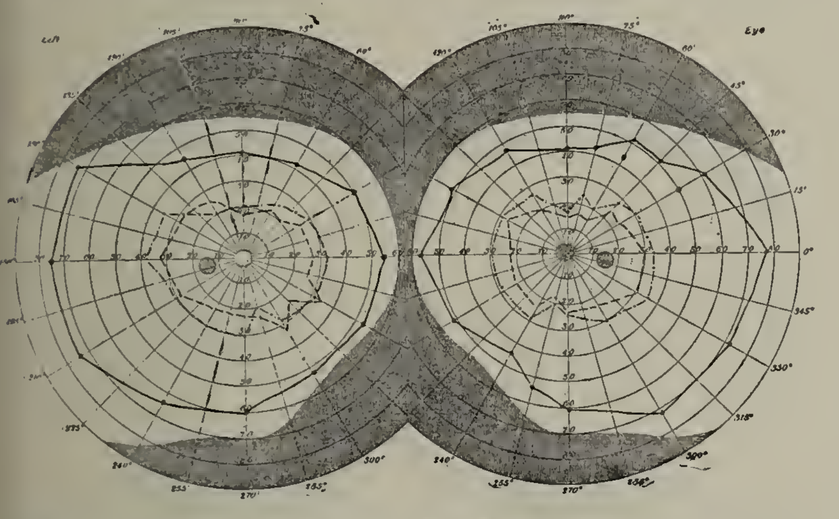

Fig. 7.—Charts of Case 5 before operation, showing interlacing confined to the left field, the side of the lesion.

Stage 1.—This shows some hyperemia of the disks with haziness of the upper and lower margins where they are crossed by the main vessels. This haziness gradually spreads over and obscures the nasal half of the disk, the temporal edge remaining clear. There may be some narrowing of the physiologic cup and the veins are slightly full and sinuous. Visual acuity is not affected. Color-interlacing is usual, and together with the retinal change may be more marked on the side of the tumor, if cerebral. A prompt restoration occurs after decompression.

Stage 2.—The swelling of the papilla, now obscuring the temporal as well as the nasal margin, has become measurable, the physiologic cup is filled in, and there may be an extension of the edema to the surrounding retina. There is an outspoken stasis with tortuosity of the veins. There is apt to be a subjective lowering of acuity. Interlacing is present with constriction. Rapid return to the normal follows relief of pressure.

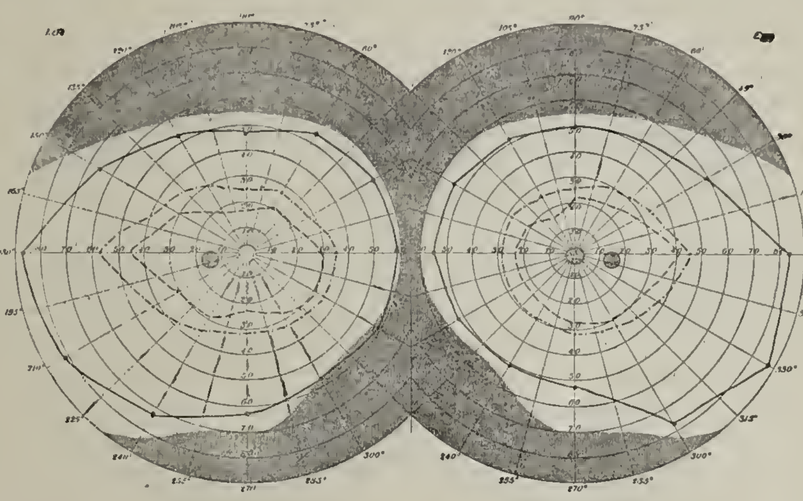

Fig. 8.—Charts of Case 5 after decompression, showing restoration of normal color-relations. Some neuroretinal edema persisted in left eye.

Stage 3.—There is a further swelling of the papilla, which is now definitely prominent and spreads over a larger fundus area. Its margins are lost. Fine striations appear in the edematous retina, particularly between disk and macula. Retinal hemorrhages may occur and venous stasis is marked, the congestion showing itself in the dilated palpebral venules as well as in the eye-grounds. Measured acuity is usually below normal. There is constriction of all fields, often with color inversion, but normal relations are restored, and usually normal acuity, after adequate decompression.

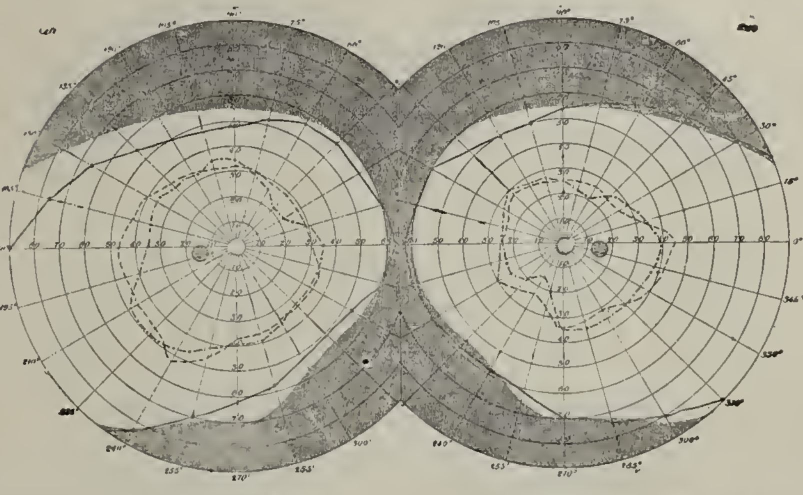

Fig. 9.—Charts of Case 6 in Gunn's Stage 1, showing bilateral interlacing as plotted before decompression.

Stage 4.—The papilla becomes more prominent and, losing its reddish color, appears more opaque. Hemorrhages may be more numerous and larger, and exudates similar to those seen in nephritis may be present on the disk or surrounding retina. Many cases, however, particularly those of slow onset, remain free from hemorrhages and exudates. There is new-tissue formation, giving a fluffy appearance to the disk. Acuity of vision is considerably lowered. There may be transient amaurotic periods. There is further central constriction and colors can often be recognized only in large sheets. Complete pressure relief, such as may be afforded by tumor extirpation, or by

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3. Russell, J. S. R.: The Indications for Operation in Cases of Intracranial Tumor, Brit. Med. Jour., Oct. 26, 1907, p. 1120.

4. De Schweinitz and Halloway: The Operative Treatment of Papilledema Dependent on Increased Intracranial Tension, Therap. Gaz., July 15, 1909.

adequate decompression in a case with symptoms of short duration, may lead to an almost total restoration of vision, but if the condition at this stage has been of long standing and there is an excess of new tissue formation there may be a further postoperative lowering of vision as the edema subsides.

Stage 5.—There is a gradually decreasing vascularity of the papilla. Its surface becomes paler than normal and shows the fine, fluffy appearance due to new tissue formation, the contraction of which tends to produce a subsidence of the measurable swelling. This may disclose the shimmering atrophic disk as through a mist. The arteries tend to become of smaller caliber and the thickening of their perivascular lymph sheaths is apparent. This is the stage of atrophy with supposedly (Gunn) inevitable blindness. Acuity is practically reduced to the counting of fingers. There are frequent periods of temporary amaurosis. There is apt to be achromatopsia in one or both eyes, though small form fields (often requiring disks larger than 0.5 cm.) may be plotted. These often show a tendency toward a binasal hemianopsia with loss of central vision. Some vision may be preserved by operation.[5]

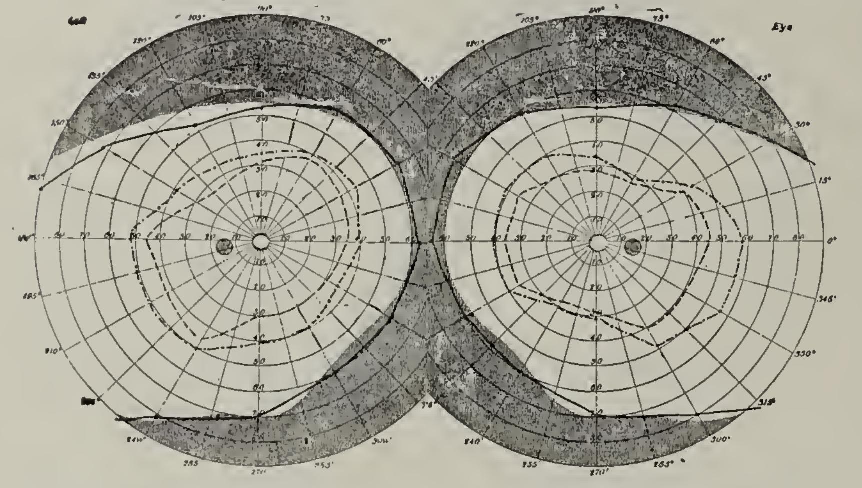

Fig. 10.—Charts of Case 6, showing return of normal relations two weeks after decompression.

This digression into the question of choked disk has been made for the purpose of allowing us to correlate the perimetric disturbances, more particularly the color-alterations, which are observable in these different stages. We have already seen that color-interlacing may actually precede the onset of the earliest stasis phenomena; also that in conditions of incipient though demonstrable edema of the nerve-head the color-interlacing disappears after a successful decompression before the ophthalmoscopic picture of the disk has entirely cleared. We have, in other words, already given records of perimetry not only for Gunn's first stage of choked disk, but also for certain antecedent states. Though these cases of early interlacing are the more important ones, it seems advisable to follow the perimetric changes through the succeeding stages.

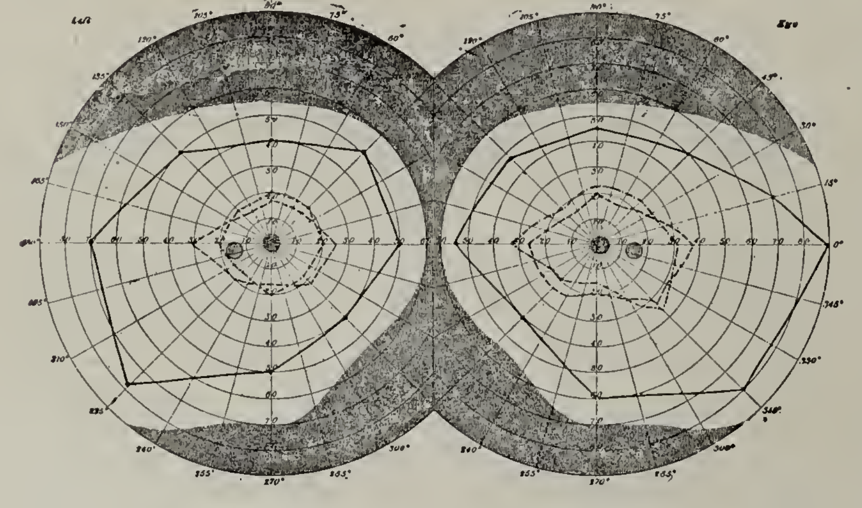

Fig. 11.—Charts of Case 7 before operation, showing interlacing and constriction accompanying Gunn's second stage of choked disk.

The following two cases have been chosen to illustrate Marcus Gunn's Stage 2, for they clearly show that the perimeter may be of almost greater value than the ophthalmoscope in determining the degree of severity of the process. The ophthalmoscopic picture in the first patient (Case 7) was clearly that of a low-grade, though long-standing, process, and yet the fields and measured acuity before and after operation show that the nerve-head had suffered permanent damage. In the second patient (Case 8) the condition of the fundi, with hemorrhages, a prominent papilla, marked perivascular streaking and some new tissue formation, would doubtless have been regarded as well along toward, or actually in, Stage 3, but the process subsided after the operation, leaving normal acuity, normal field outlines and no observable trace of its preexistence in the eye-grounds.

The case of long-standing but low-grade pressure, illustrating the perimetric changes observed in Marcus Gunn's second stage of choked disk is as follows:

Case 7.—Surgical No. 25,339. *Endothelioma of left cerebellopontine angle. Choked disk. Interlacing of color-fields. Suboccipital exploration with removal of tumor.*

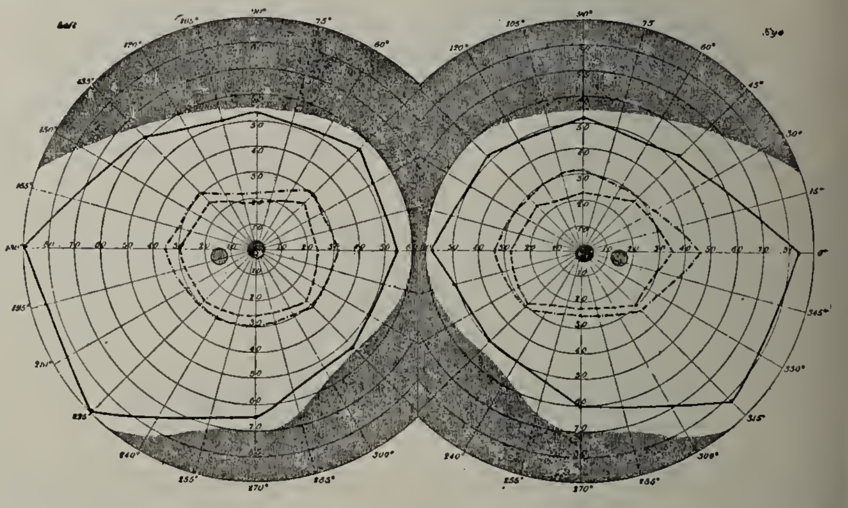

Fig. 12.—Charts of Case 7, showing postoperative restoration of normal color-relations before complete subsidence of second stage of choked disk. Some persisting constriction.

History.—Mr. A. J. B. was admitted Jan. 24, 1910. Symptoms of four years' duration were first noticed as an unsteadiness in gait, following an injury to the head. About a year before admission double vision occurred, and has persisted. For the previous six months there had been increasing deafness in the left ear, subjective tinnitus, vertigo, and, of late, considerable headache.

Examination of Eyes.—Pupils equal with normal reactions. Ocular movements normal, though convergence was rather poor and slow. There was marked nystagmus, coarse to the left, rapid to the right. Fundi: Right disk showed obscuration of the nasal margin with swelling of 2 D.; temporal margin fairly clear. There was marked tortuosity of the vessels, though they were not especially large. There were no hemorrhages or exudates. Left disk showed the same appearance, but here the swelling was only 1 D. Visual acuity (uncorrected): Right, 15/30; left, 15/50. Fields January 25 (Fig. 11) showed constriction of all boundaries with color-interlacing.

Operation.—January 27. Enucleation of left cerebellopontine tumor.

February 10. The fields showed widening of the color-boundaries but on the left colors remained somewhat interlaced. There was still some haziness of the nasal margins, though the swelling was less.

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[5] There are other subdivisions which might well be made, notably a Stage 6 descriptive of the fundus change which persists after total loss of vision in unoperated cases. It would be well also to incorporate with each stage a description of the tell-tale residual of the original process which follows complete postoperative subsidence of the edema.

February 25. The fields (Fig. 12) showed restoration of normal color relations and widening of form fields. Some haziness of the disks persisted. Acuity: Right, 15/20; left, 15/40.

CASE 8.—Surgical No. 22,602. *Unlocalizable cerebral growth with choked disk and interlacing. Subtemporal decompression. Return of normal relations.*

History.—Mr. C. A. S., aged 32, was admitted June 30, 1908, complaining of persistent headache for two years with occasional projectile vomiting, loss of memory and change in disposition. He had had what he called "spells" with mental confusion and dim vision, but with no loss of consciousness.

Examination of Eyes.—Pupils rather widely dilated; equal; react to light and on accommodation. Ocular movements normal. Fundi: Right disk swollen about 4 D.; marked edema of the nerve-head, extending well out into the retina. Retina had a peculiar watered-silk appearance. A single exudate on the disk; no hemorrhages. Arteries were somewhat small; veins very large and tortuous. Left disk also measured 4 D.; picture practically the same as in the right eye, except that there was one hemorrhagic area on the upper and outer side of the disk. Vision (subjectively obscured): Right, 20/20; left, 20/15. Fields showed typical color-interlacing (Fig. 13) with but little constriction. Enlargement of blind spot.

Operation.—June 7. Left subtemporal decompression.

July 8. Both disks showed a number of small recent hemorrhages, but the swelling had receded to 3 D. and the retinal edema had subsided.

July 15. Subjective symptoms were entirely relieved; fields showed widening of the color boundaries with disappearance of interlacing (Fig. 14). Vision, 20/15 for each eye. Fundi showed swelling of 1 to 2 D. and some perivascular streaking; hemorrhages practically absorbed. The patient was discharged.

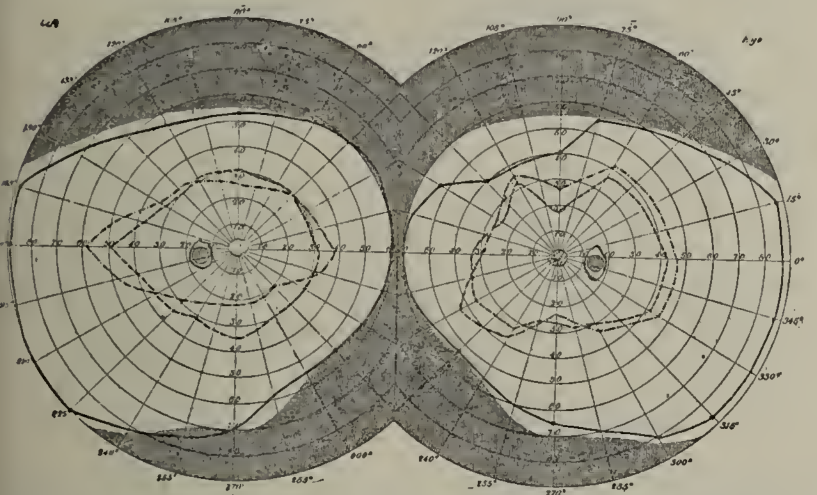

Fig. 13.—Charts of Case 8 before operation, showing interlacing without constriction accompanying a condition of the papilla approaching Gunn's Stage 3.

March 22, 1909. "It would be a problem to decide whether he has ever had choked disk" (Bordley).

The following case illustrates a further advance in Gunn's third stage, possibly approaching or actually in Stage 4; and yet beyond interlacing, which disappeared after the operation, and some persisting constriction, normal visual conditions were restored before the subsidence of the swelling:

CASE 9.—Surgical No. 26,390. *Presumed cerebellar tumor with choked disk in advanced Stage 3 and interlacing. Postoperative restoration of normal color-relations.*

History.—Mr. G. W. H., aged 38, was admitted Aug. 12, 1910, giving a history of pressure-symptoms of a year's duration; at present severe suboccipital headaches, vomiting, ataxia, staggering gait, etc.; subjective blurring of vision for four months; diplopia for two months; attacks of temporary amaurosis frequent of late.

Examination of Eyes.—Pupils equal; reactions normal; palsy of right abducens; marked nystagmus, fine to right and coarse to left. Fundi: Right, swelling of 3 D.; disk fluffy and whitish; outlines completely obscured; cup filled and new-tissue formation apparent; veins tortuous; several hemorrhages undergoing absorption. Left, swelling 5 D, appearance much the same as on right, but there were several more recent hemorrhages near the disk. Fields (Fig. 15) showed some constriction, especially on left, with interlacing. Acuity: Right, 15/30; left, 15/20.

Operation.—August 13. Suboccipital decompression. Rapid subsidence of general pressure-symptoms.

September 3. No diplopia; no observable weakness of right abducens; coarse nystagmus persisted. Fundi: Marked recession of edema, which was now barely measurable. Disks fluffy and opaque, with outlines still hazy; considerable tortuosity of vessels; hemorrhages practically absorbed; veins somewhat full and sinuous; arteries likewise; some evidence of new tissue in cup and along vessels. Fields August 29 (Fig. 16) showed resumption of normal color-relations, with some form of constriction persisting.

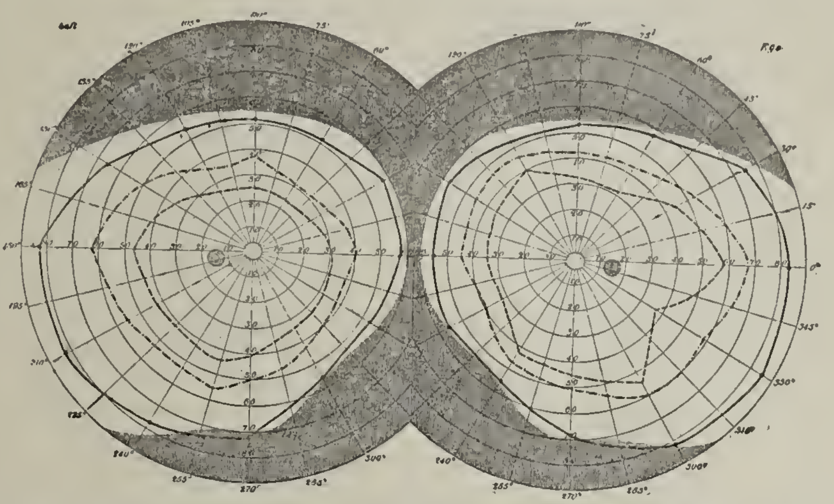

Fig. 14.—Charts of Case 8 thirty-eight days after operation, with normal color-relations and wide fields.

The following case (Case 10) is one well advanced in Gunn's fourth stage. The neuroretinal changes were not pronounced, but the perimetric deviations betray the severity of the process. There was marked constriction and interlacing, which was restored after operation about to the usual degree compatible with the advance of a choked disk to this stage.

CASE 10.—Surgical No. 25,292. *Cerebral tumor, with choked disk in Stage 4. Interlacing and constriction, with postoperative restoration of color-relations.*

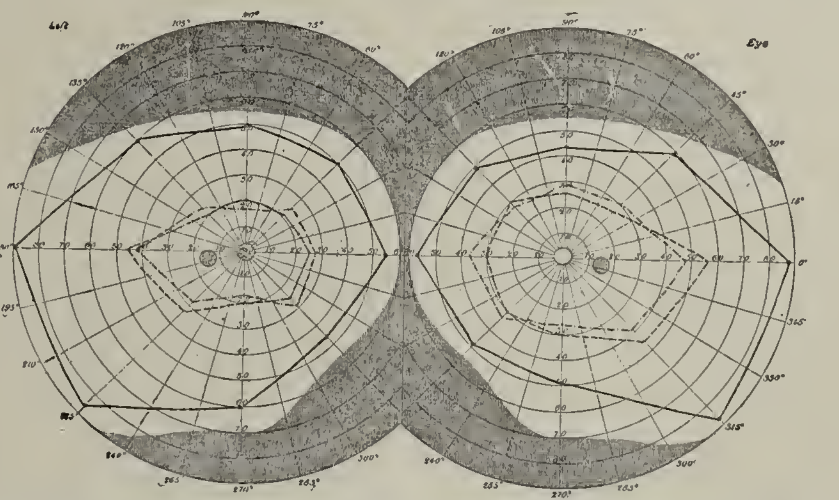

Fig. 15.—Charts of Case 9 before operation; interlacing with some constriction accompanying a condition of the papilla in an advanced third stage of choked disk.

History.—Mrs. E. F., aged 40, was admitted Jan. 14, 1910, complaining of right-sided headaches for one year following trauma; nausea and vomiting of late; failing vision for eight months; transient periods of hemianesthesia, with some awkwardness in movement and paresthesias on the left; periods of temporary amblyopia during severe headaches.

Examination of Eyes.—Pupils equal and reactions normal; movements normal. Fundi: Swelling 3 D.; edges lost and cup much narrowed. One hemorrhage on right. No exudates;

no excessive venous tortuosity. Fields (Fig. 17) showed constriction for form and colors with interlacing (1 cm. disks). Acuity: Right, 10/30; left, 20/30.

Operation.—January 17. Combined exploration and decompression over right hemisphere revealed marked tension, but no surface lesion.

January 28. Fundi: Practically no measurable recession of edema. Fields showed restoration of normal color-relations, but remained constricted.

February 7. Fundi: Swelling had receded to 1.5 D. in each eye. Fields (Fig. 18) showed some widening, but otherwise remained as on January 28. Acuity lowered to right, 9/30; left, 15/30. Subjective condition much improved. Patient discharged.

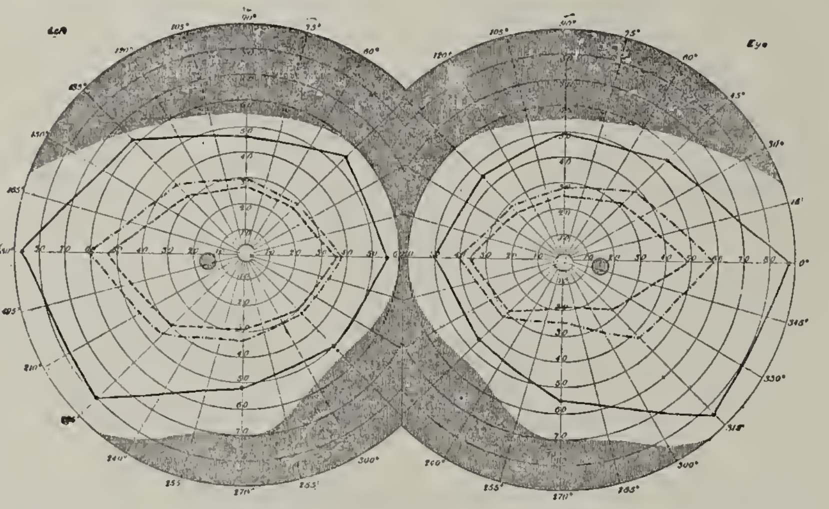

Fig. 16.—Charts of Case 9 sixteen days after operation, showing restoration of normal color-relations.

June 16. The patient returned for observation, as protrusion had become somewhat tense of late. The patient's general condition was much improved; she had gained in weight, etc. Fundi still showed about 1 D. of swelling; disk margins obscured; perivascular streaks apparent. Acuity: Right, 15/40; left, 15/20.

September 27. The patient was readmitted, owing to appearance of localizing symptoms (astereognosis, etc.). Fundi showed an increase of swelling to 2 D.; new tissue formation abundant in cup and along vessels; distention of veins marked. Fields: Color-interlacing had reappeared on the left. The right field remained about as on February 7 (cf. Fig. 18).

The patient subsequently developed a left homonymous hemianopsia, which is another story.

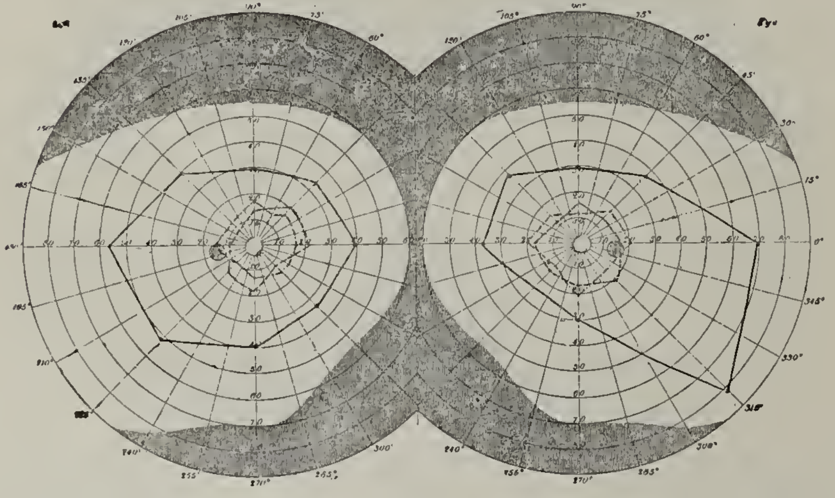

Fig. 17.—Charts of Case 10 before operation, plotted with 1 cm. disks, showing marked constriction and interlacing—Gunn's fourth stage.

Two cases have been selected to illustrate the perimetric deviations in Gunn's fifth stage. The first of these was a case of cerebral tumor, with the changes more advanced on the side corresponding with the involved hemisphere. In the second, a cerebellar case, the condition was about equal in the two eyes.

Case 11.—Surgical No. 25,090. *Cystic glioma of right frontal lobe. Choked disk in Stage 5, with marked impairment of vision on the right; Stage 4, with interlacing of color-fields on the left. Exploration with evacuation of cyst.*

History.—Mr. T. B. H., aged 28, was admitted April 18, 1910, with a history of neuralgic pains in the head for twelve years, several convulsive attacks with unconsciousness, paresthesias in left arm; headache during the previous year very severe; occasional vomiting. There had been some change of disposition and forgetfulness. Impairment of vision had been gradual. Frequent periods of amaurosis occurred, with occasional diplopia.

Examination of Eyes.—Slight exophthalmos on right. Pupils unequal; right 6 mm., left 5 mm. in moderate light. Both reacted to light and distance. No oculomotor palsy. Fine nystagmoid twitches on looking up and to the right. Fundi: Right, swelling of 4 D.; marked distention and tortuosity of veins. Disk appeared opaque and glistening from definite atrophy; its outlines were recognizable though hazy. There were no hemorrhages, but numerous exudates. Left, swollen 5 D. Great tortuosity of vessels with distinct perivascular streaking. Evident atrophic changes. Fields (Fig. 19): Right, no colors recognized; constriction with tendency to nasal blindness; left, constriction and interlacing, with almost complete blue inversion. Visual Acuity: Right eye reduced to counting of fingers with difficulty; estimated acuity, 15/100; left eye, 15/30.

Operation.—April 23 and 27. Osteoplastic resection with evacuation of large left precentral cyst was performed in two stages. Despite the marked general postoperative improvement a further lowering of vision took place.

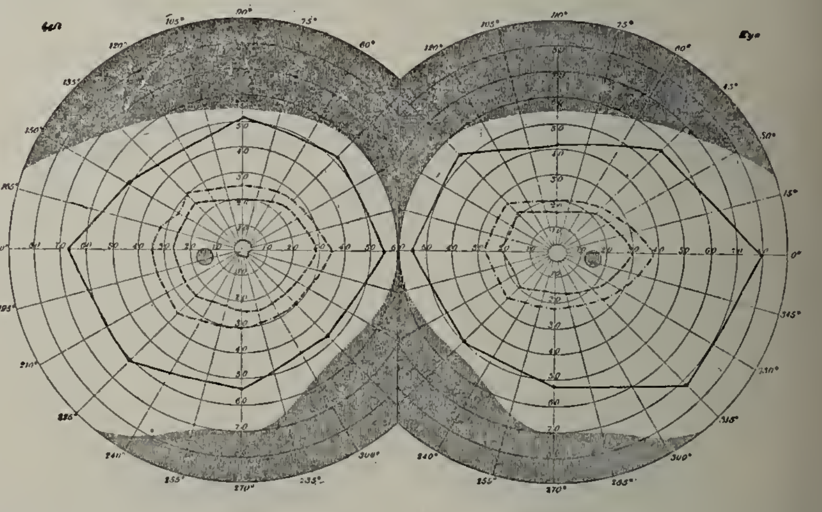

Fig. 18.—Charts of Case 10 three weeks after operation, plotted with 1 cm. disks.

On May 9 the fields (Fig. 20) showed a further constriction with a definite tendency toward a binasal defect. Normal color-relations, however, were restored. Fundi: Right, swelling of 1.5 to 2 D.; glistening appearance; perivascular streaking marked. Left, no measurable swelling; abundant new tissue formation, more evident than before. Acuity: Right, 3/100; left, 8/20.

Aug. 12, 1910. The patient returned for observation, much improved. Fundi: Right, disk fluffy and glistening; no measurable swelling. Left had practically the same appearance; evidently a quiescent process. Fields practically the same as on May 9; the constricted color-field on the left showed no interlacing. Acuity: Right, reduced to counting fingers; left, 10/20.

The history just recited shows that with adequate relief from the existing pressure disturbances a choked disk, even in this advanced stage, may subside and some vision still be preserved in spite of the contraction of the extensive new-tissue formation.

The following and last of the cases which we have selected to illustrate the terminal stage of Gunn's subdivisions was an acute case and, surgically speaking, a most unfavorable one. It illustrates, however, the existence of interlacing even to the final blotting out of central color perception. Though there was some lowering of vision after the decompressive operation, fairly useful sight (though not for reading) was preserved until the patient's death.

CASE 12.—Surgical No. 24,778. *Unlocalizable (presumably cerebellar) tumor. Choked disk in an advanced stage, with tendency toward a binasal defect. Bilateral decompression. Advancing condition halted short of blindness.*

History.—Mr. W. V. M., aged 40, was admitted Oct. 6, 1909, complaining of severe occipital headaches for eighteen months, occasional vomiting, blurring of vision for five months, attacks of total amaurosis for two months and at time of admission occurring with every change of position, marked photophobia. Neurologic study suggested subtentorial lesion.

Examination of Eyes.—Some slight exophthalmos; more marked on left than on right. Marked congestion of palpebral venules. Pupils wide, right slightly larger than left; reacted well together to light, distance and consensually; right less responsive alone. No loss of muscle balance. Some suggestive nystagmoid twitches. Fundi: Right, swelling of 9 D.; edema extended two disk diameters onto retina. The disk was very prominent; peaked at the center; the edge overhung the retina. Numerous yellowish exudates and white connective tissue deposits; no hemorrhages. The veins were full and excessively tortuous, dipping in and out of the edema. The arteries were small. Left eye showed practically the same condition; swelling of 7.5 D. Fields (Fig. 21): marked and irregular constriction, especially of color-fields, which interlaced. Acuity: Right 40/60; left, 20/60.

Operation.—October 8. Right subtemporal decompression was performed.

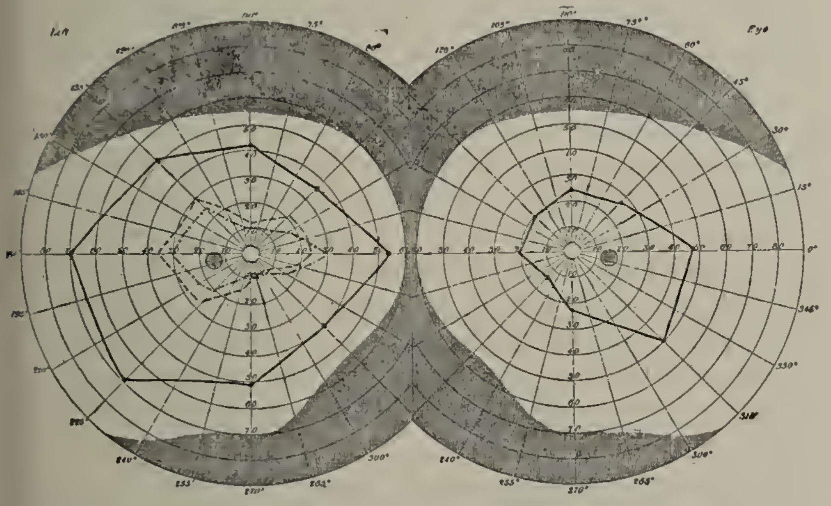

Fig. 19.—Charts of Case 11 before operation. On the left interlacing and constriction, with Stage 4 of choked disk; on the right, achromatopsia and marked nasal constriction in Gunn's fifth stage.

October 11. Fundi: Right, swelling 7.5 D.; left, 6.5 D. No change in general appearance.

October 14. Fundi: Right, 6.5 D.; left, 6.5 D. Subjective improvement in acuity. Cessation of attacks of amaurosis.

October 19. Fields had widened somewhat. Fundi: Right, 6 D.; left, 6 D. Retina less edematous. Acuity: Right, 30/60, left, 20/60.

October 21. Acuity: Right, 21/60; left, 12/60. This rapid lowering made further decompression seem urgent, and on October 23 a left subtemporal decompression was performed.

November 1. Fundi: Right, 5.5 D.; left, 5 D. No retinal edema. Acuity: Right, 21/60; left, 6/60.

November 8. Fundi: Right, 5 D.; left, 4.5 D. No change in general appearance, though veins were less tortuous. Fields (Fig. 22) showed further constriction, with especial loss on nasal side, where colors were no longer perceived. Acuity: Right, 9/60; left, 3/60. Patient discharged.

November 24. The patient returned for observation. Fundi: Right disk measured 2 D.; disk margin coming into view; fluffy appearance from abundance of new tissue; obvious atrophy. Left disk less clear; 3 D. of swelling; margins still obscured. Acuity not so good as on November 8. Fields not taken. Patient was subjectively much improved, but the protrusions were tense and the suggestive cerebellar symptoms more pronounced. There was obviously an internal hydrocephalus. Suboccipital exploration was refused.

Vision continued about at this stage for two months and then improved somewhat. In March, 1910, he was able to write some and on "good days" could read large print, according to his wife's statement. He fell under the spell of Christian Science and died Oct. 15, 1910. No examination.

It is thus apparent that even in this final stage of Gunn's classification some vision may be preserved after operation and that even though the color-fields are greatly constricted they may still show interlacing of their boundaries. The terminal perimetric distortion for both eyes in this case exhibits a tendency toward a binasal defect, particularly for color-perception. A defect of this character was likewise apparent for the right eye in Case 11, the condition having progressed, however, to the stage of complete achromatopsia. These last two cases will be found to merge into the group of twelve cases, mentioned in our statistical analysis, which exhibited a final tendency toward a binasal hemianopsia with loss of color vision, a small central area of bitemporal vision for form alone persisting after the postoperative subsidence of the advanced grades of choked disk.

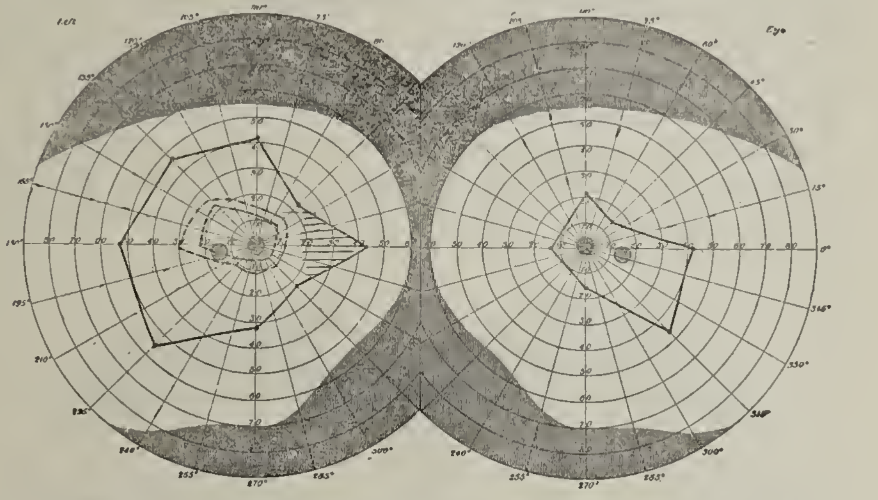

Fig. 20.—Charts of Case 12 twelve days after operation. Restoration of color-relations on left, with advance in constriction for both colors and form.

A full description of these twelve cases of so-called binasal hemianopsia will be reserved for another paper in this series. They are here referred to in order to show that the prognosis for some postoperative preservation of vision is less unfavorable in this fifth stage than Marcus Gunn was led to believe.

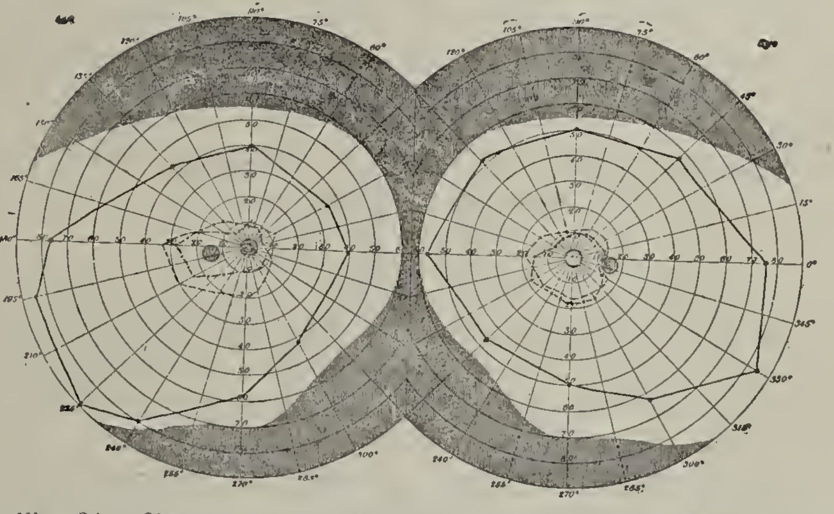

Fig. 21.—Charts of Case 12 before operation, taken with 1 cm. disks. Marked color constriction with interlacing in Gunn's fifth stage.

SUMMARY

Out of the 123 cases in our tumor series in which perimetric observations could be made, fifty-three showed simple color-interlacing or inversion with more or less constriction of the field boundaries.

In ten of these fifty-three cases the dyschromatopsia either actually preceded any recognizable ophthalmoscopic change in the eye-grounds or accompanied most incipient stages of choked disk. These distortions of the color boundaries, therefore, promise to be of some service in the making of a more precocious diagnosis of an increase of intracranial tension than is commonly ventured on. Thus, in a number of cases of early tumor extirpation, color inversion and interlacing, in addition to attacks of Jacksonian epilepsy, were the only clinical indications of the lesion.

We have attempted to correlate the perimetric deviations, observed before and after operation, in the remaining forty-two cases of simple dyschromatopsia, with the accompanying grades of choked disk subdivided into six groups according to Marcus Gunn's classification.

Until the perception for colors is completely lost, inversion or interlacing is often apparent, even in the greatly constricted color peripheries characterizing the advanced stages of choked disk.

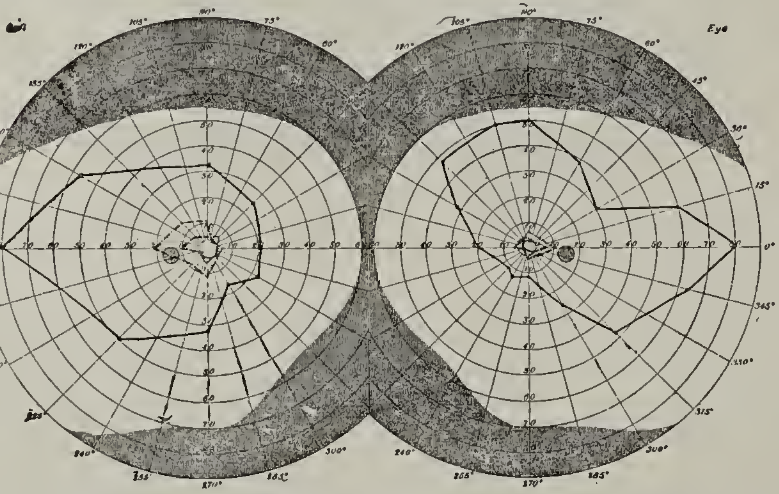

Fig. 22.—Charts of Case 12 a month after operation (1 cm. disks), showing further constriction, especially of nasal fields, with nasal hemiachromatopsia.

Though permanent achromatopsia is usual, total loss of vision is by no means inevitable even when the process has advanced into Gunn's fifth stage.

107 East Chase Street.

[The discussion on this paper will be found on a later page of this issue under the heading of "Section Discussions."]

CLINICAL DEDUCTIONS IN THE STUDY OF TUBERCULOSIS *

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ST. LOUIS

In a paper read before the Missouri State Medical Society, August, 1910, I presented some conclusions from a number of years' experience with tuberculosis, both in hospital and private practice. These had mainly to do with modifications of well-known methods of investigation and the interpretation of adventitious phenomena in the light of clinical research.

I now desire to present additional deductions, most of which are the result of a realization that much more is needed in the care of tuberculosis than the time-honored treatment of open air, food and rest—important as these may be. It has become the fashion to speak of patients who are living under these conditions as "taking the cure." Too often the physician, forgetting his own responsibility and need of study, breathes a prayer to Hygeia and turns his patient over to Mother Nature. We are caring for a specific disease and our care should be something more than general. "Back to Nature" is starting in the right direction, but each case should be personally conducted by a trained adviser. Regarding the pessimism of some practitioners concerning the results obtainable in tuberculosis, the von Rucks[1] well say: "Investigation will probably show that they treat their patients by general methods in which relapses are almost unavoidable."

In addition to the deductions made in my former paper, the following have proved of value to me. They have been worked out during the last eight years in my service at Mount St. Rose, at our state sanatorium at Mount Vernon and in my private practice. Eliminating, so far as possible, errors due to faulty observation and bias, I have come to consider them as reasonable and conclusive. The first two, while theoretically accepted, are not as yet, by many, made factors in the therapeutic problem. The other three have to me a definite value.

ARTIFICIAL IMMUNIZATION

The use of tuberculin is justifiable and established, but dangerous if not used with exceeding care. Trudeau holds that the physician who disregards as of no importance an increase of a minute fraction of a milligram of tuberculin, or a rise of a few tenths of a degree of temperature, will meet with disappointment and disaster. Lawrason Brown[2] says: "It is certain that tuberculin should be administered therapeutically only to those patients whose general condition is good, and it should rarely be given unless the temperature seldom goes above 99.5 to 100 and is normal or subnormal in the morning." With such statements from our highest authorities and others, and from my own experience with tuberculin, I would insist that the hypodermic method be employed only by those who have the most complete control of their patients, whether it be in the sanatorium or in private. In my own cases, not only do I begin with the minimum dose, but I enjoin complete rest for at least a week, or until the susceptibility of the patient can be estimated.

To render the use of tuberculin safer for those who cannot make the close observation needed in hypodermic methods, I have been experimenting during the last year with the direct inunction of an ointment containing tuberculin. I believe that one factor in the seeming results is the counter-irritation. If deep-seated irritation can produce surface stimulus and rigidity through a nerve-route, as is found in appendicitis or in the intercostal spaces over inflammatory processes within the thorax, why may not stimulation from local irritation on the surface be conveyed in the opposite direction by the same route? There may be something more in the old-fashioned blister than we are willing to admit.

With the surface application of tuberculin I believe it may be possible to have three results without danger: (1) the diagnostic test—not always definite, especially in the adult; (2) the therapeutic value and (3) the stimulus of counter-irritation. I am now using a pellet, made for me by Mulford & Co., of hydrated wool fat and cerate, each containing 0.2 gm. of old tuberculin. The skin over the lesion is washed with alcohol and slightly stimulated by rubbing with dry absorbent cotton. One-half of one of these pellets (equivalent in amount of tuberculin to the minimum injection of No. 3 serial

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* Read before the St. Louis Medical Society, April 15, 1911.

[1] Von Ruck, K., and von Ruck, S.: Specific Treatment in Pulmonary Tuberculosis, The Journal A. M. A., March 19, 1910, p. 954.

[2] Boston Med. and Surg. Jour., July 23, 1908.

dilution O. T.) is rubbed in with a glass spatula. If the test or other evidence is sufficient for diagnosis, slightly increasing amounts are used each third day.

While my experience has been too recent to be convincing, yet I am sure that enough of tuberculin can be absorbed by this method to secure reaction. In one case the temperature went to 100 F. repeatedly. White[3] reports favorably on the use of tuberculin through scarification, asserting that constitutional reaction from this method is as possible as by the hypodermic. Koppleman has applied the von Pirquet technic for the systematic administration of tuberculin and lauds its numerous advantages over the usual methods, and asserts that it surpasses them in mildness, constancy and gradual action.

If the inunction of tuberculin can be shown to be as effective as its use by hypodermic methods, or by scarification, we can add to its merits that of safety. I believe that the slight reactions indicate its therapeutic value, but so many factors enter into the computation of values when estimating results that more time must be given for the verdict. I have used it in eleven afebrile cases since October, 1910. In several there was an advance of 0.4 F. and in one the temperature advanced to 100.2 F. All of these patients are doing well, but theirs are favorable incipient cases with excellent surroundings. My first thought was to prove the comparative harmlessness and potency of this method. More extended tests are being made by Dr. English, assistant physician at the Missouri Sanatorium for Tuberculosis.

AUTO-IMMUNIZATION

There is a large field for investigation here. Every victim of tuberculosis has his own tuberculin. If resistance can be made early enough or before the supply is too rapidly taken into the circulation, the patient becomes immune. The number of cases in which gland tuberculosis has become latent, where no pulmonary infection exists, is an illustration. Because of the absorption of and greater or less reaction to this product of the local infection, it is wrong to add to the tuberculin by extrinsic dosage. Not till the fever and the general symptoms give evidence that the infection is latent and immunity begun, can we add the tuberculin of the laboratory. Even then it is possible to revive the former activity. Is it not possible to aid the process of auto-immunity to completeness? So often this is a result without interference that *a priori* it would seem possible.

Phillips,[4] in a plea for graduated exercise in suitable cases, says: "By reason of the accelerated circulation (due to exercise) a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react and to produce certain opposing elements or autobodies." After a term of normal temperature, I have experimented by directing slight direct exercise, or, better still, passive exercise by means of the vibrator held lightly over the site of infection. The cases chosen were those of one-sided lesion in the first or second stages (Turban). In all there had been afternoon temperature which had disappeared under complete rest in bed. While the patients were still so confined, I induced local stimulation by graduated percussion.

In eleven cases, eight patients reacted slightly. The vibrator was used on six of these and two of the six had a temperature the succeeding day of nearly 100 F., which soon passed away. In all of the eight except one, reaction did not occur after two or at the most three trials. In the exceptional case the temperature increased after each of three trials till I feared to repeat it. In all the trials the percussion stroke was very light. Gentle general exercise produced the same results in these eight cases. The three which did not show increased temperature were possibly immune to auto-infection. I beg that no one will think I hold these results as conclusive. I record them only as suggestive, indicative of strategic points in our advance yet to be occupied.

INTESTINAL ANTISEPSIS

In the care of tuberculosis with all its tendency to wasting and malassimilation we must provide fuel and care for combustion; i. e., good food, well digested, and sufficient oxygen to meet vital requirements. Before food can be appropriated the alimentary canal in its different divisions and functions must be interrogated. I believe that special attention should be given the large intestine. It is at the beginning of this tract that we find the greatest number of intestinal flora, and the presence of bacilli in the fecal masses has been too often verified to be doubted. The attending constipation and diarrhea of the consumptive are among the common symptoms and the accumulation and distention in the right iliac region can be determined by any observer.

To the inability of the distended and weakened colon to evacuate its contents completely and the consequences of such accumulation containing the germ conditions of tuberculosis which easily find their way into the circulation, I believe that much of the fever in tuberculosis is due, being caused not alone from direct absorption from the lungs, but from the intestinal tract as well. Following this hypothesis, I have, in suitable cases, ordered daily an active enema, taken in the knee-chest position, slowly distending the colon as far and freely as possible. After several repetitions of this, a pint or more of normal salt solution is given as a substitute. In this way the lower bowel is kept free and comparatively aseptic. Two results seem to me to be due to this procedure. The functions of the upper tract are stimulated, as we might expect, and there is in many cases a diminution of fever with a fuller, slower pulse. The removal of the irritating contents of the colon with the germ products present and the absorption of the normal salt solution certainly in some cases are worthy of trial. When absolute rest is enjoined because of afternoon high temperature, I find the enema as above described a valuable aid. Sea water has been used in France in the ratio of two parts to five of fresh water for injections. Chartiers,[5] of the University of Glasgow, quoting from the *Berliner klinische Wochenschrift,* May, 1910, says that this dilution, being isotonic with blood-plasma, has very remarkable tonic properties which enable it to increase the power of the body to resist infection. These injections were made in the gluteal or scapular region, but I believe the enema of the normal salt solution as I have described may be equally effective. I have spoken of this before, but believe that it is worthy of repetition.

THE VALUE OF THE CACODYLATE OF SODA

In this very important field of internal medication in tuberculosis I wish to call attention to two agents. I do not mean to exclude others—as indicated by symptoms—but emphasize these because I believe in their effectiveness and because they have been too greatly neglected.

The first is arsenic. I prefer the cacodylate of soda, which is rich in arsenic (54.35 per cent.), and has a physiologic limit greater than the ordinary forms and dosage. The organic group to which this chemical belongs is composed of such modifications of arsenious acid, that they are almost deprived of active pernicious properties. A half gram of cacodylate of soda, corresponding to 0.33 gm. (5½ gr.) of arsenious acid, has been given to a dog without injurious consequences.

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[3] White and Van Norman: Arch. Int. Med., October, 1910, p. 449.

[4] Phillips: Brit. Med. Jour., Dec. 24, 1910.

[5] Brit. Jour. Tuberc., October, 1910.

Having studied the value of Professor Ehrlich's now famous salvarsan, which belongs to this group, though materially different chemically, one may the more readily consent to my statement of the worth of the cacodylate of soda. I have used the cacodylate of iron but see no advantage in it over the other. I use the hypodermic injection in normal salt solution, first, because there is little pain, which may not be said of succinimid of mercury or the arsen-phenol-amin of Ehrlich; second, because the dosage may be more exact, and third, because there is less of the alliaceous odor than when given by the mouth. Sometimes there is a slight local reaction, but, as a rule, very little. The effects of cacodylic acid in augmenting the number of red corpuscles to a certain standard and increasing nutrition and consequent weight and strength, were noted by Professor Gautier and Dr. Danlos[6] as early as 1899. For over three years I have employed it in a large percentage of my cases and believe it has a definite place in our therapeutics. One important requirement in its use is the need of individualizing the case. I find that some patients can be given three times as much as others, but it is probably safer to begin with a grain daily.

IODIN

Iodin is indicated in many phases of tuberculosis. It is an ideal germicide, and its action in stimulating metabolism and nutrition are well known. I use iodin in tuberculosis directly to meet these two indications. Possibly its most direct result is shown when brought into direct contact with the air-passages in influenza, acute pharyngitis, tonsillitis or laryngitis. Much depends on the method of application; and here the most direct is the simplest. A few drops of the tincture in a small glass is placed in a larger glass containing hot water. The direct heat of the water bath causes the rapid evaporation of the iodin, which when inhaled reaches every portion of the respiratory tract. This cannot be so well accomplished by the spray or the vapor, and the effect is almost immediate in the conditions above mentioned. In tuberculosis of the upper air-passages and of the lungs when there are ulcerated surfaces, this direct method has been of value to me. Its simplicity should not prevent a trial.

Flick advocates iodin inunctions by iodized oil or europhen in oil and this may be used especially in cases of slow resolution. I prefer 20 per cent. iodin, or in persistent high temperature, 20 per cent. of guaiacol.

Were it not that time forbids I would emphasize as an additional therapeutic agent the fixation of the chest in hemorrhage and acute tuberculosis with rapid absorption and consequent fever. This was described in my paper of last year before the Missouri State Medical Association. Another year's experience has added to my appreciation of it. I beg that the catalogue may not be considered complete. There are many other indications, such as the care of the heart, vasomotor instability, excessive cough, etc., but I have mentioned only those in which I believe I have been able to work out some helpful deductions.

In conclusion, I wish to express my sympathy with a statement made in the report of a "Symposium on Tuberculosis," by Professor Zwick[7] of Cincinnati. He says that physicians, it would seem—feeling that they have taught the general public and the politicians who preside over our destinies even in matters of health and sanitation, sufficient for the present, enough to go on, as it were, in the way of the underlying economic causes, hygiene and general measures—are now again turning to their own particular domain, the care and cure of tuberculosis.

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FINE SILVER WIRE AS DRAINAGE MATERIAL

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I have been using fine silver wire, in the form of wicks, for abdominal drainage after operation for acute appendicitis, but my clinical data are as yet too incomplete to report, and the suggestion is submitted for the following reasons:

1. Wicks of silver wire consisting of 90 to 100 strands almost as fine as horse-hair firmly twisted like a tobacco twist, possess marked capillarity, which is more marked as the material increases in fineness. This can be illustrated by taking such a wick and inserting it into a test-tube, in the form of a siphon. While not equal in capillarity to gauze, it seems to retain capillarity longer. I have found that, after removing such a wick from an abdominal wound containing a seropurulent discharge in forty-eight hours, capillarity was as marked as it was originally. Furthermore, silver wire can combine the effect of tubular drainage with capillarity if the spaces between the outer strands are increased, while the harder the twist the greater degree of capillarity; or else the outer layers of the wick may be made of coarser wires.

2. Fine silver wires in twists, with cut ends to the periphery, are sufficiently pliable to avoid trauma, yet firm enough to retain the original shape, and can thus be adjusted to drain a tortuous tract and can be well applied for draining the postcecum. A rubber tube and gauze of corresponding size weighs 100 gr., while the silver wire wick weighs 128 gr., making only a slight difference in weight. The wick may also be made to bifurcate so as to reach more than one focus. Of course it is necessary for the wick to be firmly twisted, so that no omentum, etc., can enter the meshes, and one revolution of the twist is sufficient. The physical properties of silver wire as a drainage material make it adaptable to meet a great variety of indications.

3. In the presence of the fluids of the body metal silver perhaps develops feeble antiseptic (?) properties and possibly stimulates the formation of antibodies, and in the pre-antiseptic days of surgery these properties perhaps explained the great virtue of Marion Sims' discovery, in 1857, which, he concluded, "was based on the principles of rational inductive philosophy." In clean wounds such properties are unnecessary and in the presence of active suppuration would be impotent, but in the presence of mild and beginning infections, within the abdomen, the query arises: Would not this effect of silver wire, as a drainage, tend to antisepticize a mildly infected wound that would subsequently develop active infection? My own observations seem to warrant such an assumption, and this suggestion is offered for the purpose of further study.

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[6] Soc. méd. d. Hôp., June 16, 1899.

[7] Tr. Miss. Valley Med. Assn., 1910, Lancet-Clinic, Oct. 10, 1910.

THE USE AND ABUSE OF DIGITALIS IN DISEASES OF THE HEART *

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Since William Withering, a Birmingham practitioner, gave his "Account of Foxglove" in 1785, digitalis has been the favorite remedy in diseases of the heart. The great popularity of the drug, however, rendered it subject to abuse as well as to use. It suffered all through these many years and decades and still suffers to-day from misappliance and insufficient appliance in the very dominion it rules. For example, if precordial pain, palpitation or a murmur is made the basis for prescribing digitalis it is a misapplication of a valuable agent constituting a serious abuse. Or, if digitalis is ordered merely because the patient has "heart disease," the drug, no less than the patient, is grievously abused.

Another form of abuse of digitalis, even though the condition of the heart calls for it, is the withdrawal or discontinuance of the drug as soon as its therapeutic effects become manifest. Let it be distinctly understood that a diseased heart which has shown failure of compensation once or twice should be kept under the beneficent influence of digitalis as long as it keeps on beating, which means indefinitely.

A minor, but no less serious, abuse of digitalis is found in the overconfidence in the drug, namely, the prevalent belief that when digitalis is given, no other remedy is to be used in conjunction with it. The great majority of patients with lesions of the heart are anemic. Therefore, the administration of iron is just as important as the administration of the heart tonic, and both remedies must be continued without halt or hindrance. Then, again, in treating people with heart disease, be they young, old or middle-aged, if they are at the same time the victims of arteriosclerosis, nitroglycerin, or one of its allies, should be given separately or in combination with digitalis. The neglect of this precaution will necessitate the untimely withdrawal of digitalis to the detriment of the patient and to the discredit of the remedy. There is still another drug which digitalis demands as an associate in the relief of affections of the heart, and that is calomel. The continuous successful administration of digitalis requires that the patient shall receive fractional doses of calomel, say 1/8 grain, every fifteen minutes until one grain is taken, three times a week. The omission of calomel is an insult to digitalis. Whether calomel acts as a laxative, diuretic, vasodilator or eliminator of surplus digitalis makes very little difference. The all-important clinical fact is strongly in favor of its beneficial action in cardiac disease and in advancing and promoting the potency of digitalis.

The administration of calomel as an eliminator of surplus digitalis may strongly appeal to medical men who believe in the cumulative effects of digitalis. I myself regard the doctrine of the "cumulative effects" of digitalis as a myth which rolls along the ages like other ill-founded medical traditions, and which is copied by each and every writer on the subject without individual verification of the phenomenon. The sum total of the cumulative effects of digitalis amounts to a personal susceptibility to the drug, or to what is known as idiosyncrasy, no more and no less. Idiosyncrasies are plentiful. I know a woman whose susceptibility to quinin is so keen that one-fourth of a grain gives her an intense urticaria involving the whole body and rendering her miserable for a week or ten days. Some have a marked susceptibility to members of the coal-tar family, which produce in them scarlatinal eruptions. Who has not seen cases of distressing coryza brought about by one small dose of potassium iodid? I once applied a belladonna plaster to each breast of a nursing woman, for the purpose of stopping pain and checking the secretion of milk. Within twenty-four hours she developed acute mania, which disappeared with the removal of the plasters. Instances of susceptibility could be multiplied. Every physician must have a whole stock of them.

It is the same with digitalis. We come across patients who come under the disturbing influences of digitalis after taking one or two small doses. Such patients are a worry, for, in treating them, we are at once deprived of, and the unfortunate patients are denied, the beneficial effects of the best medicinal remedy for heart trouble. To rob the patient of the good of digitalis out of sheer fear of this old medical superstition is a terrible abuse of the time-honored heart remedy.

With all due deference to time and tradition, as well as to clinicians, writers and teachers of medicine, I plead guilty of heresy with respect to the doctrine of the cumulative effects of digitalis. I have devoted the last ten years to the study and treatment of cardiac affections in one of the largest clinics in the city, and have given digitalis in suitable cases for years uninterruptedly. If I may be permitted to add to this, ten previous years of general practice with frequent occasions for prescribing digitalis, and if it be remembered that I never yet have seen, or encountered, one single, genuine instance showing the cumulative effect of this remedial agent, I think that I have a right to hurl defiance at the old hoary tradition and challenge its truth.

The next point for consideration, and one which shall be classed among the abuses of digitalis, is the insufficient application of it.

To obtain the right specific effects of digitalis in a diseased heart, the proper dose must be ordered. Homeopathic dosage in cases which call for large doses is a waste of time, intelligence and patience. Here, then, is the starting point for the discussion of the second division of this paper, namely, the use of digitalis.

Generally speaking, every form of dilatation of the heart arising from every possible pathologic source is a fit and eminent subject for digitalis. But I desire to be selective and, therefore, will endeavor to particularize.

Because mitral insufficiency is the most common affection of the heart, it shall receive our consideration first.

The most intelligent and the most effective method of the study of the therapeutics of digitalis in this form of valvular trouble is to appreciate the correct stage of the valvular lesion, when one is called on to give advice.

Mitral insufficiency is divided into three stages: The first stage is characterized by one sign, and one sign only, and that is a mitral systolic murmur heard over the apex. The murmur may occupy the whole first sound of the heart or only part of it. The size and shape of the heart are normal, and subjective symptoms are conspicuously absent.

The second stage is characterized by the previously mentioned systolic murmur, plus displacement of the

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* Read at a special meeting of the Medical Association of the Greater City of New York, held in the Borough of Richmond, June 5, 1911

apex; some hypertrophy and dilatation, accentuation of the pulmonic second and slightly diminished pulse, when taken while the arm is held in an upright position, and compared with the pulse in the other arm, which is held in the horizontal position. Subjective symptoms may or may not necessarily be present at this stage.

The third stage embraces all the physical signs of the second stage, exceedingly aggravated, and includes subjective, and many other, signs and symptoms, such as dyspnea, cyanosis, bronchorrhea, dropsy, etc.

The first stage requires absolutely no treatment. The mere presence of the murmur is no indication for digitalis or any other drug. The patient is enjoying perfect health during this stage of the mitral valves and is blissfully unaware of any trouble, until his good (or bad) doctor tells him that he has "heart disease"; then the trouble begins.

The second stage requires no treatment as long as the valvular lesion gives rise to no subjective disturbances. As soon, however, as dyspnea makes its appearance, or cyanosis, or slight edema of the ankles, or a persistent dry cough, or dyspepsia with fulness and distress after eating, one or two or three of these signs or symptoms hurriedly demand digitalis.

In other words, these new conditions are signals of a heart that is in distress, or, to put it in clinical parlance, the heart shows failure of compensation.

The correct dose of digitalis to relieve this condition is twenty drops of the tincture three times a day, to be continued until all the disturbing elements resulting from poor compensation shall have disappeared. This usually takes three days. Thereafter the tincture is given in ten-drop doses and continued thus indefinitely.

Mitral insufficiency in the third stage, in its relation to digitalis, is comparable to a flabby puerperal uterus in its relation to ergot. To produce contraction in a uterus like that, and give it tone, small doses of ergot will do no good. Therefore, dram doses are ordered. So it is with a heart that has lost its entire compensation, through which loss most distressing and menacing symptoms have arisen. One dram dose of the tincture of digitalis should be given. If in twelve hours there be no satisfactory amelioration of the symptoms, another dram should be ordered. Not long ago I gave three drams a day to a male patient and they did him good. After the good effects of the drug are beginning to be noticed, the dose should be reduced to a half dram three times a day for the next two or three days. Thereafter, and forevermore, twenty drops of the tincture three times a day should be given with few, if any, interruptions as long as the patient lives.

One important point must be borne in mind while administering digitalis in doses larger than the usual or customary ones, and that is, to enjoin absolute rest in the recumbent position to avoid syncope, which sometimes results from sudden rising.

Aortic insufficiency does not require digitalis, while hypertrophy and dilatation maintain perfect equilibrium. The moment dilatation gets the upper hand, digitalis should be ordered. Dilatation in excess of hypertrophy will occur in aortic insufficiency in the last stage of the disease. When this takes places, the malady will be found to run a downward course. In many such cases relative mitral insufficiency supervenes, or is added, to the aortic incompetency; then dyspnea, cyanosis, dropsy, come on with a rush and fury and shorten the distance between the bed and the grave. Digitalis is here indicated, but extreme caution must guide the dosage. The dose should be small in the beginning; five drops three times a day the first day; six drops three times a day the second day; and thus the increase is gradually continued until the maximum dose of twenty drops three times a day is reached. As soon as the desired effect is produced, the initial dose is reintroduced and kept up indefinitely. Thus one notes the difference in the administration of digitalis in mitral and aortic insufficiency. In the one the initial dose is large and the subsequent dose small; in the other the initial dose is small and the following dose large, to return to the initial dose, however, when compensation is restored.

There is one very important contra-indication to digitalis in aortic insufficiency, and that is an intermittent pulse. When the pulse is irregular in time, the avoidance of digitalis is a part of wisdom. Then again, when digitalis is used in aortic insufficiency, here, more than in mitral insufficiency, the patient must remain in the recumbent position as long as possible, particularly right after the administration of a good-sized dose.

Mitral stenosis does not call for digitalis for the longest time of the duration of the disease. When compensation is good, not only digitalis but any other cardiac tonic is out of place and time. Even in the presence of beginning failure of compensation, as evidenced by a persistent, harassing cough, dyspnea and distressing palpitation of the heart, digitalis should be avoided. Strophanthus in small doses—say five drops three times a day—will work both agreeably and efficiently. Still better than the tincture of strophanthus is the group of the caffein preparations. Any member of the caffein family will yield good results. The best one of them, however, is the caffein sodiobenzoate (N.F.) in 5-grain doses every four hours. This drug fulfils the purpose of a heart tonic in mitral stenosis, until the heart failure is complete. When this stage arrives, mitral insufficiency, either real or relative, will be present plus excessive dilatation of the right and left ventricles and some bad sequelæ. This condition calls for digitalis and the dose should not exceed twenty drops of the tincture three times a day, to be rapidly reduced as soon as compensation improves. For some reason or other, mitral stenosis is not a friend of digitalis, and the only excuse for ordering it is a desperate condition of the heart and an eternal faith in digitalis.

Aortic stenosis, the most benign lesion of the valves, needs no digitalis until dilatation and failure of compensation occurs. Then digitalis is given in twenty-drop doses continuously. The curious thing about aortic stenosis is that for the longest possible time perfect hypertrophy of the left ventricle is maintained, but as soon as this beneficent condition is disturbed no amount of drugging and resting will restore compensation. For that reason, a daily large dose of digitalis is advocated indefinitely to keep the weary heart a-going on its rapid journey to an eternal standstill.

Just a word about the drug in chronic myocarditis. We are warned from time to time not to give digitalis in myocardial degeneration. My experience runs counter to this warning. Patients with myocarditis can stand fifteen-drop doses of the tincture three times a day very nicely. It does them a great deal of good. My patients demand it, if by chance or error it is omitted from their stock of medicines. Digitalis in myocarditis may not, in many cases, remove arrhythmia, as it does so beautifully in mitral disease, but it tones up the organ and in consequence of it, the unpleasant subjective phenomena improve, which, after all, is all that we want and all that we can accomplish under the circumstances.

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PREGNANT DOUBLE UTERUS

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History.—The patient's family history was negative. She was 37 years old and had menstruated regularly every four weeks, the menstrual period lasting about four days. She had had six living children before present labor, and three miscarriages. I curetted one of the patient's uteri about two years ago and did not discover anything unusual about her anatomy.

Present Pregnancy and Labor.—I was called on the morning of May 27, 1911, to see patient. Pains were coming about every fifteen minutes. Vaginal examination revealed dilatation to about the size of a dollar. At this time I noticed that the cervix was unusually high. Upon external examination I found two distinct tumors, one to the left and one to the right of the abdomen. The right was considerably higher than the left. On palpation I discovered small parts and distinct motion on each side. The diagnosis of twins was made. The characteristic thing about the abdomen was a decided crease between the two tumors. After making the usual examination I went away. On returning in the afternoon, I found strong pains coming regularly, but dilatation progressing very slowly. So I went away again. Returning again at 9:30 p. m. I found dilatation complete but nothing accomplished in the way of expulsion. The presenting head was as high as ever. The woman, because of the long labor and unusually agonizing character of the pains, was becoming weak. Another physician and nurse were called, patient put under complete anesthesia and after the usual preparation a high forceps delivery was performed of the presenting baby. When my right hand entered the vagina to deliver the second child, I failed to find the baby in the dilated cervix, but the placenta was in evidence, which I delivered. But where was the second baby? Certainly not in the uterus from which the first came, because I had just explored that. When my right hand entered the vagina again I found something I was not expecting, namely, by the side of the dilated cervix, another cervix which was only partly dilated. In the vagina this cervix was separated from the first by a partition about one inch in thickness. I now discovered the real condition: two distinct and separate uteri, each with a distinct cervix and a distinct body, and each containing a fully developed baby. I then proceeded to dilate the second cervix with my fingers, after which I delivered the second baby by high forceps. Both babies (girls, each weighing 5 pounds) are still living. The mother made an uneventful recovery.

A CASE OF CEREBROSPINAL MENINGITIS

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Patient.—April 26, 1911, the patient, a boy, aged 12, was too ill to attend school and, with the exception of a few short intervals, remained in bed all day suffering from sick headache and pain in the leg. During the day headache was increased.

Course.—The next morning the mother gave him one-half ounce of magnesium sulphate, which was vomited almost immediately. Vomiting continued at intervals until midnight. Vomiting came on suddenly each time, was projectile, and patient was unable to raise his head. From 12 o'clock until 4 a. m., April 28, patient was comparatively quiet, when vomiting was resumed, and was incessant until 11 a. m. At 8 a. m. patient was given castor oil, which was retained but a short time. The mother thought the boy was suffering from typhoid fever, and applied some measures of her own. From 11 o'clock the vomiting was less severe but during the night was renewed with previous severity and, when we saw him at 11 o'clock Friday morning, April 29, for the first time he presented the following symptoms: unconscious, with head and neck markedly retracted, and so rigid that head could not be moved; face and lips cyanotic, pupils unequal, pulse rate about 80, very irregular and very weak; temperature, subnormal, 97 rectal; positive Kernig; petechial hemorrhage, universal; Tâche cérébrale; hyperesthesia over the entire skin surface; patellar and other reflexes increased; profound state of shock. Diagnosis of epidemic cerebrospinal meningitis was made.

Treatment.—Patient was removed to the Holy Cross Hospital and an ounce of cerebrospinal fluid was withdrawn and 30 c.c. of antimeningococcic serum (Mulford) was introduced into the spinal canal. The fluid withdrawn was somewhat viscid, cloudy and slightly tinged with blood. Microscopic examination showed large numbers of pus cells and of the *Diplococcus intracellularis*, both free and within the leukocytes. Twelve hours after serum had been injected patient regained consciousness and showed signs of improvement. On the three subsequent days 30 c.c. of serum were injected after the withdrawal of the same amount of cerebrospinal fluid. Patient's condition showed marked improvement during this period and after four days his condition was so much improved that further injections were thought unnecessary. Patient was given sodium bromid regularly for several days, as well as a hot bath daily. A course of calomel was given twice during patient's stay in the hospital.

On the seventh day patient complained of pain in his joints; pain was especially severe in the left knee joint. A few doses of acetyl-salicylic acid controlled these symptoms. Patient remained in the hospital eighteen days, at which time he was apparently cured and is well at this time.

Section Discussions

VACUUM FIXATION OF THE LENS AND FLAP SUTURE IN THE EXTRACTION OF THE CATARACT IN ITS CAPSULE

VARD H. HULEN, A.M., M.D., HOUSTON, TEXAS

(Concluded from page 189)

ABSTRACT OF DISCUSSION

DR. G. C. SAVAGE, Nashville: Dr. Hulen's operation appealed to me the moment I read about it. It is known to most of you that I devised an operation for the extraction of cataract in its capsule and adopted a method that I believe is more simple and efficient than the Smith operation. I would never have done it except that I knew that I would never do the Smith operation. My method I have before described. I believe that Dr. Hulen's method is distinctly better than mine, and I am gladly willing to forget my own operation and Smith's for what Dr. Hulen has suggested. Do not let any one claim the operation. Let people tamper with the instrument as much as they want to, but do not let them tamper with the operation. I have had some experience in that line in regard to my muscle-shortening operation. Dr. Hulen's operation, I believe, will be the last to be devised for cataract extraction. All that we have to do is to let Dr. Hulen and others so perfect the instrument that he has devised and the exhaust-tube that he has also brought into use that none of us will be afraid to undertake it. Let us be a little careful while Dr. Hulen and others are making the perfected apparatus. I believe that Dr. Hulen is wrong in one step of his operation, and I told him so. I do not believe that the eye ought to be turned loose while that instrument is inside of it. I believe that the left hand—if the right eye is being operated on, and *vice versa*—should be set to the task of fixing that eye-ball so that it shall not move while the operation is being done, and that the very best method of fixing it is the grasp of the tendon of the internal rectus, which procedure I claimed, but had to surrender to another. But with the eye-ball fixed by means of the tendon-grasp, then with his instrument, made lighter than it is now—it is too heavy—and with that little cut-off entirely eliminated and some other means substituted, then introduce the instrument whether an iridectomy has been done or not, then let the exhaust be turned on, and I know that by shifting the instrument to the right and to the left it will tear the ligamentous attachments loose. And here comes in the beauty of his instrument. The ligaments can be torn easily by my instrument or in the Smith operation; but they can be torn so much more easily, delicately and beautifully by this instrument of Dr. Hulen's. Then when this is done, that same suction being kept up, the lens can be lifted out.

Dr. D. W. Greene, Dayton, Ohio: Dr. de Schweinitz said at the meeting of the Ohio State Medical Society that he did not believe that America would be behind the rest of the world in devising ways and means for the removal of cataract. He thought that the Smith operation was in the right direction. I have made a good many of these operations. The Smith is not a perfect surgical procedure. It is not so well suited to Americans as it is to the natives of India, who go into a trance for one and go to sleep and one can do just whatever one wants with them. Dr. Peter A. Callan of New York showed me the same principle as Dr. Hulen's in 1889. Dr. Callan had the rubber tube, but he had only a little syringe. It was a very imperfect apparatus. I do not think he ever used it. I do not say this to detract from the value of Dr. Hulen's method. If the intracapsular method proves that it is the right one, I am too proud to think that Americans should have a share in perfecting it to say anything derogatory to the method of Hulen or Callan. Dr. Hulen has the idea that Dr. Callan's instrument was for the purpose of sucking out the soft lens substance. I do not understand that that was all he claimed for it. I should be afraid of the instrument on account of the size of it. I cannot believe all that Dr. Hulen says of the operation. Seven hundred operations have taught me to respect the lens. You cannot touch it with the strabismus hook without rupturing the capsule, and Smith's instruction was to always use the flat side of it and to keep the cornea between it and the capsule of the lens. Granting that it comes through a very small hole, yet with a pressure of 25 pounds, it seems to me it will rupture. I shall be glad to see the operation demonstrated. I hope it is true, because if there is to be any improvement in cataract operations there is nothing too good for America to originate.

Dr. G. E. Bellows, Kansas City, Mo.: The operation and its possibilities appeal to me. Does Dr. Hulen ever in dividing the cornea entirely divide the conjunctival flap? Does that add to the difficulty in placing the suture? Would it be possible to place the suture as the first step, and then divide the cornea and the conjunctiva in one incision? If so, it would facilitate the placing of the suture, it would eliminate one separate step, and perhaps to a very slight degree shorten and simplify it.

Dr. John E. Weeks, New York: Dr. Greene has just said that the capsule will be ruptured if it is touched with the strabismus hook or any blunt instrument. I wish to testify against this statement, because I have used the strabismus hook on the capsule in the operation known as "immediate manipulation" for the ripening of cataract, an operation first described by Cooley of New York, and also described by a Chicago oculist, Dr. Bateman. If we open the anterior chamber we may rub the lens through the anterior capsule without rupturing it, as I have done a number of times, and the lens becomes opaque in a very short time—in from one to three weeks after such manipulation. In the instrument used by Callan, the cup has much the appearance of Dr. Hulen's. I have seen him use it only in cases in which the capsule had been ruptured; that is, for the removal of the lens substance. I do not know, however, whether he has advocated its use in cases in which the capsule has not been ruptured.

Dr. Mark D. Stevenson, Akron, Ohio: The particular thing for which I think we are indebted to Dr. Hulen is his courage. I did not know of Dr. Callan's instrument, but in the very early days of the Smith operation, three or four years ago at least when I learned of it, I devised a practically similar instrument; I have the drawings of it at home. I did not know of Dr. Hulen's instrument, as I did not receive my presession book until I came here. One point of difference in my instrument was that I wanted to control the pressure right at the instrument, and I had the idea of a plunger for the index-finger above in case it was desired to shut off the air; this could be shoved down, immediately shutting off the air, giving immediate control. The other idea that I had not determined, as I did not have the instrument made, was whether the cup should be of metal or soft rubber, so that it would adjust itself better to the lens. My fear was lest if the vacuum cup did not immediately seize the lens, it would withdraw all of the aqueous. If the vacuum could not be immediately controlled it might remove vitreous. Hemorrhages are more likely to result from lowered intra-ocular pressure than from increased pressure, which expels blood from the eye. Great safety lies in extraction during the outflow of the aqueous. The conjunctival sac nearly always contains dangerous bacteria, and there is danger of sucking liquids into the interior of the eye-ball if one does not get contact immediately. I was also afraid of catching the iris. In removing the lens one has not only the thickness of the lens in the section, but one has this instrument added to it, which necessitates a larger section. The conjunctival flap adheres without suturing. I have found them stuck before I wanted them, before the columns of the coloboma were placed, so that it had to be partially separated before replacing the iris. The conjunctival flap should be turned back. A suture is unnecessary, is slightly irritating, and heightens the risks unavoidable with tying knots on the open eye-ball. As to the breaking of the suspensory ligament, Dr. Hulen will, of course, know better than any of the rest of us, but it strikes me that in this twisting he pulls on every part at once and gets the greatest resistance possible. It seems to me a little rotating and tipping of the lens, bringing tension on one edge, would be better.

Dr. Melville Black, Denver: It occurs to me that a hole might be run from the center of the instrument to the periphery and simply putting the finger over that hole or taking it off would immediately control the pressure on the capsule. For instance, if with the suction on and the instrument in contact with the lens, one found one had the iris, one would have to stop to turn off the cock. With the hole according to my suggestion, one could take the finger off the hole, readjust the instrument, put the finger back on the hole again, and it would begin again to take hold. If the hole were put in the side of the instrument without any prominence it might be difficult to know whether or not the finger was over it, but it would be an easy matter to put a little elevation there. I feel with Dr. Savage that it is quite important that the operator should personally have that air under his own control, and it should not be entirely under the control of the nurse. I also feel that it is important that the eye should be fixed. Of course, one does not know until one tries it. Dr. Hulen does not feel that fixation is absolutely essential. Those of us who have been in the habit of fixing the eye-ball in many of our cataract operations feel the necessity of continuing it with any operation of this kind until we are thoroughly familiar with it. It occurs to me that every Tom, Dick and Harry will be making this instrument unless it is possible in some way to control its manufacture, the idea being to control it to a certain extent, at least, and cause the instrument-maker to submit to Dr. Hulen all these cups so that he can see that every one is correct. This is important. They should all be inspected by Dr. Hulen, otherwise the operation will come into disrepute. As we know, the instrument-makers turn out instruments which we devise in such a way that in a few years they are scarcely recognizable.

Dr. James W. May, Kansas City, Kan.: Has Dr. Hulen had experience in removing the dislocated lens, a condition which has given me a great many worries? I think if the instrument is useful in cases of senile cataract it certainly would be in a case of dislocated lens if one could get the vacuum cup properly placed in position on the lens.

Dr. Edward Jackson, Denver: I have had the experience to which Dr. Weeks alludes as to the tolerance of the lens capsule to manipulation in doing ripening operations. I do not think I have ever ruptured a capsule. In doing it I have worked the spatula over the capsule in direct contact with it for a considerable time. It occurs to me the difference is in the tension of the capsule. We know how easy it is to cut a tense string, and how easy it would be to make a break in a tense capsule. Dr. Greene has touched the capsule when it was tense in the expression of the lens; but until it becomes tense I do not think there would be any particular danger of rupturing the capsule. It seems to me likely that until the ligaments had been ruptured there would not be much danger from escape of aqueous into the instrument. A certain amount of aqueous I suppose would enter the instrument in picking up the lens in any case. If one failed, however, to get the instrument properly applied to the front of the lens very soon after opening the vacuum, it might possibly give trouble. It occurred to me that the conjunctival suture was not a necessary part of this form of extraction; that possibly the vacuum cup and the conjunctival suture could stand or fall entirely independently.

Dr. Frederick Stauffer, Salt Lake City: The use of the suture has been practiced for a great many years by Cault of Paris, but he takes it before the operation. He dips it into the margin of the cornea, passes it over, makes another dip into the episcleral tissue, pulls the suture aside and makes the incision. It seems to me it would be better to make it before making the corneal incision. We know it is difficult to manipulate the eye after the incision in the cornea is made. It would be better to put it in first for that reason.

Dr. William F. Mittendorf, New York: I want to point out the difference between the ripening of a cataract by means of the blunt part of the hook and the method of Smith, who, as I understand it, ruptures it with the point of the hook.

Dr. Vard H. Hulen, Houston, Texas: I have done this operation only eight times and have learned only what one can learn in doing it so few times. I took into consideration every suggestion that has been made here this morning, and for good reasons, from experience, have turned them down. For instance, Dr. Black says he would control the vacuum by making a hole and putting his finger over it, and when he did not want the vacuum he would remove his finger. He did not think that in doing that the vacuum in the bottle would be exhausted and he would have to get another vacuum. That is impracticable, as are many of the other suggestions. Dr. Savage objects to the heaviness of the instrument. That is not an objection, for the reason that you have got this tube to handle, which is an objection. I first tried to get the instrument with the vacuum in the handle, but found that to be impracticable; therefore it is necessary to have the tube, and that is an embarrassment to one who is accustomed to the ordinary operations, but the heaviness of the instrument helps the governableness or handling of this tube, and is therefore not an objection. The little valve is an advantage to help control the instrument, and is not objectionable. One must have a firm grip on it.

Dr. Savage's operation is much easier to do than the Smith, but not so easy as mine, though mine has its objections. It is not so easy as it looks. Every one who sees it thinks it is the simplest thing on earth, but it is not simple, and I do not think any cataract operation on earth ever will be simple. Dr. Bellows referred to dividing the conjunctival flap accidentally. I did it in my last operation. My control was not sufficient, so in place of stopping just short of severing this flap I cut all the way through. I put in the suture anyway and it did not seem to complicate the matter at all. There is no difficulty in putting in this suture in the way in which I have described it. There is an objection to putting it in first. The section in any operation, I believe, is extremely important and must be as perfectly made and as perfectly manipulated as possible; therefore, one does not want anything in the way of making the section. The sutures are not of great consequence. The important things are the section and the extraction, and it is here that we should give our entire attention. There is no connection between the suture and the vacuum method of extraction, as Dr. Jackson says; the only thing is that it is practicable to use the suture with this vacuum method and not so much so with the other methods. As to breaking the capsule, Dr. Greene thinks, evidently, that there is 25 pounds pressure on the lens; but there is not, for the reason that as soon as the vacuum is turned on one has the entire surface of the capsule sucked up in the cup, and everywhere there is a large surface to which this cup is adhering. The edge of this cup must be smooth and not sharp or angular. The instrument exhibited here by Hardy, which you may have seen, has a sharp edge, and one could not possibly use that. There is the large surface in contact with the cup, and if the capsule will stand the pressure, as Dr. Greene forces it out in the Smith method and it does not rupture, how much less pressure there is when you put this vacuum down on it and take hold of it over a large surface and simply pull it out. There is so much less pressure necessary, so that by this method there is much less strain on the capsule. I knew nothing whatever about Dr. Callan or Dr. Stevenson having devised any cup or any other method of extracting these cataracts. There may be a hundred more, but no one has yet put it on record, and I believe that no one else has found it successful. I feel that the method which I have devised and put on record is entitled to consideration, and not those which have only been thought of. I do not know how long ago I thought of it. I wrote to Dr. Callan, and in his reply he said nothing whatever to lead me to believe that he used it in extracting cataract in capsule. He had used it, as he said, for suction. Now suction and vacuum are different. We get no suction in this vacuum method; this is extraction pure and simple; but when one takes out soft lens matter one does it by suction. I am not trying to belittle any device Dr. Callan has made, but he evidently has not put it on record and does not have sufficient confidence in it to use it, and no one else, so far as I know.

Dr. May asked about dislocation of the lens. I have not had the courage to try this new procedure on the dislocated lens or anything that is at all complicated. The fact that I have used it only eight times shows that I am cautious. Eyes are of such great importance that we cannot take liberties with them; therefore, I have used it only in cases that are suitable. Subsequent features must be worked out by experience.

INTRAOCULAR NEOPLASMS

F. PARK LEWIS, M.D., BUFFALO, N. Y.

(Concluded from page 196)

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: I have seen a number of these cases. Two of the most interesting were in children in whom glioma appeared in both eyes. About ten years ago an unmistakable condition developed in the first eye and the parents of the patient submitted to the enucleation of the eye; and in a few months it developed in the other eye, and they objected for a few days to the removal of the other eye; but it was removed and the child is well. The other case is more recent. The patient died two weeks prior to this meeting. The condition developed in one eye and very properly the parents allowed enucleation to be done. That eye got perfectly well and there was no return on that side up to the death of the child. The trouble developed in the other eye and they would not consent to operation until the eye-ball had probably undergone degeneration posteriorly and the eye trouble began to show itself behind the ball in the tissues and the eye-ball was projected. Operation was done but it returned in a short time and then the orbit was eviscerated thoroughly. It returned again and before the little fellow died on the side that had been neglected there was a mass that made the parents wish ten thousand times that it had been removed as quickly as the first. These are the only double conditions of glioma coming under my observation, but I have had quite a number in a single eye, some of them not operated on at all, some operated on too late to do an operation, the trouble returning and the child dying, and only a very few were operated on sufficiently early to prevent a return in the side from which the eye had been removed.

Dr. William F. Mittendorf, New York: I have always been interested in the etiology of these growths. I have observed, of course, like all of us, a number of these cases, and yet in not a single instance was I able to trace a seeming history among the relatives. But I remember years ago the late Dr. Miller, of Providence, Rhode Island, reported a number of cases which occurred in his locality, and he expressed the opinion that in certain localities, especially in his neighborhood, these growths appeared to be more frequent than in others. Dr. Rogers is here from Providence; perhaps he has made a similar observation.

Dr. Edward Jackson, Denver: I can recall four cases. I may have seen one or two others. I think that perhaps men who are in the same position in practice as Dr. J. L. Thompson of Indianapolis or Dr. Savage of Nashville are liable to see what seems to be a large number of cases. These patients are likely to be taken from one doctor to another before the parents will consent to have the eye enucleated, so that these cases appear more frequently in the literature than their actual frequency would warrant, and for that reason the statistics may be misleading. I have never seen a double case, but I think I have seen four or five single ones. The last case I saw had been seen by some one before coming to me. The parents lived in Texas and were referred by the physician there to Dr. McDonalds to have the eye enucleated, and they were not quite ready to have it done. But he enucleated the eye and reported the case.

Dr. Adolf Alt, St. Louis: I have seen about eight cases in my practice regularly, but these cases came in the very early stage, so that I do not know of a single case in those I have operated on in which a relapse occurred. I have seen others in consultation such as Dr. Savage related. I had one case in which both eyes were affected. It was the second in the same family. The first was brought to me when it was so small I hesitated to make the diagnosis that it was a glioma. They consented at once to the enucleation of that eye, and the child, then about a year and a half old, is now a buxom young lady and comes now for a change of the glass fitted for the other eye. Eight or nine months after the first child was operated on they brought the second child, a younger sister, and I found the same condition in both eyes in that child. I proposed to the parents, of course, that to save the life of the child both eyes should be removed at once; but they decided that that was rather jumping in the face of Providence; they preferred to see the child die, which it did, and since, whenever they come to me, they complain about how sorry they were that they did not let me operate.

Dr. Hiram Woods, Baltimore: I do not believe these cases, as Dr. Jackson says, are quite so frequent as the text-books would make us believe. I personally have had one double case, the child of a physician living in Maryland. Both eyes were enucleated and the diagnosis of glioma confirmed by Dr. Flexner, who was then living in Baltimore. The operations were done in 1898, thirteen years ago, and there has been no sign of a return. The child is a pretty, healthy young girl, now about 16 or 17. She was 3. She is studying to be a teacher in the blind school. She has an excellent voice and is a happy young creature. I have seen two or three or four others that I can recall. One or two points about the diagnosis should be considered. There is, as we all know, an inflammatory mass that presents itself in the vitreous at times. This is sometimes a sequel of a meningitis or other inflammatory or infective condition, and it gives rise to appearances of inflammation that are pretty characteristic; I mean by that, the exclusion of the pupil, the retraction of the edge of the iris; that is, the typical signs of chronic uveitis, which would serve us in the diagnosis. I saw one case last winter in which there was nothing of that kind at all. It was a child 4½ years old, who had the typical whitish reflex, the pupil widely dilated, no history of inflammation of any kind, and the white globular mass was absolutely characteristic of glioma. Enucleation was advised by three oculists. I was the fourth man consulted. I removed the eye, but examination by a competent pathologist was to the effect that there was no malignancy at all, and that it was a large, vitreous inflammatory mass. I would not know how to avoid the same mistake in diagnosis, though we have as a general rule in these pseudogliomas evidence of previous inflammation; but in this case there was none at all. The operation was done in the fall of 1901. The child is well.

Dr. J. A. Donovan, Butte: I was a little surprised when I read the introductory line of Dr. Lewis's paper that these neoplasms are rare. I thought they were rather frequent. Four I can recall. One patient I know went east and I lost track of the case after I had advised enucleation. One, a child about 3 years old, from whom I removed the eye-ball, a few years later died of secondary complications. Another, a child of 3 or 4, recovered. I lost track of it for a time, but I learned afterward that it was well. Another was a girl of 15 when I operated three years ago. I saw her a couple of months ago.

Dr. W. H. Roberts, Pasadena: Last fall in Moorfields I saw a child which had one eye enucleated for glioma and was then brought back for the enucleation of the other eye, which the parents had refused to have done.

Dr. William Zentmayer, Philadelphia: In regard to the differential diagnosis, I saw a patient at Wills Hospital six years of age. The only illness the child had had was measles some months before. The parents were unaware of the loss of sight, which was discovered in school. The child was brought to the hospital. He had a forward displacement of the lens. Behind it there was a mottled gray mass, lobulated—three lobules—with deep crevices, with several blood-vessels over it. The blood-pressure was slightly increased. There were no inflammatory symptoms. Transillumination was not entirely satisfactory. I took it to be one of the cases which Nettleship has put on record of detached retina following measles, following a subretinal hemorrhage. The eye would have been left if I had it to do again, but for my colleagues whose sentiment was against me, I did not then immediately remove it, but three or four months later the child had some little pain in the eye and I enucleated it. There was nothing but detached retina—no evidence of malignant growth whatever.

Dr. Carl S. G. Nagel, San Francisco: I should like to add that years ago in Utter's clinic in Breslau I remember a case of double glioma in which case Utter then made up his mind to do an enucleation, but the child died. Apart from that I can remember four or five single cases.

Dr. Thomas J. McCoy, Los Angeles: For statistical purposes I wish to report that we have only had three cases of glioma. I especially wish to report one case referred from Mississippi ten years ago. There was a growth in the right eye of this child a year old. The child was blind and the diagnosis of glioma was made and the eye enucleated. There was slight evidence in the other eye at that time of a growth in the fundus, but the parents and I thought we would watch the case. One year after that the parents presented themselves with the child with the growth projecting to the edge of the ciliary body. The eye-ball was probably twice the usual size, and I enucleated the second eye. We found no evidence of malignancy in the parents, and last year I received a communication from them that the child was still well and in good health at 11 years of age.

Dr. Archibald L. Macleish, Los Angeles: I had the misfortune this past winter to handle a case of double glioma in a beautiful girl, the first child of wealthy parents, and I know of nothing more distressing in my practice than this case. I am bound to say that previous to the first enucleation a colleague thought he detected an adventitious growth in the other eye. I decided to examine that eye under anesthesia, but I was not able to satisfy myself of the presence of a growth. There was no external evidence of disturbance of the eye. The eye that was first removed was examined by Dr. Stanley Black of Los Angeles who pronounced it to be a typical case of glioma. Within six weeks after the operation when the healing in the first eye was nearly completed, the parents detected a whitish reflex in the other eye. I put the child under an anesthetic and satisfied myself that there was undoubtedly gliomatous tissue present, though farther forward in the lower segment of the globe. I had to tell them what was the matter, and they asked me of course whether there was anything that might be done other than enucleation. I had to say no. A few days later they told me they had decided to take the child to Lourdes, and as the case was so far forward on the globe I temporized with them on condition that in passing through Paris they should consult Dr. Galiszowsky, which they did. He confirmed the diagnosis and joined his consent to mine that they should try the virtues of Lourdes, and they are still there. We all know what the result will be, of course. There is one other distressing feature. There is no history of malignancy in the family. The mother is pregnant in the fifth month. Previous to the enucleation they toured the Pacific Coast trying to find some one to tell them the eye need not be removed. I knew nothing about it. I am glad to say they failed. But some officious oculist informed the mother that it would be very unwise for her to incur another pregnancy, as it would be a certainty that all succeeding children would be affected similarly. Well, you can imagine the distress of this mother. She is now seven months in pregnancy, her eldest child is doomed to double enucleation, and she is obsessed with the idea that the succeeding child will be similarly afflicted. It is the most distressing case that has come under my notice.

Dr. De Witt C. Bryant, Omaha: Dr. Lewis requests that we report as many of these cases as we have had. I have seen and taken care of six of these patients. Only one had both eyes affected. Of the six, two are alive that I know of; in one I do not know the result. Three are dead. Of the others, one whom I operated on some twelve years ago is still alive and perfectly well. The other was operated on only some seven years ago.

Dr. A. E. Bulson, Jr., Fort Wayne, Ind: I have some hesitancy in saying something on this subject, because it would seem that Indiana is a rather fertile field for the development of glioma. Attention has been called to the number of cases reported by Dr. J. L. Thompson of Indianapolis. I have seen one or two cases in consultation with Dr. Thompson, and, like Dr. Thompson, I have perhaps seen an unusual number of cases of glioma. I have not had the opportunity of looking over my records, but I am quite positive that I have seen not less than eight cases. A few years ago at Atlantic City among the specimens exhibited were two of mine, one from a case of double glioma; the other was a single glioma. I have had during the past year one case of double glioma in a child probably 3 years old. The patient was very thoroughly examined under a general anesthetic and the electric ophthalmoscope and studied carefully. Recommendation was made that both eyes be enucleated and the parents refused. The child was taken to a confrère who gave the same advice, and he enucleated both eyes, not, however, until the tumor mass had extended beyond the eye-ball, and death brought relief from suffering from extension to the meninges. I wish to report a rather interesting feature brought to my attention by the discussion of Dr. Macleish. The first case in which I did an enucleation, sixteen or eighteen years ago, was in a family in which I saw a second case of glioma. The child was brought to me three or four years after I had enucleated the eye for glioma and the child had died of extension to the meninges six or eight months later. This tumor I pronounced glioma after a careful examination. The patient drifted from my hands. The parents refused operation, inasmuch as they thought the operation on the other child had hastened its death. Within a few months there was an extension of the growth to the meninges and the child died without operation.

There is one point I want especially to emphasize, and that is the necessity of examining these cases of fretful, crying children under general anesthesia. I also wish to make a plea for examination with the electric ophthalmoscope under anesthesia. Another plea is for early operation, whenever the diagnosis is made. If we are to do anything for these children, it must be by early operation by enucleation. In the discussion of this topic at Atlantic City some one—my impression is that it was de Schweinitz—reported several cases in his practice and that of some of his confrères, in which the patient had lived a number of years following early enucleation. In the pathologic examination in all the cases I have seen the tumor mass has been found outside the eye-ball; that is, it has followed up the optic nerve, and while occasionally the entire vitreous chamber has been examined without finding any of the pathologic tissue, yet following up the optic nerve in several of them disclosed the tumor mass, and in such instances we are bound to lose the patients from extension to the meninges. In those cases in which the patient has lived it certainly has been due to early operation, before extension beyond the eye-ball itself. I only wish to corroborate what Dr. Thompson of Indianapolis has said concerning the number of cases which occur in our section of the country. I have seen a few which have gone to him. I wish also to approve what Dr. Jackson has said as to the unreliability of statistics in regard to these cases. Practically all of the patients will consult three or four men before they will permit enucleation, and when a patient goes from one ophthalmologist to another, and each man adds that to his records, it really interferes with the reliability of our statistics as to the number of cases we have.

Dr. John E. Weeks, New York: The diagnosis is not always easy. There is a condition known as pseudoglioma, that is, there are conditions in the interior of the eye which may readily confound us. In two cases I have seen there were conditions similar to those Dr. Zentmayer has described. The ordinary metastic chorioiditis is sometimes not very easily differentiated. In the cases I have seen I have not found the condition hereditary. I am very much interested in the statements of others and in the report in the paper. I listened to the Bowman lecture by Nettleship some time ago on heredity, and he made but this brief reference to heredity in glioma. In regard to frequency, I see quite a large number of cases of glioma of the retina, but they come from all parts of the country and the cases that remain under my treatment are relatively few. In the last year I have seen four cases and in the previous ten years I think they would number two or three a year. That does not indicate, however, very great frequency of glioma. In regard to the percentage of recurrence, it is rather high, I have seen two cases in the last three years. In both cases the condition was fully described to the parents and the treatment left to them largely whether something or nothing should be done. In both cases the parents decided that the child should die rather than grow up sightless and enucleation was not done in either case. Now this discussion has confined itself largely to glioma, but sarcoma has been mentioned in the paper. I want to mention a case of melanosarcoma of the chorioid, which, so far as I know in the cases coming under my observation, is the smallest for which an eye has been removed. The man was 24 years of age and some year and a half before had noticed symptoms of a central scotoma. He consulted a local oculist in Syracuse who said the patient had a mass in the background of the eye; the oculist could not determine what that mass was and said that he must have it under observation. After observation he decided that it was in all probability a sarcoma. The patient was put on the iodid of potash and mercury to saturation in order to determine a syphilitic element. The Wassermann test was not made. In October, 1910, the patient came to me. The mass consisted of a brownish area just slightly above the fovea centralis, but encroaching on it, with a central scotoma. The upper part was pale. It measured then about 1 mm. in the horizontal and 1.5 mm. in the vertical diameters and had an elevation of less than 0.5 mm. I had a Wassermann done and also used tuberculin for the purpose of differentiation, and repeated the antisyphilitic treatment thoroughly. I had the patient under observation for three months. I took repeated drawings and found that the growth advanced. When the growth in the horizontal diameter measured 1.5 mm. and in the vertical diameter 2 mm. and the elevation 0.5 mm. I removed the eye. This growth was only the width of the papilla in its short diameter and only a little longer in its long diameter. The microscopic examination confirmed the diagnosis. I know of no other case on record in which the sarcoma was so small.

Dr. Edgar S. Thompson, New York: In nearly seventeen years of more or less successful private practice I have never seen a single case of glioma. Fifteen years of that time I have been working in the Manhattan Eye, Ear and Throat Hospital, where we have 17,000 cases a year, and I have seen about six cases of glioma a year, so that I must have had an opportunity of examining at least forty specimens. I have not had an opportunity to follow them up. I am well aware that these cases slip out of one's hands readily, but my impressions are from my experience that the most important thing in the prevention of recurrence is far-back section of the optic nerve. Von Graefe advised that years ago. Parsons in his recent work states that the most common extension of glioma is to the chorioid, and that would lead one to believe that evisceration is important. In glioma extension to the chorioid is rare, whereas extension to the optic nerve is the most common thing. Cases from which specimens come to the laboratory in which the optic nerve is involved go out and in the course of six or seven months there is a recurrence, a cerebral hemorrhage or an attack of unconsciousness and the child dies. I have seen but one or two cases of extension into the orbit, and these are cases in which the growth had gone into the chorioid. In my own cases in the Manhattan, I think not more than six, I have always drawn the nerve forward as far as possible and then cut the optic nerve at the apex of the orbit. I think that is very important, and I think also that a certain number of cases might not show a recurrence if you can succeed in getting beyond that point. With regard to double gliomas, I have seen only one or two. I think they are apt to go around, because the patients will not submit to operation. In one case in which operation was done by Dr. Agnew, who died in 1888, the man is still living, with no recurrence. I think extension to the optic nerve is the greatest danger to life. Of course, metastasis comes in. Some years ago in connection with Dr. Wilson of Bridgeport I collected all the cases we could find of metastases. Wintersteiner had reported a great many. There were fifty-five in all. Almost all were very light, so that I do not believe metastases are likely to occur early.

Dr. F. Park Lewis, Buffalo: Among the various classical cases reported the first, by Dr. Thompson of Indianapolis, which is the most remarkable case of heredity I have seen anywhere, seems to have been overlooked. A little girl was brought to his office in 1903 with a glioma of the right eye. The mother writes the description as follows:

"The first child affected with cancer was a boy born in 1869; no medical attendant; died in 1871; the second child was born in 1872; the disease was noticed in 1873; the eye was removed in September, 1873; cancer came in the other eye eleven months later and the child died in 1875. The third child died in 1882. The fourth child was born in 1883. The disease was noticed in February, 1885. It died in March, 1887. The fifth child was born in September, 1888. The disease was noticed in 1890. It died July 5, 1891. I am 55 years old, the mother of fourteen children, seven boys and seven girls. I have lost no children but from cancer."

Heredity was pronounced in this case on the husband's side. It is a remarkable history, which has been overlooked. It was published in *Knapp's Archives* in 1894.

The discussion has brought out the fact that, notwithstanding the number of cases in each individual practice, the aggregate number is small. The diagnosis, except in the cases of pseudoglioma, to which reference has been made, in the ordinary case is a very simple matter, and yet in the hands of the general practitioner the rarity of the disease would incline him to make a diagnosis of cataract and wait, therefore the importance of having more generally understood the fact that when recognition is early and enucleation is prompt it will in a considerable proportion of cases save the life of the child.

THE IMMEDIATE REMOVAL OF TRAUMATIC CATARACT

J. A. DONOVAN, M.D.
BUTTE, MONT.

(Concluded from page 197)

ABSTRACT OF DISCUSSION

Dr. Edward Jackson, Denver: There is only one point on which I would be inclined to modify Dr. Donovan's teaching. From my experience I would be inclined not to make the exception of waiting for an inflamed eye, or not make that a very general exception. I think I was induced to try it first by a patient living at a distance and felt under the necessity of going home. But since that I have done it several times intentionally when there was not any such reason, simply because of the good result in the first case, and that is in an eye that shows a good deal of general reaction and is pretty severely inflamed a few days after such injury, entirely apart from any foreign bodies, when it is simply a perforating injury with disturbance of the lens. In such an instance I think it is better to go in and extract the lens. The eye is quieted down immediately after the operation to such a striking degree that it shows that the presence of the lens was complicating the healing very seriously. I have sometimes done that after the inflammation had gone on two or three weeks, with very slow improvement, and I have seen the eye clear up within two or three days after the additional traumatism of making the new incision and taking out the lens. I think if I would have any criticism of what Dr. Donovan says it would be in the direction of advising early removal of at least the great mass of the injured lens.

Dr. Oscar Dodd, Chicago: I would like to emphasize what Dr. Jackson has just said in regard to the removal of these swollen lenses, even though the eyes are severely inflamed. A short time ago I had occasion to take charge of a patient who had been treated for several weeks and in whose case the removal of the eye had been advised, the eye being severely inflamed and there being some irritation in the other eye. As I took it, the swelling of the lens was the cause of the trouble. I treated the patient for a time trying to relieve the inflammation, but could not, and finally extracted the lens and washed it out, and within three days the eye quieted down and he has had no symptoms of irritation since. As to the removal of the lens immediately after the injury, I think we are all prone to wait until the lens swells, but I believe that as Dr. Donovan has said, it is the proper time to remove them as soon as we can see them and get the lens out, because the subsequent inflammation and danger comes from the swollen lens to a greater degree than from anything else. I think that if we would follow that principle we would get results frequently in instances in which we have to enucleate the eye when the lens is left on account of the severe iridocyclitis brought about by it.

Dr. W. R. Johnson, Spokane: Dr. Donovan and myself practice nearly enough together to know what these injuries are, and see them under conditions that probably few men do. Some years ago we were led to this early removal of cataract from necessity in cases in which we saw rapid swelling, and on removal we found that the cases did better; but not that alone, for we found that in cases in which the foreign body was in the eye, with traumatic cataract, though the inflammation subsided the eye had to be removed later. The eyes were lost from secondary glaucoma, and we believe that the swelling of the lens with the great amount of traumatism and the blood that is often found in these eyes were responsible for it, and the increased tension was the cause of the loss of the eyes, and early removal of the lens gave us better results. It is my practice now to do that. Dr. Donovan has shown some pictures here, and I only wish he had shown you the one of the "muckers." We find that the majority of our cases from blasts occur among the "muckers." A small piece of dynamite that has not exploded remains and the man strikes it with his pick and the blast flies up in his face. Most men injured in dynamite explosions require the undertaker, but with these small pieces of dynamite it is the man who is stooping or picking and the blast comes up directly in his face. Both eyes are probably injured and one eye is probably destroyed so that enucleation is necessary, and he has a traumatic cataract in the other eye, and the proposition is to give that man sufficient vision to enable him to earn a livelihood. It will be seen from the sections shown that these eyes are in the majority of instances glaucomatous, and it is the early stage, the time of tension, that brings the destruction of vision. Another point is that the force of the explosion is so great, there is such a great disturbance of the lens, that we have this rapid swelling. No man in doing a needling operation would have the same amount of disturbance of the lens that we have in all cases, but has sometimes found that twenty-four hours later he has had to do an extraction. And that is the condition we have. I think there probably are conditions the other men mentioned in which early removal is not necessary, but with us it becomes an absolute necessity.

Dr. John E. Weeks, New York: I think that the expression of Bowman in regard to ordinary injury to the lens, as quoted by Dr. Donovan, sums up the question very clearly, that every case must be judged on its own merits. When we produce a traumatic cataract as we do in needling for high myopia, or in needling for congenital cataract, we have a condition which resembles to some extent the traumatic cataract produced by injury from other causes. It is not a fact that vision will be lost quickly by an increase in tension and secondary glaucoma; that is, there is ample time for the surgeon to observe the condition and to perform his operation before damage of any consequence is done to the eye. I have found in my practice that if an increase in tension exists for from twenty-four to seventy-two hours the vision is not impaired, in the majority of cases, at least. It is my practice after I have produced traumatic cataract to remove the lens in twenty-four or forty-eight hours after increase in tension occurs. Now it is also found that if we permit the lens substance to swell and become opaque its removal is more easily accomplished than if we attempt to remove the clear lens substance. The adhesion to the capsule is not so great and we can wash it out more easily. Consequently it has seemed to me that in all cases in which it can be done with safety to the patient it is better to wait until the lens substance is somewhat opaque. It would seem to me the principle of removing the lens as soon after it has become injured as possible is rather a wrong principle to act on, but each case, as I said before, should be treated on its own merits. Increased tension that has existed for any length of time is of course dangerous to the eye.

DR. W. E. LAMBERT, New York: My experience is much the same as that of Dr. Weeks. I have done quite a number of cataracts with high myopia. The indication for the removal of the lens in these cases has been dependent on the effect of the needling and the time after the traumatism has varied very much; but I think, as Dr. Weeks says, we cannot advise the immediate removal of traumatic cataract, but it must be removed when the condition of the lens makes it most favorable for extraction, by any method, washing out, etc. I remember a case of injury in which a man was playing racquets. His glasses were broken and a large piece of glass had penetrated the eye. The late Dr. Bull and also Dr. Weeks saw the patient. I saw the patient within a few hours and detected a large piece of glass in the lens. The next day the lens began to be opaque, but the formation of the cataract was slow. The eye remained pretty quiet and by the advice of Dr. Bull we decided to wait a few days. Within two days, I think, after the accident the lens had swollen sufficiently to justify an attempt to extract the foreign body and wash out the lens. He advised very strongly against it and we waited. Six days after this symptoms of glaucoma set in rather severely, and I insisted that something be done or that somebody else take charge of the case. Quite an acute attack of glaucoma supervened. The extraction was done, the lens washed out and the man made an uninterrupted recovery and has to-day 20/15 vision in that eye. It is not always necessary to operate at once. I have had similar experiences with various cases of high myopia that I have operated on, so that I think every case is to be treated according to the indications as they arise.

DR. EDGAR S. THOMPSON, New York: It seems to me there are two very distinct points to be made in connection with Dr. Donovan's paper. The first is whether we get the case before the wound has healed up. By the time the inflammatory reaction has set in and the original wound of entrance has healed, the question is of course a different one. Any operation then will give a greater disproportionate reaction than in the preinflammatory period. If the inflammatory period has set in, then we will get a greater reaction. Whether removal is done in the first period or not depends on whether sufficient disturbance of the lens has occurred to cause swelling. If that has not occurred I think it is better policy to wait and not to subject the eye to the shock of the removal of the lens, because it undoubtedly, *per se*, causes a good deal of traumatic disturbance. With regard to the effect of increased tension, I agree with Dr. Weeks that increased tension is a very different matter from the increased tension in the glaucomatous eye and is not so serious. I think if we study the tonometer work for equal measurements there will not be the same reduction of sight in traumatic cases as in an equal time in glaucomatous cases. With regard to Dr. Donovan's cases, I take it that he sees them early and the lens is hashed up, and in such conditions I would agree that we should immediately remove the cataract.

DR. J. A. DONOVAN, Butte: The danger in any change from a well-established method of treatment is of course that we become too radical on the other side. I favor getting most of these lenses out as soon as we can do so, but there are a great many of them that it is not good policy to treat in this way at once. In some of these injuries one feels certain that there is going to be cataract, and it may not develop. One reason I give is that after the second day the swelling is so intense that nothing can be done. On the other hand if there is any strong probability that the lens will not have to be removed I consider it best to wait. The general principle is that as soon as I am convinced that the lens should be removed, I remove it at the earliest possible moment, if I feel it can be done with the greatest safety to the patient.

DISTORTIONS OF THE VISUAL FIELDS IN CASES OF BRAIN TUMOR

HARVEY CUSHING, M.D., AND GEORGE J. HEUER, M.D., BALTIMORE

(Concluded from page 208)

ABSTRACT OF DISCUSSION

DR. SHERMAN VOORHEES, Elmira, N. Y.: In two cases recently under my care in which decompression operations were done this interlacing and inversion of the color-field is present.

DR. HIRAM WOODS, Baltimore: In reviewing these cases I find that there have been in most of them, in addition to the color-interlacing, certain symptoms that would at once lead the ophthalmologist to expect something else besides an ocular lesion. For instance, there have been one or two cases of Jacksonian epilepsy in this report, and various functional symptoms in various parts of the body, and these things themselves, in association with any field-abnormality at all will lead the ophthalmologist to consult the neurologist. On the other hand there are cases in which we see color interlacing with optic neuritis, without any other symptoms. Now the orthodox interpretation of that has been hysteria, as we know. In the case of one patient whom I believe Dr. Cushing subsequently operated on, I saw that interlacing of the color-fields without any other symptoms at all, without any optic neuritis, and made the diagnosis of hysteria from the absence of any other nerve symptoms at all. Now a very practical question for us ophthalmologists to know about is this: When we get hold of cases with this interlacing of the color-fields alone, without any other symptoms on the part of the nervous system, how are we to interpret it?

DR. WALTER S. FRANKLIN, San Francisco: Dr. Cushing said the fields seemed to vary with different observers, and I feel that here we have a chance to make an improvement in our methods. The personal equation enters largely into the taking of the color-field. Different men get a difference of 5 to 10 degrees with the same patient, and each feels that his results are correct. Are there any particular details of taking the color-field, difference in style of perimeter, whether self-recording or not, or are there any details that Dr. Cushing can give us so that we can standardize our methods of taking correct perimetric measurements?

DR. JOHN E. WEEKS, New York: Has this interlacing of the fields been noticed in conditions other than tumor, as, for instance, abscess of the brain; is it also characterized by interlacing of the fields? Is any color but blue affected? Is the red field found interlacing at all with the green, or does it affect simply the blue field in relation to the red?

DR. LEWIS S. THORPE, Los Angeles: How long does this interlacing of the fields persist? Is this symptom constant throughout the course of the development of the tumor, or does it become lost in the later stages? We have had a very interesting case of cerebellar tumor here in this city the past winter. I made the diagnosis, but at the time I made it I was not satisfied that I had true interlacing of the fields.

The color-fields overlapped I believe, at only two points, but the case was very well developed at the time. The patient has been operated on since with very brilliant results. The patient was referred to Dr. Lobengier, one of our local surgeons. At the first operation he did not succeed in removing the cyst wall, but did so at the second operation. The two symptoms that brought this patient to me were headache and vomiting. The young man had had an appendectomy, and a great many measures had been taken to relieve the headaches. He had been East. At the time he consulted me the papillitis was so very well marked that the diagnosis was easily made. This patient was also seen by Dr. Orbison of this city who might add something to the discussion. But I am anxious to know about the interlacing of the fields because at the stage at which I got this young man I was not satisfied that there was a true interlacing, though the fields were taken a great many times.

Dr. Harvey Cushing, Baltimore: I doubt not that we would have recorded this case that Dr. Thorpe speaks of as one of interlacing with one or two points. I would like to know how many points were taken. The showing of some turning in of the blue field at the periphery in a patient with cerebellar tumor will be as much as we can expect. We cannot subject these patients to very long detailed observation. Here the diagnosis is so definite that it is hardly necessary to lay much stress on this condition which we hope may be of some use in the early stages when the papillitis, if we want to call it that, may be present.

Dr. Woods' questions are a little difficult to answer. There are of course many functional disturbances, possibly sensory disturbances, that we do not recognize as anything else but functional, in people who may possibly have organic lesions. There are sensory disturbances as brought out by the two-point tests which have an organic basis. These people with Jacksonian epilepsy have been patients in whom the lesion has been certified, and they were people in whom one would have expected a sufficiently high grade of tension to have caused an extensive choked disk. One of these patients—and this will answer again Dr. Thorpe's question—had had interlacing, observed over a period of a year, and the neurologists who had seen this patient, and many of us, were very much concerned about his condition. We did not believe it was possible that he was harboring a tumor. He had had Jacksonian epilepsy, he never had any headache or gastric disturbances of any sort; in fact, no pressure symptoms such as we usually consider, or in the past have considered, essential to a diagnosis of tumor. His focal attacks persisted and became so frequent that it seemed best to make an exploratory operation, and this disclosed, as I reported in this series of cases, the largest one of the benign tumors that has occurred in this series of 250 cases (we have only spoken of 200 from the standpoint of the eye-ground). It weighed 198 gm.—almost as large as the fist. Here was an individual who had gone a year with but little contraction of the color-field with this definite interlacing, and at many points. We may perhaps tend to call conditions interlacing of the fields which are not strictly so; possibly, endeavoring to make the matter register, we may have gone a little further than we were justified in doing. The condition varies at different times. Fatigue may have something to do with this. The same person taking the field in the same individual, perhaps a few hours later or the next day, may register a different field. But it shows this tendency, as a patient with indications of bitemporal hemianopsia may differ from day to day; the field assumes a somewhat different configuration, and it shows that one must generalize rather than particularize about these conditions. I do not know how to interpret interlacing. We are rather inclined to interpret it as a manifestation of pressure. It disappears, usually, before the choked disk has disappeared. I presume the persistence of the choked disk means that conditions have arisen secondary to the long-standing tension; conditions that have set up a reaction in the nerve, with round-cell infiltration, with new tissue formation, which leads to the persistence of the stasis and prevents the swelling of the nerve-head from subsiding rapidly. But there are people without very much change in the nerve-head in whom the fields widen out and assume normal color relations without any very evident subsidence at all in the choked disk.

In answer to Dr. Franklin's question, I, too, wish there could be a standardization of these matters. I have, perhaps, in what I have said, made some answer to the question. We use also a 0.5 disk with pure colors, and some of the fields with low vision must be plotted with 1 cm. or larger disks.

There are other conditions, Dr. Weeks, that cause this—abscess, serous meningitis, etc. In not all of the 200 cases has the tumor been certified, many, perhaps, not certifying until six months or a year after decompression, when after a number of months the tumor has given evidence by producing neighborhood symptoms. Blue is the widest field, and possibly for that reason may be the field the restrictions of which are most seen. It does affect the other colors; sometimes the red is within the green, and the blue and red interlacing with the green field, but we have felt that we could get as much out of the blue and red periphery as if we took an extra periphery, and hesitating to give the patient a longer ordeal than necessary we have disregarded the green field.

I do not know how long the interlacing persists. As I have said in the paper, here is one that has persisted for a year, and the interlacing and the epilepsy were the only symptoms that the patient had, and shortly after the operation they had disappeared. This cerebellar case I presume we would have regarded as one showing interlacing.

Therapeutics

HEAT PROSTRATION AND SUNSTROKE

It is customary to divide the cases of illness due to excessive exposure to high temperature into two classes: one is distinguished as heat exhaustion; the other as sunstroke, or thermic or heat fever. It is important to recognize the distinction between these two classes of cases, as their treatment is entirely different and distinct.

Heat exhaustion is considered by many as a milder affection, although it frequently results in death. It may occur in those who are not exposed to the direct rays of the sun, but who are engaged in occupations which are accompanied by unusual heat, such as bakers, laundrymen, and foundrymen. It is associated with vasomotor paralysis. The beginning symptoms usually are dizziness, slight headache and throbbing in the head, nausea, and sometimes diarrhea; these symptoms increasing, the patient becomes cold, the skin becomes pale and clammy, great prostration ensues, the patient is restless, and may become unconscious. The temperature is usually subnormal, and is never elevated. The pulse is weak.

The treatment of this condition embraces removal of the patient from the influence of the excessive heat to which he has been subjected. If he has been out of doors in the sun, he should be immediately removed to the shade, and as quickly as practicable be taken into a house or to a hospital. He should be placed in bed in a room which is cool and well ventilated. The clothing should be loosened so as not to interfere with respiration or circulation, and his working clothes should be removed, and hot applications, such as hot water bottles or hot bricks, should be placed around his extremities so as to restore the circulation and make him warm. If he is unconscious so that he cannot swallow, inhalations of ammonia should be given by the nostrils. Cold applications, either cold cloths or an ice-bag, should be made to the head; a mustard paste should be applied to the back of the neck and over the spine; and if the respiration is obviously impaired, a hypodermatic injection of 1/100 of a grain of sulphate of atropin should be administered. If the heart is weak, a hypodermatic injection of 1/30 of a grain of strychnin sulphate should be given. As soon as the patient is able to swallow, he should be given half an ounce or an ounce of whisky, unless he was already under the influence of this drug before the attack came on. If the circulation is improved, the body becomes warm, and the patient regains consciousness.

A stimulating enema may be administered to move the bowels. The condition of the bladder should be investigated, and if the secretion of urine is scanty, the patient should be given copious draughts of water, and a little later an attempt should be made to give him nourishment, preferably in liquid form, and preferably hot, or at least warm.

In the second class of cases which are termed sunstroke or heat fever, the patient will be found in an entirely different condition. Usually on the arrival of the physician the patient will be found to be exceedingly hot, with a dry skin, a congested face, with veins swollen and arteries throbbing. The patient's temperature will usually be found elevated to from 105 to 110°, or even higher. There is great restlessness; the breathing may be stertorous; the pulse is full and rapid; the pupils, dilated at first, may become contracted, and unconsciousness may rapidly supervene. These symptoms may have come on without very much premonitory warning. They require prompt and active treatment.

As in cases of heat exhaustion, if the patient is in the sun, he must at once be removed to the shade, and as soon as practicable to a cool and well-ventilated room. His clothing having been removed, and his temperature having been taken, he should, if practicable, be at once placed in a tub of water at a temperature of 80 F., to which ice should be gradually added. At the same time, ice should be applied to the head. While the patient is in the ice-bath, he should be rubbed vigorously to promote the peripheral circulation and bring the hot blood to the surface of the body where it may be cooled. The temperature should be taken in the rectum every fifteen minutes, and as soon as it has fallen to 102 the patient should be removed from the bath; otherwise the temperature may continue to fall until it becomes subnormal, and the patient may pass into a condition of collapse. Ordinarily this bath should not be continued longer than from twenty to forty minutes, but it may be repeated after an interval of two, three or four hours if the temperature should again become elevated. In some of these cases in which it is obvious that a congestion of the internal viscera is embarrassing the action of the heart, venesection may be performed, and a pint of blood may be removed. This loss of liquid from the circulation may subsequently be restored by the injection of physiologic saline solution, if it is deemed advisable.

If there seems to be a tendency to edema and congestion of the lungs, a hypodermatic injection of 1/100 of a grain of atropin sulphate should be administered.

If, after the temperature has commenced to fall, the pulse becomes weak, half an ounce or an ounce of whisky should be administered by the mouth, if the patient is able to swallow, unless he has been under the influence of it at the time of the attack. In that case, a hypodermatic injection of 1/30 of a grain of strychnin sulphate may be administered.

If the elevation of the temperature is not so great, or if the use of the bath is impracticable, the patient may be laid on a cot, over which a rubber blanket has been placed, and a sheet wrung out of cold water may be wrapped about him. He may then be rubbed with ice. After the sheet has become warm it may be removed and another one which has been allowed to soak in cold water may be substituted for the first.

In some cases it may seem wise to administer an antipyretic drug. Acetphenetidinum may be used, but its action should be carefully watched. In most cases the cold bathing is far preferable to the use of any antipyretic drug.

Even if the patient apparently rapidly recovers, he should be kept quiet in bed until his temperature and pulse have been normal for forty-eight hours. He should be given light nourishment at first in liquid form, and at first preferably hot.

Persons who have been the victims either of heat exhaustion or of heat fever often suffer more or less from the effects of heat during the remainder of their lives. It is always wise to warn patients or their friends of this possibility, and to direct them to avoid, as far as possible, exposure to the direct rays of the sun or to overheated rooms during the summer. They should be advised to practice cold bathing, and, if possible, sea bathing during the summer months. Sometimes the administration of tonics, and especially quinin sulphate combined with strychnin sulphate or extract of nux vomica, has seemed to aid these persons in withstanding the effect of the summer heat. Persons who seem to be predisposed to be affected by the heat should avoid exposing themselves as much as possible. They should dress lightly, should drink plenty of water, should avoid indulgence in alcoholic drinks, should keep their heads as cool as possible; and some recommend that the back should be protected by sewing an extra piece of flannel into the inside of the shirt so that it may protect the spinal cord. These precautions may wisely be observed by everyone in hot weather, and especially when an excess of humidity in the atmosphere diminishes the perspiration of those who are working, or are exposed to very hot air.

Some patients who have suffered severe sunstroke find that their memory is greatly impaired afterward, and that they never have the same mental ability and memory. Little can be done to benefit this condition, but if one feels that he should give the patient something in the hope that it may do some good, probably nothing will be more likely to prove beneficial than the glycerophosphate of calcium or some form of phosphorus.

Not infrequently infants and young children suffer from the effects of extreme heat. This condition should be looked for in children who are suddenly taken ill in the hot weather without any apparent reason. If they are found suffering from a high temperature for which no other explanation can be found, and if the history of the case shows that they have been exposed to high temperature, they should be placed under favorable conditions in a cool, airy room, and given a sponge bath of cool water, and cold drinks should be administered. If the heart becomes weak, small doses of whisky, well diluted, may be administered.

Sometimes after exposure to excessive heat there is twitching of the muscles, and even severe convulsions. When the convulsions occur and continue they may be controlled by a hypodermatic injection of ¼ grain of morphin with 1/150 grain of atropin. If they resist this treatment, the patient may be anesthetized by the administration of chloroform, or a rectal enema containing 2 gm. (30 grains) of bromid of sodium and 1 gm. (15 grains) of hydrated chloral may be adminstered and repeated, if necessary, after one hour.

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THE PECTINEUS MUSCLE IN GREEK SCULPTURE

It is well known that the Greek sculptor's knowledge of anatomy was not based on scientific dissection, but on the daily observation of hundreds of nude athletes exercising in the palæstra—a vast advantage over the ways of the modern artist who depends on his model or his teacher of anatomy for his knowledge, and never sees the nude figure in action, but only in repose.

Those who heard or read Sir Clifford Allbutt's interesting address on "The Historical Relations of Medicine and Surgery"[1] at the St. Louis Exposition in 1904 may remember that he emphasized a certain muscle in the groin, originally noted by the distinguished archeologist, Professor Charles Waldstein, which was known to the sculptors of the Periclean age, but has escaped the attention of modern students of artistic anatomy because it is not superficially visible in the normal subject to-day. This muscle, highly developed in the stress of Greek athletics, is, in effect, either the pectineus or the iliopsoas, which lie on the floor of Scarpa's triangle. Professor Waldstein describes a torso from the metopes in the friezes of the excavated Heræum near Argos (one of the great sanctuaries of ancient Hellas), which exhibits this peculiarity in a remarkable manner.[2] The figure represents a nude warrior-youth "in the supreme moment of contest," throwing all the weight of his body against an Amazonian adversary, of whom nothing remains but a short, dainty, dimpled, unmistakably feminine hand, pressed against his side. This torso, which Professor Waldstein regards as one of the finest examples of modeling from the nude which the Greek sculptors have left us, has a curious round protrusion in the groin, like a bubo or incipient hernia, which anatomists have not been able to explain except as the result of strain or pathologic enlargement of the glands. Dissections made by the archeologist's brother, Dr. Louis Waldstein of London, show that the nodule is not connected with the muscles bounding Scarpa's triangle (clearly defined in the torso), but must be the forcibly contracted pectineus, which extends from the outer ridge of the pubic bone to its insertion directly under the lesser trochanter of the femur. While the pectineus is hardly noticeable in the average living subject, lying normally hidden at the bottom of Scarpa's triangle, experiments made by Dr. Waldstein on two of the most powerfully developed professional athletes in London demonstrated clearly that the nodule in question was a muscular formation, not seen in repose, but thrown into striking relief when the subject assumed the exact attitude of the torso, throwing all his body-weight on his bent left leg, with the right upraised, and with the superadded strain of pushing against an adversary with all the weight of his trunk.

This feature of the torso, far from being an abnormality, therefore, only goes to show the wonderfully close notation of visible, palpable, external anatomy on the part of sculptors of the age of Polycletus. Besides the pectineus, there is a marked and almost conventional line running along the groin from the ilium to the pubis to be found in all ancient statues of athletic prize-men, but not regarded as true to nature now-a-days. Concerning this line Professor Waldstein writes: "It is true that it is not a frequent occurrence in so marked a form among men in our day; but I have found numerous instances as clearly defined as in any Greek statue. I attribute its atrophy in our day to the wearing of clothes, especially trousers and braces, which have transferred the weight-carrying exercise of the torso to the shoulders and have thus relieved the abdominal region and its muscles from their function and caused these muscles to atrophy."

THE GERMICIDAL PROPERTIES OF DISINFECTANTS

Formerly, it was almost an article of faith that disinfection of rooms and houses which had been occupied by a person suffering from an infectious disease, and of the clothing with which he had been covered, or of anything in proximity to which he had been placed, should be undertaken as an ordinary preventive measure. This was regarded as more or less a safeguard against the spread of disease. Although, perhaps, the belief in terminal disinfection has wavered to some extent recently, the great majority of the medical profession here and in Europe still strongly recommends disinfection after the occurrence of a communicable disease.

Whatever one's views may be as to the efficacy of disinfection in preventing the spread of disease, all will agree that if disinfectants are employed as such, they should be possessed of effective germicidal properties. It is concerning the efficacy of what is known as terminal disinfection that some health authorities profess themselves doubtful, and it is for this kind of disinfection that commercial disinfectants are largely used.

To obtain satisfactory disinfection it is necessary to use a disinfectant which is not only a deodorizer or antiseptic, or both, but a germicide. As a matter of fact, the deodorizing and antiseptic properties of a disinfectant in the presence of disease germs are of little moment. The real need is for a disinfectant which will destroy the specific organisms of disease. If it does not do this, its employment is worse than useless.

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[1] London, 1905, p. 7.

[2] Waldstein, Charles: The Argive Heræum, Boston and New York, 1902, i, 186. See in particular the beautiful photograph of the torso on Plate xxxiv.

Little is definitely known as to the germ-destroying properties of the commercial disinfectants used in this country. They are generally purchased on faith, with no guarantee that they are what the makers claim. In Europe there is some guarantee that the disinfectants on the market are genuine and efficient germicides. There are means for protecting those who purchase disinfectants, from employing an article which may be a deodorant or an antiseptic, but which does not possess the requisite germicidal properties. There are several methods in use with this object in view, none truly ideal, but some of which act at least as a partial protection to the public against misrepresentation. Of all these methods, the one mainly employed and officially recognized in Great Britain and in some other parts of Europe is that termed the "drop method." This method was devised a few years ago by Dr. Rideal and Mr. Walker and its principle and technic are simple. Various strengths of the disinfectant to be tested are made up with distilled water and their germicidal action is compared on the typhoid bacillus, the standard organism usually employed, with a solution of phenol of a certain strength, say 1 in 100. Then by continued experiments a strength of the disinfectant will be found which will be identical in its germicidal properties with the aforementioned solution of phenol. In short, this disinfectant will destroy typhoid bacilli under similar conditions in exactly the same time as the phenol solution. Therefore, this solution of the disinfectant divided by the phenol solution is termed the coefficient of the latter.

The Rideal-Walker method is by no means perfect, and has been subjected to much adverse criticism. The principal objection urged against it is that a coefficient obtained by experiment in distilled water may convey a misleading impression as to the potency of the disinfectant when mixed with organic masses as pus or fecal matter.

Aside from this objection the method permits considerable latitude in determining the coefficient so that according to the bias of the operator a difference of 33 per cent. may result. Various methods have been introduced to overcome these defects and the *Lancet* method, so-called because adopted by a commission appointed by the London *Lancet*, appears to be a decided improvement. It is, however, not free from faults. J. F. Anderson and J. B. McClintic[1] working in the Hygienic Laboratory of the Public Health and Marine-Hospital Service have presented a method which insures great uniformity in technic and gives more satisfactory results than those previously obtained by either the Rideal-Walker or the *Lancet* method. They have combined the best features of both methods.

Perhaps no liquid disinfectant has been produced as yet which will thoroughly disinfect solid masses of organic matter, such as feces, but these masses can be rendered harmless by other methods, notably by heat. It is bedside and after-disinfection which is here discussed. This possesses a wide field, for it must be borne in mind that an efficient liquid disinfectant is able to destroy not only naked bacteria, but even, it is said, disease germs surrounded by small quantities of fat.

Under different conditions the employment of different disinfectants is indicated, but each and all must possess the necessary germicidal properties. There should be some means, therefore, of ascertaining the germ-destroying capabilities of commercial disinfectants. At the present time, there are no such means available in the United States. According to health authorities of Europe and Great Britain, the great good that the introduction of the Rideal-Walker method has effected is that it has raised the standard of disinfectants and has acted as a check on those manufacturers who were foisting, or who were willing to foist, an unreliable article on an ignorant and confiding public. It is the case over again of proprietary medicines and foods in this country.

The time appears to be ripe for the adoption of some standard for the valuation of germicides and their distinction from antiseptics. Considerable work along these lines has been done. It merely lacks united action to carry the matter into effect. We have in the Council on Pharmacy and Chemistry a body which would seem eminently qualified to undertake the work. It is composed of scientists whose reputations are beyond reproach, and who are sufficiently fearless not to be daunted by the attacks of the proprietary concerns whose products might be affected. If the Council would undertake this work and seek the cooperation of the health authorities of the various states, of the United States Public Health and Marine-Hospital Service, and of others interested, a suitable method of standardization could be selected so that antiseptics and disinfectants could be judged and sold on the basis of their real value.

Current Comment

PASTEUR

"A Study in Greatness" is the sub-title of a brief sketch of the career of Pasteur, by Prof. F. W. Martin.[1] In the spirit of Carlyle, Martin shows the origin of the racial concept of greatness, and having discovered a fundamental similarity in the works ranked as great, he offers as a hypothesis this interpretation: They all relate to the heroic. He gives an exceedingly interesting outline of Pasteur's life, pointing to the tenacious purpose of the great Frenchman's genius, showing how the results obtained by minute microscopic investigations were conceived by this master-mind as macrocosmic laws. Of the discovery of racemic acid, Martin says that, measured by its ultimate results, it was doubtless the most far-reaching discovery ever made, being in one direction the germ of a new science, stereochemistry; in another, transforming medicine and agriculture from empirically practiced arts into true sciences. This discovery, made at the age of twenty-five, was the first great manifestation of Pasteur's "marvelous capacity for seeing the unseeable." Holding to the "sure road of experimentation," he broke roads into a new world, and created on his way new sciences which should serve in its exploration. Making discovery after discovery unparalleled in universal importance, his genius compares with other milestones in our civilization—Newton, Copernicus, Galileo—as a solar system compares with an isolated star. In 1868, in the midst of many and great investigations, Pasteur was struck by a series of paralytic shocks, but, says Martin, although crippled in body, the work accomplished by Pasteur during his remaining twenty-seven years was not only stupendous in amount, but of transcendent importance to mankind. The example afforded by the heroic labors of the paralyzed Pasteur cannot be matched from the annals of all time. Our conceptions of greatness need constant revision, the term being so often applied to comparatively insignificant incidents in every-day life that it loses its meaning. The article cited is an aid in such revision.

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[1] Jour. Infect. Dis., January, 1911, viii, No. 1.

[1] Popular Science Monthly, July, 1911.

A MICROSCOPE FOR TWO

A new device which will appeal to all users of microscopes is the arrangement of two separate oculars with one common objective, allowing two persons side by side to look at the same field, so that an instructor may describe to a pupil what should be observed by the latter while both are looking at it, so also that an artist can make a drawing under the direction of the microscopist, etc. Appreciation of its value will doubtless be expressed by all users and the question will be asked, why it was not invented before. Thus far we have heard only of the instrument's being exhibited in France, but in due time it will probably be introduced into this country.

INCOMPATIBILITY BETWEEN INTERNAL AND EXTERNAL APPLICATIONS

That certain drugs administered internally may cause a dermatitis in susceptible persons is well known. Quinin and bromids are examples. Another fact, perhaps not so well known, is that a dermatitis may also be set up if certain drugs are taken internally at the same time that certain other drugs are applied externally. Miro[1] refers to an instance in which hydrogen dioxid was applied externally while potassium iodid was being taken internally. Hydrogen dioxid and iodin preparations, used at the same time externally, may also cause intense burning in the skin. Mendenhall,[2] some time ago, called attention to a case in which the use of so-called colorless tincture of iodin, prepared by adding ordinary tincture of iodin to sodium thiosulphate to displace the color, in connection with an ointment of ammoniated mercury, caused a dermatitis, the author believes, on account of the formation of the irritating mercuric iodid. In the case of the iodin salt and the hydrogen dioxid, the latter probably acted as an oxidizing agent, setting free the iodin which caused the irritation. Other oxidizing agents, with the iodids or with mercurous salts, might act similarly. Another instance of an internal and external incompatibility would be sulphur taken for some time internally, and a solution of a mercuric salt applied externally. This might result not in a dermatitis, but in an unpleasant black deposit of mercuric sulphid in the skin, the sulphur being excreted by the skin.

PROFESSOR HEUBNER AND MARETIN

The good work which Professor Heubner, the editor of the *Therapeutische Monatshefte,* is doing for therapeutic advance has been referred to before. In the Current Medical Literature department of this issue there appears an abstract of an article by him on the proprietary remedy maretin (page 256, abst. 108). The article is interesting in that it shows that the valiant editor is not afraid to attack the products or methods of influential firms, for maretin is sold by one of Germany's most prominent manufacturers, the Farbenfabriken of Elberfeld Co. It brings out an important point, namely, that often a new remedy is heralded as a most wonderful discovery, but when tried is found wanting and is soon almost forgotten by the profession. Then after a period of quiescence it may be again "pushed" by the manufacturers, and this regardless of the unfavorable results obtained with it when first introduced. Maretin was first put out in 1904 as "detoxicated acetanilid." It was tried, found unsatisfactory and by no means non-toxic. Now it appears to be again brought forward in Germany and Professor Heubner deserves credit for his handling of the matter. It is to be hoped that Heubner's discussion may be the means of preventing the introduction of this preparation in the United States.

Clinical and Histologic Effects of Total Arrest of Circulation for an Hour.—Depage of Brussels was operating on a boy of 15 for osteomyelitis of the femur when the patient's heart stopped beating. Notwithstanding all measures for resuscitation for a whole hour, including massage of the heart, there were no signs of revival, but then a pint of salt solution was infused and under the influence of this the massage of the heart proved successful and the boy was resuscitated. His mind, however, seemed affected; he was agitated and delirious, but there were no motor disturbances or modification of the reflexes. He remained in this condition for nine days, the temperature going up to 40.5 C (105 F.) and then he died. The university pathologist, R. Sand, examined minutely innumerable sections of the brain and other organs, regarding the case as equivalent to a laboratory experiment on the effects of total arrest of the circulation for an hour, conditions in the brain having been practically the same, he thinks, as when the circulation has been shut off from an organ by a ligature. His report was read at a recent meeting of the Belgian Académie de Médecine. It stated that there "was not a single nerve cell intact in the entire extent of the cerebrospinal axis," and, further, "that the case teaches the value of saline infusion as an adjuvant in chloroform accidents." Sand's conclusions were qualified by the academy, in accepting the report, as being "rather too sweeping"—the patient had not exhibited symptoms which would have been inevitable if every nerve cell had been injured.

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[1] Miro, A. P.: Revista Med. Cubana, March, 1911.

[2] Mendenhall, A. M.: Chemical Dermatitis from Incompatible External Applications, THE JOURNAL A. M. A., May 13, 1911, p. 1389.

Medical News

ALABAMA

Personal.—Dr. Merrick D. Thomas, Waverly, has been appointed clinical instructor in obstetrics in Birmingham Medical College.——Dr. George Rau, Tuscaloosa, has subleased the Tuscaloosa Infirmary and has assumed complete control of the institution.

Fresh Air Camp.—The committee chosen from the Montgomery Antituberculosis League to examine sites for the fresh air camp has settled on a tract of land on the lower Wetumpka Road and hopes to close the deal at once. The league has about $1,000 at present in its treasury.

ARIZONA

Personal.—Dr. and Mrs. Francis H. Redewill, Phoenix, have returned from Europe.——Dr. George D. Troutman, Tucson, who recently underwent an operation in St. Joseph's Hospital, Phoenix, has recovered and resumed practice.

ARKANSAS

Personal.—Dr. John M. Taylor, Fort Smith, was operated on for appendicitis at St. Edward's Infirmary in that city, June 7.——Dr. Samuel E. Thompson has been appointed a member of the board of health of El Dorado.——Dr. A. Earl Hardin has been appointed health officer of Fort Smith.——Dr. Arthur G. Thompson has been reelected president of the board of health of Pine Bluff.——Drs. Curtis W. Chaffin and Albert L. Wilsford, Moro, are ill with septicemia, due to operation wounds.——Dr. Anderson Watkins has been elected medical director of the Little Rock School Board vice Dr. James H. Lenow.

State Board Appointments.—The governor has appointed the following members of the Eclectic State Medical Board: Drs. Rosco M. Jernigan, Fitzhugh; Samuel W. Moreland, Jonesboro; E. L. Sullivan, Poughkeepsie; M. C. Nixon, Smithville; Lycurgus Gardner, Atkins; Jonathon Darrough, Paris; J. O. Hinton, Hot Springs; W. Carl Dallingbaugh, Pine Bluff, and James L. Vail and S. G. Boyne, Little Rock.——Dr. Francis T. Isbell, Horatio, has been appointed a member of the State Medical Examining Board, vice Dr. Merrieman L. Norwood, Locksburg, and Drs. Montague Fink, Helena, and George S. Brown, Conway, have been appointed members of the board to succeed themselves.

COLORADO

Bequest.—By the will of the late Moses Stern, South Bend, Ind., $2,000 is bequeathed to the National Jewish Hospital for Consumptives, Denver.

Personal.—Dr. Seymour D. Van Meter, Denver, secretary of the State Board of Medical Examiners for ten years, has been made president of the board.——Dr. William C. Mitchell, Denver, has returned from Europe.——Dr. Perry F. Purdue, Sterling, was operated on recently for appendicitis and is reported to be doing well.

Divine Healer Cannot Accept Fee.—In the case of the people against Edward C. Smith, the so-called "divine healer," at Denver, the state supreme court has affirmed the decision of the lower court that the defendant could not accept a fee for the treatment of diseases unless he had a license from the State Board of Health. The court held that "the commercial practice of healing by prayer, followed as a money-making venture or occupation, is the practice of medicine within the plain meaning of the statute."

GEORGIA

Physicians' Building Planned.—The plan of the Realty Trust Company, Atlanta, to erect a ten-story office building to accommodate physicians and dentists of the city and to cost about $400,000, has been endorsed by the Fulton County Medical Society.

Personal.—Drs. John G. Wilkins and James P. Hall have been elected ward physicians of Atlanta.——Dr. John F. Harris has been elected chairman of the Board of Health of Dalton.——Drs. Ross P. Cox, George B. Smith, J. William De Lay and James C. Watts have been elected members of the Rome Board of Health.——Dr. Victor H. Bassett, Savannah, and all the members of his family are ill with typhoid fever in the hospitals of Savannah. One child has died.——Dr. Alfred L. Fowler has resigned his position as physician at the United States penitentiary in Atlanta.——Dr. William H. Doughty, Augusta, has been appointed a member of the State Board of Health to succeed the late Dr. James B. Morgan.

ILLINOIS

Society Meeting.—The Edgar County Medical Society held a meeting at Paris, June 22, and elected the following officers for the ensuing year: President, Dr. Byron G. Williams; vice-president, Dr. John W. Evinger; secretary-treasurer, Dr. George Hunt, all of Paris.

Asylums Exempt from Ten-Hour Law.—Attorney-General Stead, in an opinion rendered to the state board of administration, July 8, holds that the women's ten-hour law does not apply to any of the state institutions. He says that unless there is a specific provision in the act to the effect that the law applies to the state institutions it cannot be made to apply to them, as the state is sovereign.

Personal.—Dr. Albert E. Brown, Waukegan, has been reelected physician of Lake County.——Dr. Austin L. Green, Milford, is reported to be seriously ill.——Dr. Christopher D. Mowry, Aurora, is suffering from blood-poisoning as the result of a dog bite of the hand.——Dr. Ralph T. Smith, DeKalb, sailed for Europe, June 17.——Dr. Charles B. Dirks, Kankakee, has been appointed superintendent of the Elgin State Hospital, vice Dr. Frank H. Jenks, resigned.——Dr. James A. Rutledge, Elgin, has been appointed head physician of the Woodman Sanatorium, Colorado Springs, Colo.——Dr. Katherine E. James, Rockford, was injured while cranking her automobile. The extent of the injury is not yet known, but it is not thought that the wrist is fractured.——Dr. William T. Dowdall, Peoria, has been appointed local surgeon of the Illinois Central Railway Company in place of Dr. Robert C. Bradley, resigned.——Dr. Seymour H. Woodworth, Park Ridge, was seriously injured in an automobile accident near Lake Zurich, July 7.——Dr. George Steeley, Danville, has been appointed a member of the pension examining board, vice Dr. William A. Cochran, appointed chief surgeon at the Soldiers' Home Hospital.——Dr. Henry T. Godfrey, Galena, has removed to Omaha.

Chicago

Personal.—Dr. Paul Forgrave has been appointed house physician of the City Hospital, Akron, Ohio.——Dr. and Mrs. Olaf Martin Steffenson sailed for Europe June 24.——Dr. H. R. Schwarze has been appointed assistant director of the state biologic laboratory.——Dr. and Mrs. Edward L. Moorhead and son sailed for Europe July 4.

INDIANA

Bequest.—Mrs. Eva Wetli, who died recently from tuberculosis at St. Elizabeth's Hospital, Lafayette, bequeathed $5,000 for the establishment of a consumptive's cottage at that hospital.

Personal.—Dr. James H. Morrison, health officer of Bartholomew County, is seriously ill at his home in Hartsville.——Dr. George Miller, Hammond, is at St. Margaret's Hospital, suffering with malaria.——Dr. John P. Nicodemus, Logansport, has four fractured ribs and severe bruises and sprains, the results of an automobile accident.——Dr. and Mrs. Green V. Woollen, Indianapolis, received slight injuries when a speeding automobile crashed into their buggy.——Dr. Warren R. King, surgeon at the State Soldier's Home, has resigned.——Dr. Henry V. Passage, Peru, is reported to be critically ill.——Dr. John F. Glover, Evansville, for thirteen years assistant superintendent at the Southern Indiana Hospital for the Insane, has resigned.——Dr. James H. Walker, Henryville, has been appointed chief physician at the Indiana reformatory to succeed Dr. Richard H. Smith, Kokomo, who has resigned to become chief surgeon of the American Rolling Mill Company at Middletown, Ohio.——Dr. Charles E. Dutrow, Bristol, sustained severe spinal injuries recently in a fall.——Dr. Ezra W. Depew, Wolflake, is reported to be critically ill.——Dr. John L. Masters, Indianapolis, is rapidly recovering after an operation for appendicitis.——Dr. James A. Mattison, who has been connected with the hospital of the National Military Home for the past nine years, has been promoted to governor and chief surgeon of the Battle Mountain Sanitarium at Hot Springs, S. D.

MAINE

State Society Meeting.—The fifty-ninth annual meeting of the Maine Medical Association was held at Augusta, June 28-29. The annual oration was by Dr. Henry A. Christian, Boston, dean of Harvard Medical School, on "Modern Methods of Clinical Investigations in Relation to Hospital Organization." The following officers were elected: President, Dr. Stanley P. Warren, Portland; vice-presidents, Drs. William C. Peters, Bangor, and Luther G. Bunker, Waterville; secretary, Dr. Willis B. Moulton, Portland; treasurer, Edwin W.

Gehring, Portland; legislative committee, Drs. Seth C. Gordon, William L. Cousins, Stanley P. Warren and Willis B. Moulton, all of Portland.

MARYLAND

Personal.—Dr. William Dick Campbell, Hagerstown, suffered severe burns July 7 by the ignition of alcohol with which he had been bathing his arms.

State Board Sustained.—The Circuit Court at Towson has decided in favor of the State Board of Health against a deputy sheriff of Baltimore County, who had prevented the representative of the board from making an inspection of his property to ascertain whether or not sewage from his house flowed into Lake Roland, one of the sources of water supply for Baltimore.

Baltimore

Bequest.—It is understood that the bequest of the late Dr. Charles M. Ellis of Elkton of about $20,000 to the Medical and Chirurgical Faculty is to be applied toward the endowment of the library.

China Missionary in Baltimore.—Dr. Edward Hume, head of the medical staff at the Yale Mission in Chang-Sha, is visiting at his home in Baltimore. He was on duty through the uprising in China last year and is now enjoying a furlough of eighteen months.

Coroner Exonerated.—Dr. Otto M. Reinhardt, coroner of the southern district, who was charged with conduct unbecoming a state officer and with influencing a coroner's jury, was acquitted July 5, after a hearing by the governor, who did not even summon Dr. Reinhardt to give testimony.

Personal.—Dr. L. McLane Tiffany has recovered from his recent severe illness.——Dr. Christian Deetjen, *x*-ray specialist, underwent operation June 28 for burns of the hands brought on from exposure to the *x*-ray, fourteen such spots being cut out and fresh skin from the thighs transplanted to their sites.——Dr. Joseph B. Piggett, superintendent of the University Hospital, has gone to Grafton, W. Va., to take up private practice and has been succeeded by Dr. William Joseph Coleman, Mineral, Va.——Dr. Arthur P. Herring has succeeded Dr. Emil Novak as editor of the *Bulletin of the Medical and Chirurgical Faculty of Maryland.* His associates are Drs. John Ruhrah and John S. Davis.——Dr. Nathan Winslow has been appointed associate professor of surgery in the University of Maryland.——Dr. Edward Bailey Beasley has been given the degree of Doctor of Public Health by Harvard University. The title of Dr. Beasley's dissertation was "Permeability of Slow Sand Filters to Bacillus Typhosus."——Dr. James B. Bennett sailed for Bremen, July 7.——Drs. John M. T. Finney and J. M. H. Rowland are said to have been removed from the board of school commissioners by the mayor because they would not consent, at his dictation, to remove from office the superintendent of schools, against whom no charge had been made.——Drs. Alfred T. Chambers and James M. Delevett have been appointed members of the Board of School Commissioners to fill vacancies.——Dr. Harry Friedenwald has been elected president of the Federation of American Zionists.

MISSOURI

Birthday Gift.—A handsomely framed portrait of Dr. Oliver Wendell Holmes was presented as a birthday testimonial to Dr. Ambrose Talbot, medical director of the Kansas City Life Insurance Company, by the employees of that company, June 14. Dr. Holmes was Dr. Talbot's tutor in his college days.

Society Elects.—At the meeting of the North Missouri Medical Association held in Columbia, June 22-23, the following officers were elected: president, Dr. J. C. Lyter, Moberly; vice-presidents, Dr. Charles O. Davidson, Jefferson City, and Dr. W. O. Hawkinson, Roanoke; secretary, Dr. E. M. Gilford, Monroe City; corresponding secretary, Dr. J. Wilson, Kirksville.

Personal.—Dr. James A. Watermann, head physician at the state penitentiary, Jefferson City, has been elected superintendent of State Hospital No. 4, Farmington.——Dr. John Green, Jr., St. Louis, has been reelected director of the Missouri Crematory Association.——Dr. Ambrose W. Teel, Kahoka, has been appointed special examiner for Clark County for the Missouri State Sanatorium.

Million for Hospital.—At the meeting of the International Missionary Convention of the Christian Church, held at Portland, Ore., July 8, R. A. Long, a lumberman of Kansas City, announced that he would, during the next ten years, give $1,000,000 for the establishment of a non-sectarian national hospital to be erected on a tract of land thirty-eight acres in extent in Kansas City owned by the Christian Church. The donation is contingent on the raising of $1,000,000 by the church and on one-third of the beds in the institution being free.

NEBRASKA

Health Association Election.—The Nebraska State Health Association, at its annual meeting in Omaha, June 13-14, elected Dr. William H. Wilson, state health inspector, Lincoln, president; Dr. Solon R. Towne, Omaha, vice-president, and Dr. William F. Mitchell, Superior, secretary and treasurer. The next meeting will be held at Hastings in September.

New Sanitarium for Omaha.—Drs. Charles C. Allison, Harold Gifford, Frank E. Coulter, Joseph M. Aikin, Arthur D. Dunn, Willson O. Bridges and Frank S. Dunham, Cozad, and Dr. John W. Koutsky, South Omaha, are incorporators of the Hanscom Park Sanitarium which has secured the old Holdredge home on Thirty-Second Avenue, Omaha, and will convert the building into a thirty-room sanitarium and hospital for nervous and mental diseases.

Personal.—Dr. John M. Banister, Medical Corps, U. S. Army, retired, has entered into active practice as an oculist in Omaha.——Dr. Chester D. Barnes, Tecumseh, while shooting rats, June 22, suffered severe injuries by the accidental discharge of his gun, necessitating the amputation of a portion of the foot.——Dr. Hans P. Jensen, Omaha, is reported to be seriously ill with malignant disease of the stomach.——Fire in the office of Dr. Walter R. Townsend, Lincoln, June 30, caused considerable damage to his library and office equipment.

NEW JERSEY

Election.—The New Jersey Pediatric Society held its annual meeting at Atlantic City, June 26, and the following officers were elected: president, Dr. Henry L. Coit, Newark; vice-president, Dr. Alexander McAlister, Camden; treasurer, Dr. Benjamin Van D. Hedges, Plainfield; secretary, Dr. Martin J. Synnot, Mont Clair; councilors, Drs. Francis H. Glazebrook, Morristown; J. Finley Bell, Englewood; Thomas N. Gray, East Orange; Burdette P. Craig, Jersey City.

State Society Meeting.—At the annual meeting of the New Jersey State Medical Society held at Spring Lake, June 13-15, the following officers were elected: president, Dr. Daniel Strock, Camden; vice-presidents, Drs. Norton L. Wilson, Elizabeth; Enoch Hollingshead, Pemberton, and Frank D. Gray, Jersey City; corresponding secretary, Dr. Harry A. Stout, Wenonah; recording secretary, Dr. William J. Chandler, South Orange; and treasurer, Dr. Archibald Mercer, Newark. The next session will be held at Spring Lake in June, 1912.

NEW MEXICO

New Society Organized.—The physicians of Taos County met in Virsylvia recently and organized the Taos County Medical Club, electing Dr. Isaac N. Woodman, Cerro, president; Dr. Allison, vice-president, and Dr. H. H. Johnson, secretary.

Personal.—Dr. Celia W. Taylor Goodman, Albuquerque, who is about to leave for California on account of failing health, was presented with a silk umbrella, June 19, by the Bernalillo County Medical Society.——Capt. Charles F. Beeson, M.C., N.M.N.G., has been placed in charge of the organization of the hospital corps for the state militia.——Dr. Stanley G. Small, Santa Fe, was operated on for appendicitis recently at St. Vincent's Sanitarium, El Paso, Tex., and is making a satisfactory recovery.

NEW YORK

Permission Granted for Sanitarium.—The application of the Metropolitan Life Insurance Company for permission to build and maintain a tuberculosis sanitarium at Mount MacGregor has been granted.

Decrease in Death-Rate.—There were 34,506 births reported in Greater New York during the first quarter of the present year, an increase of 1,901 over the same period in 1910. The number of marriages reported was 11,495, an increase of 1,412. The number of deaths was 20,876, against 20,660 in 1910, an increase of 216, but the death-rate was 17 per 1,000 against 17.45 during the first quarter of last year, a decrease of 0.45 of a point. In children under 1 year there was a decrease of 468 deaths; in children under 5 years, a decrease of 1,099, and a decrease of 620 deaths in the ages from 5 to 65. In the group, 65 and over, there was an increase of eighty-five deaths.

New York City

Dispensary Opened.—The new building of the Hebrew Ladies' Dispensary on Williamsburg Street was opened with a parade without other ceremony, June 27.

Free Clinic for Mental Diseases.—The first free clinic for incipient mental diseases in New York City was opened in the Long Island State Hospital for the Insane, July 3.

Sydenham Hospital Closed.—The doors of the nine buildings comprising Sydenham Hospital were closed, June 30, until suitable alterations can be made or new hospital buildings erected which will comply with the regulations of the state board of charities regarding adequate air space and those of the building department concerning fire escapes, etc.

Personal.—Dr. Adolph I. Ringer of the department of medicine of Cornell University has been appointed instructor in physiologic chemistry in the University of Pennsylvania, Philadelphia.——Dr. William J. Robinson sailed for Europe July 1.——Dr. Joel Grosner had a narrow escape from death when he swallowed a solution of bichlorid of mercury, June 28, mistaking it for water.——Dr. P. Hanson Hiss, Jr., Brooklyn, has been appointed medical examiner by the state board of regents.——Dr. George R. Lockwood, Jr., is reported to be critically ill with gastric ulcer.

The Cholera Situation.—A steerage passenger on the steamship *Duca Degli Abruzzi* which arrived in New York, June 20, died at Auburn, July 1, from what is diagnosed as Asiatic cholera, and a second passenger on this steamer is said to have died in Brooklyn, July 4, from the same cause. The health officer of the port of New York, after conference with Surgeon-General Wyman of the U. S. P. H. & M.-H. Service, has decided that passengers arriving in New York on steamships on which there is any suspicion of cholera are hereafter to be detained ten days at quarantine instead of five as heretofore.——The steamship *Moltke* which arrived in New York from the Mediterranean, July 5, has been detained at quarantine on account of a case of suspected Asiatic cholera.

The Rockefeller Institute and Anterior Poliomyelitis.—The Rockefeller Institute for Medical Research announces that it will devote its resources very largely during the present season to the study of anterior poliomyelitis and the treatment of acute cases of this disease in its hospital. Physicians and health officers who desire to cooperate in this investigation may do so by sending information concerning the occurrence and prevalence of the disease or by referring acute cases to the Hospital of the Rockefeller Institute. Dr. Flexner renews his request of last year that whenever possible a portion of the spinal cord and of the naso-pharyngeal mucosa derived from fatal cases of the disease be sent to him. Specimens should be preserved in glycerin and sent by mail to Dr. Simon Flexner, Sixty-Sixth Street and Avenue A, New York City.

Bequests to Hospitals.—By the will of the late George L. Fox of Brooklyn, St. Catherine's Hospital will receive $25,000; Brooklyn Hospital, $20,000; Eastern District Hospital, $100,000; St. Mary's Hospital, $25,000; German Hospital, $25,000; Home for the Aged of the Little Sisters of the Poor, $50,000; Industrial Home for the Blind, $15,000; Brooklyn Home for Consumptives, $10,000; St. John's Hospital, $10,000, and the New York Ophthalmic and Aural Institute, $10,000.——The will of the late Charles Engert of Brooklyn gives St. Catherine's Hospital, $10,000; St. Mary's Hospital and Dispensary, $5,000; the German Hospital Society, $5,000, and St. Peter's Hospital, $5,000.——The will of the late Walter E. Duryea leaves $5,000 to the Nassau Hospital, Mineola; on the death of a sister the hospital is to receive $75,000, and Roosevelt Hospital receives $15,000.——The Presbyterian Hospital receives a bequest of $1,000 by the will of the late Samuel Hall.——The will of the late Martin Herman leaves $5,000 to Mount Sinai Hospital and $1,000 to the Beth Israel Hospital.——The will of George H. Morgan leaves $2,000 to the Hospital for Ruptured and Crippled.——The will of the late Oscar Egerton Schmidt gives $5,000 to the New York Orthopedic Dispensary, and also the residue of his estate, the amount of which has not been made public.

NORTH CAROLINA

New Nurses' Home.—The new nurses' home and the woman's pavilion to the new Watts Hospital in Durham are ready for use. The home is reinforced concrete, harmonious in construction with the other Watts Hospital buildings. The whole is the gift of Mr. George W. Watts, who placed the control of the property for all time to come in the hands of the Durham County Medical Society.

Health Officers' Association.—At Charlotte, June 19, the North Carolina Health Officers' Association was formally launched, with the following as officers: president, Dr. Lewis B. McBrayer, Asheville; vice-president, Dr. Lucius N. Glenn, Gastonia; secretary-treasurer, Dr. Watson S. Rankin, Raleigh. The constitution and by-laws adopted limit membership to members of state, county or municipal boards of health or employees of the same.

Appointments.—Governor Kitchen has appointed as trustees for the State Sanatorium for Tuberculosis the following: Dr. Isaac E. Green, Weldon; Mr. J. D. Daws, Elizabeth City, and Mr. William E. Breese, Jr., Brevard.——Dr. Charles T. Nesbitt, Wilmington, recently appointed health officer of that city, will receive a salary of $2,000 annually, with an assistant at a salary of $900 annually, and will be required to give his entire time to the municipal health matters.

PENNSYLVANIA

Rittersville to be Completed.—The new Rittersville Hospital Commission has decided to conform to the governor's suggestions to finish one ward immediately for the reception of patients and to advertise for bids, both for the completion of the institution and for finishing the various wards. The chairman of the new committee has announced that the work and accounts of the body are to be open to the public.

More State Medical Legislation.—Governor Tener has signed the following additional laws, affecting medical matters in Pennsylvania: A commission to study a plan for permanent segregation of the feeble-minded. The object is to prevent procreation of defectives. A vaccination commission. Twenty-five hundred dollars of the people's funds will be wasted in this scheme of antivaccinationists to "learn" what is already public information. The personnel of this commission will decide the extent of harm possible by the schemers, and medical leaders should promptly interview the governor as to representation of the profession. The sum of $10,000 will be applied for registration of births and deaths. In a future legislature the Michigan law of paying every physician for this service (as is done the lawyers and others) should be enacted. A law now becomes effective by which only the state's Bureau of Medical Education and Licensure can license midwives and this includes that infants' eyes, when diseased, can only be treated by licensed physicians. The object, of course, is to prevent unnecessary blindness, criminal abortions and puerperal disease.

Philadelphia

New Committee on Criminal Abortion.—The president of the Philadelphia County Medical Society has named Drs. Richard Norris, Samuel M. Wilson and Henry W. Cattell, chairman, to serve for the current year as a committee on criminal abortion.

New Department.—The University Hospital has added a Pasteur department for the treatment of cases of hydrophobia and it will be accessible to any person thought to have been bitten by an infected animal. Until this was opened the nearest Pasteur institute was in New York. The new department is under the charge of Dr. Alfred Stengel.

More Milk Dumped.—Milk condemned and dumped since June 15, because it was more than 60 degrees in temperature when it reached the receiving station, amounted to 630 quarts. The records of the division of milk inspection show that 210 quarts of the number dumped came in over the Reading Railway lines, which company has failed to provide refrigerator cars.

University Summer School Opens.—The School of Observation of the University of Pennsylvania, under the direction of the psychologic department, opened on Thursday, July 6, with more than 200 children in attendance. A class of twenty backward pupils are to be under direction of a special teacher. Lunches will be provided and special care of diet and proper preparation of food will be undertaken under the supervision of the psychologic clinic.

Babies' Hospital.—Subscriptions amounting to $3,500, the use of the property at Wynnefield, Fairmount Park, belonging to and formerly used by the Children's Hospital, selection of a board of managers and a free ambulance service, donated by the *Evening Telegraph*, have done much toward completion of plans for the hospital for treatment of infants, to be known as "The Babies' Hospital." The hospital is most accessible, as the trolleys from the northeast and downtown sections of the city connect with the park trolleys running direct to the institution and the Pennsylvania railroad station at Wynnefield is at the entrance of the grounds. Subscriptions may be sent to Doctor Sinclair, who is treasurer, or the *North American* will be glad to forward any subscriptions offered through this newspaper.

Tuberculosis Camp on Pier.—A day camp for the treatment of the consumptive poor of the tenement districts will be maintained on the pier at the foot of Bainbridge Street during the months of July, August and September. A pavilion, 25 feet from the edge of the pier, 30 by 40 feet, to accommodate about thirty cure chairs, will be built with canvas covering and roller side curtains to protect patients from the sun, the side facing the river to be left open. A light lunch, consisting of milk, bread and butter will be served at 10 a. m. and 3 p. m. and a more substantial meal provided at midday. Special attention will be given to children of mothers obliged to become patients at the pier and instructions in cooking will be given by the nurse in attendance. Drs. Neff and Francine have sent out letters to interest the public in this project and the camp will be under the supervision of a corps of physicians.

University Changes.—Following the close of the school term many changes have been made in the medical faculty of the University of Pennsylvania. The list of appointments follows: Dr. G. T. Thomas to be associate of applied anatomy; Dr. G. W. Norris to become assistant professor of medicine in place of the late A. O. J. Kelly; Drs. J. Rex Hobensack, W. E. Quicksall, P. G. Skillern and N. Ginsburg to become assistant demonstrators in anatomy; Dr. Howard A. Sutton, assistant demonstrator of anatomy, to become assistant demonstrator of osteology; Dr. Norman L. Knipe to become assistant instructor in obstetrics; Dr. Oscar H. Plant to become demonstrator in pharmacology; Dr. J. H. Austin, demonstrator in pathology, to become associate in research medicine; Dr. A. B. Eisenbrey, associate in research medicine, to become instructor in surgery; Dr. J. G. Hickey, absent on leave, will resume duty as assistant in physiology; Dr. A. H. Hopkins will become assistant instructor in medicine; Dr. F. C. Knowles will become instructor in gynecology; Dr. R. S. Laveson, absent on leave, will resume duty as instructor in medicine; Dr. W. H. MacKinney will become assistant instructor in genito-urinary diseases; Dr. W. C. Rose will become assistant instructor in physiologic chemistry; Dr. A. I. Ringer will become instructor in physiologic chemistry; Dr. A. H. Wood will succeed Dr. A. R. Allen as lecturer on electrotherapeutics.

Personal.—Dr. James Thorington has been appointed ophthalmic surgeon to the Presbyterian Hospital to fill the position made vacant by the death of Dr. Oliver.——Dr. J. M. Griscom has been appointed chief of the eye dispensary in the service of Dr. Thorington at the Presbyterian Hospital.——Dr. F. X. Dercum, professor of neurology in Jefferson Medical College, has been elected a corresponding member of the Society of Psychiatry and Neurology of Vienna.——Dr. Warren C. Batroff, director of the clinical laboratory of the Medico-Chirurgical College, has just returned from a three months' tour in Europe.——Dr. Herbert Fox has resigned his position as chief of laboratories of the Pennsylvania Department of Health to assume the directorship of the Pepper Laboratories of the University of Pennsylvania. Dr. Fox was the first chief of the department under the state authorities, having held the position since its inception five years ago.——Drs. Donnel Hughes and B. R. Marsden sailed for Europe June 28 and Drs. J. C. Boyer, A. A. Bliss and Wendell Reber on July 1.——Dr. Henry Beates, Jr., has resigned from the State Board of Medical Examiners, a position that he has held continuously since the board's creation, seventeen years ago. He has been its president since 1899.——Lafayette College conferred the degree of doctor of laws on Dr. Gwilym G. Davis, professor of orthopedic surgery in the University of Pennsylvania.——Dr. S. Lewis Ziegler sailed for Europe July 4 and Drs. Walter L. Pyle, Max Roedman, Charles F. Taylor and Arthur J. Zimlick on July 8.

TENNESSEE

Personal.—Dr. Jasper Kelsey, Lynnville, is suffering from whooping cough.

Vanderbilt Faculty.—The faculty of the medical department of Vanderbilt University has been declared vacant. An entirely new faculty will be chosen for that department within the next few days.

Society Meetings.—The twentieth annual meeting of the West Tennessee Medical Association was held in Dyersburg, May 10 and 11, and the following officers were elected: president, Dr. J. Augustus Crisler, Memphis; vice-presidents, Drs. Reuben M. Biggs, Palmersville, and Richard W. Griffin, Tiptonville, and secretary, Dr. Isaac A. McSwain, Paris (reelected for the twentieth time). Memphis was selected as the next place of meeting.——At the thirty-fourth semi-annual meeting of the Middle Tennessee Medical Association, held in Lewisburg, May 18 and 19, the following officers were elected: president, Dr. R. J. Perry, Springville; vice president, Dr. Hilliard Wood, and secretary and treasurer, Dr. Kennett L. Jones, Lewisburg. Gallatin was selected as the next place of meeting.——At the annual meeting of the Upper Cumberland Medical Society, held in Monterey, May 24, the following officers were elected: president, Dr. John T. Moore, Algood; vice-presidents, Drs. W. C. Officer, Monterey, and Zeb L. Shipley, Cookeville; secretary, Dr. L. D. J. Ensor, Cookeville, and treasurer, Dr. R. E. Lee Smith, Doyle.——The Lower East Tennessee Medical Society was organized in Athens June 5 and 6. At the preliminary organization Dr. Chalmers Deaderick, Knoxville, was elected temporary secretary, but before the end of the meeting a permanent organization was effected, with the following officers: president, Dr. Gustavus Shipley, Athens; vice-presidents, Drs. James E. Davis, Sweetwater, and Carl T. Speck, Cleveland, and secretary-treasurer, Dr. W. S. Moore, Athens. The next meeting will be held in Cleveland in May, 1912.

VIRGINIA

Personal.—Dr. George W. Wallace, Norfolk, suffered a cerebral hemorrhage, June 25, and is reported to be in a serious condition.

Southwest Virginians Meet.—At the annual meeting of the Southwest Virginia Medical Society, held in Roanoke, June 20-21, the following officers were elected: president, Dr. W. Wamanch Chaffin, Pulaski; vice-presidents, Drs. Edmund C. Watson, Roanoke, William H. Ribble, Jr., Wytheville, and secretary and treasurer, Dr. Alfred B. Greiner, Rural Retreat.

Faculty Changes.—At a meeting of the trustees of the University of College of Medicine, Richmond, June 26, Dr. Charles T. McClintock, formerly of Detroit, was appointed professor of hygiene and placed in charge of the laboratory of physiologic chemistry, and Dr. Edgar C. L. Miller, also of Detroit, was made a member of the laboratory staff. Dr. H. Stuart MacLean resigned as professor of pathology and assistant professor of clinical surgery to give his attention to private practice. Dr. Schuyler B. Moon, Richmond, was elected professor of pathology and Dr. Benjamin M. Roseboro instructor of pediatrics.

WISCONSIN

Antituberculosis Association Incorporated.—Articles of incorporation of the Wisconsin Antituberculosis Association were filed with the secretary of state June 28, without capital stock. The incorporators are W. D. Frost, F. A. Hutchins and W. H. Lighty.

Retreat for Convalescent Tuberculosis Patients.—A Sanatorium for tuberculosis, which is to be entirely non-sectarian and in which convalescent cases shall be treated, is to be opened in Milwaukee this month. The Milwaukee Park Board has temporarily granted the use of the old Kern Property—about 20 acres—on the upper Milwaukee River near the Humboldt Avenue bridge.

Personal.—The touring car of Dr. Francis H. Kelley, Merrill, was totally destroyed as the result of back-firing of the engine July 4.——Dr. Aaron Yaffe, house physician of the Emergency Hospital, has taken up private practice in Milwaukee.——Dr. Frederick D. Bentley, Portage, who has been ill for several days, is reported to be securely convalescent.——Dr. James F. Malone, West Allis, sustained serious injuries in a collision between his automobile and a railway train recently.

GENERAL NEWS

Alumni Election.—The Harvard Medical Alumni Association, at its recent meeting in Boston, elected as president Dr. John Collins Warren, Boston; secretary, Dr. Robert M. Green, Boston; treasurer, Dr. W. Prescott Prescott, Boston; and councilors, Drs. W. S. Bryant, New York City, and Elisha Flagg and Elliott P. Joslin, Boston.

Academy of Medicine Meeting.—At the annual meeting of the American Academy of Medicine, held in Los Angeles, June 23-26, Dr. Alexander R. Craig, Chicago, was elected president and Dr. Charles McIntire, Easton, Pa., was reelected secretary. The following vice-presidents were elected: Drs. W. Blair Stewart, Atlantic City, N. J., Albert Goldspohn, Chicago, Ray L. Wilbur, Palo Alto, Cal., and Arthur E. Hertzler, Kansas City, Mo.

Dr. Eager Ordered to Sicily.—Owing to the fact that a number of ocean liners have arrived in New York and other American ports along the Atlantic coast from Italy with cholera on board, the United States Government has ordered Surgeon John M. Eager, U. S. P. H. and M.-H. S., quarantine officer at Portland, to go to Palermo, Island of Sicily. Dr. Eager was in Italy for seven years before coming to Portland and has had valuable experience in previous epidemics of cholera.

Insurance Examiners' Meeting.—The eleventh annual meeting of the American Association of Medical Examiners was held at Los Angeles, Cal., June 26-27, under the presidency of Dr. Liston H. Montgomery of Chicago. The following officers were elected: president, Dr. W. E. Grant, Louisville; vice-presidents, Drs. Charles T. Cutting, Boston; Frank W. Foxworthy, Indianapolis; L. Fitzgerald, Newark, N. J., and Wesley W. Beckett, Los Angeles; secretary, Dr. George Strobach, Cincinnati, and treasurer, Dr. Liston H. Montgomery, Chicago.

Personal.—Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service, had conferred on him the honorary degree of LL.D. by Amherst College at its ninetieth annual commencement, June 28.——The University of Michigan, Ann Arbor, has conferred on Dr. William A. Evans, Chicago, the honorary degree of Doctor of Public Health.——The Pacific Coast senators have requested the president to detail Surgeon George W. McCoy, U. S. P. H. and M.-H. Service, to aid the Harvard Research Laboratory, Shanghai, China, in the investigation of diseases prevalent in the Orient and which at times threaten the Pacific Coast.

FOREIGN NEWS

Silver Jubilee of Carlo Reymond.—The fiftieth anniversary of the connection of Carlo Reymond, professor of ophthalmology, with the medical faculty of the University of Turin, was celebrated by his friends and pupils may 18. A large *Festschrift* was presented to him containing his own collected works and an index of the works published by his assistants under his inspiration, numbering 450. Reymond has been on several international committees appointed to study a uniform standard for visual acuity, and means for prevention of blindness, etc., and he has done pioneer work in various lines, particularly in study of refraction defects.

International Congress for Study and Prevention of Infantile Mortality.—The third of these international infant welfare conferences (*gouttes de lait*) is to be held at Berlin, Sept. 11 to 15, 1911. Membership is open to every person, male or female, engaged scientifically or practically in study and prevention of infant mortality. The membership fee is $5, with associate membership of $2.50. The Hamburg-American Line and Norddeutscher Lloyd give special rates, the former allowing 25 per cent. discount between New York and Hamburg. Other steamer and railroad lines allow from 20 to 50 per cent. off the regular rate, according to the circular which will be sent by the secretary-general, Professor Dr. Keller, Mollwitzstrasse, Berlin-Charlottenburg, Germany. The Hamburg-American Line also takes charge of reserving rooms at the Berlin hotels. Address the Reisebureau der Hamburg-Amerika Linie, Unter den Linden 8, Berlin W. The preceding congresses were held in Paris in 1905 and at Brussels in 1907. There are four sections: teaching and instruction, the work of protecting infants, laws and other measures of public administration concerning the protection and guardianship of infants, and statistics. By-laws are to be adopted completing the organization of the International Union for the Protection of Infants. The American committee for the congress will supply the official program and transportation circulars on application to the Executive Secretary, American Association for Study and Prevention of Infant Mortality, 1211 Cathedral Street, Baltimore.

CANADA

Injured by Explosion of Bottle.—Dr. Andrew Macphail, Montreal, editor of the *Canadian Medical Association Journal*, was severely injured by the explosion of a bottle of aerated water, June 18.

New Hospitals.—Mr. G. H. Perley, a member of parliament, has contributed $50,000 toward a tuberculosis hospital for Ottawa.——The board of control has recommended the acceptance of the bid of $33,701 for the reconstruction of the Municipal Small-Pox Hospital.

Provincial Society Meeting.—At the annual meeting of the Manitoba Medical Association, held in Portage la Prairie, June 23, the following officers were elected: president, Dr. Herbert P. H. Galloway, Winnipeg; vice-presidents, Drs. Daniel J. Ross, Selkirk, and John S. Poole, Neepawa; honorary secretary, Dr. Jasper Halpenny, Winnipeg; honorary treasurer, Dr. R. F. Rorke, Winnipeg, and executive committee, Drs. George Camsell, Austin; George Clingen, Virden; Samuel W. Prowse, Winnipeg; Cecil Parr, Morden, and Robert B. Culbertson, Dauphin.

LONDON LETTER

(*From Our Regular Correspondent*)

London, July 1, 1911.

The National Insurance Bill

The opposition to the national insurance bill, organized by the British Medical Association, not only of its own members but of the profession generally, has further developed. The association has sent to every doctor a circular inviting him to sign an undertaking that in the event of the bill passing, he will not enter into any agreement for attending the insured, excepting such as shall be satisfactory to the profession and in accordance with the declared policy of the association, and also to enter into such agreement only through a local medical committee, representative of the profession in the district in which he practices. At the same time doctors are asked to submit a memorial to Parliament, asking the government to postpone dealing with medical attendance until such terms shall have been arranged as shall afford reasonable assurance that competent doctors will be induced in the necessary numbers to enter into arrangements for treatment of the insured, which the proper administration of such benefits would require. The answers to these invitations have been very satisfactory: over 19,000 out of the 25,000 doctors in the country affected by the bill, have signed the undertaking and further pledges are coming in daily in great numbers. Funds are also being raised by the profession to meet any emergency which may arise if the bill passes. It is proposed that if the government does not yield to the profession's demands, to establish a fund for the indemnification of doctors who will lose part of their income by refusal to serve under the bill. Many offers of financial help have been received by the British Medical Association, both from doctors whose practices will be affected and doctors whose practices will not. Not only is there to be a central fund, but a number of branches of the association have started district funds, and others are only awaiting suggestions as to procedure from headquarters. The doctors of Fife (one of the Scottish counties) have established a fund, to which already about $25,000 have been promised. Funds have also been opened at Brighton and in several Lancashire towns. At Bury, for instance, the doctors have pledged themselves to pay any levy which may be imposed on them "for the purpose of carrying this matter through." Many branches of the association have passed resolutions declining to serve under the bill, unless their demands are acceded to, and some have even gone so far as to pledge themselves to resign any friendly society appointments which they at present hold and to decline any similar appointment which may be offered, if required to do so by the association. At Cardiff, the largest city in Wales, the South Wales and Monmouthshire branch of the British Medical Association passed the very drastic resolution, that unless the bill is so modified as to obtain the approval of the profession, the association should take steps to put an end to the system of gratuitous medical service in the hospitals of the United Kingdom. Mr. Lloyd-George, the chancellor of the exchequer, appears at last to have realized the grave mistake he made in introducing this bill without proper consultation with the leaders of the profession. He has just held two private interviews with representatives of the British Medical Association, and it is reported that he has consented to lower the wage limit for medical benefits from $800 to $625 yearly. I very much doubt that this will be accepted by the profession. It may be remembered that in my previous letters to The Journal, the demand of the profession was for a wage limit of $500 and that many doctors consider this too high and advocated a limit of about $350.

Plague-Infected Rats in London

The health authorities are much exercised by the discovery that at least four out of a dozen rats caught at Wapping, a district of London near the Thames, were infected with plague. Concern is increased by two facts: First, the district is higher up the river than the situations in which plague-infected rats have previously been caught. Second, it is early in the season for an epizootic of rat plague to have attained sufficient proportions to develop. This fact is probably due to a spell of warm weather unprecedented in recent years. Careful search is being made for other infected rats. During the last three years plague-infected rats have been discovered in proximity to the shipping in the port, but no extensive mortality among rats was observed, so that the disease appears to have been limited to a few colonies of rats. So far, the only wide-spread epizootic of rat plague observed in this country has occurred in an agricultural district of Suffolk near the sea, to which it was supposed to be brought by grain ships entering the river Orwell from infected countries (The Journal, Nov. 19, 1910, p. 1820). In connection with this epizootic, four fatal cases of pneumonic plague in man occurred. The relative immunity of man from plague in the presence of the epizootic in this country, as compared with oriental countries, is explained by the fact that rats are not tolerated and allowed to live undisturbed in human dwellings, as they are in the East, where religious opinions often prevent their destruction. Moreover, the Indian hut is kept in a dirty litter that affords plenty of cover for rats to nest and the bare feet and legs of its occupants give ample opportunities for biting.

The Advertising of Nostrums by the Religious Press

It is one of the ironies of life that the religious press should be among the worst offenders in the advertising of the fraudulent claims of nostrums. It is extensively used by the exploiters who are astute enough to know that many simple people will think that the admission of an advertisement of a nostrum into a religious paper is some guarantee of its respectability. The subject has come under discussion in connection with the well-known periodicals issued directly under the authority of the Church of Scotland, in which nostrums are advertised, not only in the columns set apart for advertisements but also in those devoted to theological matter. This reprehensible practice was brought before the general assembly of the church by Professor Curtis of Aberdeen who moved to exclude "all advertisements of secret or patent remedies of a medical or quasi-medical description," in order that "the disinterestedness and Christian character of accredited organs of the church might be above suspicion in that respect." The professor said that the crusade of the recognized organs of medical opinion against the indiscriminate puffing of secret remedies was sorely needed. This puffing told severely on the poor, who were not unnaturally impressed in favor of the "remedies" by the "respectable," not to say "unworldly" pose of such an advertising medium as the religious press. Amidst the laughter of the assembly he drew attention to the analyses by the *British Medical Journal* of some of these vaunted "remedies" containing such ordinary ingredients as aloes, ginger and soap, costing ½ cent and sold for fifty times that amount. After discussion, the professor's motion was rejected by a large majority. An argument which seemed to weigh very much with the assembly was that one of the magazines in question was largely supported by, if indeed it did not exist on, such advertising connections. Another argument was that, the church should "let well alone" and leave the business of the periodicals to their managers. Thus the assembly of the national Church of Scotland connives at dishonesty because it pays! If those whose profession is to teach morality tolerate such venality, what can be expected from the lay press?

Postgraduate Extension Study

A new departure in postgraduate teaching has been made by the University of Bristol, which has organized a course of demonstrations of recent research in pathology and bacteriology, at various centers in the southwest of England. The object is to permit doctors who cannot spare the time to journey to the university to see and investigate the practical application of recent discoveries. The first course of six weekly demonstrations was given at a small town, Frome in Somerset. Twenty-two doctors attended from the surrounding district. It was conducted by Dr. Walker Hall, professor of pathology in the University of Bristol. At the close of the course a dinner was given to the lecturer, Dr. Rattray, who presided, eulogized the spirited policy of the university which had placed at the disposal of those living in remote parts so excellent an opportunity of learning at first hand something of the extension of recent knowledge. Prof. Walker Hall had come among them as a scientific missionary and had made several of the difficult problems of the day clear and comprehensible. The idea of this course arose from an address given by Dr. Rattray as president of the Bath and Bristol branch of the British Medical Association, in which he pointed out how much more advantageous it was to see the application of the results of the newer methods of treatment and operation than to read about them. When they are seen, the physician could gauge in what cases he would adopt or recommend their application. On the medical side, the methods to which he referred were vaccine and serum-therapy, blood examinations, the opsonic index, radiology and ionic medication. On the surgical side, he thought it was well that the doctor should see the application of gastroscopy, bronchoscopy, etc., although he did not practice them.

The Cancer Hospital Research Institute

If we are as far as ever from knowing definitely the cause of cancer, it is certainly not for want of money and work devoted to the investigation of this dread disease. A cancer research laboratory has long been maintained by the Middlesex hospital, which has special wards for this disease. The Cancer Research Fund, instituted by the king, has maintained laboratories for many years at which eminent pathologists both of this and other countries have worked for a long time. Now a new research institute has been opened at the Cancer Hospital in the Fulham Road. It is a lofty building of three floors with a spacious basement. It measures 60 feet in width and 40 feet from back to front, and the height of rooms is from 12 to 14 feet. It contains ten separate laboratories, each thoroughly equipped. The usual passages have been abolished, and the laboratories which intercommunicate open also directly on to the staircase around the central lift. The ground floor is devoted principally to administrative purposes and contains a large reference room and library and directors' laboratory, which is to be devoted chiefly to the study of parasitology in its bacteriologic and cytologic aspects. It well illustrates the care with which the equipment has been carried out. The window stretching along the whole of one side of the room has narrow metal frames so as not to obstruct the light. A system of travelling electric lamps has been installed; the basins are fitted with telescopic plugs. On the first floor are the main research laboratories, which include a laboratory for comparative pathology, equipped with a kymograph and a Cambridge microtome for cutting large sections; a large chemical laboratory with fume cupboards in front of the window, central benches, an open drain, a Korting vacuum pump, and a hot chamber for drying tissues, which is kept at blood heat; a laboratory for physical measurements, equipped with photometers, thermostats, balances, and a serologic laboratory furnished with large and small centrifuges. The second floor is devoted wholly to experimental work, chiefly to the study of animal tissues, and includes an excellent physiologic laboratory. Above these is the tower, fitted with a laboratory for special light experiments. In the basement is an apartment devoted to electroradiophysics, and a photographic dark room. Another laboratory is occupied with preparatory chemistry, and is fitted with grinding mills, Buchner presses for extracting cell juices, combustion furnaces and an apparatus for producing distilled water. Other features of the basement are the room containing various sterilizers, a large carbon dioxid machine for refrigeration, with a cold store adjoining, a destructor crematorium, a boiler house, an engineer's workshop, and a series of eight vaults devoted to various purposes, such as chemical and spirit storing, and the housing of a large centrifuge of 24 tons' pressure. One of these vaults also forms an underground laboratory for working at an equable temperature.

PARIS LETTER

(From Our Regular Correspondent)

Paris, June 30, 1911.

Measures Against Cholera

The government is now taking precautions against the importation of cholera, numerous cases of which have been reported at various points on the Mediterranean coast. The regions at present officially considered to be infected with cholera are Naples, Palermo and Constantinople. At Palermo the first cases were reported from an asylum for the insane several weeks ago. There are now forty a day in that city. In Naples and some neighboring villages which were attacked last year the number of cases is thirty or forty a day. A telegram from Triest reports that a case of cholera was declared on board a transatlantic liner which touched at Naples before arriving at Triest. An American woman fell sick during the voyage and died.

Funeral Honors Paid by the City of Paris to Dr. Aimé Guinard

On June 17, after twelve hours of great agony, Dr. Guinard succumbed to the wounds which he received at the hands of an assassin, as I mentioned in a previous letter.

He was born at Saint-Etienne in 1856 and received his doctor's degree in 1884. He was appointed surgeon of the hospitals of Paris in 1892 and in 1906 succeeded Dr. Lucas-Championnière at the Hôtel-Dieu. In the "Nouveau Traité de Chirurgie," published under the direction of Drs. Le Dentu and

Paul Delbet, he edited the portion devoted to surgical diseases of the abdomen. At the time of his death Dr. Guinard was about to have been appointed an officer of the Legion of Honor.

The municipal council decided that Dr. Guinard's funeral should be held at the expense of the city of Paris since he was killed while in its service. The funeral ceremony, which was very impressive, was held on June 21. The coffin was placed on a catafalque at the top of the stairway of the court of honor of the Hôtel-Dieu, whose colonnades were decorated with silver-embroidered mourning draperies bearing the arms of the deceased. Addresses were made by various officials of the city government and representatives of medical organizations. The coffin was then placed on a bier and was carried to the cathedral of Nôtre-Dame, where the religious ceremony was held. The body will finally be taken to Saint-Etienne, the birthplace of Dr. Guinard.

The Syndicat des médecins de la Seine, after sending its condolences to Mme. Guinard, decided to open a subscription for the erection of a monument to the dead physician.

The Number of Medical Students in the French Medical Schools

The entire number of medical students in the French *facultés* and *écoles* of medicine was on Jan. 15, 1911, about 8,799, which is an increase of 164 over the corresponding figures of the year 1910. This increase consists almost entirely of foreign students, who have increased by 146 while there are only eighteen more French students.

As in the previous years it is from Russia, which sends 833 students, that two-thirds of the foreign students come; then comes Turkey with eighty-nine, Bulgaria with sixty-eight, Roumania with fifty-five and Greece with twenty-six. The United States was represented by seven students, Central America by thirteen, South America by twenty, Brazil by eight, the Antilles by eleven and Canada by four.

Out of the total of 8,779, 7,652 attended the *facultés de médecine*, 557 the *écoles de plein exercise de médecine* (Marseilles, Nantes and Rennes) and 570 the preparatory medical schools. Of the *facultés*, that of Paris has 4,101; Bordeaux, 732; Lille, 279; Lyons, 968; Montpellier, 659; Nancy, 340; Toulouse, 412; Algiers, 161.

The following are the number of the physicians with state diplomas, which alone give the right to practice in France, who were graduated in 1910 in each of the *facultés:*

Paris	450
Bordeaux	70
Lille	44
Lyon	109
Montpellier	120
Nancy	32
Toulouse	55
Algiers	3

To the total of 883 should be added the thirty-two state diplomas delivered by the Faculté catholique et française of Beirut, Syria.

The Intravenous Injection of Sodium Bicarbonate in Diabetes

In a series of communications recently made to the Société médicale des hôpitaux de Paris, Dr. Marcel Labbé, Professor Lépine of Lyons and others have called attention to the treatment of acidosis or diabetic acetonemia by intravenous injections of sodium bicarbonate, a mode of administration much superior to the ingestion of this drug even in very large doses. Up to the present intravenous injections of sodium bicarbonate have been employed exclusively in coma or in the period directly premonitory of coma, in vertigo, somnolence, etc. In the session of June 16 of the Société médicale des hôpitaux, Dr. Sicard, *agrégé* professor of the Faculté de médecine de Paris, reported results which he obtained with injections used in non-comatose states to combat certain diabetic symptoms which resisted the classic dietetic and medicinal treatment. In three cases, one of obstinate pruritus, another of sciatic pains and a third of light optic neuritis, he obtained marked remissions. Instead of using weak or nearly isotonic solutions of sodium bicarbonate (from 2 to 3 per cent.), Dr. Sicard used much more concentrated solutions, from 8 to 9 per cent., sterilized and given in injections of from 100 to 250 c.c. which represents about 20 gm. of sodium bicarbonate. The injection is given into a vein of the arm according to the ordinary method. It is absolutely necessary to penetrate directly into the interior of the blood-vessel, for the solution is caustic and, if introduced into the cellular tissue, would produce inflammatory reaction. The injection is made in about five to ten minutes without producing any swelling. It may be repeated several times at intervals of a few days without the least danger. It is preferable to the injection of too large quantities of liquid when in the course of coma or precomatose symptoms it is necessary to act quickly without raising the arterial tension too much.

Barium Sulphate Instead of Bismuth in Radioscopy

On June 16, before the Société médicale des hôpitaux de Paris, Drs. Bensaude and Ronneaux proposed to substitute barium sulphate for bismuth for radioscopic examination of the digestive tract. Barium sulphate is not toxic in large doses if it is absolutely pure. It presents, moreover, sufficient opacity to give clear images on the radiograph screen. It is readily taken by patients and may easily be mixed into a liquid which is maintained in suspension. It has, moreover, the great advantage of being a sixth as expensive as bismuth.

Death of Dr. Claudot

Dr. Maurice Claudot, *médecin inspecteur général du cadre de réserve,* has just died at the age of 66.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, June 22, 1911.

Personal

Professor Trendelenburg of Freiburg, has received a call to Innsbruck as regular professor of physiology.

Professor von Michel, the director of the Berlin eye clinic, and Professor von Esmarch, director of the hygienic institute in Göttingen, a son of the noted surgeon, both retire at the end of the semester on account of their health.

Prof. G. Krönig, who has been since 1894 director of the second internal medicine division of the municipal hospital at Friedrichshain, in Berlin, died June 15, at the age of 55, of pneumonia. He was a pupil of Frerichs and of Gerhardt and had distinguished himself by his valuable works on lumbar puncture and on percussion of the lung apices. In addition he had made a number of practical improvements in the technic of microscopic and clinical examinations. For some years he suffered from an insufficiency of the aortic valves.

Professor Ewald has been elected as a foreign member of the Norwegian Medical Society at Christiania.

Berlin Medical Orchestral Society

Following the example of Vienna a medical musical society has been founded in Berlin. We possess a number of physicians who display more or less marked musical talent. Among them is Professor His, the director of the first medical clinic. The number of members of the society so far amounts to sixty.

Infant Mortality and the Death-Rate

The infant mortality of Germany and of Prussia is frequently placed as unusually high, and proportionally unfavorable conclusions as to the economic status of the population or as to insufficient hygiene are drawn. In truth such conclusions are a little hasty; the birth-rate must be taken into consideration with the high infant mortality. Where women are overtaxed by frequent child-bearing, they can give less care to their children than in cases in which the number of children is small. If the birth-rate and infant mortality are compared in the various nations together with the death-rate with and without the death-rate of infants, the latest figures give the following:

		Deaths Under One Year, per 100 Born Living.	In Proportion to 1,000 Population		
			Number Born Living.	Deaths, Excluding Still Births.	Deaths, Excluding Infants.
German Empire	1908	17.8	32.0	18.0	12.3
Austria	1906	20.2	35.0	22.6	15.5
Hungary	1908	19.9	36.3	24.8	17.4
Russia	1901	27.2	47.9	32.1	19.1
Italy	1907	15.6	31.5	20.7	15.8
Spain	1904	17.3	34.4	25.8	19.8
France	1906	14.3	20.5	19.9	16.9
England and Wales	1908	12.1	26.5	14.7	11.5
Netherlands	1908	12.5	29.7	15.0	11.2
Belgium	1907	13.2	25.3	15.8	12.5
Sweden	1907	7.7	25.5	14.6	12.6
Denmark	1907	10.8	28.3	14.2	11.2
Norway	1907	6.7	25.9	14.0	12.2

It will be seen at once that Germany has in no sense an unusual position in respect to the height of its infant mortality but Austria-Hungary and Russia present a more unfavorable and Spain nearly the same infant mortality. A number of other states appear at first sight to have more favorable conditions, but a special consideration of these is necessary. Italy has a smaller infant mortality with nearly the same birth-rate, but the death-rate is one-sixth and the number of deaths excluding those of infants is a fourth higher. France has a very low birth-rate and a considerably higher mortality, which is explained in part, by the large ratio of the aged. In England attention must be called to the fact that the reports of the deaths of infants are incomplete on account of the six weeks' delay allowed. The Netherlands and the Scandinavian countries have a not inconsiderably smaller infant mortality but the general mortality after exclusion of infants is only a little smaller and even Prussia in some provinces, such as Hanover, Westphalia, Hesse-Nassau and Schleswig-Holstein, shows an infant mortality of from 10 to 15 per 100 born living. Thus the infant mortality was as follows:

	1909	1908
Schleswig-Holstein	13.2	14.9
Hanover	12.1	13.1
Westphalia	13.0	14.4
Hesse-Nassau	10.3	10.8

Finally it should be remarked that the infant mortality in Prussia has undergone a material reduction in the course of time as shown by the following table:

INFANT MORTALITY IN PRUSSIA FROM 1875-1909

Year	Deaths in the First Year, per Hundred Born Living	Year	Deaths in the First Year, per Hundred Born Living
1875-1880	20.6	1903	19.4
1881-1885	20.7	1904	18.5
1886-1890	20.8	1905	19.8
1891-1895	20.5	1906	17.7
1896-1900	20.1	1907	16.8
1901	20.0	1908	17.3
1902	17.2	1909	16.4

Examination of Cattle Imported into Germany

In my letter dated May 6, I reported that the authorities (the *Bundesrat*) had determined no longer to demand a tuberculin test of cattle imported from Denmark, Sweden and Norway. Understanding that the text of this resolution would be of interest to the readers of The Journal, I take the opportunity of copying so much of it as is of general importance.

Section 1. All cattle from Denmark, Sweden and Norway which are imported into a marine quarantine station shall be marked with ear marks, bearing consecutive numbers. On these numbers the quarantine station shall be indicated by the addition of initial letters.

Section 2. All the before-named cattle shall be examined by the veterinary surgeon charged with their inspection, in addition to the examination for other contagious diseases, in order to determine whether they are infected with tuberculosis.

Section 3. The examination for tuberculosis shall be made by clinical and if necessary bacteriologic examination according to instructions prepared by the imperial chancellor, in which an estimate of the fees to be paid by the owner for the examination shall be stated. If the bacteriologic examination requires a longer time than the ordinary period of quarantine, the suspected animals must be kept in quarantine at the expense of the owner until the termination of the investigation, provided that the owner does not prefer to export them again.

Section 4. Cattle in which the presence of tuberculosis or a suspicion of this disease is established by the results of the examination, in the sense of the instructions issued by the imperial chancellor, must be deported. Previously they shall be marked or branded as determined by the imperial chancellor.

Section 5. All the other cattle are to be excluded from free commerce and may only be accepted for slaughter at the latest within four days—reckoned from the admission to the slaughter-house—in public slaughter-houses designated for this purpose under the same conditions as the Austrian and Hungarian cattle and also under the condition that all the regulations for the inspection of meat in respect to tuberculosis, which are enforced in the interior, shall be strictly obeyed and that meat which is found to be distinctly unfit for use or materially impaired in its nutritive value and palatability, shall at the option of the owner either be treated as condemned or after proper labeling shall be exported again. The style of the label shall be determined by the imperial chancellor.

Section 6. These regulations shall be in force July 1, 1911.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, June 20, 1911.

The Codex Alimentarius Austriacus

A few days ago the first volume of the "Codex Alimentarius Austriacus" was published, and thus a very useful and instructive work has been partly completed. Its merits are due in a high degree to the efforts of medical men, who, for many years, have pointed out the necessity of such a weapon against the adulteration of articles of food. This "pure food" codex, so to say, is the result of cooperation by the departments of agriculture and commerce, with associations of merchants and scientific chemists, and with the high board of health, as well as with private individuals, whose opinions were asked and then embodied in the rules laid down in the codex. The contents of this volume are arranged very conveniently, and the work will, no doubt, serve as a model for other codices, the Austrian being the first of its kind. Each chapter, dealing with a special article of food, contains the laws pertaining to the subject under consideration and afterwards the following subdivisions: Description of the article, method of obtaining the necessary sample for examination, examination of the article, the consideration of the result thus obtained, regulation of the commercial use and sale, and the use of the goods found unfit or wanting. The object of these volumes is, among others, to enable the producers and dealers to know the leading principles of the "pure food" requirements, as stipulated by the government. Furthermore, everybody can thus ascertain the precautions necessary when dealing with food stuffs, and the rules laid down therein are guides for the institutes and market police controlling the sale of such articles. The judge too, will find in it a useful guide in all lawsuits arising out of this subject.

The articles dealt with in the published first volume are: wheat and corn, leguminous vegetables, bread and baking products, salt (NaCl), fresh vegetables, mushrooms, fruits, condiments, tea, coffee and its substitutes, cocoa, chocolate, sugar and candy, sweets and sweetmeats, including pastry, beer, wine in all its various kinds, and paraffin. The other articles will be dealt with in two more volumes to be published within this year.

Consultations by Telephone

In the course of a recent lawsuit brought by a doctor against a wealthy patient, the practitioner had claimed also a certain amount for consultations and medical advice given by him over the telephone. The claim was disallowed by the learned judge because the antiquated *Aerzteordnung* (regulation of medical practice), at present in force, contains nothing of that kind. No attention was paid to the fact that, at the time of the compilation of the above-mentioned regulations the telephone was an unknown thing. The incident was taken up by the medical council of Vienna, and in a resolution the practitioners were advised to inform their patients that telephone consultations were in the future to be charged for. Nevertheless, the council advised its members to abstain from treatment at a distance, or without seeing the patient.

The Decreasing Birth-Rate

In this country too, a marked and constant decrease in the birth-rate has been observed during two decades, and various suggestions were thrown out, both as to the reasons for it and the best means for combating the unsatisfactory conditions threatening from it. In 1897 the birth-rate was 38.2 per 1,000 inhabitants; in 1906 it had fallen to 34.1. Nevertheless, the population had increased and is still increasing, owing to the surplus of births over deaths. This is due in a high degree to the improvement in sanitation, with consequent decrease of mortality and morbidity. Among other things, the number of stillborn children had fallen during the above-mentioned ten years from 1.1 per cent. to 1 per cent., and the number of illegitimate children from 144 to 123 per 1,000 births. The most marked decrease of births is noted in the upper classes of the population. The so-called nobility is well known here for its sterility. Among the upper middle classes, the one-child or two-children family is the rule; and among the lower classes, the industrial worker, in spite of marrying early, has fewer children alive than the rural couple who marry late. One of the most active reasons for the lowered birth-rate has been found in the enormous emigration of the young, vigorous, hard-working peasants and laborers, who generally go across the ocean, and of the Jewish part of the population who follow the same track. Another very influential factor is the voluntary prevention of conception and artificial interruption of pregnancy, against which legislation is nearly powerless in spite of all endeavors.

Marriages

William Branch Young, M.D., Falling Spring, W. Va., to Miss Mabel Russell Beckner of Sweet Springs, W. Va., June 28.

William Lloyd Friedman, M.D., Oakland, Cal., to Mrs. Mamie Fletter of Alameda, Cal., at San Jose, Cal., June 29.

Robert Frazier Ashworth, M.D., Birmingham, Ala., to Miss Capitala Vivian Williams of Chattanooga, Tenn., June 28.

Frederick B. Mather, M.D., to Miss Florence K. Skillings, both of Spokane, Wash., at Coeur d'Alene, Idaho, June 6.

William Winton Snead, M.D., Warren, Ky., to Miss Dona Price of Barbourville, Ky., at Corbin, Ky., June 27.

Florence Belle Wyant, M.D., Sharon, Pa., to John Matta of South Sharon, in Cumberland, Md., recently.

Claude Webster Bankes, M.D., Reading, Pa., to Miss Jeanette D. Melot of Fleetwood, Pa., recently.

Jonas Rhodes Longley, M.D., Fond du Lac, Wis., to Miss Juanita Bell Murphy of Marengo, Ia., June 27.

Joel Cutchins Rawls, Crystal River, Fla., to Miss Ella Shipman Guthrie at Lynchburg, Va., June 28.

Gustav A. Hinnen, M.D., Mt. Auburn, Cincinnati, to Miss Martha Sprenger of New York City, June 30.

David Joseph Johnson, M.D., Roxbury, Boston, to Miss Anna J. O'Neil of New York City, June 28.

Robert Rochester Hansen, M.D., Marshalltown, Iowa, to Miss Harriet Peterson of Chicago, June 28.

Arthur Jones Fletcher, M.D., Homer, Ill., to Miss Rose Vorhees Crawford of Danville, Ill., June 17.

John Charles Benson, M.D., Flint, Mich., to Miss Katharine Eleanor Brennan of Detroit, June 28.

Paul H. Dernehl, M.D., Milwaukee, to Miss Edith Ziegler of Baltimore, at Hayward, Wis., July 3.

Clyde W. Hodges, M.D., Hamilton, Ohio, to Miss Jessie Noland of Crawfordsville, Ind., June 28.

Alfred W. Traverse, M.D., to Miss Anna Talaska, both of Milwaukee, at St. Joseph, Mich., recently.

William H. Howard, M.D., Hampton, Va., to Miss Annie L. Wright at Bowling Green, Va., June 28.

Eugene Wahl, M.D., to Mrs. Marie Wayne, both of Edwardsville, Ill., in St. Louis, June 1.

Carlos W. Shotwell, M.D., Detroit, Mich., to Miss Irene Melinda Edy of London, Ont., June 27.

Emanuel Theodore Urban, M.D., to Miss Adeline Elizabeth MacKenzie, both of St. Louis, June 7.

Arthur L. Peacock, M.D., Lynn, Ark., to Miss Maggie McCleod of Smithville, Ark., June 25.

Charles Alvin Portz, M.D., Baltic, Ohio, to Miss Florence M. Bidwell of Canton, Ohio, June 14.

Harry W. Uffelman, M.D., Windsor, Pa., to Miss Mary Baughman at Red Lion, Pa., June 28.

Carlton N. Etchison, M.D., to Miss Rachel Dave Young, both of Gaithersburg, Md., June 15.

Arthur J. Wagers, M.D., St. Louis, to Miss Marguerite M. Devin of Buffalo, N. Y., June 21.

Charles Sumner Neer, M.D., Vinita, Okla., to Miss Pearl Brooks of Springfield, Mo., June 28.

Charles Norton Hensel, M.D., to Miss Rae Lillian Goodnow, both of Minneapolis, June 21.

Dean Ely Godwin, M.D., to Miss Myrtle Elizabeth White, both of Coldwater, Mich., June 28.

William L. Hartsell, M.D., Draughon, Ark., to Miss Delia Plunkett of Rogers, Ark., June 19.

Arthur E. Hoag, M.D., Carrollton, Ill., to Miss Bertha N. Moorshead of St. Louis, June 28.

Francis J. Stirn, M.D., Cudahy, Wis., to Miss Clara Lochemes of Milwaukee, June 28.

Henry Graber, M.D., Royersford, Pa., to Miss Arvilla Whiteman of Philadelphia, June 10.

William Leo Egloff, M.D., Elkhart, Wis., to Miss Luella Heyer of Milwaukee, June 21.

Joseph E. Higgins, M.D., to Miss Helen Jenneman, both of Grand Island, Neb., June 28.

G. Edmund Mack, M.D., to Miss Ethel Virginia Swift, both of Woodland, Pa., June 21.

Royal Lacy Eddington, M.D., to Miss E. Murtell Mead, both of Fairfield, Ill., June 15.

Curtis Thompson, M.D., to Miss Pearl McCarthy, both of Carbondale, Ill., June 23.

Franklin P. Russell, M.D., to Mrs. Elma Green, both of Alliance, Ohio, June 21.

J. Henry Allen, M.D., Chicago, to Miss Pearl McCain of Rockfield, Ind., June 14.

Omar A. Kell, M.D., Salem, Ill., to Miss Cecil Maxey of Centralia, Ill., June 22.

Olaf J. Hagen, M.D., to Miss Mozelle Weld, both of Moorhead, Minn., June 24.

Rolla Harrison Henry, M.D., to Miss Freda Eberlein, both of St. Louis, June 29.

Lee Ryan, M.D., Downey, Cal., to Miss Josephine Lane of Los Angeles, June 12.

Carl Williamson, M.D., Chicago, to Miss Marie Tate of Homer, Ill., June 16.

Pierre J. Tischart, M.D., to Miss Rose Marie Binette, both of Chicago, June 27.

Donald Buie Garstang, M.D., to Miss Mary Ladd, both of St. Louis, June 14.

Paul Vinyard, M.D., to Miss Edna Waldo Linens, both of St. Louis, June 26.

Heliodor Schiller, M.D., to Miss Corinne Hart, both of Chicago, June 29.

Almer M. Aanes, M.D., to Miss Nora Nelson, both of Boyd, Minn., June 29.

Edward C. Loew, M.D., to Miss Irene Freund, both of St. Louis, June 14.

Deaths

J. Elvin Courtney, M.D. Medical College of Virginia, Richmond, 1883; a member of the American Medical Association; formerly first assistant physician at the Hudson River State Hospital, Poughkeepsie, and a member of the staff of that institution for eleven years, and a practitioner of Denver, where he established the Mount Airy Sanitarium for Nervous and Mental Diseases; lecturer on neurology in the medical department of Denver University, and alienist and neurologist to St. Anthony's Hospital; died at his home in Denver, June 23, from pleurisy.

William T. Maupin, M.D. Jefferson Medical College, 1864; a member and once vice-president of the Medical Society of the State of California; for several years president of the Fresno (Cal.) Medical Society and a charter member of the San Joaquin District Medical Association; once health officer of Fresno; surgeon in the Confederate Service during the Civil War; for several years division surgeon for the Southern Pacific and a member of the Association of Railway Surgeons of the Pacific Coast; died at his home in Fresno, June 19, aged 72.

John Quincy Adams McCollester, M.D. Jefferson Medical College, 1856; a member of the Massachusetts Medical Society; surgeon of the Fifty-Third Massachusetts Volunteer Infantry during the Civil War; for several years local pension examining surgeon and a member of the staff of the Boston Quarantine Hospital; who was given the honorary degree of LL.D. by Norwich (Vt.) University in 1900; for forty-seven years a justice of the peace; died at his home in Waltham, June 23, aged 80.

Weston H. Rice, M.D. University of Vermont, Burlington, 1905; a member of the American Medical Association and local surgeon at Oakland, Cal., for the Southern Pacific Railroad; died in the Receiving Hospital, Oakland, June 27, from the effects of a collision between his automobile and an electric train a few moments before, aged 37.

Edward Peabody Geary, M.D. Harvard Medical School, 1874; a member of the Massachusetts Medical Society; for several years president of the Norfolk District Medical Society and vice-president of the Boston City Hospital Club, and alderman of Jamaica Plain in 1900 and 1901; died in Phillipston, Mass., June 21, aged 64.

Greer M. Nickell, M.D. College of Physicians and Surgeons, Baltimore, 1881; proprietor of the Millboro Sanitarium, Millboro, Va.; died at his home in Millboro, June 27, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, while suffering from ill health, aged 60.

Charles A. Bleiler, M.D. Jefferson Medical College, 1885; a member of the Medical Society of the State of Pennsylvania; at one time coroner of Schuylkill County; a prominent practitioner and citizen of Frackville and for two terms a school director; died at his home, June 28, from nephritis, aged 51.

John Brevard Alexander, M.D. Medical College of the State of South Carolina, 1855; one of the oldest practitioners of Mecklenburg County, N. C.; surgeon in the Confederate service during the Civil War; in 1896 a member of the state senate; died at his home in Charlotte, June 24, from paralysis, aged 77.

Julian William Baird, M.D. Harvard Medical School, 1890; a member of the American Medical Association; professor of analytic and organic chemistry of the Massachusetts College of Pharmacy, Boston, and dean of that institution since 1897; died at his home in Boston, June 26, aged 52.

John Franklin Whitmyer, M.D. College of Physicians and Surgeons, New York City, 1890; chief medical inspector of the Health Department of New York City, for twenty-two years an official of the department; died at his home, June 23, from heart disease, aged 47.

Robert W. Taylor, M.D. Jefferson Medical College, 1864; since 1881 a practitioner of Louisville, Ky., and prominent in Sunday school and mission work; died suddenly at his home in Knoxville, Pa., June 30, from injuries received in an automobile accident.

William Dandridge Sale, M.D. Medical College of Virginia, Richmond, 1864; a member of the Medical Society of Virginia and surgeon in the Confederate service during the Civil War; died at his home in Loretto, June 23, from heart disease, aged 72.

Thomas S. Mitchell, M.D. Atlanta (Ga.) Medical College, 1866; assistant surgeon in the Confederate service during the Civil War; formerly surgeon of the Central Railway of Georgia; died at his home in Pensacola, Fla., June 20, aged 75.

Stephen Dumas Colbert, M.D. Southern Medical College, Atlanta; for several years chief surgeon of the Houston and Texas Central Railway Company at Copefield, Tex.; died at his home in Griffin, Ga., June 24, from gastritis, aged 42.

William A. Blount, M.D. New York University, New York City, 1860; a member of the Medical Society of the State of North Carolina; died at his home in Washington, N. C., June 22, from heart disease, aged 72.

John W. Straughn, M.D. Medical College of Indiana, Indianapolis, 1881; for fifty-five years a practitioner of Parkersburg, Ind.; died at his home in Waveland, Ind., June 20, from cerebral hemorrhage, aged 79.

John M. Phipps, M.D. Medical College of Virginia, Richmond, 1887; a member of the Medical Society of Virginia; died at his home in Rural Retreat, June 17, from cerebral hemorrhage, aged 45.

William R. Cosgrove, M.D. College of Physicians and Surgeons, Baltimore, 1880; of Derry, Pa.; died in Mercy Hospital, Pittsburg, June 22, from disease of the liver, aged 54.

T. N. Berlin (license, Washington); for more than forty years a practitioner of Minnesota and Washington; died at his home in Kent, Wash., June 16, aged 88.

Benjamin L. Ryder (registration, Franklin County, Pa., 1881); for forty years a practitioner of medicine; died at his home in Chambersburg, June 22, aged 79.

Frank Leroy McGee, M.D. Kentucky School of Medicine, Louisville, 1893; died at his home in Charleston, W. Va., June 27, from cerebral hemorrhage, aged 56.

John T. Gray, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1894; died at his home in Griffin, Ga., June 27 from cerebral hemorrhage, aged 60.

John A. Southworth, M.D. University of Nashville (Tenn.) 1869; formerly of Corsicana, Texas; died at his home in Texas City, Texas, June 15, aged 63.

George L. Jackson, M.D. Jefferson Medical College, 1884; of Miami, Tex.; died in a hospital at Amarillo, Tex., June 22, from pellagra, aged 47.

Abner C. Matthews, M.D. University of Vermont, Burlington, 1894: was found dead from heart disease in his office in Earlville, N. Y., June 27.

Samuel Frisbie, M.D. University of Alabama, Mobile, 1861; formerly of Bladen Springs, Ala.; died at his home in Jackson, Ala., June 20.

J. M. Kerr, M.D. Starling Medical College, Columbus, O., 1894; died at his home in Columbus, June 26, from cancer, aged 47.

Merritt Matteson, M.D. Cleveland University of Medicine and Surgery, 1861; died at his home at Morris, N. Y., June 18, aged 75.

William White (license W. Va., years of practice); died at his home in Joy, W. Va., June 23, from senile debility, aged 82.

Miscellany

Disinfection in the Middle Ages.—During the long period of the Middle Ages the alchemists did little to advance our knowledge of this subject; they collected a few facts, and described, with more or less accuracy, the properties of some of the more important chemical compounds; but one may search in vain for a correct account of any example of preventive medicine. Notwithstanding the ravages of the cholera, the plague, and other epidemics, as well as the frequency of leprosy, the idea of contagion was only imperfectly understood, and the common people were far less cleanly in their habits than the Jews, for example, or heathen nations, who. . . mingled primitive sanitary precautions with their religious services. Perhaps one of the earliest papers of any importance which we have is a "Mémoire sur les substances septiques et antiseptiques," written by Pringle in the middle of the eighteenth century. In this memoir some forty-eight experiments are described, in which the author took pieces of fresh meat and placed them in contact with various amounts of substances which he believed to have an antiseptic action. Among the substances tried we find common salt, sal ammoniac, acetates of ammonia and potash, niter, borax, camphor, aloes and succinic acid. These experiments, which were conducted in a very systematic manner, are even now not without some value. By taking as a standard the antiseptic action of 60 grains of salt on 2 grains of meat in 2 ounces of water, he was able to show that the other substances enumerated above had a greater antiseptic power than this standard, and thus succeeded in arriving at their relative antiseptic value. Even the pioneers of modern chemistry at the beginning of the present century, did little toward promoting our knowledge of disinfectants, and it was not until the biologists showed that decay was due to the action of living organisms which float in the air, that fresh attention was directed to the subject. Francesco Redi, by protecting meat from flies with wire gauze, showed that the maggots which infect decaying flesh were produced from the eggs of the flies. Subsequently the formation of molds on the surface of jams, or other organic substances, was similarly shown to be determined by microorganisms floating in the air. It was further noticed that filtration of air through cotton wool was effectual, not only in removing the dust, but also in preventing the ingress of microorganisms. The gradual accumulation of such facts as these by the biologists led the chemists to realize that the removal of the odor was not, after all, the only work necessary, and thus fumigation with nitrous acid, hydrochloric acid, chlorin and other pungent bodies which had been recommended, fell gradually into disfavor.—Dreyfus in *Jour. Am. Pub. Health Assn.*

Poisoning by "Purgen" (Phenolphthalein).—It is unfortunate that the disadvantages of new remedies are apt to remain unknown for a considerable length of time after their introduction. The introduction of phenolphthalein under the form of a proprietary was accompanied by a singular reversal of the usual caution concerning dosage. Ordinarily it is supposed that a remedy, especially one producing irritative effects on the intestines, will be better borne by the robust individual who is not obliged to keep his bed, than by the person reduced and bedridden by serious disease. In the case of "purgen" however, this principle of dosage was reversed and three sorts of tablets were put out, one for children, one for adults and one for those who were confined to bed. The last tablet was the strongest of the three, and patients were advised in case of need to take even three of these stronger tablets. This plan of giving the stronger dose to the weaker patient was the occasion of a case of poisoning by this nostrum which, as has long been known, contains as its active constituent, phenolphthalein, or as it appears in the somewhat recondite and complex nomenclature of the manufacturer "1,8, dihydroxyphthalophenon." This case is reported by Dr. Erich Zabel of Rostock in the *Deutsche medizinische Wochenschrift*, April 20, 1911. For a man of 67, convalescent from erysipelas, one of the tablets for bedridden patients was prescribed. The patient took three instead of one and, as his bowels did not move, took in addition two of the ordinary adult tablets. These had no effect on the bowel movements. A sudden check to convalescence with a distinct aggravation of the general condition took place. Very unpleasant and severe abdominal pain began accompanied by occasional vomiting; the pulse became rapid, small and soft, the extremities pale; fainting fits occurred with a subjective feeling of weakness; objectively there was marked prostration which suggested a possible intestinal hemorrhage. After about a week the action of the bowels, which had been interrupted, began again with the evacuation of very peculiar stools. On the tenth day after taking the "purgen," Dr. Zabel was called and found the patient very much prostrated. He had recently passed a large amount of fluid from the bowels, which closely resembled bloody urine. These bloody-appearing stools were passed for several days, the last being on the nineteenth day after taking the "purgen." The patient then began to improve and rapidly recovered. Examination of the stool passed showed the absence of blood-coloring matter. The material which passed the bowel was examined by Professor Kobert, who reported that it was a material similar to a decomposition product of the chromogen principle of the purgatives belonging to the oxymethylanthraquinone group. This unusual action of the remedy is to be attributed to two factors: 1. The large dose, which, however, was not much larger than that recommended by the proprietors of "purgen." 2. The long stay of the remedy in the intestine, during which it would seem that it must have undergone some decomposition which increased its irritating qualities. The lesson drawn by Zabel from this incident is the necessity of caution in the application of remedies whose actions are not well understood. He suggests that there is danger in neglecting the old and well-tried remedies for modern nostrums with suggestive names and attractive appearance. See also Heubner's comment, p. 257, this issue.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

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THACHER'S WORM SYRUP

A Dangerous Santonin Mixture

Dr. Thacher's Worm Syrup is put on the market by the Thacher Medicine Co., Chattanooga, Tenn., under the following claims:

> "Dr. Thacher's Worm Syrup is scientifically prepared from materials which are known to have a sure and safe effect on the child and to leave it in a healthy condition."

It is said to "act on the liver and bowels" and to "relieve all pain." The instructions that appear on the label direct "no oil or physic to be taken after the dose." Dr. M. A. Watkins of Woodward, Ala., reports a case of poisoning in a 5-year-old child from the use of this nostrum. The child, a girl, having complained of pain in the abdomen was given a dose of castor oil. The following day, after an indiscretion in diet with a return of the pain, another dose of oil was given and at the same time a teaspoonful dose of Dr. Thacher's Worm Syrup. On the third day three more teaspoonful doses of the Worm Syrup were given at three-hour intervals. By this time, the child was drowsy and listless, and unable to urinate. On the morning of the fourth day, the child became unconscious and the physician was summoned. The following clinical picture was found:

> "Patient was in profound coma; pupil and knee reflexes were abolished; pupils were slightly dilated, but even. Mouth was dry and parched; tongue furrowed and dry; breath fetid and slightly sweet; the patient was restless and vomited frequently. Respiration 24; rectal temperature 101.6 F.; pulse 176 and thready. An examination of the blood gave the following results:
>
> | | |
> |---|---|
> | Leukocytes .... | 15,000 |
> | Plasmodium .... | negative |
> | Agglutination test, typhoid.... | positive |
> | Blood-pressure .... | 125 |
>
> The patient was catheterized and 6 drams of urine obtained. Examination showed large quantities of sugar and albumin, casts and epithelial cells."

A diagnosis of santonin poisoning was made and treatment immediately instituted. While a slight temporary improvement was noted, the patient gradually weakened and died six days after the ingestion of the first dose of the "worm syrup."

Unbroken packages of Thacher's Worm Syrup were obtained, and examined in the Association's laboratory to determine whether there was santonin in the product, and if so, in what quantity. The preparation comes in bottles containing a little more than 1½ fluid ounce (47 c.c.). It is a thick, dark-brown syrup having the odor of cloves and anise and a sweet, anise-like flavor. The preparation contains a noticeable amount of small, grayish crystals in suspension. These crystals were found by qualitative tests to be nearly pure santonin. Alkaloids were absent. The quantitative examination indicated that the preparation contains about 1.14 gm. (18 grains) of santonin in each 100 c.c. (3⅓ fluid ounces), the greater proportion of this drug being in suspension. This means that each teaspoonful dose of the nostrum contains about ⅔ of a grain of santonin.

A number of cases of fatal poisoning are reported in the literature on santonin. In reporting a case of total blindness produced by santonin in a 5-year-old girl, Baxter has recently stated that no children under 2 years of age should ever be given santonin and, that even when given to older children, serious complications are liable to be produced. This is especially the case when it is given with castor oil, which increases its solubility.

It is evident, therefore, that a nostrum such as Thacher's Worm Syrup, which contains santonin in poisonous quantities, has no place among domestic remedies. The manufacturers of this preparation will probably protest that in the case of Dr. Watkin's patient the parents deliberately went counter to the instructions by administering castor oil in conjunction with the "worm syrup." Such an excuse is not a valid one because discrimination cannot be expected from the public in the self-administration of "patent medicines."

There is nothing about the package or on the label to denote that Thacher's Worm Syrup contains a dangerous poison. On the contrary the nostrum is said to have a "safe effect on the child and to leave it in a healthy condition." Furthermore it is suggested that it can be "spread on bread or cake." In view of these things, it is absurd to suppose that the average mother would consider that there was anything harmful in Thacher's Worm Syrup and, being likewise convinced of the harmlessness of castor oil, it is not surprising that these two drugs should be given at the same time.

Even when given under the supervision of a physician, dangerous by-effects have been noticed from the administration of santonin. Total blindness and even death have followed the use of this drug in children. That it should be placed on the market with no warning as to its toxicity and sold as "safe" medicine for children is little less than criminal.

Correspondence

The University Medical School of Canton

To the Editor:—The University Medical School of Canton has been a name for six years, and now that it has become a reality it seems only right that our friends in the medical profession should know something about it. The school is under the management of the Board of Directors of the Christian Association of the University of Pennsylvania, and is affiliated with the Canton Christian College, being located on adjoining property. The purpose of the school is threefold:

1. To transform and mold the character of Chinese youth by leading them to a knowledge of Jesus Christ.
2. To give in the English or Chinese language a course in western medicine modeled after that of the best schools in America.
3. To cooperate with the Christian Association of the University of Pennsylvania in its work with the undergraduate body in Philadelphia.

Until the present year the University Medical School has had no buildings of its own, but has rented from the Christian College. The permanent hospital is now, however, being built. It is of brick and reenforced concrete, and for good workmanship and solidity in construction it cannot be excelled by any building in all China. Only the first section is now being erected, at a cost of $16,000, to be finished Sept. 1, 1911. It is estimated that the entire building will be 500 feet in length and will cost not less than $100,000.

The hospital is to be equipped according to the latest ideas of modern hospital construction.

In February, 1910, several students of the Canton Christian College asked us to start a class in medicine. This we finally agreed to do, and at the present time there are five students who have completed one and one-half years' study. During this time they have covered osteology, histology, physical diagnosis and an elementary course in physics. They are still studying anatomy, physiology, therapeutics, etc.

There are now four physicians in charge of the medical school—three American and one Chinese—all graduates of the University of Pennsylvania. In addition to these, there is a secretary and a trained nurse and a number of Chinese helpers.

During the past winter plans have been made for widening the scope of the school by inviting the missions represented in Canton to contribute the services of at least four physicians, thus making it a union school. There has been hearty endorsement of this plan, and it is now hoped that by next March this union school will be started with instruction given in the Chinese language. The plan is to have classes admitted every year to be taught in Chinese, and to admit classes taught in English when sufficient students apply.

The opportunity for original research in a tropical city like Canton is unlimited. The school aims, also, to give opportunities in this direction. The first postgraduate course was held this year when Dr. H. S. Houghton of Wuhu, at the invitation of the school, gave a most instructive course in parasitology and examination of the blood. Thirteen physicians, representing nine different missions, were in attendance—some coming from a distance of 300 miles. The course was held daily for two weeks in February, during the Chinese New Year season, classes beginning at 9:30 a. m. and lasting until 4 p. m. with one and one-half hours' intermission at noon.

Next year it is planned to hold another course, taking up ophthalmology and some other subjects.

As we look back to the beginnings of our great medical schools in the United States, we recall that they owe their origin to physicians trained in Europe who devoted their lives to developing the art of medicine in the American colonies. Can we, who have reaped what they have sowed, do better than follow their example, and help the men in this great land of China to realize their ideals of establishing schools of medicine modeled after the institutions of Europe and America?

William W. Cadbury, Canton, China.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

GENERALIZED VACCINIA

To the Editor:—I wish to report a case of generalized vaccinia occurring in a series of eighty-two vaccinations. The patient, T. D., aged 10 years, height 4 feet 8½ inches, pulse 96, respiration 24, temperature 99.9 F., skin dry and harsh, no vaccination scar, although he had been previously vaccinated, presented the symptoms of incipient tuberculosis in the right apex of the lung. He was vaccinated April 24, 1911, at the same time the physical examination was made. About a week later, he states, his arm began to itch and pain him and he scratched it. Following this the arm became swollen from the elbow to the axilla and a few days later vesicles formed which changed later to pustules; these dried up, forming thick brown crusts. The eruption, although discrete, was very profuse over the extremities and back, the chest on its anterior surface having only a few scattered spots. The face also escaped with only three or four points of eruption. About the site of vaccination the pustules were confluent, nearly half of the anterior surface of the arm being occupied by a large, dry crust. The last examination was made June 10, 1911, and the crusts had nearly all fallen off at that time. The question which occurred to me was, Why should one child in eighty-two have a generalized eruption and the others escape? Was it due to the tuberculous condition, to the vaccine or to some personal idiosyncrasy?

C. W. Lane, Fort Spokane, Wash.

Answer.—Assuming that the eruption in the case described was that of a generalized vaccinia, an assumption that is not entirely conclusive from the portrayal of the symptoms, the following could be stated: The fact that the child scratched the site of vaccination might readily account for the swollen condition of the arm and for the development of secondary vaccine vesicles in the immediate neighborhood of the primary insertion. Such a complication is by no means rare. The generalized outbreak might have been a true generalized vaccinia of hematogenous origin, or the child might have scratched various parts of the body and produced a generalized vaccinia by auto-inoculation. In true generalized vaccinia, the eruption usually appears from the fourth to the tenth day after vaccination, but most often from the sixth to the ninth day. Spontaneous generalized vaccinia is an extremely rare condition, and many cases reported as such have doubtless been auto-inoculative cases.

As to the intimate cause of true generalized vaccinia, we know but little. It is possible that it might be due to an abnormal susceptibility to the vaccine infection. There is no evidence at hand to suggest that tuberculosis would in any way predispose to generalized vaccinia, unless it be that the skin of the tuberculous is more sensitive to toxins in general, as Sorgo recently suggested (The Journal, July 8, 1911, page 173).

THE PRACTICE OF OPHTHALMOLOGY

To the Editor:—Please inform me what books contain adequate information from the standpoint of the ophthalmologist for the acquiring of the necessary knowledge to be able to examine eyes and correct errors of refraction satisfactorily. How far is it necessary to carry the mathematical work in optics? Are analytic geometry and calculus absolutely necessary to a practical understanding of physical optics as applied to ophthalmology? Why can't an optometrist refract correctly?

R. F.

Answer.—There are many works on the market whose contents properly digested, would enable one to make a thorough examination of the eye, including its refraction. First of all the uninstructed student should study one of the shorter and simpler manuals, like May's "Diseases of the Eye," or Wood and Woodruff's "Commoner Diseases of the Eye," following it by a larger text-book such as that of deSchweinitz, Weeks or Duane's translation of Fuchs. For all practical purposes only a knowledge of the fundamental principles of physiologic optics is *necessary* for the practice of ophthalmology but an acquaintance with the geometry and algebra involved in a study of works like Landolt and Donders on the refraction and accommodation of the eye are highly *desirable.* If the capacity to do the mechanical work of determining human refraction were all that is demanded in "fitting glasses" almost anybody might learn how to do it in a comparatively short time but, as a matter of fact, this result is a minor consideration in the practice of ophthalmology. What the public generally asks for is relief from certain ocular symptoms thought to come from needed glasses, but inasmuch as any or all of these may, partly or wholly, arise, not from abnormal refraction but from disease of the eye itself, from the nose, brain, frontal sinus and other organs, and since only a well-trained physician has the ability to determine which of these organs is at fault, it must readily be seen that the optometrist (who has had no medical training) could not possibly be expected to decide the matter. Moreover, he is not even competent to say whether, for example, the headache or the dim sight the patient may complain of is due to a refractive error, a glaucoma, a brain tumor or to diseased kidneys. Then, again, a considerable training by expert instructors in the use of the ophthalmoscope and other instruments of precision for at least a year is needed to enable the student to recognize the nature and meaning of changes in the interior of the eye —an essential part of the duties of the ophthalmologist. In other words, the practice of the "optometrist" is a part of the practice of medicine and no amount of juggling with words will change that fact; to be a good optometrist is to be a trained physician and an ophthalmologist.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 1, 1911.

Lambie, John S., first lieut., granted leave of absence for two months and fifteen days, about July 1, 1911.

Palmer, Fred W., captain, granted leave of absence for two months, to take effect on arrival in the United States.

Edie, Guy L., lieut.-col., granted leave of absence for one month with permission to go beyond the sea. Lieutenant-Colonel Edie on expiration of leave of absence proceed to San Francisco, Cal., and report for assignment to duty pending the departure of transport sailing from San Francisco for Manila, P. I., Oct. 5, 1911.

Davis, William B., colonel, now at Baltimore, will proceed to Fort Washington, Md., for duty. Orders to Fort Leavenworth, Kan., revoked.

Holmes, R. W., lieut., granted ten days' leave of absence.

Ingalls, R. E., dental surgeon, ordered to proceed to Fort Apache, Ariz., on completion of duty at Fort Huchuca, Ariz.

Griffis, Frank C., M.R.C., relieved from temporary duty at Fort MacKenzie, Wyo., and ordered to return to Fort D. A. Russell, Wyo.

Hall, James F., captain, will stand relieved from temporary duty at Fort D. A. Russell, Wyo., on the return of First Lieutenant Griffis, M.R.C., and return to Fort Riley, Kan., for temporary duty.

Holmes, R. W., lieut., granted ten days' leave of absence.

Marshall, John S., first lieut., dental surgeon, relieved from active service.

Richard, Charles, colonel, ordered to sail from the Philippine Islands to the United States, July 15, instead of Sept. 15, 1911.

Marshall, John S., dental surgeon, left Columbus Barracks, Ohio, en route to Berkeley, Cal. Relieved from active service June 17, 1911.

Worthington, Joseph A., lieut., will stand relieved from temporary duty at Presidio of Monterey and return to Presidio of San Francisco, Cal., July 1, 1911.

Boak, S. D., dental surgeon, left Army General Hospital, San Francisco, Cal., en route to West Point, N. Y., for duty.

Brechemin, Louis, Jr., major, left Fort Lincoln, N. D., en route to Devils Lake, N. D., with 1st Battalion, 14th Infantry.

Billingslea, C. C., captain, ordered to proceed from Army General Hospital, San Francisco, with insane patients to Washington, D. C.

Bispham, William N., major, granted leave of absence for one month, about Aug. 15, 1911.

Medical Corps, U. S. Navy

Changes during the week ended July 8, 1911.

Holcomb, R. C., surgeon, detached from the *North Dakota* and ordered to the *Delaware*.

Pleadwell, F. L., surgeon, detached from the *Delaware* and ordered to the *North Dakota*.

Garrison, H. A., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the naval hospital, Las Animas, Colo., for treatment.

Cottle, G. F., asst.-surgeon, detached from the naval station, Tutuila, Samoa, and ordered to the *Annapolis*.

Connor, W. H., asst.-surgeon, detached from the *Annapolis* and ordered to the *Princeton*.

Simons, M. H., medical director, transferred to the retired list from July 11, 1911.

Ledbetter, R. E., surgeon, ordered to temporary duty in the bureau of medicine and surgery, Navy Department.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 5, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from June 24, 1911, on account of sickness.

Cumming, Hugh S., surgeon, granted seven days' leave of absence from June 20, 1911.

Grimm, R. M., asst.-surgeon, granted seven days' leave of absence under paragraph 191, Service Regulations.

Porter, J. Y., quarantine inspector, directed, at such time as necessity indicates, to make the annual inspection of the quarantine stations in the State of Florida.

Barclay, James, A. A. surgeon, granted fifteen days' leave of absence from June 19, 1911.

Gleason, C. M., A. A. surgeon, granted twenty days' leave of absence from July 1, 1911.

Horsey, J. L., A. A. surgeon, granted fourteen days' leave of absence from July 8, 1911.

Ransom, Stacy A., A. A. surgeon, leave of absence, without pay, for six months from May 1, 1911, amended to read "extension of annual leave on account of sickness for thirty days beginning May 1, 1911, and six months' leave, without pay, from June 1, 1911."

Schuster, B. L., A. A. surgeon, granted fourteen days' leave of absence from July 5, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE NEW A. P. A.

Evidently the desperate effort on the part of the proprietary interests to intimidate the newspapers by threats and to beguile them by alluring promises of fat advertising contracts, has not been as successful as was evidently hoped. The Columbus (Ohio) *News* comments interestingly on this letter:

A FEW TEMPERATE UTTERANCES OF A NEW A. P. A.

We have received through the mail a copy of a circular addressed to "Dear Mr. Editor," by a new A. P. A., which appears to have headquarters in a lock box at the New York post-office.

This organization has no connection with its forerunner of similar designation. It is not engaged in "protecting" anyone, nor does it concern itself with the manner in which a man finds his way to heaven. But in one respect it is certainly reminiscent of that association which for a year or two made times lively for every politician, big and little.

It is a firm believer in the exaggerated form of address and the superlative degree of denunciation.

The letters A. P. A. in a shield, which appear directly under the number of the New York lock box, which is the headquarters of the organization, stand for Advertisers' Protective Association.

One might expect, not perhaps without reason, that a more pretentious address might have been found for a national association of such importance, but let that go, and consider arguments and admonitions rather than addresses.

First, let it be understood that the circular contains an earnest appeal on behalf of the persecuted "patent medicine" vender, then get this one, hot from the bat:

> The bureau of chemistry, as at present conducted, is a standing menace to every man's business.

That is no Texas leaguer, but a sizzler scorching up the grass a few inches inside the foul line, and hitting the pickle sign out in the left field with a dull sickening thud.

Or consider this, which has the true A. P. A. ring to it as it leaves the bat:

> Let Dr. Wiley conceive the opinion that any man's product is injurious, he first destroys the business by attacking it through the newspapers and by "bulletins" issued from his department, at public expense, and after everything possible has been done to ruin the business, he then proceeds to attempt to prove his case in the courts. No doubt he hopes to create public opinion favorable to his contention before trying the case, but the important cases so far tried prove that in this he has failed, though he has not failed to do inestimable damage to the business interests so unjustly attacked. It has been asked: "What was Wiley's motive in attacking these industries?" And the answer is usually found in looking for the beneficiaries. In the whisky case, the Kentucky distillers "could a tale unfold." In the benzoate of soda matter, Heinze's "57 Varieties" led the fight. In the matter of Coca-Cola, the manufacturers of "Caffeinless Coffee" were seen hovering in the distance, and in the fight on proprietary medicines the American Medical Association, better known as the "Doctors' Trust," furnishes the sinews of war.

"Doctors' Trust is good, as is also the announcement that Dr. Wiley gets his "stuff" printed by using a big news association.

But there is a touch of pathos at last. Study the scientific bunt in the seventh inning:

> If this condition of affairs is not changed, it will result in greatly cutting down the support you receive from the manufacturers of almost numberless foods, beverages and proprietary or "patent medicines," and the question presents itself: Will you and your influential paper stand for such a condition?

Alas and alack, dear A. P. A. friend, we fear we shall have to stand for this condition. In view of the fact that we have done all in our power to bring about such a condition, and intend to do all we can to continue it, we incline to the belief that we shall have to stand it.

Another communication to editors has still further unmasked the plans of the organization represented by "Lock

Box 2124," as shown by a second comment from the editor of the *News* in a recent issue.

LOCK BOX 2124 IS HEARD FROM ONCE MORE

Lock Box 2124, New York, the headquarters of the A. P. A., has been heard from again.

This time a few words are addressed to "Dear Mr. Editor," informing him of the plans of the organization with the post-office headquarters. Lock Box 2124 intends to "get" Dr. Wiley, even if it has to upset presidential plans, break party slates and make quite a fuss generally. Here is part of the notice which is served on all and sundry, Dr. Wiley included:

> When Taft succeeded Roosevelt as President it was hoped that Dr. Wiley's misguided efforts would be restricted, but it appears that the doctor is so intrenched in his position that only a change of administration can effect his removal. If President Taft will not remove Professor Wiley it looks as though it was up to the business interests of the country to bring proper pressure to bear for his removal.
>
> The purpose of this organization is to inaugurate a movement for Dr. Wiley's removal, and to obtain the enforcement of the food and drugs act along reasonable and just lines. If Dr. Wiley is not removed before Jan. 1, 1912, it will be the endeavor of this organization to obtain a pledge from the next Republican nominee, as well as the Democratic nominee, for the removal of Dr. Wiley before said nominee can obtain the support of this organization.

It is as well to be warned in time, so that carefully prepared plans may not miscarry.

As a friend and neighbor we advise Governor Harmon to drop a line to Lock Box 2124 at once. There are others more impetuous who have a desire to serve the nation, and if they get to the lock box first and pledge themselves, what chance would a candidate have whose only recommendations were experience in government, marked ability and absolute honesty?

The mental condition of those whom the gods are about to destroy has been recognized from the times of ancient Greece. As the *Outlook* recently said, any business which out of total receipts of $400,000,000 can afford to spend $100,000,000, or one-quarter of its entire receipts, each year in advertising, will evidently bear investigation.

Newspaper editors and publishers are only human and it would not be strange if the prospective expenditure of this enormous sum of money would have considerable influence so long as the newspaper men were not led to believe that actual harm would result to the public from the proposed advertising. But, when the A. P. A. openly states that the object of its existence is to secure the removal of Dr. Wiley from the Bureau of Chemistry of the Department of Agriculture and to emasculate the pure food law it will find that even the golden bait of $100,000,000 will not be enough to buy up the newspaper editors to support a policy plainly injurious to the public. There may be found here and there an occasional newspaper which will yield to temptation but the great majority will stand as they always have stood, as soon as its moral significance is made clear to them, on the right side of the question.

The boomerang effect of the letter from Lock Box 2124 is well shown by the reply of the *Daily News* of Portland, Oregon, which in breezy, western style responds thus to the invitation to take its share of the $100,000,000 per year:

> What, ho, fellow citizens!!
>
> Ever hear of benzoate of soda and Dr. Harvey W. Wiley?
>
> Well, lest you have forgotten, in the mad rush to earn your daily bread, the recent exposures of the former by the latter, glance at this, and then read about the Advertisers' Protective Association.
>
> "Benzoate of soda" is a chemical combination so powerful that it completely arrests for a long time all natural decomposition in vegetable and animal tissue. It was hailed as a life saver and a blessing in disguise by the food trust, for it was a cheap and inexpensive preservative, and by mixing it in everything from catsup and canned beans to pigs' feet and dill pickles, said food trust waxed fat.
>
> What cared the trust if the same benzoate of soda that preserved the food, tended to preserve the stomachs of the "ultimate consumer"?
>
> Not one whit.
>
> But Dr. Wiley did.
>
> This friend of "us folks" who presides over the Bureau of Chemistry of the Department of Agriculture has been messing around a lot with things we eat, and as a result there are pure food laws. Incidentally it has been hard sledding for the food trust these past years.
>
> In passing, the good doctor took a few jabs at "patent medicines," makers of bad whiskey and other health-menacing concoctions.
>
> Of course, all of this "had a very depressing effect on trade;" that is, most of us shied at having our stomachs preserved.
>
> Enter the Advertisers' Protective Association, "composed of manufacturers of food, beverages and drugs, representing an investment of $400,000,000, whose advertising expenses are annually $100,000,000."
>
> Recognize 'em? Why, of course. Merely the food trust all fussed up in new clothes, with a new name.
>
> Now this A. P. A. affair proceeds to don further disguise. It rents Lock Box No. 2124 in New York City, hires one Frederick W. Cooper as secretary and gets into action.
>
> Frederick W. gets right down to business and has a circular letter printed telling what an undesirable citizen is Dr. Wiley, and urging that he be roped, slaughtered and preserved—probably with benzoate of soda.
>
> But right here Frederick W. Cooper made the mistake of his life, if he intended to work under cover, for he sent one of his circular letters to the editor of the *Daily News*.
>
> "Dear Mr. Editor," begins Frederick, and then he alludes to the "vicious and uncalled-for assaults on foods, beverages, etc.," meaning the unhealthy output of the food trust, and says that probably "many publications have felt the reduction in advertising patronage" as a result.
>
> Right alongside of this is that statement of "advertising expenses are annually over $100,000,000."
>
> Then he points out what an inefficient man is Dr. Wiley, and how the doctor has "squandered" millions of the public's money "circulating untruthful reports about benzoate of soda, whiskey and Coca Cola."
>
> Frederick blames "Heinze's 57 Varieties" with leading the fight on poor old benzoate, says that "Caffeinless Coffee" helped wallop Coca Cola, that the American Medical Association hammered the "patent medicines," and that the Kentucky distillers mauled "whiskey." By innuendo Frederick intimates that Dr. Wiley "benefited" by these attacks.
>
> The letter continues with a plea that the editor write to his senator and congressman and take the matter up in the editorial columns and go for Dr. Wiley, closing with the assertion that "we are American citizens, not Russians, and that bureau-made law and one-man power are contrary to the spirit of our American citizenship."
>
> Well, here is the editor's answer, Frederick.
>
> The *News* does not want any of the A. P. A.'s $100,000,000 a year. More power to "Doc" Wiley. (Senator Bourne and Representative Lafferty, please note.) His is not a one-man regime, an autocratic bureaucracy.
>
> There are 95,000,000 "ultimate consumers" behind the "Doc," Mr. Frederick W. Cooper, and we will back them against your $100,000,000 a year and the other boasted $400,000,000 thrown in. Your gang fed us embalmed beef and bum drugs and benzoated pickles for many a long year, and now we advise you to have a care lest some one of the long-suffering 95,000,000 lies in wait for you at Lock Box 2124, follows you to the lair of the A. P. A.'s and "tips the joint off to the police."
>
> Believe us, Freddie, what has already happened is but a summer zephyr compared to what will happen if you are not careful how you spend that $100,000,000 a year.

The *News* is perfectly right. What has already happened to the manufacturers of fake "patent medicines," bad whiskies, sophisticated food, drugs and all others who seek private gain at the expense of the public health is only a summer zephyr compared to what will happen as soon as the American public realizes the enormity of this effort to exploit the people for private gain. It is incredible that men engaged in large business enterprises and presumably in touch with public opinion should so misinterpret the temper of the American people. A new day is dawning in public health matters and it would be well for those interested in any shady lines of business to recognize the fact and adapt themselves to the new conditions as speedily as possible.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Illinois: Coliseum Annex, Chicago, July 25-27. Sec., Dr. James A. Egan, Springfield.

Oregon January Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, January 3-5, 1911. The number of subjects examined in was 15; total questions asked, 114; percentage required, 75. The candidates examined were 78, of whom 46 passed, including 4 osteopaths, and 31 failed, including 1 osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Southern California	(1907)	78.2
Denver and Gross College of Medicine	(1905)	79.3
George Washington University	(1908)	85.4
Rush Medical College	(1883) 68.3;* (1902) 73;* (1910)	77
College of Physicians and Surgeons, Chicago	(1905) 85.4; (1908) 75.4; (1909) 82.9.	
Iowa College of Physicians and Surgeons	(1889)	*66.5
University of Iowa, College of Homeopathic Med.	(1910)	77.1
Southwestern Homeopathic Med. College, Louisville	(1909)	85.3
Hospital College of Medicine, Louisville	(1890)	*71.4
Kentucky School of Medicine	(1903)	80.4
University of Maryland	(1910)	79.9, 86.4
Maryland Medical College	(1907)	76.9
Johns Hopkins University	(1909)	87.6
Boston University	(1888)	77.8
University of Michigan, College of Medicine	(1864)	*59
University of Minnesota, College of Med. and Surg.	(1909)	82.2
St. Louis University	(1905)	*70.3
University of Buffalo	(1900) 79; (1907)	83.4
Columbia University, College of Phys. and Surg.	(1908)	85
Jefferson Medical College	(1895) 82.4; (1906)	76.7
Medico-Chirurgical College, Philadelphia	(1905)	86.6
Hahnemann Medical College, Philadelphia	(1909)	83.7
University of Oregon	(1908)	77.4, 79
Western Pennsylvania Medical College	(1899)	*74.9
Queen's University, Kingston, Ontario	(1908)	83.4
Memphis Hospital Medical College	(1909)	77.6
University of Toronto, Ontario	(1907) 81.1; (1908)	84.4
Trinity Medical College	(1902)	80
Non-graduates, 75, 76, 81, 84.3, 86.		

FAILED

College	Year Grad.	Per Cent.
Gross Medical College	(1892)	64.5
University of Indiana	(1897)	59
Keokuk Medical College, College of Phys. and Surg.	(1906)	48.4
University of Iowa, College of Medicine	(1903)	68.3
College of Physicians and Surgeons, Chicago	(1897)	68.5
Hahnemann Medical College and Hospital, Chicago	(1904)	58
Chicago College of Medicine and Surgery	(1910)	68.9
Northwestern University Medical School	(1906)	73.6
University of Louisville	(1907) 65.2; (1910)	73.1
Kentucky School of Medicine	(1908)	51.6
St. Louis University	(1905)	54.1
Marion-Sims Beaumont Medical College	(1892)	44.2
Kansas City Medical College	(1901)	66.4
Kansas City Hahnemann Medical College	(1909)	64.7
Columbia University, College of Phys. and Surg.	(1885)	58.7
Medical College of Ohio	(1897)	44.1
Starling Medical College	(1906)	73.4
Ohio Medical University	(1904)	66.2
Pulte Medical College	(1888)	59.1
University of Oregon	(1909) 72.2; (1910)	68.4
Willamette University	(1908)	56.1
Jefferson Medical College	(1910)	71.9
Western Pennsylvania Medical College	(1896)	47.9
Tennessee Medical College	(1907)	74
Royal University of Turin, Italy	(1899)	63.2
Non-graduates, 55.6, 56, 71.		

* Passed on account of years of practice.

Louisiana May Report

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, May 18-20, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 132, of whom 104 passed and 28 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1892)	*60.1
College of Physicians and Surgeons, Little Rock	(1910)	78.9
Atlanta College of Phys. and Surgs.	(1899) 78.3; (1911)	77.3
Chicago College of Medicine and Surgery	(1908)	87
Bennett Medical College	(1901)	87.4
Tulane University of Louisiana	(1906) 76.5; (1908) 87.3; (1910) 79.1, 83.3; (1911) 75.2, 77.1, 78.1, 79.8, 80.1, 80.2, 80.6, 81.4, 81.6, 81.8, 81.9, 82.6, 82.8, 82.9, 83.2, 83.2, 83.8, 83.8, 84.5, 84.6, 84.8, 85.7, 86, 86, 86 1, 86.2, 86.5, 86.6, 86.8, 86.9, 86.9, 87.4, 87.7, 87.8, 87.9, 88, 88.1, 88.2, 88.3, 88.5, 88.6, 88.8, 88.8, 89.2, 89.3, 89.4, 89.4, 89.4, 89.8, 89.8, 89.9, 90, 90.8, 91.1, 91.4, 91.4, 91.5, 91.6, 91.7, 92.1, 92.8, 92.9, 93, 93.1, 93.1, 93.4, 94.2.	
University of Tennessee	(1911)	77.1, 77.4
Memphis Hospital Medical College	(1900) 76.1; (1910) 75.9, 76.8; (1911) 75.7, 77.2, 77.3, 77.5, 78.2, 78.7, 80.1, 81.4, 83.1, 85.8, 87.4, 91.8, 92.9.	
College of Physicians and Surgeons, Memphis	(1911)	76.7
University of the South	(1903) 76; (1908)	75.8, 81
University of Nashville	(1909) 84.9; (1911)	79.1, 85.9, 89.4
Baylor University	(1905)	*68.7

FAILED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1911)	73.4
University of Arkansas	(1911)	54.8
Atlanta School of Medicine	(1911)	31.9
Louisville Medical College	(1906)	70.4
University of Louisville	(1909) 68.1; (1911)	69.3
Flint Medical College	(1910)	68.7, 74.5
Maryland Medical College	(1910)	46.2
College of Physicians and Surgeons, Memphis	(1911)	70.8
Memphis Hospital Medical College	(1901) 60.9; (1902) 69.7; (1909) 66.6; (1910)† (1910 67.4, 69.8, 73.7, 74.6; (1911) 12.9, 60.7, 65.5, 68.8, 70.5, 70.5, 70.7, 72.6.	
Meharry Medical College	(1910) 69.3; (1911)	73

* Passed on account of years of practice.

† No grade given.

Michigan May Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Detroit, May 18-20, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 51, of whom 50 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Baltimore Medical College	(1910)	79.1
Harvard University Medical School	(1909)	86.8
Detroit College of Medicine	(1910) 84.6, 85.5; (1911) 77.3, 77.8, 79.5, 79.7, 79.8, 79.8, 79.8, 80.3, 80.6, 81.7, 81.8, 81.9, 82.1, 82.5, 83.6, 84.3, 84.4, 84.5, 84.5, 84.5, 84.7, 84.8, 85.1, 85.2, 85.5, 85.5, 85.5, 85.5, 85.6, 85.7, 85.8, 88, 88.3, 88.5, 88.5, 88.7, 89.1, 90.3, 90.4.	
Detroit Homeopathic College	(1911) 78.7, 82.2, 83.5, 83.5, 84.7, 85.6	
Columbia University, College of Phys. and Surgs.	(1885)	75

FAILED

College	Year Grad.	Per Cent.
Detroit College of Medicine	(1910)	69.5

Mississippi May Report

Dr. S. H. McLean, secretary of the Mississippi State Board of Health, reports the written examination held at Jackson, May 9-10, 1911. The number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 170, of whom 89 passed, including 62 non-graduates, and 81 failed, including 48 non-graduates. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Atlanta School of Medicine	(1911)	1
University of Louisville	(1911)	1
Tulane University of Louisiana	(1901) (1911)	2
Mississippi Medical College	(2. 1910) (5, 1911)	7
University of Nashville	(1911)	1
University of Tennessee	(1909)	1
Memphis Hospital Medical College	(1890) (1891) (1894) (2. 1908) (4. 1910) (1911)	10
College of Physicians and Surgeons, Memphis	(1911)	2
University of Pennsylvania	(1901)	1
University of Virginia	(1910)	1

FAILED

College	Year Grad.	Total No. Examined.
University of Alabama	(1905)	1
Howard University, Washington, D. C.	(1910)	1
Atlanta School of Medicine	(1911)	1
Atlanta College of Physicians and Surgeons	(1911)	1
Chicago Homeopathic College	(1900)	1
Louisville National Medical College	(1910)	1
St. Louis College of Physicians and Surgeons	(1908)	1
Mississippi Med. Coll.	(1907) (1909) (1910) (11, 1911)	14
College of Physicians and Surgeons, Memphis	(1911)	1
Memphis Hospital Medical College	(1906) (1910)	2
University of Tennessee	(1911)	1
Meharry Medical College	(1905) (1907) 1908) (1911)	4
Chattanooga Medical College	(1894)	1
Knoxville Medical College	(1909)	1
Gate City Medical College	(1906) (1909)	2

Book Notices

An Introduction to Bacteriological and Enzyme Chemistry. By Gilbert J. Fowler, D.Sc., F.I.C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester. Cloth. Price, $2.10 net. Pp. 328, with 28 illustrations. New York: Longmans, Green & Co.

The subject of bacteriologic and enzyme chemistry is becoming of such increasing importance that a thorough knowledge of it is essential to any one interested in the technical, industrial and sanitary matters. Indeed, the general physician should have some knowledge of it, especially as presented in this work of Fowler. The various subjects discussed are treated clearly and with sufficient conciseness to assure a careful reader a good understanding of many matters of importance and interest, such, for instance, as the provision of a pure water-supply and the disposal of sewage and other waste products.

The extremely technical parts of this subject are treated in such a way that the average reader who has some knowledge of chemistry cannot fail to grasp it; while the other portions of the work are taken up in a most fascinating way. The book should be of value to laboratory workers especially, and even to the general practitioner.

Accidental Injuries to Workmen. With Reference to Workmen's Compensation Act, 1906. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast. With Article on Injuries to the Organs of Special Sense, by Cecil E. Shaw, M.A., M.Ch., M.D., Lecturer on Ophthalmology and Otology, Queen's University of Belfast, and Legal Introduction by Thomas J. Campbell, M.A., LL.B., Barrister-at-Law. Cloth. Price, $2.50. Pp. 376. New York: Rebman Co., 1911.

This work is an exposition of the Workmen's Compensation Act of 1906 of England. There is an introduction of fifty odd pages on the legal aspect of the development of compensation to workmen for injuries, followed by a chapter of some length on what legally constitutes an accident. The compensation act itself is then analyzed, and is followed by a long chapter on "Industrial Diseases as Accidents." Three appendices, one on the Workmen's Compensation Act of 1906, one on a list of industrial diseases and one on a report of the Departmental Committee on Compensation for Industrial Diseases, close the volume. Workmen's compensation acts have not yet made much headway in this country, but that they are certain to come seems evident; and as physicians necessarily have a great deal to do with the administration of these acts it is very desirable that they should be as thoroughly familiar with them as possible. Aside from this phase of the question this volume contains much valuable information regarding industrial diseases which is not found in the usual text-book and which is of much interest to the physician.

Die Behandlung der Frauenkrankheiten. Für die Praxis dargestellt. Von Dr. J. Veit, Professor und Direktor der Universitäts-Frauenklinik in Halle a.S. Geh.Med.-Rat. Paper. Price, 8.20 marks. Pp. 242, with 34 illustrations. Berlin: S. Karger, Karlstrasse 15, 1911.

The average American and English text-book on diseases of women is primitive in comparison with this classical summary of the general operative and therapeutic treatment of gynecologic disorders. The first thirty pages are devoted to the detailed description of the consultation, treatment and operating rooms, as well as the antiseptic preparation of the surgeon, his assistant and the instruments. The author has gone into particulars in describing the technic of all the late operations in gynecologic surgery, including those which are recognized by others and making special mention of those which he prefers. The critic may take exception to some of Veit's preferences. In several instances he clings to operative procedure which has been discarded by the majority in this country: e. g., ventral fixation and the Alexander-Adams operation for retrodeviation. With few exceptions, Veit mentions all the most recent therapeutic measures employed in the specialty, and dwells forcibly on the prominent sociologic problems that confront the gynecologist. As a record of gynecologic practice at the present date, this work will remain for all time an invaluable reference book and an eloquent plea for the specialty of gynecology. The American gynecologist cannot read Veit's contribution without a profound recognition of the close tie in methods and thoughts which bind the advanced gynecologist of this country to Germany. For the younger professional men, especially those who have not had exceptional experience as interns, or the privilege of assisting one of the advanced gynecologists of the day, the book is of unique value.

Proceedings of the Tenth Annual Conference of Sanitary Officers of the State of New York, Held at Y. M. C. A. Auditorium, Buffalo, Nov. 16-18, 1910. New York State Department of Health. Paper. Pp. 270. Albany: New York State Department of Health, Division of Publicity and Education.

This pamphlet contains a number of valuable papers and discussions on various phases of municipal and rural hygiene and sanitation by sanitarians of New York and by others who have achieved prominence in various lines of sanitary endeavor. There is one each by Hill of Minnesota on typhoid fever, by Frost of the U. S. Public Health and Marine Hospital Service on poliomyelitis, on venereal diseases by Swarts of Rhode Island, on the reporting of contagious diseases by Levy of Virginia, one on rural hygiene by Freeman of the same state and one by Hall of Minnesota on handling garbage, beside many other practical papers. The collection constitutes a valuable document for health officers, presenting a variety of late views and information on the vital features of public sanitation and the prevention of disease.

Medicolegal

Illegal Practitioners Not Libeled by Published Demand for Their Removal from Building—Use of Terms "Osteopathic Physician" and "Quack"

The Supreme Court of Washington affirms, on the second appeal of the alleged libel case of Lathrop vs. Sundberg and others (113 Pac. R. 574), a judgment of dismissal in favor of the defendants. The plaintiff, an osteopath, wanted $75,000 damages because of the publication by the defendants in a newspaper of the following: "We the following reputable physicians and dentists, occupying offices in the Eitel Building, endeavoring to uphold the honor and dignity of our professions and desiring to encourage only the best and most desirable tenants for our office building, and thereby conserve the best interests of the public at large, are most emphatically opposed to the indiscriminate rental of offices in this building to osteopaths, neuropaths, autopaths, chiropractors, unitomtereists, unprofessional masseurs, criminal practitioners, 'medical institutes,' advertising 'specialists.' patent medicine fakers, quacks, charlatans and other fraudulent concerns. We, therefore, demand the removal of all such persons now holding offices in this building and the exclusion therefrom of all such undesirable tenants in the future."

The court says that the plaintiff testified that, while pursuing his calling as a barber, he read four typewritten lessons a week for fifty-two weeks from an osteopathic correspondence school, embracing the subjects of anatomy, physiology and pathology; that he had on his office door the words "Dr. C. F. Lathrop, Osteopathic Physician," while in that building. He insisted that he should have been permitted to offer further evidence tending to show that he was an osteopath, and that his case should have been submitted to the jury. But the court thinks that the correct view of the case was taken when it was withdrawn from the jury and a judgment of dismissal entered. It appeared from the testimony of the plaintiff himself that he was pursuing his practice in a manner forbidden by the laws of the state, which make it a misdemeanor for a person to maintain "an office or place of business with his or her name and the words * * * 'Doctor' * * * in public view," without having obtained and filed a license as provided by law. In State vs. Pollman, 51 Wash. 110; 98 Pac. 88, it was held that a prefix or qualifying words to the title "Physician" did not relieve a party from the penalty of the statute; that the abbreviation "Dr." offended the law to the same extent as the word "Doctor;" that the purpose of the statute is to protect the people against deception; and that "it is practitioners of the regular school rather than the others that the ill and infirm seeking relief usually expect to find when entering a room whose door has lettered upon it the name of a person preceded by the title 'Dr.' or followed by the letters 'M.D.,' or 'Physician and Surgeon.'"

Without undertaking to define the words "quack" and "charlatan," the terms by which the plaintiff was characterized in the libel, it suffices to say that he was knowingly luring patients into his office by a method condemned by the penal laws of the state. This was a fraud and imposition on the public, and the law will afford him no redress for the loss of earnings sought to be acquired in that manner. On the former appeal this court said, speaking of the libel in question: "Clearly this is libelous *per se* (in and of itself), if published of and concerning the appellant (plaintiff), and he is engaged in a reputable practice, and that it was published of and concerning the appellant, and that his practice is reputable, was distinctly alleged in the complaint." He could not be engaged in a reputable practice while offending against the statute. As was said in Hargan vs. Purdy, 93 Ky. 424; 20 S. W. 432: "If he was then undertaking to practice medicine in violation of the statute of the state, he could not, in contemplation of law, have been injured or sustained damage from being called an 'empiric' or 'quack;' or, at all events, he could not be heard in a court of justice to complain that words had been spoken or written of him having the simple effect to disable or deter him from violating a penal law." See, also, Marsh vs. Davison, 9 Paige's Ch. 580.

The plaintiff contended that he had a common-law right to practice osteopathy without a license; that he was libeled while pursuing that right; and that his damages should have been assessed by the jury. If he had advertised and practiced as an osteopath, that question would have been presented, while under the above circumstances it was not.

Constitutionality of Law Providing for Medical Examination and Detention of Prostitutes

Justice Bischoff says, in delivering the opinion of a Special Term of the Supreme Court of New York, New York County, in People vs. Fox (127 N. Y. S. 484), that, on the theory of discrimination between men and women, the attack on the constitutionality of section 79, chapter 659, of the New York laws of 1910, providing for the medical examination of prostitutes, was not well founded. It is unquestionably an enactment having for its aim the safeguarding of the health of the inhabitants of the state, and the matter is fully within the police power. Ground of argument is not lacking that the danger from the spread of disease by women of the class in question is greater than the danger existing from the disease in the case of men, and that the present regulation is necessitated as a step distinct in its nature from a corrective measure which may be directed to the diseased condition of males. The question of expediency, therefore, was for the legislature, and it is not to be determined as an original matter by the court.

There was clearly merit, however, in the contention that the statute directs the detention of the accused, without due process of law, in that the nature of the sentence, after conviction, is made to depend on the report of a physical examination without the opportunity for a hearing on the facts entering into the report. The conclusion of the examining physician is made binding on the court. The report is presented to the magistrate, "and if it thereby appears," says the statute, that the prisoner is afflicted with the disease in question, "the magistrate shall commit her to a public hospital" for a period which, in the magistrate's discretion, may be one year—a period greatly exceeding the maximum time of detention prescribed for the same offense in the absence of a physician's report. Since the physician is not a judicial officer, and since the magistrate cannot hear the accused as to the correctness of the facts stated in the report, but is bound thereby, the penalty attaching to conviction of the offense is made to depend on an independent inquiry out of court, with the result that the convicted person is deprived of the benefit of due process of law.

Society Proceedings

CONNECTICUT STATE MEDICAL SOCIETY

One Hundred and Nineteenth Annual Meeting, held at Hartford, May 24-25, 1911

The President, Dr. Frank K. Hallock, Cromwell, in the Chair

The officers elected were named in The Journal, July 1, p. 31.

A Farm Colony for Alcoholics in Connecticut

Dr. Frank H. Barnes, Stamford: In order to get some statistics on the subject to present to the society, letters were mailed to the judges of the courts of the leading cities in the state. The answers to these letters lead me to think that it would be advisable to establish a farm for alcoholics in Connecticut. I would suggest that the president of this society be given power to appoint a committee to present this matter to the legislature of this state, and to ask for the appointment of a commission to investigate the matter. (This committee was appointed.)

The Diagnosis of Syphilis

Dr. Jessie W. Fisher, Middletown: The serum reaction makes possible the early diagnosis of syphilis. It is corroborative of the clinical symptoms, invaluable in the differential diagnosis of obscure disease, an index to the progress of recovery, and a guide to marriage. With the cyto-analysis of the cerebrospinal fluid, it is diagnostic of dementia paralytica.

The Feeding of Sick Infants

Dr. Charles A. Goodrich, Hartford: The various substitutes for milk feeding in illness, such as cereal decoctions, albumen water, a sugar solution and whey, have a low food value, as ordinarily prescribed. While these are useful in certain classes of cases there are contra-indications to their use in many instances. Intolerance for milk, due to disease or to some inherent peculiarity, occurs in some infants. In these the cereal gruels, plain or dextrinized, are useful.

DISCUSSION

Dr. H. Merriman Steele, New Haven: I have frequently fed summer-diarrhea patients with well-cooked cereals, nearly as thick as the ordinary breakfast foods, and I believe, with much better results than could be obtained by using the weak cereal waters. If one must starve the baby for 24 or 48 hours, water alone is the best treatment, attention being paid to the salts. I agree with Dr. Goodrich in his recommendation of milk sugar as a proper food for tiding over acute cases. In rectal feeding, dextrin in solution probably furnishes more absorbable material than any other food at our command. In adding milk-sugar to whey, one may easily overstep the limit of tolerance for sugar, because whey itself contains over 47 per cent. of this ingredient. Undue stress is often laid on the character of the stools in convalescent cases of summer diarrhea. This is absolutely no contra-indication to beginning milk feeding. I would suggest a trial of buttermilk in cases in which there is intolerance for milk. For both sick and healthy infants, one should not forget the value of the salts of food.

Dr. Walter G. Murphy, East Hartford: Empirically, it has been found that children after the age of three or four months often do better on a mixture of milk and barley-water than on one of milk and water or any other diluent. Its food-value, however, is so little that, if long continued, the patient may suffer from a lack of nourishment. In acute irritative diarrhea, the indications are to get rid of all irritating substances in the intestinal tract, and to withhold all food until the vomiting has ceased. In cases in which the babies have some infection and are overfed, plenty of water and plenty of rest are indicated; and if these children are not too much depressed, they are better without food. In acute fermentative diarrheas, if the child's condition will warrant it, the withholding of all food until the intestinal tract has been cleared of fermenting substances is better than the giving of nourishment. In babies whose general condition has not been good, and whose powers of resistance are below normal, and who are subject to frequent attacks of diarrhea and vomiting, the withdrawal of all food is usually disastrous. If the stools are offensive, cereal foods, either plain or dextrinized, given to the extent of the digestive capacity, are necessary.

The Relation of the Medical Profession to Opticians

Dr. Henry W. Ring, New Haven: In the passage of so-called optometry laws throughout the United States, the help of the medical profession has been solicited with no small degree of success. This aid has been obtained through misrepresenting the possible and actual evils to which the public may be subjected. Many physicians send patients to opticians for examination and treatment of the eyes, forgetting that opticians bear the same relation to the ophthalmologist that druggists bear to the general practitioner. A large number of cases of serious disease of the eyes have been treated by opticians with glasses, the real trouble not being suspected. The eye is not only subject to diseases peculiar to itself, but also participates in and gives evidence of affections of the other parts of the body; and anyone unacquainted with this relationship is bound to make mistakes. The measurement of errors of refraction and anomalies of accommodation and of ocular motility, with or without the aid of drugs, is not a simple mechanical procedure, but represents one of the most important therapeutic measures in the practice of medicine. The oculists have shown more activity than the general practitioners in opposing the extension of this optometry legislation, because they so frequently see the unfortunate results; but this opposition should not be confined to them. The situation should be appreciated by the profession in general.

Some Problems Connected with the Inspection of Schools

Dr. Edward W. Goodenough, Waterbury: The most important work of medical men to-day is connected with the growth and development of the child. Medical inspection of schools is primarily for the benefit of the growing child. It is not a charity. The town or the state should be willing to pay members of the medical profession a reasonable amount in order to give the children in school protection against disease. A school nurse is also a necessity, as she is a help to the physician in many ways. Until the position of medical inspector of schools is fixed on a firm basis, physicians appointed to this office must be willing to give the town more than a full equivalent for the money invested in this work.

DISCUSSION

Dr. Chas. P. Botsford, Hartford: It is a duty we owe to the rising generation to try to influence fathers and mothers in favor of medical inspection, and to convince them that it is not necessarily very expensive. A properly devised medical inspection, suited to the town and the school in which it is made, will pay for itself in more regular attendance and better work on the part of the children.

Dr. Frank H. Barnes, Stamford: There are more feebleminded children, idiots and imbeciles in the schools than one would think. I believe that it would be better not to include the small country towns, and it should be decided whether the school committee or the public health boards shall take charge of the inspection.

Dr. Thomas G. Sloan, Manchester: During the past year, we had two serious and long-lasting epidemics, one of diphtheria, and one of scarlet fever. Throughout this time, every child's throat was examined twice a week. Cultures were made from throats found inflamed. In this way, we discovered and sent home some children with scarlet fever. When necessary, the school-room was fumigated. Medical inspection has been in existence two years in Manchester, and we are well satisfied with its results.

Dr. Edward K. Root, Hartford: The general public, knowingly or otherwise, make a sharp distinction between contagious diseases, in which their children's lives may be endangered from coming into contact with those that are ill, and conditions of malnutrition and degeneracy, which they regard as no one's business but their own. In Hartford, where medical inspection has been in existence ten years, we always turn over the treatment of the sick children discovered to their parents. If they are not taken care of at home, then the town must take care of them. Everything that the State does for the child lessens the responsibility of the parents to just that extent.

Dr. Henry F. Stoll, Hartford: One thing that has impressed me is that the teachers are not capable of picking out the delicate children. I tried to have them pick out and send to me cases suitable for our out-of-doors school. Finally, I adopted the plan of standing at the foot of the stairway when the school was dismissed, so that I might see the children in a good light walking. I could then select the cases and have them sent to me for a more careful examination later on.

Dr. Samuel M. Garlick, Bridgeport: Referring the matter back to the parent educates the parent and the child itself. It is much more desirable to educate the individual than to educate the public. Dismissing the matter without reference to the family physician tends to reduce the confidence in him that the family should have.

Dr. George H. Wright, New Milford: The parents can be perfectly educated in almost every case, not only to submit to the inspection, but also to carry out the recommendations made by the inspector.

Case of Bronzed Diabetes

Dr. George Blumer, New Haven: This case showed the triad of symptoms and signs that characterize typical examples of bronzed diabetes. The form of diabetes associated with this condition is usually acute. The skin pigmentation, which is entirely lacking in about one-sixth of the cases, varies greatly in both color and situation. In many of the reported cases, disease of the liver was present years before the appearance of the other manifestations. Some patients enter the hospital with gastro-intestinal disturbances. The occasional occurrence of the clinical evidences of blood destruction may be noted. The disease is confined almost exclusively to males, usually between the ages of 30 and 60 years. Alcohol plays an important part in the etiology of many cases. The amount of iron that is present in some of the organs, as well as the skin lesions, is very considerable. The blood destruction taking place within the portal zone may lead to the deposition of pigment, with its maximum deposit in the abdominal organs, much like that which occurs in hemochromatosis. The differential diagnosis may be simplified by pointing out that a combination of pigment with an enlarged, hard liver and glycosuria is not liable to occur in any other condition. While the possibility of the occurrence of diabetes or of an enlarged liver as a complication of various diseases associated with pigmentation of the skin cannot be denied, the likelihood that this triad of symptoms and signs will occur outside of bronzed diabetes is very small.

DISCUSSION

Dr. Wilder Tileston, New Haven: The name hemochromatosis is preferable to bronzed diabetes, because it covers cases of pigmentation of the skin without signs of diabetes. In 1889, I saw such a case. The patient looked like a mulatto, though his skin had been fair before his illness. He showed no enlargement of the liver, and no sugar in the urine. Microscopic inspection showed the presence of iron pigment, which does not occur in any other condition than hemochromatosis though its absence does not exclude that diagnosis. The coloring matter is probably brought to the cells by the blood, and not manufactured locally by the skin. Pigmentation of the skin has usually been considered indicative of Addison's disease, but I have found only the minority of cases to be due to affections of the adrenals. The pigmentation of arsenic, though rather uncommon, must be borne in mind in this connection. It is possible to have pigmentation of the mucous membrane of the mouth in people otherwise healthy.

Law, Medicine and the State: Some Points of Contact

Dr. Frank K. Hallock, Cromwell: The members of the professions are, in the main, the recognized exponents of the best thought and the most worthy ideals; and, as such, the great mass of the people who are less favored in education, have a right to look to them as the natural leaders in the solution of civil problems, moral and physical. Independent effort cannot be so successful as the effort that has back of it an organized body or class. Such organizations in the professions should have at least two objects: to raise the standard of their own efficiency, and to discharge their duty to the state by accomplishing results calculated to benefit the general public. Law and medicine should get together for the benefit of the state on such points of contact as expert testimony and boards of health.

The Importance of Early Operation for Tumors of the Breast

DR. GEORGE N. BELL, Hartford: The situation in regard to breast tumors has not changed much in the past century. If we can be absolutely sure of their benignancy, they should be let alone, and if malignant, they should be removed. The treatment depends on our ability to decide which is which. Eighty per cent. of all breast tumors are malignant, so the need of early diagnosis and operation in cases of malignancy is apparent. The operative mortality is less than 1 per cent., so it is a wonder that the postponement of operation in these cases it still considered. Multiple tumors of the breast are usually benign. The one positive means of diagnosis is the microscopic. One cannot, however, be sure that a benign tumor will remain benign. Therefore, it is best to remove a mass in the breast as soon as attention is called to it, to submit to the pathologist for examination and operate radically if necessary. The chief factor in the prognosis, next to the extent of the growth, is its glandular involvement. The more radical methods of operating, consisting in the removal of both muscles and axillary contents, and the greater rapidity in doing the work, have given much better results than were formerly obtained. Another advance has been in the employment of frozen sections in all doubtful cases.

DISCUSSION

DR. OLIVER C. SMITH, Hartford: The majority of benign tumors of the breast, except the lipomata, should be removed. These tumors frequently become malignant. One cannot always tell at operation whether one is dealing with benignity or malignancy. We should try to educate the laymen to realize that a tumor of the breast is a dangerous thing and should be investigated at once by a competent man.

DR. CHARLES E. TAFT, Hartford: I cannot emphasize too much the importance of examining all the organs of the body liable to metastasis before deciding to operate on the breast. After the muscles have been dissected away, it is best to tie all the small blood-vessels in the chest with a needle and thread, in order to prevent secondary hemorrhage. Unless a physician is himself prepared to urge the patient to submit to operation, he should immediately refer all tumors of the breast to a surgeon.

DR. CLARENCE E. SKINNER, New Haven: Early and thorough ablation is the first and most important step to be taken in the great majority of cases, but in order to prevent recurrence, roentgenization should be employed immediately after every ablative procedure for cancer. The *x*-ray exhibits a powerfully curative influence over malignant processes in many cases, and in a disease with such a gloomy prognosis, it is not justifiable to omit the application of any means of control that has demonstrated that it possesses value. It is impossible to tell at the time of operation in which cases recurrence will take place, and recurrence is frequently more resistent to the *x*-ray than the original lesion. Early recurrences are frequently internal and give no sign of their presence until it is useless to do anything.

Intestinal Obstruction, with Especial Reference to Intussusception in Infants

DR. OWEN O'NEIL, Willimantic: The palpation of a sausage-shaped tumor through the abdominal wall is by no means an unfailing guide. Vomiting, though fairly constant in acute intussusception, may not be present. The value of prompt operation, limited to the relief of the actual acute condition, cannot be overestimated, nor the uselessness and even danger of palliative measures, which may ameliorate the active symptoms of the disorder, even simulating true reduction, and thereby may cause serious delay in the institution of radical treatment. Mechanical obstruction by a foreign body in the intestines may present all the general symptoms of an intussusception.

DISCUSSION

DR. JOSEPH M. FLINT, New Haven: In two cases of true intussusception there was an absence of abdominal tumor. Acute abdominal symptoms, mucohemorrhagic stools and a palpable tumor in the rectum are the most common signs of intussusception in young children. I think that there is a group of cases in which palliative treatment deserves a wider recognition, those in which the intussusception may not be reducible and in which an extensive gangrenous process may be present, with relatively few objective symptoms and no general reaction indicated by signs. However, because we cannot tell when palliative means will lead to serious results, the operative method should be applied as early as possible.

DR. JOHN W. WRIGHT, Bridgeport: Some years ago I was called into consultation on two cases that were, without doubt, intestinal intussusception, but which were then mistaken for cases of mild enterocolitis. Unfortunately, the diagnosis was not complete enough to warrant a resort to operation and both children died. I have found intussusceptions in some cases at the post-mortem examination, as many as twelve in one case. I have not, within the last few years, seen any cases of enterocolitis in children resulting in intussusception. Therefore, I have not operated in that sort of case.

DR. JAMES H. KINGMAN, Middletown: One case of intussusception which I saw illustrates the point of not doing too much at one time. We found 5 inches of black, gangrenous gut, but, as the child's condition was very bad, we thought it unwise to resect. We therefore stitched around the gut and made an artificial anus. The child afterward did pretty well. Most of the gangrenous part finally sloughed off, leaving the double ends projecting out of the abdomen. These I clamped and obtained motions through the normal passage. A few months later I did a resection and had a perfect result. I believe that if I had tried to do more at the time of the first operation than to make an artificial anus the child would have died.

DR. JOHN B. BOUCHER, Hartford: Some years ago I had the accident of reinvagination happen in one of these cases. In order to prevent this in a subsequent case I dissected off the mesentery, brought the cecum down to the abdominal wall at the point where it should have been, drew the appendix through the tendon and put a piece of adhesive plaster over the appendix, leaving it there for twenty-four hours. I then cut it off, obtaining primary union.

DR. HARMON G. HOWE, Hartford: One should not be too energetic with the hydrostatic method, nor trust to the apparent recentness of the attack, for some of these cases are partially invaginated for some time before presenting symptoms. Even if we do succeed by this means in reducing the intussusception, death will sometimes take place from gangrene.

DR. EDWARD W. SMITH, Meriden: In a case of intussusception of the ileocolic variety in a child of eleven months, 2 or 3 inches of the cecum were drawn in. After the operation the child made a good recovery. Six months later it had another invagination, probably due to having eaten a large amount of peanut candy. This time I employed Dr. Taft's method of inverting the child and manipulating the bowel. The tumor disappeared and the child dropped into a quiet sleep.

DR. O. C. SMITH: I think that I would be inclined first to try palliative measures, because in a child this is a serious operation. If warm sweet-oil is used the intussusception may be carried up, though not quite undone. This shows the region where the intussusception starts from and gives an idea where to operate.

Peritoneal Tuberculosis

DR. DANIEL SULLIVAN, New London: Tuberculous peritonitis mimics every other abdominal disease or condition. It is secondary to tuberculosis in some other organ in 90 per cent.

of the cases, the lungs being the primary seat more frequently than all the other organs taken together. I have had two cases in which jaundice was a pronounced symptom. While peritoneal tuberculosis is sometimes a surgical disease it is always a medical one. The medical man should treat his patients with rest, fresh air, nutritious food, medicine (if necessary to help the emunctories) and all that goes with good nursing. If, after five or six days, there is no improvement and the case is one of the ascitic form or when the Fallopian tubes or the appendix appear to be the location of the mass, a laparotomy should be advised. A simple incision and the evacuation of the fluid, with a removal of the primary seat of infection, if possible, is the best procedure, the wound being closed without drainage. Then begin again with the hygienic treatment.

DISCUSSION

Dr. John B. Boucher, Hartford: Abdominal drainage should not be used, because mixed infection should be avoided in such cases. If this is prevented tuberculosis is a comparatively harmless disease.

Dr. Seldom B. Overlock, Pomfret: The medical treatment of these cases consists in putting the patient in the most favorable condition to resist the disease. The surgical treatment can be of service in eliminating the foci of infection and covering them up. We thus get rid of as much tuberculous material as possible, leaving Nature to pour out an effusion to help bury what is left.

Dr. David R. Lyman, Wallingford: I have usually referred these patients to the surgeon, because of acute appendicitis, but back of this there has been the tuberculous peritonitis. In several cases I have seen bad effects from ether anesthesia and am inclined to be very cautious in its use in patients with tuberculous peritonitis.

The Two-Stage Operation for Intestinal Obstruction

Dr. Edward R. Whittemore, New Haven: I have found it advisable to do a simple enterostomy at first, leaving the removal of the obstruction until later. The operation should be done as early as possible, with the usual preparation of the patient, especially remembering to wash out the stomach before giving the ether. Only the briefest examination should be made at the operation to discover the site and cause of the obstruction, the search being abandoned if not soon successful. A simple enterostomy is then done on the most distant loop, preferably not in the median line. If any gangrenous gut is seen it should be drawn into the wound, secured there and opened. All other procedures should be left until the second stage, a week or so later, when the patient will be found in a good condition to stand it. The object of this procedure is, first, rapid and efficient drainage of the bowel. The relief of the obstruction is secondary and should be taken up later.

DISCUSSION

Dr. Everett J. McKnight, Hartford: It seems to me very important to realize that above the point of obstruction there is a large amount of toxic material, which, if allowed to go down through the bowel, may be absorbed and cause trouble. In intestinal obstruction we should not, as a rule, close up the bowel in the abdomen without due precaution against this source of intoxication. I should like to call attention to the advisability of doing an enterostomy also in many cases of postoperative distention when this cannot be relieved by any other means.

CANADIAN MEDICAL ASSOCIATION

Forty-Fourth Annual Meeting, held at Montreal, June 7-9, 1911

The President, Dr. George E. Armstrong, of Montreal, in the Chair

President's Address

Dr. George E. Armstrong, Montreal, sketched the history of the origin and development of the Canadian Medical Association. The Roddick Bill for Dominion registration was classed as the most forward medico-political question before the profession in Canada to-day. Dr. Armstrong expressed the hope that with the adoption of this act, before long the councils of the English-speaking province would unite on a uniform standard of matriculation, although Quebec would have to remain outside on account of different educational methods. The question of the water-supply of Canada was dealt with at considerable length. Dr. Armstrong declared that in such a country as Canada with its abundant pure water-supply it was a reproach to any municipality, large or small, to have water-borne diseases. "We should not be satisfied in Canada until the water-supply throughout the country is made safely potable and make it so that the guide books can say that tourists can safely drink the water in any Canadian city." The remainder of the address was taken up with a consideration of the housing problem in Canada.

Address in Surgery

Dr. A. Primrose, Toronto: The present status of surgery in Canada has been one of gradual evolution. Canada being a young country, something of the spirit of the pioneer settlers has been inherited and Canadian medical men are more ready to develop along lines which may be new and revolutionary in character. The consequence of this willingness to learn has been that nowhere is work done in surgery with more uniform efficiency than can be found in the hospitals of Canada to-day. Conservatism is surely to be commended, but that type of conservatism which is tempered with an ability to use calm and deliberate judgment in determining what is best for our patients and when new light is thrown on some obscure problem we should be ready to abandon any erroneous ideal, which we may hitherto have held, and be prepared to advance, seeing no finality in our present-day methods, but always endeavoring to attain the ideal.

The Surgical Treatment of Gall-Stone Disease

Dr. William J. Mayo, Rochester, Minn: In reviewing 4,000 operations which we have performed on the gall-bladder and biliary passages, I have been impressed with the fact that the mortality was due to the complications incident to the disease rather than to the removal of gall-stones from the otherwise normal gall-bladder. Not only is the mortality greatly increased by the involvement of the deep bile passages, the liver, the pancreas and neighboring viscera, but the gall-bladder may also be found in such condition as to render an attempt to save it impracticable and fraught with a possibility of a recurrence. The gall-stones, however, are the responsible agents in the production of these complications inasmuch as they set up a train of events, which would not have occurred had these gall-stones been removed early in the history of the disease. It is in this early period that an operation furnishes an easy, safe and efficient cure. Cholecystostomy, with temporary drainage of the gall-bladder to the surface, is the operation preferred because it saves this valuable organ for future function. The danger of reformation of gall-stones after cholecystostomy is exceedingly small. In our service we observed but three cases in which stones had reformed and it is probable that in the majority of supposed cases of reformation of gall-stones the stones had not reformed, but were incompletely removed at the primary operation, an accident which does not often happen when the operation is done early.

In the class of cases in which the gall-bladder is contracted down on a mass of stones secondary carcinoma is liable to develop. In our experience 2.25 per cent. of all operations on the gall-bladder and biliary tract have shown malignant complications. The danger of carcinoma alone is five times as great as the mortality following operations for the relief of simple gall-stone disease. So long as the stones are confined to the gall-bladder, the trouble remains local in an organ which is not essential to life, but with the entrance of stone and infection into the deep duct of the liver two fundamental organs which are essential to life are liable to be involved in the process, namely, the liver and the pancreas. Stones in the common duct not only impair the health of the patient, but complications directly threatening life may arise at any time.

In the 4,000 operations the average mortality was 2.75 per cent. In 2,920 the disease was local and confined to the gall-bladder and cystic duct. The operative mortality was 1.8 per cent. In 2,165 of these cystostomy was performed with a mortality of 1.5 per cent. In 755 cases, cystectomy was performed with a mortality of 2.4 per cent. Contrast these data with 492 cases in which the common duct was involved with an average mortality of 8 per cent., a mortality which depended not so much on the operation itself as on the extent of the involvement of the liver and pancreas, and the bad general condition of the patient. Pancreatitis as a complication occurred 359 times in the 4,000 cases.

Preventive Medicine the Medicine of the Future

Sir James Barr, Liverpool, England: The hope of the human race lies in the physician. Almost all the ills to which flesh is heir arise from the stomach and are preventable. If, then, the public were only alive to their own interests, they would pay medical men liberally for directing them in the paths of truth and in the ways of health rather than for treating their diseases. If the money spent in the treatment of disease was devoted to the preservation of health, our huge hospitals would not be half filled, purveyors of synthetic remedies and artificial foods might find a suitable shelter in the home for the destitute, and specialists would largely disappear, and physicians would be fully occupied in advising their clientele on the preservation of health and in looking after the aged. So far as preventive medicine is concerned, very little can be placed to the surgeons' credit. About the only diseases they attempt to prevent are those which spoil their operations—erysipelas, pyemia and septicemia. With regard to the crying need for controlling the birth-rate of the unfit: Those countries which have to a large extent suspended a selective death-rate but are not wise enough to establish a selective birth-rate, are certain to decay. I am not now so much concerned with the prolongation of life as with the preservation of health. When a life ceases to be efficient it may retire into obscurity, be withdrawn from circulation or receive an old age pension.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Surgery, Gynecology and Obstetrics, Chicago

June

1 *End-Results of Twenty-Five Cases of Tuberculosis of Kidney Treated with Nephrectomy. J. Borelius, Sweden.
2 Suprapubic Transcystic Removal of Calculi Impacted in Portion of Ureter Which Is Situated in Bladder Wall. W. J. Mayo, Rochester, Minn.
3 *Congenital Umbilical Hernia. F. A. Palmer, Morris, Ill.
4 *Testing Viability of Strangulated Intestine. S. C. Plummer, Chicago.
5 *Common Fallacies Regarding Skin Disinfection, with Special Reference to Iodin Methods. M. B. Tinker and H. L. Prince, Ithaca, N. Y.
6 *Congenital Stenosis of Ureter. D. N. Eisendrath, Chicago.
7 Case of Inguinal Hernia of Urinary Bladder. H. I. Ostrom, New York.
8 *Placenta Prævia. E. McDonald, New York.
9 Peritonitis. J. W. Kennedy, Philadelphia.
10 *Stenosis of Pylorus in Infancy. H. M. Richter, Chicago.
11 Anatomic Repair of the Female Pelvic Floor. C. M. Watson, Pittsburg.
12 Surgery of Fractures and Dislocations of the Nose. J. B. Roberts, Philadelphia.
13 *Position for Saving Time and Facilitating Combined Abdominal and Pelvic Outlet Operations. A. C. Scott, Temple, Texas.
14 Case of Omental Myxosarcoma. A. McLean, Detroit, Mich.
15 New Prostatic Depressor. G. F. Shiley, Seattle, Wash.
16 Complete Anatomic and Functional Restoration of the Anus. H. T. Hutchins, Boston.
17 *New Method of Treating Stump in Appendectomies. J. T. Greeley, Nashua, N. H.
18 Artificial Synovial Fluid. R. T. Morris, New York.

1. **Treatment of Tuberculosis of Kidney.**—Of Borelius' twenty-five patients, ten were men and fifteen were women. The right kidney was affected in seventeen cases and the left in eight. The youngest of the patients was 13 years old and the oldest 57. The average age was 30 years. If the end-results are summed up, the matter stands as follows: Dead, seven patients, six of them from tuberculosis; recovered, nine; improved, nine; not improved, none. These results put together with like results previously communicated by Israel and Krönlein seem to indicate that one must count on a mortality of 25 per cent., but that the remaining 75 per cent. of patients, as a rule, have good prospects of regaining full health through the operation. Krönlein has recorded health eighteen years and Israel fifteen years after nephrectomy for tuberculosis in the kidney.

3. **Congenital Umbilical Hernia.**—In this case Palmer united the skin and peritoneum across the hernia opening in such a manner as to prevent the immediate recurrence of the hernia, depending for its ultimate cure on the tendency of the umbilical ring toward closure during the early weeks of life. The absence of abnormal scar formation and presence of normal puckered umbilicus is a matter of gratification, but of minor importance. The idea of leaving the cure of a hernia to the well-known tendency of these openings toward closure during the child's early years is not a new one. It is new only in its application to the umbilical ring.

4. **Testing Viability of Strangulated Intestine.**—A recent case in which he operated for strangulated hernia suggested to Plummer a procedure of encouraging the return of the circulation in the strangulated loop. Here was an intestine whose viability was questionable. It was highly desirable that it be replaced, if this could be safely done. Plummer accordingly applied hot compresses, wet with normal salt solution, for fifteen minutes. Not only was there no improvement in the circulation of the parts which had been strangulated, but the adjacent normal intestine was becoming edematous and of a darker red color than before. Realizing that it was the traction which he was making that interfered with the circulation, Plummer temporarily reduced the affected parts, at the same time delivering some of the adjacent intestine, so that he could again withdraw the affected parts for inspection. After allowing the previously strangulated parts to remain in the abdominal cavity three minutes, he withdrew them. The change was striking. All swelling had left the intestine, the color was normal and the furrows at the two constricted points could scarcely be seen. All that was left of the evidences of circulatory disturbance was an area of venous stasis, 1 inch long and one-quarter of an inch wide, on one side of the mesentery, close to the bowel. The hernia contents were at once reduced for the second time, this time permanently, and the operation completed, the patient making an uneventful recovery. Plummer recommends the further trial of this procedure of temporary reduction.

5. **Skin Disinfection.**—Experiments made by the authors lead them to conclude that iodin does not fulfil the requirements for safe preparation of the skin, that it will not destroy the spore-forming bacteria occasionally present. The fact that moisture in the skin interferes with the action of iodin, contra-indicates its use in many accident cases, in which, owing to the nature of the wound, it has been recommended as most advantageous. Basing their action on their experimental results, Tinker and Prince are now using Harrington's solution in the preparation of the patient's skin, applying it with friction for about two and a half minutes and sponging off with alcohol. In this way they avoid sloppy, wet surroundings of patients during operation. So far their results have been entirely satisfactory. Experience shows that the skin of some hands suffers from frequent long-continued applications of Harrington's solution; therefore in the preparation of their hands, Tinker and Prince continue to rely on the old time-consuming scrub, immersion in bichlorid of mercury solution, and a final cleansing in alcohol. From laboratory tests carried out during the past seven years, they know this to be efficient for any and all forms of bacterial life.

6. **Congenital Stenosis of Ureter.**—Eisendrath reports one personal case. A boy of 14, with no venereal infection or other previous illness, had sudden onset of all left-sided abdominal inflammatory signs. A sausage-shaped soft mass felt through the abdominal wall was shown to be the ureter dilated to the size of a small gut. Dilatation ended abruptly about 1½ inches above the bladder. The ureter distal to this point felt

hard and cord-like, but admitted a ureteral catheter. There were evidences of infection around the dilated portion. Eisendrath removed the latter, and a kidney showing marked evidences of infection and a moderate degree of hydronephrosis. After a careful study of the operative findings and consideration of the age of the patient and absence of any other source of ureteral obstruction, Eisendrath concluded that the stenosis of the lower ureter with subsequent dilatation of that portion above it, must have been present for many years, and could be best explained as of congenital origin.

8. **Placenta Prævia.**—A very detailed statistical study of 10,600 cases was made by McDonald and his findings are recorded *in extenso* in this paper.

10. **Pyloric Stenosis in Infancy.**—Eleven cases in which Richter personally operated, are here recorded. He has been doing the typical posterior operation, without any special modification in the technic, except in the use of suture material. He has always felt that surgeons are commonly in the habit of using suture and ligature material of a much heavier kind than is necessary or desirable for the purpose. In his gastro-enterostomies Richter is using size "O" or "A" silk, of the kind bought in the dry goods stores, in a No. 10 cambric needle. It seemed to him that the peritoneal adhesions in his first case were caused by seepage due to the rather heavy suture material used, and which probably had the capillarity of a wick. Before returning the stomach to the abdominal cavity he introduces fluids into the jejunum by passing a tube into the stomach and on through the new anastomotic opening into the jejunum; by using a funnel the child may be given a valuable dose of water at once. The same maneuver may be carried out in doing a divulsion of the pylorus, the catheter being passed through the stomach and pylorus directly on into the jejunum, and left in situ for the first few feedings after operation. In a case of congenital obstruction of the duodenum, Richter carried out this maneuver after relieving the obstruction, and found it could be easily accomplished. To F. X. Walls belongs the credit for conceiving these two procedures.

13. Also published in the *Texas State Journal*, December, 1910; abstracted in The Journal, Jan. 7, 1911, p. 73.

17. **Treatment of Stump in Appendectomies.**—In Greeley's method the meso-appendix being taken care of in the usual way, the appendix itself is used as a handle, enough tension being exerted on it to hold the cecal extremity in view; a fine cambric needle, threaded with fine linen or catgut is passed through all the intestinal walls at the appendicular base. and emerges again at a point about one-third of the distance around the appendicular base. The needle is again inserted through the opening just made or at a point close to its recent exit to take a second and similar stitch. A third stitch of the same character brings the ligature out again at the point of original entrance or at a place adjacent thereto. It is a modified purse-string suture with this essential difference: the ligature lies either entirely or almost within the lumen of the appendicular base. The loops at the two points of emergence are held in forceps, the appendix is next crushed and amputated and inverted into the triangle formed by the ligature within its lumen. A slight tension on the ligature at the three points of emergence renders this step easy. The tucker still holding the stump inverted, the ligature loops are gently loosened and the free ends tied. The stump is inverted within the bowel, and it is ligated. A second row of Lembert sutures insures strength and covers any raw surfaces left at the meso-appendicular field of operation.

Ohio State Medical Journal, Columbus

June

19 Dangers and Duties of the Hour. H. A. Hare, Philadelphia.
20 Some Pathologic and Surgical Considerations of Exophthalmic Goiter. A. Crotti, Columbus.
21 Cancer of Breast. W. E. Savage, Cincinnati.
22 Breech Presentations, with Special Reference to Mechanical Advantages of Elastic Bag in Their Management. W. Gillespie, Cincinnati.
23 Prostatectomy. E. O. Smith, Cincinnati.
24 Case Illustrating Importance of Early Recognition of Non-Inflammatory Glaucoma. J. E. Brown, Columbus.
25 Proportion in Practice of Oculist. L. K. Baker, Cleveland.

Bulletin of the American Academy of Medicine, Easton, Pa.

June

26 *The Hospital as a Factor in Training of Medical Students. F. F. Dow, Rochester, N. Y.
27 *Educational Value of Hospital Training for Medical Students. J. L. Heffron, Syracuse, N. Y.
28 Relation of the Hospital to the Community. C. W. Pardee, Buffalo.
29 *The Hospital as an Educator of the General Profession. E. B. Heckel, Pittsburg.
30 Importance of General Hospital in Education of Profession and Public. E. A. Vander Veer, Albany.

26. **Hospital as Factor in Training of Medical Students.**—Dow ventures to predict that the day will come when the degree of doctor of medicine and license to practice will not be granted by the state without at least one or more years of hospital student internship.

27. **Educational Value of Hospital Training for Medical Students.**—It is emphasized by Heffron that the ideal condition for hospital training for medical students is for the college to have its own hospital, and to have professors of general medicine and of general surgery who shall devote their entire time to clinical instruction in the hospital and who are not obliged to resort to outside practice for the support of their families. The educational value of hospital training for medical students, therefore, depends entirely on the way such training is carried out. The genius of clinical teachers must be depended on to bring their methods up to the standard set by their confrères in the subjects on which the science and art of medicine are founded.

29. **The Hospital as Educator of General Profession.**—The hospital has a catalytic action or influence on the general profession, says Heckel. There is a certain undefinable something in the very atmosphere which is always lacking in a community not blessed with a hospital. The presence of a hospital in a community is always reflected in the general profession, which is more wide-awake, up-to-date, more observing, more studious, a better profession. It may be impossible to point out any one real educational value, yet it is there. If it does nothing else it compels the men who do work there to do their best, because their work is more or less open to inspection and their results the topic of conversation and criticism by the general profession. Heckel says further that there should be a closer intimacy between the hospital and the general profession in order to have the hospital fulfil its greatest function.

Journal of the Arkansas Medical Society, Little Rock

May

31 Brain Syphilis. J. H. Chesnutt, Hot Springs.
32 Exophthalmic Goiter. H. H. Kirby, Little Rock.
33 *Wassermann Reaction. M. F. Mount, Hot Springs.
34 Psoriasis—Diagnosis and Treatment. W. Frick, Kansas City, Mo.
35 Acute and Chronic Cholecystitis. J. M. Smith, Hot Springs.

33. Abstracted in The Journal, June 11, 1910, p. 1992.

Journal of Biological Chemistry, Baltimore

June

36 New Decomposition Product of Keratin Which Gives Millon's Reaction. R. A. Gortner, Washington, D. C.
37 Creatin and Creatinin Metabolism in Dogs with Eck Fistula. N. B. Foster and H. L. Fisher, New York.
38 *Presence of Iodin in Human Hypophysis. W. Denis.
39 Oxidation of Amino-Acids. W. Denis.
40 Action of Gastro-Intestinal Juices on Nucleic Acids. P. A. Levene and F. Medigreceanu, New York.
41 Nucleases. P. A. Levene and F. Medigreceanu, New York.
42 *Process of Acid Excretion. L. J. Henderson, Boston.
43 Products of Hydrolysis of Wheat Gliadin. T. B. Osborne and H. H. Guest, New Haven, Conn.

38. **Iodin in Human Hypophysis.**—Twenty-one human pituitary bodies which had been kept in absolute alcohol for several months before use, were dried, the alcohol in which they had been preserved evaporated to dryness in the presence of a small amount of sodium hydrate, and the residue so obtained fused with the dried tissues. Sixteen pituitaries taken from patients who had received no iodids before death had, when dried, a total weight of 1.50 gm. and on fusion

gave no trace of iodin. From five hypophyses obtained from the bodies of individuals who had received iodids before death, which had a total weight, when dry, of 0.49 gm., Denis could also obtain no trace of iodin. He was unable to obtain any data as to how long before death the last dose of iodids was administered to the patients from whom these pituitaries were taken.

42. **Process of Acid Excretion.**—Henderson believes that the preservation of the normal alkalinity of the body is due, in great measure, to but two independent factors, excretion of ammonia and excretion of phosphates. The elaboration of ammonia and the presence of phosphoric acid as an end-product of metabolism makes possible the excretion of acid; regulation of ammonia production and of the ratio of the acid to the alkaline phosphates of urine are the means of regulating the acid secretion.

Interstate Medical Journal, St. Louis

June

44 The Electrocardiogram and Changes in Volume of Heart. A. D. Hirschfelder, Baltimore.
45 Chronic Endocarditis. J. G. Adami, Montreal.
46 Displacements of Heart. F. M. Pottenger, Monrovia, Cal.
47 Use of Roentgen-Rays for Examining the Heart. F. M. Groedel, Bad Nauheim, Germany.
48 Treatment of Chronic Disease in Childhood. I. A. Abt, Chicago.
49 Hydrotherapeutic Treatment of Heart Disease. J. M. Swan, Watkins, N. Y.
50 Tonsils and Heart Disease. A. H. Beifeld, Chicago.
51 Newer Heart Remedies. W. F. Boos and C. H. Lawrence, Boston.
52 Arteriosclerotic Changes in Abdominal Vessels. W. W. Hamburger, Chicago.

Cleveland Medical Journal

June

53 Ascites in Typhoid. A. McPhedran, Toronto.
54 Trifacial Neuralgia. F. E. Bunts, Cleveland.
55 *Extra-Uterine Pregnancy at Full Term with Autopsy Eighteen Years Later. N. S. Scott, Cleveland.
56 *Michel's Clamps for Closing the Skin Incision. H. Robb, Cleveland.
57 Retropositions of the Uterus in Which Anterior Replacement Is Contra-Indicated. C. D. Williams, Cleveland.
58 Technic of Radical Mastoid Operations. W. H. Tuckerman, Cleveland.
59 Coagulation of Lymph in the Semicircular Canals. D. A. Prendergast, Cleveland.
60 Fibroid of Nasopharynx. I. A. Tripp, Cleveland.

55. **Extra-Uterine Pregnancy.**—Scott's case illustrates the fact that an extra-uterine pregnancy, after going to full term, may continue to harass the patient even for eighteen years; that it is a constant source of danger and ultimately proves fatal by the inflammatory involvement of important organs. It demonstrates the fact that the fetus which has lived the full nine months does not necessarily die at the time of the false labor but may live for at least ten days longer. The patient became pregnant in the fall of 1891; she noticed nothing of especial significance during the pregnancy, although she did have considerable pain during the early months. At the end of the nine months, labor pains came on and lasted two days, when after the extrusion of a small amount of tissue or clots from the uterus, they ceased. A few days after the cessation of the labor pains, Scott was called in consultation. The fetus was easily palpable and at this time the motions were quite vigorous. The heart-beats were distinct and could easily be made out the last time he saw her, ten days after the pseudo-labor. A diagnosis of a left-sided extra-uterine pregnancy, with a living fetus was made, and an immediate operation advised but refused.

In 1910, Scott made a post mortem on the widow of an old soldier and was surprised to find that she was the woman previously mentioned, whom he had not seen for eighteen years. On opening the abdomen the organs in the upper part of the cavity were apparently normal, but the pelvis was entirely sealed off by firmly organized lymph. No trace of any of the pelvic organs could be made out; all were apparently covered over. Into this mass dipped the rectum and to it the omentum was universally adherent; there were slight intestinal adhesions, with the exception of those of the rectum, and these did not interfere with the functions of the small intestines. The uterus was found to be to the right; the bladder was thick-walled, inflamed and contained about 2 ounces of turbid urine. To the left of the uterus was a cavity containing a quart or more of fetid pus and a mass of offensive material judged to be the remains of the fetus, although it did not contain any bones. Leading from this cavity to the rectum was a large, oval opening, ⅓ of an inch wide by 1 inch long, with a thick, firm margin. From this fistulous opening to the anus the rectum was intensely inflamed; from the fistula upward the rectum was also inflamed for a considerable distance, but slightly, when compared with the condition below the fistula. The kidneys were the seat of Bright's disease, which was the cause of death and which had been due to an ascending infection from the bladder. In the vagina was a large inflamed fibroid, having its origin in the posterior lip of the cervix, This was a condition which had arisen since the time Scott saw her when living. From the post-mortem examination it was evident that she had had a left-sided abscess which had ulcerated into the rectum and from which the excess of discharge could flow into the rectum; and that through this the fetus was discharged piecemeal when it disintegrated as a result of the septic process. There was present a severe cystitis, proctitis and nephritis. A plastic exudate entirely covered the pelvic organs, making adhesions between them and the neighboring loops of intestines and omentum.

56. **Michel's Clamps for Closing Skin Incision.**—Robb's results in the 182 cases in which he has used the clamps are, on the whole, satisfactory. The total number of incisions healed by first intention was 112, or 78 per cent. Sixteen of these, however, showed a slight amount of serum around one or two clamps. There were seventeen incisions showing pus around one or two clamps, or 12 per cent., and fifteen incisions showing pus and serum around one or two clamps, or 10 per cent. There were, in all, twelve cases showing pus or pus and serum which was sterile, or 8.3 per cent.

Medical Herald, Kansas City, Mo.

June

61 One Hundred Cases of Syphilis Treated with Salvarsan. E. D. Holland, Hot Springs.
62 Use of Roentgen-Ray After Operation. R. D. Mason, Omaha, Neb.
63 Fracture of Fibular Malleolus. E. H. Skinner, Kansas City.
64 Fractures. J. P. Lord, Omaha, Neb.
65 Delirium Following Chloroform Habit. S. G. Burnett, Kansas City.
66 Tetanus and Its Relation to Fourth-of-July Accidents. W. L. Gist, Kansas City.
67 Simple and Inexpensive Apparatus for Intravenous Injection of Salvarsan. E. L. Stewart, Kansas City.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

June

68 *Whitehead Operation for Hemorrhoids. A. McGlannan, Baltimore.
69 *Thyroid Heart or Exophthalmic Goiter. A. G. Brown, Richmond.

68. **Whitehead Operation for Hemorrhoids.**—McGlannan favors this operation and reports very excellent results from its use. He has departed from Whitehead's dicta in some particulars. For instance, instead of using a belladonna suppository, he uses an opium and hyoscyamus suppository. A rubber tube wrapped with gauze and lubricated was used in certain of the cases because of oozing. This plug is not mentioned by Whitehead. McGlannan says that the patients were made decidedly more uncomfortable by its use, and that its value as a hemostatic is slight. The most persistent vesical disturbances in his series occurred in a patient who wore the plug for four days and required the use of the catheter seven times during this period. With the removal of the plug, voluntary voiding returned. He has had no recurrence and no strictures. In two cases only was there a failure of primary union, both in old people with markedly sclerosed arteries. In one of these patients the thrombosed and sclerotic branches of the artery were noted at the operation. Two patients had fecal incontinence lasting six days and two weeks respectively. At the present time both have perfect control. He has had no postoperative pruritus. Urinary retention requiring catheterization occurred in ten cases; four patients were catheterized at once; the longest time that this assistance was required was seven times in four days. The

average was three times in twenty-four hours, patients voiding voluntarily thereafter.

For comparison, the postoperative record of five hospital cases, operated on by clamp and cautery (three) and by ligature (two) shows that four of these five patients required catheterization, the longest time being three days, with an average practically the same as that given above.

As an index of the postoperative discomfort, McGlannan has studied the amount of morphin or other anodyne given. In the Whitehead cases, the average quantity was 2/5 grain of morphin, the largest was 1 grain given in three doses during two days. The longest time during which the drug was required was two days. None of these patients had any other anodyne. In the other series the average dose was 1 grain, the average time two and one-half days, the shortest, two. Two of the Whitehead cases did not require any postoperative anodyne. In his most recent cases, McGlannan has inserted a suppository of ¼ grain extract hyoscyamus and ½ grain powdered opium into the rectum before applying the dressings. This suppository, suggested by Whitehead in his original paper, has proved very valuable in lessening the amount of postoperative pain and the vesical incompetence.

69. **Thyroid Heart.**—The chief purpose of Brown's paper is to point out that there are conditions perfectly amenable to medical treatment due to a state of hyperthyroidism and hypothyroidism, and that the practitioner must be more alert to interpret that group of more or less indefinite but yet marked symptoms characterizing these cases before the gross pathologic malformation of the thyroid, protruding eyeballs and enlarged (frequent) heart occur.

Northwest Medicine, Seattle, Wash.

June

70 Anterior Poliomyelitis. R. L. Gillespie, Portland, Ore.
71 Infantile Paralysis. C. F. Eikenbary, Spokane, Wash.
72 Surgical Treatment of Infantile Paralysis. F. J. Fassett, Seattle, Wash.
73 Treatment of Acute Poliomyelitis. J. C. Schapps, Butte, Mont.
74 Cesarean Section—Its Present Indications. G. R. Kunz, Tacoma, Wash.
75 Gastric Tetany. J. C. O'Day, Portland, Ore.
76 Significance of Gastric Hypersecretion and Pyloric Spasm. K. Winslow, Seattle, Wash.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

June

77 *Cause and Significance of Tubal Rupture in Extra-Uterine Pregnancy. C. W. Barrett, Chicago.
78 *Unfavorable Influence of Pregnancy on Chronic Progressive Deafness. S. M. Brickner, New York.
79 *Influence of the Automobile on Obstetric and Gynecologic Conditions. J. C. Edgar, New York.
80 *Complete Procidentia in Nulliparous Woman. Lack of Physical and Mental Development. C. O. Kepler, Boston.
81 Cesarean Section for Impossible Labor Due to a Dermoid Cyst. W. P. Manton, Detroit.
82 *Toleration of Corset. R. L. Dickinson, Brooklyn, N. Y.
83 Appendix and Right Ovary and Tube. C. R. Hyde, Brooklyn, N. Y.
84 Diagnostic Significance of Disturbances of Consciousness in Childhood. L. Kerr, New York.
85 Hemiplegia Occurring During Pertussis. L. Kerr, New York.
86 Sequestrum of Labyrinth. F. T. Hopkins, New York.

77. Abstracted in The Journal, Sept. 24, 1910, p. 1132.

78. **Pregnancy and Chronic Progressive Deafness.**—Two cases of chronic progressive deafness, both showing marked deterioration during pregnancy, were the incentive which led Brickner to look into this matter. He found that the influence of pregnancy on women who are suffering from otosclerosis or chronic progressive deafness is a deleterious one, although the pathologic process is by no means clear. The deafness increases immediately on the advent of pregnancy, grows worse during gestation and remains permanently worse after delivery than it was before pregnancy began. Repeated pregnancies have the effect of rendering the hearing progressively worse. The interruption of pregnancy may preserve the hearing existing at any time; but it may accomplish no more than this, the hearing may subsequently continue to deteriorate. The obstetric treatment is the induction of abortion early in pregnancy, after it has been established unquestionably that the pregnancy is causing the hearing to become diminished. The right to render these women sterile is one that depends on individual cases and is a debatable question.

79. **Influence of the Automobile on Obstetric and Gynecologic Conditions.**—It is Edgar's belief that the unfavorable influence of the automobile on pregnancy has been somewhat exaggerated, and that undoubtedly the motor car is in many instances unfairly set down as a cause of a given abortion or miscarriage. He believes that the middle third of pregnancy is more liable to be interrupted from this cause than any other time. Several cases under his observation that appeared to be undoubtedly due to the automobile took place at the fourth, sixth and a half and eighth months, respectively. Certain women appear to be especially susceptible to the abortifacient influence of the automobile, and certain conditions within the pelvis appear to favor this influence. Patients have come under Edgar's observation who have had repeated miscarriages, which apparently were predisposed to, at least, by motoring. There is one type in particular, he believes, especially prone to the unfavorable influence of the vibration and the circulatory changes induced by excessive motoring. It is found in women with relaxed uterine supports not confined alone to multigravidæ, but frequently seen in primigravidæ, in whom even in the middle third of pregnancy there is a tendency to procidentia, and even after the uterus rises well out of the pelvis the presenting part hangs low. These are the cases in which, in primigravidæ and occasionally in multigravidæ, the head engages in the pelvis and descends well down toward the pelvic floor in advance of the fortieth week. Excessive motoring in these cases is liable to interrupt pregnancy. With limitations regarding speed and fatigue, Edgar even permits patients who have suffered from threatened abortion to use the automobile subsequently. In threatened miscarriage presumably caused by excessive motoring, his belief is that low implantation of the placenta is an important factor. On the whole the effect of automobiling seems to be either a negative or wholesome one.

80. **Complete Procidentia in Nulliparous Woman.**—Kepler believes that complete procidentia is more frequent in the nulliparous than has been formerly supposed. Approximately seventy cases have been reported in a scattering way in the literature, and the author has eighty certain cases that have been given him by correspondents, also one of his own and some uncertain ones without details that have been spoken of by others. It is usually acquired from congenital causes in infancy or youth but may be acquired later without any discoverable congenital defects. It is a true hernia of the sacropubic variety, generally beginning in Douglas' pouch by intestinal descent from intra-abdominal pressure. It is usually associated with congenital physical stigmata or degenerations. In a large proportion of cases it is found to be associated with mental perversions ranging all the way from the mildest hysteria to complete imbecility and idiocy. It can be treated by any one of a half-dozen or more operative procedures, depending on the degree and nature of the prolapse and the judgment of the operator.

82. **Toleration of the Corset.**—Corsets are classed by Dickinson as corrective, neutral and harmful. He maintains that the average corset still shows constriction of the waist line of the form if not of the degree of the hour-glass design. His observations contradict the claim that low abdominal girdling and "lifting" have taken the place of the waist-line pressure. Tests show that in two-thirds of the cases there was greater pressure at the waist than lower on the abdomen, one-third being equal. In thin women neutral conditions were general. Pressures on the lower ribs still ran high. In one-half the cases all pressures ran high. The spring or gap of the corset when unhooked gives an excellent practical measure of the amount of pressure exerted, 2½ inches being the most that should be tolerated. Comparison of the girth over the corset with that measured around the undershirt is worthless as an index of constriction. Interior tests showed little effect on increase in vaginal pressures in corseted women whose abdominal walls were firm, but they indicate a marked rise in intrapelvic pressure from exertion in corseted women whose

muscles are flabby and interior supports relaxed. The tight corset harms vigorous women little, weaker women greatly. Among postures one-half were found defective, one-third good. Alteration in or change of the corset often brought about marked improvement in attitude. A simple test consists in standing a patient with heels against a mark on the floor, and her side to the wall and noting the location of the scapula and buttock with and without the corset and any change for the better or worse in the center of gravity and in uprightness. Certain types of body form are particularly susceptible to defective corseting, such as the individual with the long and slender trunk. A very exhaustive study of the corset question was made by Dickinson.

New York State Journal of Medicine

June

87 *Therapeutics of Salvarsan. S. J. Meltzer, New York.
88 *Indications for Salvarsan in Syphilis. S. Pollitzer, New York.
89 *Analysis of Clinical and Serologic Results Obtained in Treatment of 175 Cases of Syphilis with Salvarsan. J. A. Fordyce, New York.
90 *Action of Salvarsan on Wassermann Reaction. H. Fox, New York.
91 *Few Plain Truths About Salvarsan. W. S. Gottheil, New York.
92 *Technic and Methods of Administration of Salvarsan. H. F. Swift, New York.
93 *By-Effects of Salvarsan. J. M. Winfield, Brooklyn.
94 New Operating Pavilion for Thoracic Surgery at German Hospital, New York. W. Meyer, New York.
95 Diagnosis and Treatment of Meningitis in Children. T. W. Clarke, Utica.
96 Secret Division of Feces. J. Brettauer, New York.
97 Two Cases of Prostatic Hypertrophy Successfully Treated with Roentgen-Ray and High-Frequency Currents. S. Tousey, New York.

87, 88, 89, 90, 91, 92 and 93. Abstracted in THE JOURNAL, May 6, 1911, pp. 1353 and 1354.

New York Medical Journal

June

98 Simple, Rapid and Complete Reduction of Deformity in Fixed Lateral Curvature of the Spine. E. G. Abbott, Portland, Maine.
99 *Endobronchial Treatment of Asthma. W. Freudenthal, New York.
100 *Operation for Relief of Tuberculous Peritonitis. A. Judd, New York.
101 *Injection of Magnesium Sulphate for Acute Articular Rheumatism. A. B. Jackson, Philadelphia.
102 Diagnosis of Tuberculosis in Its Earlier and More Chronic Form. O. F. Kunkel, Bells Camp, Pa.
103 Contagiousness of Pulmonary Tuberculosis. A. V. Meigs, Philadelphia.
104 Guidance and Protection of Children by the State. J. Rosenberg, New York.
105 In Memoriam: Christian A. Herter. J.C. Hemmeter, Baltimore.

99. **Endobronchial Treatment of Asthma.**—Out of a total of eleven asthma patients treated endobronchially by Freudenthal eight are considered as cured, three were greatly improved, and two showed no benefit whatsoever. The bronchoscope was used by Freudenthal not only for treatment purposes but to note the pathology present. In one case there was apparently a constriction of the trachea, which could not be overcome at the first bronchoscopy. The whole lumen was swollen and closed and could not be dilated by cocain. Freudenthal believes that this was one of those cases of spasm of the trachea described by Bruegelmann, which he considers to be due to an irritation of the respiratory center. In the bronchi such a spasm could be seen more often, but it generally disappeared after the application of cocain. This could be observed endoscopically, not alone by the opening up of the bronchus, but by the action of the muscular apparatus afterward. The ulceration found in one case has been described previously, and, so far, is the only one on record. In all cases he used bronchoscopy under local anesthesia. He invariably kept the patient in an upright position. These sittings were made in the morning, on an empty stomach whenever possible. Some pain always followed bronchoscopy. In some cases it lasted three or four days, in others only a few hours.

100. **Operation for Tuberculous Peritonitis.**—The operation done by Judd consists in an incision 3 to 4 inches in length through the sheath of the right rectus muscle. On examination of the viscera and parietal peritoneum, disclosing the diagnosis of tuberculous peritonitis, the patient is eviscerated so far as possible. The intestines being caught in a nest of hot, moist towels, are thoroughly washed with a solution of 50 per cent. commercial hydrogen peroxid. The abdominal cavity is then thoroughly flushed with the same solution, after which it is washed out with a normal saline solution equally thoroughly, as are also the intestines. These are then replaced in their proper position within the peritoneal cavity, and the same is closed with three layers of sutures. Some twenty-two patients have been operated on by Judd within the past four or five years, nineteen adults and three children. In nearly all cases the primary improvement was very marked. In some, the improvement was only temporary; in others a second operation was required to obtain the ultimate result. In only a few, four in number, and these in an advanced stage of the disease where the lungs or other organs were also considerably involved, was no improvement noticed.

101. **Magnesium Sulphate in Acute Articular Rheumatism.**—Five cases of articular rheumatism are reported by Jackson in which he had excellent results from the intramuscular injections of magnesium sulphate. The discovery of this active therapeutic agent in rheumatism was the result of a last resort. A number of other cases of rheumatism were treated with magnesium sulphate by injections, local applications and internally. So far, the results in all have been excellent. Jackson gives the salicylates a chance first, but, when they fail to give results, he employs the magnesium sulphate treatment. The only reason he has for doing this is that many patients, especially nervous women, will object to the injections until after other measures fail. No pain, however, follows the injection, because the drug acts as a local anesthetic. He has not yet noted any unfavorable signs from its use, despite the fact that we are told that magnesium sulphate injected into the circulation is a cardiac and a respiratory depressant. The technic is simple. Jackson employs an all glass Luer syringe of 5 c.c. capacity, observing all aseptic precautions, and selecting any muscle that is handy as the point of injection. At present he is using a 25 per cent. sterilized solution and injecting 4 c.c. into adults. Up to this time he has treated no children, but he says he should use it without hesitancy in the proportion of 1 c.c. of the 25 per cent. solution to each 25 pounds of body weight. In some cases the injections produce active purgation, and in others they have apparently no effect.

Iowa Medical Journal, Des Moines

June

106 Headache from Surgical Point of View. J. F. Percy, Galesburg, Ill.
107 Constitutional Headache. William H. Rendleman, Davenport.
108 Headaches as Related to the Eye and Nose. G. F. Harkness, Davenport.
109 Pneumococcus Meningitis with Deferred Pulmonary Symptoms. F. A. Ely, Des Moines.
110 Early Diagnosis of Tuberculosis. H. V. Scarborough, Oakdale.
111 Leukocyte Count in Diagnosis of Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
112 Infantile Paralysis. J. P. Dougherty, Sioux City.

Canadian Medical Association Journal, Toronto

June

113 *Present Status of Conservative Gynecology. W. T. Gibb.
114 *Treatment of Typhoid by Vaccines. J. C. Meakins and L. S. Foster, Montreal.
115 Typhoid in the Winnipeg General Hospital. S. J. S. Peirce, Winnipeg.
116 *An Unclassified Tropical Fever. S. McGibbon, Calabacillas, Chih., Mexico.
117 Obliteration of Thoracic Cavities. E. M. von Eberts and W. H. P. Hill, Montreal.

113. **Conservative Gynecology.**—Gibb is of the opinion that gynecologic conservatism should, in the first place, imply the avoidance of operative interference whenever it is possible, and that, when surgical intervention becomes imperative, the preservation of an organ, or a portion of one, which may be free from disease and able to functionate, and whose integrity is so important to the woman, should be looked on as the height of gynecologic skill. The conclusions he has reached in the treatment of gynecologic cases are: Treat the case expectantly as long as there is the slightest chance for recovery. When operation is imperative save all the organs or parts of organs possible. A conservative operation is not necessarily an incomplete operation. Remove all the organs,

or parts of organs, that are so diseased that to save them would necessarily expose the patient to the dangers of a second operation. Except in extreme cases, or in those near or past the menopause, save the patient her function of ovulation, or, at least, leave her some part of her ovarian tissue to avoid the psychic disturbances which follow the total ablation of these organs.

114. **Treatment of Typhoid by Vaccines.**—Forty-one typhoid patients were vaccinated by Meakins and Foster. The vaccines were prepared from organisms isolated from the blood of typhoid patients. Autogenous vaccines were not used, although this would be a marked improvement and could be done if the cases were received early enough and vaccination became a routine in the treatment of typhoid. One c.c. contained ten hundred million typhoid bacilli, and was usually the initial dose. This is greatly in excess of the doses used by other workers, but in no case did any ill result follow the use of this amount. In every case a large erythematous patch developed around the point of inoculation, accompanied by pain and tenderness of a slight degree. In one case only was there a chill. These symptoms began to subside after twenty-four hours, and entirely disappeared after forty-eight hours. The second dose was usually fifteen hundred million, and the third dose was either the same or two thousand million. After the second or third inoculation little or no local reaction occurred. In no case was there any exacerbation of the typhoidal symptoms, but in twenty-four hours a distinct improvement was manifested, either in the general condition of the patient or the chart, and frequently in both. The average length of fever in the uninoculated was thirty-seven days, while in the inoculated it was twenty-eight days, or a diminution of nine days.

Many of the patients did not reach the hospital until late in the disease, as on the twenty-fifth, twenty-eighth, thirtieth, and ninety-fifth day respectively, while in other cases the inoculation was delayed on account of the absence of a positive Widal reaction. The authors claim that it is hardly fair, therefore, to judge the value of the vaccination as to its influence on the duration of the fever by these gross figures. However, if one analyzes the cases of patients vaccinated within the first two weeks, he finds the average time of fever to be twenty days, or a shortening of the course of the disease by two weeks. Of seventeen cases vaccinated during the first two weeks only three required a second inoculation, and the average duration of the disease in those cases receiving one dose was only seventeen days. A much more striking influence of the action of the vaccine is apparent when an estimate is made of the number of days of temperature after the vaccination was begun. Twenty-six patients received one dose, and the temperature returned to normal on an average of five days later. Eleven received two inoculations, and the average length of time of fever after the first injection was twelve days, while after the second injection it was four. The average interval between the inoculations was eight days. In the cases which received two injections, it was a constant observation that there was marked improvement in the condition of the patient after the first inoculation, while the second dose seemed to produce a crisis in 50 per cent. of the cases. The beneficial influence of the vaccines on the toxic symptoms was almost constant.

On analyzing these cases as to the occurrence of complications, most striking results are obtained. In the unvaccinated cases, complications of a severe character, namely, hemorrhage, perforation, cholecystitis, otitis media, periostitis and phlebitis, developed in 42 per cent., while in the vaccinated cases complications occurred in only 5 per cent. Relapse occurred in 13 per cent. of the untreated, and in 2.4 per cent. of the treated, while the mortality was 10 per cent. in the unvaccinated, and 2.4 per cent. in the vaccinated.

116. **An Unclassified Tropical Fever.**—Attention is directed by McGibbon to the existence in Mexico of a fever to which no reference is made in standard medical works. The disease appears to be at times quite contagious, usually affects adults, and is of very sudden onset, resembling in many respects remittent malaria. Soon after the onset the patient is prostrated, and almost invariably takes to bed. The temperature rapidly mounts to 39 or 39.5 C., or even 40 C., and is accompanied by occasional chills, severe headache and backache and frequently by pains in the limbs and other parts of the body. It is a non-exanthematous disease and the fever persists for a very variable period, varying from two to ten days, but usually lasting from four to seven days. It is not infrequently of the reverse type, and falls by a crisis as sudden as the onset. An uneventful convalescence is immediately established, and within two or three days the patient is usually well. The mortality from the disease is very low and complications of a serious nature are very rare. McGibbon has witnessed but one fatal termination in about two hundred cases. Gastro-intestinal symptoms are few and variable, consisting of very marked anorexia and occasional vomiting. Mild, toxic diarrhea is observed at times, and constipation with variable abdominal pains is frequently present. In patients suffering from tenia, the evacuation of a large part of the parasite not infrequently takes place, though not so often as in malaria. The nervous system is usually more seriously affected than is generally the case in malaria. There seems to be a greater tendency to delirium, and the patient suffers more mental anxiety, usually believing himself to be suffering from a very serious illness. The skin is hot and dry in the morning, moist in the afternoon, and perspiration is usually free before the crisis. Sweat rashes, such as miliaria and sudamen, are seen, and a very few cases of toxic erythema have been observed extending over the anterior thoracic region and, in one case, to the malar regions of the face. No jaundice or yellow sclerotics have been noticed. The respiratory system shows very few symptoms or physical signs. A very mild cough, due to slight catarrhal bronchitis, is present in a fair proportion of cases. Bronchopneumonia was the cause of death in the one fatal case that has come under McGibbon's observation. Nothing of interest was noted in the vascular system.

Kentucky Medical Journal, Bowling Green

June 15

118 Old and New Arts in Parturition. W. B. Doherty, Louisville.
119 Cases of Stone Impacted in Urethra in Male Children, with Rupture and Extravasation of Urine. W. C. Dugan, Louisville.
120 Ocular Tumors. A. O. Pfingst, Louisville.
121 Double Capsulation for Anuria and Ventral Hernia. J. H. Peak, Louisville.
122 Mediastinal Tumor, Gumma or Aneurysm? W. C. Dugan, Louisville.
123 Leukoplakia Buccalis. M. L. Ravitch, Louisville.
124 Case of Neuritis. S. S. Prather, Louisville.
125 Parovarian Cyst Weighing Forty-Eight and a Half Pounds. A. M. Vance, Louisville.
126 Submucous Fibroid of Uterus. J. W. Price, Louisville.

Journal of American Public Health Association, Columbus, O.

May

127 *Experiments on Removal of Oysters from Polluted to Unpolluted Waters. E. B. Phelps, New York.
128 The Prevention of Blindness. S. E. Eliot.
129 American Civic Association and Its Relation to Public Health. R. B. Watrous.
130 Child Labor and Public Health. E. N. Clopper.
131 American Medical Association and Its Relation to Public Health Work. William C. Woodward, Washington, D. C.
132 National Housing Association and Its Relation to Public Health. L. Veiller, New York.
133 National Association for Study and Prevention of Tuberculosis. L. Farrand, New York.
134 History and Chemistry of Disinfectants. William Dreyfus, New York.
135 Testing of Liquid Disinfectants. H. Albert, Iowa City.
136 *Quarantine or Isolation in Diphtheria? J. Roberts, Hamilton, Ontario.
137 Registration of Births. F. D. Beagle, New York.
138 Modern Board of Health Methods in a Small Town. C. K. Blanchard, Wellesley, Mass.
139 Modern Board of Health Methods in Small Cities. S. M. Gunn, Boston.
140 Relation of Illuminating Gas to Public Health. W. T. Sedgwick and F. Schneider, Boston.

127. **Removal of Oysters from Polluted to Unpolluted Waters.**—In order to determine, if possible, the minimum time that must elapse after oysters are removed from sources that are seriously polluted to clean waters, before they are freed from all evidences of pollution and therefore safe for use, certain experiments were undertaken by Phelps in cooperation with an oyster producer. It was obvious from these

experiments that surely within four days, and possibly within a shorter period of time, a healthy oyster transplanted from polluted to clean waters will rid itself of the evidences of pollution, and Phelps says one may justly argue from this that the sewage material which is always associated with *B. coli*, and of which the latter is taken as an index, have also been eliminated.

136. Abstracted in The Journal, Sept. 24, 1911, p. 1137.

Lancet-Clinic, Cincinnati

June 24

141 Salvarsan in Syphilis. M. L. Heldingsfeld, Cincinnati.
142 Some Trends in Medical Education. M. M. Fischer, Cincinnati.
143 Treating Symptoms. W. F. Waugh, Chicago.

Pennsylvania Medical Journal, Athens

June

144 Treatment of Stab Wounds of the Chest with Intratracheal Cannula for Use with Any Positive Pressure Apparatus. G. M. Dorrance, Philadelphia.
145 *Present Status of Psychotherapy. E. E. Mayer, Pittsburg.
146 *Traumatic Neurosis. J. L. Salinger, Philadelphia.
147 *Mental Disturbances Following Traumatism. A. Gordon, Philadelphia.
148 *Early Diagnosis of Pulmonary Tuberculosis. A. Stengel, Philadelphia.
149 *The Open-Air School. W. C. White, Pittsburg.
150 Double Choked Disk from Increased Intracranial Pressure. Congenital Absence of Both Inferior Recti Muscles. E. Stieren, Pittsburg.
151 Insanity in Pennsylvania. H. A. Davis, Altoona.
152 Report of the Tuberculosis Situation in Pennsylvania in 1909. J. B. Deacon, Philadelphia.

145, 146 and 147. Abstracted in The Journal, Nov. 5, 1911, p. 1672.

148 and 149. Abstracted in The Journal, Oct. 29, 1911, p. 1581.

Journal of the Delaware State Medical Society, Wilmington

June

153 Physical Examination of the Chest, with Special Reference to the Heart. W. Wertenbaker, New Castle.
154 Arteriosclerosis. H. F. Stubbs, Wilmington.

New Mexico Medical Journal, Las Cruces

June

155 Vertigo and Some of Its Causes. F. M. Smith.
156 Treatment of Ileocolitis. C. M. Mayes.
157 Diagnosis of Early Tuberculosis. L. A. Dickman, Clovis.
158 Preventing Spread of Tuberculosis. S. L. Burton, Albuquerque.
159 Symptomatic Treatment in Tuberculosis. C. T. Sands.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 17

1 Where Chemistry and Medicine Meet. A. E. Garrod.
2 *Toxemia of Pregnancy and Hemorrhage. R. Davies-Colley.
3 Preparation of Various Foodstuffs, Especially Wheat and Rice. E. S. Edie and G. C. E. Simpson.
4 Average Height and Weight of English School Children. A. W. Tuxford and R. A. Glegg.
5 Diagnostic Value of Rachicentesis. J. Rae.
6 *The Blood in Sympathetic Ophthalmia. C. P. Jones and S. H. Browning.
7 Bonesetting and Treatment of Painful Joints. F. Romer and L. E. Creasy.

2. **Toxemia of Pregnancy and Hemorrhage.**—Investigation of the records of a series of cases of toxemia of pregnancy at Guy's Hospital during the last eleven years has shown Dr. Davies-Colley that hemorrhage in one form or another is not a very infrequent symptom of the disease, and that in some cases it may be so great as to constitute its principal feature. To his mind, conclusive evidence is shown of the causal relationship between toxemia and this form of hemorrhage. A small group of cases occurred in which hemorrhage, not from the uterus, was so severe as to be a very great source of danger to the patient, and, so far as Dr. Davies-Colley could gather, no similar condition has hitherto been described in association with toxemia of pregnancy. The cases of hemorrhage fall into three groups. 1. Hemorrhage from the kidneys. Among the thirty-six eclampsia patients treated, hematuria was present in ten, and of these patients, six died—that is, 60 per cent.—while of the total number only eleven died, or 30.5 per cent. It is, therefore, clear that hematuria has a grave prognostic significance in eclampsia. II. Hemorrhage from the uterus. Thirteen patients with concealed accidental hemorrhage were treated, and of these eight, or 61.5 per cent., presented symptoms of what was taken to have been toxemia of pregnancy; surely more than could possibly be accounted for by coincidence. On the other hand, in thirty cases of external accidental hemorrhage, in only one were there signs of toxemia. III. Purpura, and hemorrhage from the mucous membranes. In these cases the hemorrhage was an obvious outward symptom of the disease, and of such an amount as greatly to increase the gravity of the condition, and in one case, at any rate, to be the principal cause of death. Three cases occurred, all of the patients being between the ages of 20 and 30. Two were primiparæ, and one was pregnant for the second time. Two of the patients died, while the third recovered only after being comatose for four days. The symptoms were those of an acute toxemia occurring in the later months of pregnancy, and consisted of persistent vomiting, which lasted for periods varying from four days to several weeks, followed by the more or less sudden onset of coma during or shortly after labor. The hemorrhage was from the stomach and intestines in all three cases, while in two cases purpura and hemorrhage from the gums also occurred. In all cases it was severe enough to cause profound anemia, while in one case it was undoubtedly the chief cause of death. From the presence of severe vomiting in each case, of jaundice in the patient who recovered, and of the very extensive changes in the livers of those who died, Dr. Davies-Colley says that it would appear that the toxemia was in the main hepatic in origin.

6. **Blood in Sympathetic Ophthalmia.**—From figures given by Jones and Browning it appears that in all cases the lymphocytes are increased in absolute number per cubic millimeter on an average for the nine cases studied by them of about 30 per cent., the range of increase varying from 2 per cent. to 42 per cent. The large mononuclear cells are increased in absolute numbers per cubic millimeter on an average for the nine cases of 170 per cent., the range of increase varying from 68 per cent. to 488 per cent. The polymorphonuclear leukocytes are in all cases diminished in absolute number per cubic millimeter on an average of about 30 per cent., the range of diminution varying from 10 per cent. to 51 per cent. This type of blood is found in protozoal infections. With this view it was desirable to exclude the possibility of syphilis, and in six cases Wassermann's test was applied, and in each instance gave a negative result.

The Lancet, London

June 17

8 Pyelography and Early Diagnosis of Dilatation of Kidney. J. W. T. Walker.
9 Vaccination in Regard to Life Assurance. W. H. Jalland.
10 Salvarsan in Syphilis. A. Fleming and L. Colebrook.
11 Post-Anesthetic Vomiting. J. D. Mortimer.
12 *The Causation of Infective Endocarditis. J. A. Venning.
13 Sanatoriums from Within. J. E. Esselmont.
14 *Case of Recurrent Carcinoma of Parotid Gland Treated with Coley's Fluid. E. R. Hunt.
15 Investigation of Certain Substances Used in Coloring Foods. S. Rideal.

12. **Causation of Infective Endocarditis.**—Venning says that if rheumatism is due to a streptococcus, and infective endocarditis, which is a septicemia, has from all statistics a close relation to rheumatism, it is, at any rate, possible that the diplococcus of rheumatism and the microorganism in some cases of infective endocarditis are of the same species. Venning undertook the examination of 100 cases to see whether by clinical and post-mortem examination there is any confirmation of the view that there is an added infective endocarditis. In 58 cases of the 100 there were old cardiac lesions, as shown by the necropsy. Of the remaining forty-two there was doubt in eight cases. In twenty-seven cases there was an infective focus from which it might reasonably be supposed that the septicemia arose. Of these twenty-seven cases there was a rheumatic history in seven and there were old cardiac lesions in ten. Of the remaining seventy-three there was a rheumatic history in fifty-two cases and old cardiac lesions in forty-eight, and in nine of the remainder it was

doubtful as regards old cardiac lesions. These figures bring out one point strongly. In the twenty-seven cases in which an infective focus was found, and which no one could reasonably call rheumatic in origin, there is a history of rheumatism in seven out of twenty-seven—i. e., 25.9 per cent.—while in the seventy-three in which no infective focus was found there was a rheumatic history in fifty-two cases—i. e., 71.2 per cent. Again, in these twenty-seven cases there were old cardiac lesions in ten—i. e., 37 per cent.—while in the remaining seventy-three they were present in forty-six—i. e., 63 per cent. To examine more closely the seventy-three cases in which there was no infective focus demonstrable, there was a rheumatic history in fifty-two out of the seventy-three cases—that is to say, there was a previous history of rheumatism, or the final illness commenced with rheumatism, taking as rheumatism a history of pain and swelling of joints, or endocarditis, or chorea. Of these fifty-two cases, the rheumatism passed, so far as one could judge, insensibly into infective endocarditis in thirty-two cases—i. e., 61.5 per cent. One point which is brought out by the history of these cases is that, though the patient may be apparently recovering from the attacks of rheumatism and may lose all pain in the joints, nevertheless from the after-history the endocarditis must have been progressing insidiously. Thus, there are in this series several examples of patients who were admitted for acute rheumatism and improved to such an extent as to leave the hospital, but who returned in the course of a month or two to die from infective endocarditis. The majority of these patients had suffered from rheumatism at some time previous to their final illness, and so on admission had signs of endocarditis, and post mortem the valves showed old-standing lesions. Venning points out that the causation of these cases is very varied, but the evidence adduced, both from the bacteriologic work of Poynton and Paine, and from that obtained by the study of this series of cases, is, Venning believes, in favor of the view held by Osler in 1885—namely, that infective endocarditis, supervening in the course of some particular disease as rheumatism or pneumonia, may be regarded as directly produced by the causes which have excited the original disease.

14. **Coley's Fluid in Recurrent Carcinoma of Parotid.**—A man, aged 54, had a large malignant growth in the right side of the neck, apparently originating in the right parotid. The history showed that twenty-five years previously he was operated on for a tumor in the neck. The tumor recurred thirteen years later and slowly became larger and more painful. In April, 1910, lymph-nodes were removed. These were closely connected with the parotid. It was considered impracticable to remove the whole growth. The report of a microscopic examination of the tissue removed stated that this was a very fibrous carcinoma of scirrhous type. There was no trace of any glandular structure of any kind. Apart from this tumor the patient's health had been good. The injections of Coley's fluid were begun and continued on alternate days in gradually increasing doses for two months, when the final injection of 7 ♏ was given. In all the patient had some nineteen injections. He gradually became weaker, ultimately passing into a semicomatose condition and expiring soon after. The following points are noteworthy: 1. The complete relief of pressure symptoms and the very marked relief of pain, which Hunt says can be attributed only to the action of the Coley's fluid in causing the sloughing away of the greater part of the tumor. The comparative freedom from pain is attested by the very few doses of sedative mixture which were taken by the patient, although he was always provided with the medicine and instructions were given that he should be allowed a dose whenever necessary. Although the injections were unsuccessful in effecting a cure, yet the relief afforded was very gratifying, and the patient's death was a comparatively peaceful and painless one, in place of the agony of slow suffocation which at one time seemed probable. 2. The low temperatures are interesting. In spite of steadily increased doses of the fluid, nothing like the reaction aimed at (103 F.) was obtained. 3. The case seems to show that in some cases of carcinoma Coley's fluid may have a marked action.

Glasgow Medical Journal

June

16 Roentgen-Ray Treatment of Ringworm of the Scalp. J. G. Graham.
17 Physical Methods in Treatment of Chronic Constipations, Sinusoidal Currents. T. D. Luke.
18 Case of Associated Cutaneous and Gastro-Intestinal Anthrax. G. B. Fleming and M. J. Stewart.

British Journal of Children's Diseases, London

June

19 *Relation of Nasal Obstruction to Articulatory Capacity. E. Jones.
20 Benign Cyst of the Tibia. H. A. Lediard.
21 Three Cases of Enlarged Thymus in Infants. R. Waterhouse.

19. **Nasal Obstruction and Articulatory Capacity.**—In his examination of the consonantal articulatory capacity of 700 children and its relationship to the degree of nasal obstruction existing, Jones found that in average school children (469 cases, 106,500 tests) the articulatory capacity for consonants varies with the degree of nasal obstruction. The dependence of the capacity on this factor is not very close, but is much more decided with boys than with girls. The incidence of nasal obstruction being equal in the two sexes, it would seem that a given degree of it produces, through partial deafness or in some other way, a more harmful effect on the articulatory capacity of boys than on that of girls. This is in harmony with the author's hypothesis, previously put forward, that hearing is more essential in the acquirement of speech with boys than with girls, the latter making use of a second channel of education, lip-reading, which is shut to boys. In children with gross articulatory defect or dyslalia (231 cases, 52,000 tests) no correlation whatever was found between the extent of this defect and the degree of nasal obstruction present. Investigation of a larger series might reveal a slight correlation, but nasal obstruction is evidently not an important cause of dyslalia in general, and any action it may have is readily obscured by that of more important factors.

Journal of Laryngology, Rhinology and Otology, London

June

22 Improved Technic of Thiersch Graft Following Radical Mastoid Operation. C. F. Welty.
23 Turbinal and Sinus Function. J. Adam.
24 Otosclerosis. G. Brühl.
25 Endothelioma of the Frontal Bone. N. Maclay.

Medical Press and Circular, London

June 7

26 Cause and Prevention of Decay of Teeth (to be continued). A. S. Dutton.
27 The Insurance-Against-Sickness Bill. R. R. Rentoul.
28 *Nature and Treatment of Chorea. C. F. Coombs.

June 14

29 Intestinal Obstruction. J. R. Morison.
30 *Seasickness and a Remedy. T. M. Kendall.
31 Cause and Prevention of Decay of Teeth (concluded). A. S. Dutton.
32 Lesions of the Vermiform Appendix and the Female Pelvic Organs. D. Duff.

28. **Nature and Treatment of Chorea.**—According to Coombs, chorea is an organic disease implicating the cells of the cortex cerebri, and those of the midbrain and pontomedullary nuclei in a less severe degree; that it is due to the action of rheumatic toxins on these cells; that all parts of the cortex suffer equally, and therefore the disease should not be regarded as one of motion only; and that, in spite of its extraordinary persistence, due to repetition of active phases, the general tendency is toward recovery. The motor symptoms are partly due to loss of inhibition, partly to cortical irritation. In chorea the fallacy of the distinction between "functional" and organic nervous disease is exemplified. Chorea can be fatal without the occurrence of meningeal inflammation. This fact, with the phenomena of latent chorea, suggests that chorea may be due to direct intoxication rather than gross infection of the cranial contents. The tendency of chorea is toward restoration of health to the brain. Treatment consists of (a) removal of the cause, active rheumatic infection, by rest in bed with administration of salicylates during the active stages; (b) prolonged mental and bodily rest during convalescence; (c) improvement of general health by fresh air, full diet, and tonics; (d) quieting of excessive movement by sedative drugs or packs, and cure of paresis by massage. The full-dose arsenical treatment is useless.

30. **Sea-Sickness.**—Kendall tried menthyl valerianate and obtained complete relief from his seasickness.

Australasian Medical Gazette, Sydney

May 20

33 The Central Western Medical Association. R. Bowman.
34 Salvarsan in Syphilis. A. E. Finckh.
35 Salvarsan in Syphilis. Sixty-Five Cases Treated at Coast Hospital, Sidney. R. J. Millard.
36 Treatment of Nasal Obstruction. T. K. Hamilton.
37 Asthma in Relation to Nose. M. Jay.
38 Nasal Obstruction: Its Varieties and Effects. R. Pulleine.
39 Epidemic Febrile Diseases Prevalent in Brisbane. A. G. Butler.
40 Recent Epidemic of Dengue in Brisbane. K. Scott.
41 Recent Epidemic of Dengue in Queensland. G. Davidson.
42 Case of Secondary Syphilis with Acute Yellow Atrophy of Liver. R. J. Millard.
43 Pathology of Some Cerebrospinal Fluids. H. Tebbutt.
44 History of Disease in Australia. J. B. Cleland.

Annales de l'Institut Pasteur, Paris

May 25, XXV, No. 5, pp. 369-432

45 Fermentation Is Digestion. (Les phénomènes de fermentation sont des actes de digestion. Nouvelle demonstration apportée par l'étude de la dénitrification dans le règne végétal.) P. Mazé.
46 Anaphylaxis and Antianaphylaxis to Egg Albumin. A. Besredka and J. Bronfenbrenner (New York).
47 Influence of Salvarsan on the Blood Count. (De l'influence de arsénobenzol sur la formule leucocytaire du sang.) W. L. Yakimoff.

Annales de Médecine et Chirurgie Infantiles, Paris

June 1, XV, No. 11, pp. 337-364

48 Dysphagia in Children. E. Périer and Gaujoux.

Archives des Maladies de l'App. Digestif, Paris

May, V, No. 5, pp. 229-288

49 Pathogenesis of Gout and Recent Research on the Metabolism of the Nucleoproteids. G. Linossier.

Archives de Médecine des Enfants, Paris

April, XIV, No. 4, pp. 241-320

50 *Deformity of the Knee After Tuberculous Arthritis. (Les déviations du genou dans la tumeur blanche. Causes. Prophylaxie.) C. Ducroquet and V. Veau.
51 Physicochemical Characteristics of Infants' Saliva. G. B. Allaria.
52 Exanthem After Vaccination of Children. M. de Biehler.

May, No. 5, pp. 321-400

53 *Diphtheria Antitoxin in Prophylaxis. (De la valeur des injections préventives du serum antidiphthérique.) W. Markuson and W. Agopoff.
54 Verrucous and Pustular Tuberculosis of Entire Leg. A. Trèves and G. Schreiber.

50. **Deformity of the Knee After Disease.**—Ducroquet and Veau describe the mechanism which leads to ankylosis in a defective position and the means to prevent this. In the normal gait the knee is flexed; this equalizes the length of the limbs, as the free leg would be too long if it were not flexed to bring it forward into place. The pelvis sags on the free side, as it is not held up by the support of the leg, while the weight of the foot drags down the tip—both factors cooperating to make the free leg longer than the leg bearing the weight of the body. With a tuberculous knee, flexion is painful and is avoided; the leg is not flexed, but is twisted outward, which shortens it as needed, but has the disadvantage that the knee becomes fixed in a deformed position—genu valgum. To ward off this deformity it is necessary to apply an immobilizing apparatus reaching from the ischium (to prevent flexion) and the greater trochanter (to prevent abduction), down to the posterior surface of the calcaneum (to prevent flexion) and the external malleolus (to prevent abduction). This immobilizing apparatus should be applied as soon as the affection is diagnosed. As long as there is pain the child should be kept in bed. After six months to a year a walking apparatus should be applied under close supervision, and by the end of another year the tuberculous process may be regarded as cured.

53. **Preventive Injections of Antitoxin.**—Markuson and Agopoff state that their experience with antitoxin injected to protect children with measles against diphtheria was disappointing. The injections did not render the infants immune or modify the severity of the disease. Of 1,178 children in the measles wards treated with antitoxin, 2.12 per cent. developed diphtheria in the first week, 2.04 in the second, 0.51 in the third, 0.26 in the fourth and 0.17 per cent. after the fourth week. The corresponding percentages for the 1,156 children not injected were smaller, being, respectively, 1.56, 1.73, 0.52, 0.78 and 0.43 per cent. The mortality averaged 36.6 per cent. in the first group, and 32.3 in the other.

Lyon Médical, Lyons

May 21, CXVI, No. 21, pp. 907-960

55 Generalized Melanosis Originating in the Rectum. P. Bonnet and A. Chalier.

May 28, No. 22, pp. 961-1000

56 *Laparotomy for Irreducible Retroversion of the Uterus. Goullioud.

56. See The Journal, July 8, Abstract 46.

Presse Médicale, Paris

June 7, XIX, No. 45, pp. 471-476

57 *Diagnostic Importance of Nephralgia. P. Bazy.

June 10, No. 46, pp. 477-492

58 Treatment of Congenital Varus Equinus. P. Desfosses.
59 Conception Through the Ages of Fever. (La fièvre.) L. Meunier.

57. **Nephralgia.**—Bazy warns that nephralgia may be the premonitory symptom of latent cancer or tuberculosis or of destructive nephritis, before other signs develop. In two cases described the intense nephralgia was the only sign of a tumor in the kidney, so small that it escaped detection at first. One patient was a woman of 58, with intolerable right nephralgia, cured by decapsulation. Nothing pathologic was found in the kidney, but a few months later the patient died of generalized cancer. In the other case a man of 41 had recurring hemorrhage from the kidney for two years and then, after a latent period, intense nephralgia on the other side cured by nephrocapsulotomy. Several months later other symptoms developed indicating cancer. Both patients were relieved of their intense pains by the operation on the kidney, but in both cases the pains were evidently merely one manifestation of malignant disease, which, after a latent period of several months, finally proved fatal. In another case the intense nephralgia was the precursor of an evident tuberculous process. Decapsulation of the kidney gave temporary relief, but recurrence of pain, two years later, was the signal for nephrectomy, and unmistakable tuberculous lesions were discovered in the upper part of the kidney. In several cases the decapsulation also cured the nephralgia accompanying mild nephritis. One woman has had no pain since the decapsulation, four years ago; it materially improved her general health. The decapsulation does not have to be total when done merely for nephralgia; it is liable to answer the purpose, even if only a small part of the anterior or posterior surface is decapsulated or merely part of one surface.

Semaine Médicale, Paris

June 14, XXXI, No. 24, pp. 277-288

60 Diverticulitis Chronic from the Start. F. Lejars.

Berliner klinische Wochenschrift

June 5, XLVIII, No. 23, pp. 1021-1068

61 *Treatment of Tetanus with Injections of Phenol. (Statistische Resultate der Behandlung des Tetanus mit subcutanen Carbolinjektionen.) G. Baccelli.
62 *Incomplete Rupture of Uterus. K. Franz.
63 Salvarsan and Hyperideal in Syphilis. F. Lesser.
64 *Hemorrhagic Purpura. G. Stümpke.
65 Influence of Diphtheria Toxin on Secretory Function of the Adrenals. (Einfluss des Diphtherietoxins auf die secretorische Funktion der Nebennieren.) M. Tscheboksaroff.
66 Case of Osteo-Arthropathy with Hypertrophy. G. Wolfsohn.
67 Diathermia: Electric Deep Heating in Treatment of Bone and Joint Disease. (Diathermie bei der Behandlung der Knochen und Gelenkkrankheiten.) A. E. Stein.
68 Disease of the Internal Sphincter of the Bladder and Posterior Urethra. H. Wossidlo.
69 *Frontal Headache and Vertical Strabismus. (Höhenschielen und Stirnkopfschmerz.) E. A. Heimann.
70 Obstetrical Analgesia. (Die Schmerzstillung bei der Geburt.) P. Strassmann.
71 Social Reform at the Expense of the Medical Profession. (Sozialreform gegen die Aerzte.) S. Vollmann.

61. **Phenol Injections in Tetanus.**—The intravenous or subcutaneous injection of a 2 or 3 per cent. solution of phenol was introduced into the treatment of tetanus by Baccelli before the dawn of serotherapy, and he here states that this method has amply established its efficacy. He tabulates the results obtained with it in ninety-four severe cases reported by forty-eight different clinicians, and thirty-eight very severe cases. The mortality was 2 per cent. in the first group and from 19 to 15 per cent. in the very severe cases. He found that patients with tetanus are exceptionally tolerant of phenol, so that it is possible to increase the dosage from 0.3 or 0.5 gm. to 1 or 1.5 gm. fractioned in the course of twenty-four hours, keeping close oversight of the urine. He cites only the cases, reports of which have been published

in the international literature, a total of 190 cases since 1888. In eleven of the sixteen fatal very severe cases the dosage had been manifestly inadequate, that is, below 1 gm., and in one of the others the patient had gangrene of the arm. The total mortality of the entire 190 cases was 17.36 per cent.

62. **Rupture of the Uterus.**—Franz reports two cases of partial rupture of the uterus during the management of placenta prævia. They confirm the old experience that placenta prævia loosens the tissue of the lower segment of the uterus so that it tears easily. It is important, therefore, to inspect this region through the speculum after delivery. In both the cases reported the tear was above the external os and could not be seen through the speculum alone. It is not a mere coincidence that the woman who succumbed was a primipara. If Cesarean section is ever justified for placenta prævia, Franz remarks, it is with a primipara and a living child at term. With a small tear, the tamponing can be done from the vagina, but on suspicion of extensive rupture the tamponing should be done through an extraperitoneal incision parallel to Poupart's ligament. Hysterectomy should be done without delay in case the hemorrhage is not arrested by the tampon. Franz does not advocate suture of the tear; this is difficult and unreliable, while the rupture may be always regarded as infected from the start.

64. **Hemorrhagic Purpura.**—The patient was a previously healthy young laboring man who developed severe hemorrhagic purpura with suggillation in the throat, almost suffocating him, while signs of inflammation were evident in joints, kidneys and bronchi. Secondary necrosis developed in the throat, leaving extensive defects, but recovery otherwise was complete in a month.

69. **Vertical Strabismus and Frontal Headache.**—Heimann has frequently found that frontal headache was permanently cured by measures to correct vertical strabismus. The symptoms of hypertropia are indistinctness of vision, fatigue of the eyes in the theater and elsewhere requiring distant eyework, as well as in sewing, reading and writing. When the eyes are used much there follow a dull ache in the brow, and possibly vertigo and nausea, or, more frequently, supraorbital neuralgia. With all other ocular muscular disturbances prolonged rest of the eyes and general toning up, as after a vacation, reduce the disturbances, but this is not the case with those due to vertical strabismus. They persist unmodified, and if the cause is not discovered and corrected, may torment the victim all his life.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 10, XLI, No. 17, pp. 393-624

72 Sterilization of Women. A. Labhardt.
73 The Parathyroids. (Zur Lehre der Epithelkörperchen.) H. Möller. Commenced in No. 16.

Deutsche medizinische Wochenschrift, Berlin

June 8, XXXVII, No. 23, pp. 1057-1104

74 *Diagnosis and Treatment of Tuberculosis of Female Genital Organs. P. Kroemer.
75 Intracellular Bodies Found in Scarlet Fever. (Experimentelle Untersuchungen über die Scharlachätiologie.) G. Bernhardt and P. A. Hoefer.
76 Spontaneous Paratyphoid in Guinea-Pigs. H. Bofinger.
77 Biology of Intestinal Bacteria. G. Seiffert.
78 Lime-Sulphur Mineral Water in Treatment of Pulmonary Tuberculosis. (Wirkung der Arminiusquelle bei Lungentuberkulose.) Werner and C. Schreiber.
79 Filtration in Urine Production. (Anteil der Filtration an der Harnbereitung.) E. Frey.
80 *Mechanism of Elimination of Sugar and Means to Influence It. (Einfluss der Dyspnoe auf den Diabetes.) J. v. Magyary-Kossa.
81 Abnormally Narrow Aorta. (Zur Kasuistik der Aorta angusta.) M. Krabbel.
82 *Iodin Sterilization of Skin. (Jodtinkturdesinfektion.) C. Decker.
83 *Pregnancy Seems to Favor Development of Cancer. (Gibt es eine vermehrte Disposition für Karzinomentwicklung während der Gravidität?) F. Lindstedt.
84 Treatment of Varicose Ulcers. Wehner.

74. **Genital Tuberculosis in Women.**—Kroemer found that the Fallopian tubes were affected in 222 of the 267 cases on record of tuberculosis of the female genital organs, the ovaries in forty-two, the uterus in sixty-seven, the vagina in sixteen and the cervix in eleven. But he affirms that this preponderance of tubal involvement by no means excludes the possibility of primary ascending infection from without. The patients complain nearly always of severe sacral and abdominal pains and disturbances in menstruation. The dysmenorrhea persists during the entire menstrual period, in which it differs from the ordinary antemenstrual dysmenorrhea. Tenesmus and pains in the bladder, without objective findings, are also frequent, and there are liable to be gastro-intestinal disturbances, loss of appetite, constipation or diarrhea, or both alternating. Pallor and emaciation are late symptoms as a rule. The chief aid to the diagnosis is the almost invariable participation of the peritoneum in the process, revealed by discovery of nodular thickening in the reflection of the peritoneum in the pouch of Douglas, when the peritoneal layers are rubbed together between the finger in the vagina and a finger in the rectum. The tuberculin reactions are of little use, as tuberculosis may be present even with a negative reaction, while a positive indicates merely that there is a tuberculous focus somewhere in the body. In one of his cases a violent local reaction was observed in the ovaries in a severe ovarian tuberculosis. The absence of any general or local reaction to the tuberculin test excludes tuberculosis, while ascites or nodules in the pouch of Douglas or ulceration on the genital mucosæ confirm its existence. Treatment should be operative on principle. Inoculation of animals with a scrap from the focus is the most reliable measure. A little secretion or tissue can be obtained through the vaginal cul-de-sac, and by crushing the regional lymph-nodes in the inoculated animal it is possible to determine the presence of tubercle bacilli in less than two weeks. Rabbits are well adapted for this test, he says. The non-efficacy of the ordinary conservative measures is further testimony against gonorrhea; superheated air in particular aggravates conditions in the tuberculous process. In a recent case of tumor in the right ovary or tube, application of electricity was followed each time by a colic-like attack of abdominal pain, lasting for several hours. Operation revealed advanced tuberculosis of the ovary with multiple abscesses.

80. **Means to Reduce Glycosuria.**—The experimental, clinical and pharmacologic experiences related seem to demonstrate that the symptoms of diabetes are the result of toxic action from the sugar in the blood and tissues, and, further, that phloridzin and the factors producing glycosuria in diabetes act by their toxic influence on the innervation of the kidneys or the nerve centers in the brain controlling the renal nerves. The aim in diabetes, therefore, should be to reduce the glycosuria, and Magyary-Kossa has found that inhalation of carbon dioxid is able to accomplish this. Rabbits with phloridzin glycosuria had the elimination of sugar reduced 50 per cent. when dyspnea was induced by inhalation of carbon dioxid or other means. This suggests that inhalation of carbon dioxid might reduce the output of sugar in diabetics, "of which," he says, "more anon." In his experimental research the amount of sugar eliminated dropped by 21, 27, 29 and 67.8 per cent. after subcutaneous injection of carbonic acid water (*Sodawasser*). The carbon dioxid seems to have a paralyzing action on the renal nerves or their centers.

82. **Tincture of Iodin Sterilization of the Skin.**—Decker's research seems to show that the iodin is not bactericidal, as employed, but owes its sterilizing action to the effect on the skin, rendering it less susceptible. Eczema developed frequently under the plaster afterward and some of the surgeons and attendants found the fumes irritating to eyes and throat, so that the method has been discarded in Decker's service.

83. **Pregnancy and Cancer.**—Lindstedt has recently encountered five cases in which necropsy or an operation confirmed the assumption of gastric cancer in pregnant women, all between the ages of 22 and 33. (Sänger has also encountered two cases of the kind in women of 28 and 32.) In all the cases there was evidence that the cancer did not exist before the pregnancy. Lindstedt adds that among 743 cases of gastric cancer at the Stockholm hospital since 1889, fifty-nine of the women were under 42, and in fifteen of the twenty cases in which the last pregnancy was recorded, the case-histories seemed to indicate that the cancer had developed in connection with a pregnancy and had not preceded it. Comparison of other statistics in regard to cancer in men and in women and

in the married and unmarried, confirms the assumption, Lindstedt thinks, of a predisposing influence of the pregnancy. Some of the changes that occur with a pregnancy are analogous to senile changes, especially the hypertrichosis, accumulation of fat, formation of osteophytes, caries of the teeth, cessation of menstruation, abnormal pigmentation, reduced capacity for assimilation of carbohydrates, etc. The premature sexual maturity of children with embryoid tumors is another argument in this line—all showing a predisposition for cancer created by the fact of the pregnancy. The first symptoms of gastric and uterine cancer develop relatively often in connection with a pregnancy, and they are more frequent at the corresponding ages in married than in unmarried women.

Medizinische Klinik, Berlin

June 4, VII, No. 23, pp. 875-912

85 *Persisting Disturbances After Appendectomy. (Gründe bleibender Beschwerden insbes. Adhäsionsbeschwerden nach Appendektomie.) F. König.
86 *Headache and Disturbances in Ocular Muscles. (Kopfschmerzen und Augenmuskelstörungen.) F. Schanz.
87 *Hot Dip Baths. (Heisse Tauchbäder.) Determann.
88 *Bismuth Salts in Radiography. (Zur Anwendung von Wismutsalzen in der Röntgenpraxis.) L. Metzger.
89 Blood Findings with Multiple Neurofibromas. (Ueber einen Blutbefund bei der Recklinghausenschen Krankheit.) J. Wittemann.
90 Chicken-Pox in Adults. (Varicellen bei Erwachsenen.) P. Misch.
91 Radio-Active Zwieback. (Radioaktives Gebäck.) J. Ruhemann.
92 Medical Pseudomathematical Formulas. (Die Sperlingsche "Circulationsformel.") B. Lewy.
93 Means of Communication Between the Higher Animals. (Verständigungsmittel in der höheren Tierwelt.) A. Sokolowsky.

85. **Disturbances Persisting After Appendectomy.**—König reviews the causes for symptoms persisting after removal of the appendix. Among them may be coexisting cholelithiasis, enteroptosis or gynecologic disorder, but by far the most important cause is the formation of adhesions, and König thinks that much can be done to avoid this after the operation. In his seventy-one cases of disturbing adhesions, analysis of the histories shows that the adhesions were particularly liable to develop when the serosa had been injured in any way, or when there were preexisting adhesions. Every operation, it seems, is almost sure to enhance a preexisting tendency to formation of adhesions. König even goes so far as to maintain that appendectomy, when adhesions have already formed, has a dubious prognosis; the more extensive the adhesions, the greater the liability to trouble later. The practical lesson from his arguments is that the appendix should be removed before adhesions have had time to form; he disapproves of tiding the patient along and waiting for an interval operation. Far better is it, he declares, to remove the appendix at once, restricting the incision to the smallest possible opening and using every means to prevent adhesions by stimulating peristalsis and the circulation, encouraging the patient to exercise early, moving the legs in bed and getting up after the second day, with instructions to keep up gymnastic exercises at home and keep the bowels open. If adhesions are already present, these measures are not enough, and they must be supplemented by oil, one tablespoon by the mouth and 250 c.c. of warm oil injected into the rectum, with abdominal massage after the first week, avoiding the field of operation at first, but later going over the whole abdomen. When extensive adhesions with the abdominal wall are found at the operation, König has the patient lie on the other side for hours the day after the operation and change his position frequently, assuming the knee-elbow position at times and getting up as soon as possible. He reports two instructive cases, one showing the severity of the symptoms that may develop even from slight adhesions, and the other—the clinical picture suggesting cancer at first—illustrating the fine results that may be obtained by well-planned treatment.

86. **Headache and Ocular Muscular Disturbances.**—Schanz discusses the strain on the innervation when the eyes are not exactly symmetrical, and he relates instances of neurasthenic disturbances, headache and epileptiform seizures, in which benefit or complete cure followed correction of the trouble. He discusses how the general practitioner can detect this muscular eye strain when the patients complain of everything except of their eyes. With muscular asthenopia the patient complains only of nausea, vomiting, vertigo, insomnia, etc. Schanz advises more frequent application of Maddox's rods for the detection of the anomaly in the position of the eyes, and Gräfe's card for detection of disturbances in convergence. The frequency of disturbances of this kind and the numerous expensive and ineffectual attempts to cure them based on ignorance of their etiologic connection, should compel practitioners to familiarize themselves with these simple methods of investigation. In three of the cases described, severe neurasthenia for years, rebellious to all neurologic treatment, was cured with all its train of symptoms at one stroke by appropriate glasses on the discovery of the previously unheeded tendency to vertical strabismus, hypertropia.

87. **Hot Dip Baths.**—Determann expatiates on the beneficial stimulating effect and reaction of a bath of only four to ten seconds' duration in water at a temperature of 37 to 45 C. (98.6 to 133 F.). The patient can lie down in the bath himself or be lowered into the water by two attendants. After the bath the patient is wrapped in blankets and lies quietly for an hour. Even weak patients can take these brief hot dips, which do not exhaust them, while they induce a vigorous reaction. The duration of the bath is so short that the body does not become overheated. The special indications for these hot dip baths are general motor weakness and general sensory irritability in persons free from organic disease. Partial hot dip baths may also prove useful in cases in which a full bath is too much of a strain.

88. **Bismuth Carbonate in Radiography.**—Metzger used bismuth carbonate instead of subnitrate in Roentgen examination of a young woman of 27 suspected of cancer. Thirty hours after taking the injection according to Rieder's technic, the greater part could be seen in the rectum and the patient complained of pains and tenesmus and the left hypochondrium was tender. After the rectum had been evacuated by an enema, the stool showing considerable blood, the symptoms subsided. The bismuth carbonate had evidently accumulated as an irritating foreign body in the rectum. The case illustrates the importance of clearing out the intestine and not allowing the bismuth to stagnate.

Münchener medizinische Wochenschrift

June 6, LVIII, No. 23, pp. 1225-1280

94 *Combined Electric and Roentgen Treatment of Cancer. (Elektro- und Radiochirurgie im Dienste der Behandlung maligner Tumoren.) R. Werner and A. Caan.
95 Radiography in Diagnosis of Disease of the Large Intestine. E. Stierlin.
96 *Atony of the Cecum and Allied Conditions. (Typhlatonic und verwandte Zustände: chron. Appendizitis, sog. Coecum mobile, Typhlektasie, sowie habituelle Zoekumtorsion.) F. J. Fischler.
97 Peristalsis Rhythm of Stomach. (Ueber den Rhythmus der Autrumperistaltik des Magens.) R. Kaufmann and R. Kienböck.
98 Hypertrophic Familial Neuritis. P. Boveri.
99 *Recurrences After Salvarsan Treatment of Nerve Syphilis. Desneux and Dujardin.
100 *Typhoid Sepsis. (Ueber Typhussepsis.) L. Jores.
101 Cholelithiasis. H. Kehr.
102 Injurious By-Effects of Liquid Petrolatum. (Ueber schädliche Wirkungen des Paraffinum liquidum: Mitteilung zur Salvarsantherapie.) T. Hausmann.

94. **Electric Treatment of Cancer.**—Werner and Caan's experiences with temporary eventration of internal organs for direct application of electricity and radiotherapy were mentioned in THE JOURNAL, April 22, 1911, p. 1234. They here give an illustrated description of further work in this line of electrosurgery and radiosurgery, as they call the combined method. The de Forest electric needle has proved exceptionally useful to prevent dissemination of germs in excising the growth. Ninety patients were treated with it, and the outcome was particularly gratifying in cases in which there was reason to anticipate recurrence after removal of the tumor by any other technic. In a few cases fulguration also proved useful. They used this needle technic for palliative operations on accessible inoperable cancers, sometimes supplemented with thermopenetration when the vicinity of large vessels did not forbid this. In this latter case excochleation and fulguration were preferable. Metastases of inoperable tumors should be treated, they add, the same as a primary operable growth.

96. **Atony of the Cecum.**—Fischler has encountered cases of actual atony of the cecum causing a special clinical picture characterized by stagnation at this point, putrefaction and local meteorism, and pain from traction, with a train of pains, colics, palpable tumor and obstinate constipation. The appendix may have nothing to do with the syndrome, and the cecum is not necessarily abnormally movable or displaced. The amount of food should be restricted, and too much carbohydrate, fat or albumin should be especially avoided in the diet. Light massage of the region of the cecum is useful, in the direction of peristalsis, with gymnastic exercises during the intervals of disturbances. All powerful purgatives should be avoided, so as to refrain from further irritation of the intestinal mucosa. Fischler orders further three or four teaspoonfuls a day of a mixture of 15 parts each of bismuth subnitrate and magnesia usta, with 10 parts each of bismuth subsalicylate and pulverized rhubarb, to be taken in water after eating. This is to be kept up for a week or two. Moist heat should be applied also to the cecum region by compresses worn during the night, while the patient should be instructed what foods to avoid as liable to induce flatulence or indigestion. In case of very severe colic application of cold and minute doses of morphin may be necessary. This clinical picture has sometimes been mistaken for wandering cecum, and the bowel has been sutured in place, but the disturbances persist. The two conditions may coexist, but the above medical measures should be given a thorough trial, Fischler insists, before assuming that operative correction is necessary.

99. **Neurorecurrences After Treatment of Syphilis with Salvarsan.**—Desneux and Dujardin report from Brussels seven cases of typical recurrences, such as Benario and others have described. They encountered these seven cases among 351 in which salvarsan treatment was given, but they are confident that the disturbances were exclusively of a syphilitic nature, probably related to a secondary syphilitic meningitis. The relative frequency of such disturbances the authors ascribe to the inadequacy of the dosage, the inadequate dose having apparently a peculiar influence on the evolution of the syphilitic process.

100. **Typhoid Autosepsis.**—Jores found no characteristic lesions of typhoid at necropsy of a man of 45 who succumbed in less than two weeks with symptoms of sepsis, chills, angina, torticollis, swelling of various joints and of the ears, with high fever but not a high pulse-rate. Typhoid bacilli were cultivated from the blood, and it was learned that the man had passed through a severe typhoid fever sixteen years before. Jores thinks it probable that he was a chronic bacillus-carrier and that an autobacterial reinfection was responsible for the sudden fatal sepsis, both the clinical and anatomic findings confirming this assumption. He does not know of any similar case on record, but it shows the possible peril which threatens apparently healthy bacillus-carriers. He urges closer examination in all cases in which typhoid bacteriemia is observed with a fatal affection of apparently other origin, to determine the exact share of typhoid sepsis in the process.

Therapeutische Monatshefte, Berlin

June, XXV, No. 6, pp. 341-404

103 Experimental and Clinical Research on the Action of High-Frequency Electric Currents. (Wirkung der Hochfrequenzströme.) A. Schittenhelm.
104 *Acute and Chronic Intestinal Catarrh in Young Children. (Darmkatarrhe im 2. und 3. Lebensjahre.) F. Göppert.
105 *Furuncle in the Ear. R. Imhofer.
106 *Detection of Foreign Body in the Throat by Staining It. (Fremdkörper im Halse.) J. Fackenheim.
107 Radio-Active Mineral Water in Internal Disease. (Bedeutung der radioaktiven Gasquelle von Franzensbad für den Internisten.) Nenadovics.
108 *Warning Against Maretin. W. Heubner.
109 *Physicians' Lack of Judgment in Regard to New Drugs. (Aerztliche Urteile über moderne Arzneiproduktion.) W. Heubner.

104. **Treatment of Acute and Chronic Intestinal Catarrh in Young Children.**—Göppert endorses Meyer's statements, summarized in The Journal, June 10, 1911, p. 1676, in regard to the necessity for recognizing that milk should not be the basis of the diet for children 2 and 3 years old, but merely one element of the food, and that it may do direct harm in certain cases. Göppert's experience confirms Czerny's conception of the exudative diathesis, and the advisability of banishing from the diet of certain young children the usual excess of milk, eggs, butter and sweets.

105. **Furuncle of the Ear.**—Imhofer has discovered in experiments on dogs that infection occurs by way of the hair follicles, and locates in the sebaceous glands to form the furuncle. No traumatic portal of entry is required; any mechanical pressing in of infectious material into the orifice of a hair follicle is liable to induce the production of a furuncle. Treatment should aim, therefore, to evacuate the plug without pressure, as tamponing, etc., are liable to force infectious material into new hair follicles and thus set up a new furuncle. In one case a young girl had eight in the ear in three weeks. Imhofer has now devised a rubber bulb and tube which answers all the indications. The tube has a broad opening, near the closed tip, and aspiration from the compression of the bulb sucks out the ripe plug into the tube without mechanical trauma and without spreading the infection. He then introduces a strip of gauze, moistened with a 1 per cent. alcohol-mercuric bichlorid solution, introducing the strip along the sound wall which it protects against infection. The aspiration is applied again the next day, and this generally cures the patient permanently.

106. **Fish-Bone in the Throat.**—In the case reported by Fackenheim, it proved impossible to distinguish the fish-bone, which had evidently lodged in the throat and was causing much disturbance. Fackenheim had the patient eat some stewed huckleberries, hoping thus to discolor the fish-bone and render it visible. This measure was successful, a blue point then being seen projecting 1 mm. from the red left tonsil. Fackenheim has applied this staining method in a number of cases since, and always with immediate success.

108. **Warning Against Maretin.**—Heubner protests against some advertising literature recently sent out by the firm making maretin which commends the drug as an antipyretic, especially for the fever in phthisis, the advertisement stating that, according to Professor Dresser's exact experiments, maretin is not a poison for the blood. This last statement is contrary to reports on the drug that have been published by various clinicians which Heubner cites, and he relates the results of numerous experiments of his own which demonstrate that maretin has a powerful action on the blood, inducing pronounced anemia. It is an excellent means to induce experimental anemia, and the number of cases in which the blood has been injured by maretin is shockingly large, he says, far too large to be shielded by the acceptance of an idiosyncrasy. He adds that the career of maretin is typical: first laudatory reports from clinicians, then words of doubt, warnings and reports of bad by-effects, then a pause; then after a long period of silence, a new propaganda campaign on the part of the manufacturers. Unfortunately, this career of the drug has also a serious side: A leading firm of manufacturing chemists has here overridden the fundamental principles of ethics, for it is unquestionable that a physician would obtain an entirely different idea in regard to the value and disadvantages of maretin from the postals sent out by the manufacturers from what he would obtain by reading up the articles on maretin that have been published in the medical press, especially the warnings by Krönig, Benfey and Steinhauer, in 1905. Heubner adds that it would be well for us to remember that the firm's action in this case might be followed by an aggravation of the condition of hundreds of patients, and that the firm was willing to take this action in spite of its fine equipment and the cooperation of medical experts, including a prominent pharmacologist. What goes on in the inner circles of a commercial enterprise, he continues, is not always above all reproach, and only the liveliest critical cooperation on the part of the rank and file of the profession and its leaders is able to confer the greatest attainable sense of security. The rough stones discovered by commercial enterprise are valueless when accepted with blind confidence; the stone does not reveal its possible value until after it has been polished up under the polishing powder of the sense of responsibility on the part of physicians.

What we need above all, Heubner declares, is a skeptical attitude of mind during the experimental stage of new drugs. *Was uns not tut, ist Zweifel.*

109. **Physicians' Lack of Judgment in Regard to New Drugs.**—Heubner refers to the unfavorable criticism to which he was subjected when he protested against supplying reprints for manufacturers to use as propaganda literature for their products. (His article on the subject was summarized in THE JOURNAL, July 30, 1910, p. 446.) His critics stated that physicians would not be led astray by advertising literature, and that the average physician must certainly be credited with sufficient power of judgment to recognize that the new drugs commended to his attention are still in the experimental stage. In view of this unfavorable criticism, he rejoices when others take a similar stand with him, and he quotes from the "Pocket Book of Treatment" by R. W. Leftwich, which was reviewed in THE JOURNAL, April 15, 1911, page 1129. Heubner also cites Zabel's report and comment on a case of poisoning from purgen, laying great stress on the evils of overproduction. The flood of new drugs is so great that physicians feel helpless as they are overwhelmed by this flood, and seem to make no effort for critical judgment of any of the drugs. This overproduction is, Heubner thinks, one of the most important causes of this wide-spread absence of critical judgment, which is such a great lack in our medical culture. The very burdening of the memory with so many names impresses on the physician a feeling of his own inadequacy, and this crushes out of him the inner power for energetic critical resistance.

In reality, Heubner continues, there is not such a vast number of different actions or of effectual substances; it is merely the names of the drugs and their combinations or forms which pile up in such numbers. But the *action* of the drugs is what the physician is interested in, while the many names serve only for commercial purposes. Against his will the physician is thus compelled to master all this extraneous matter which has really nothing to do with his practice, and which he learns only at the cost of what is fundamentally important for him. For all his ideas of the comparatively few and simple pharmacologic processes become tangled up in inextricable confusion.

Besides all this, it must not be forgotten that it is an easier and much simpler matter to produce a new effectual molecule than to determine the superior advantages of this new molecule in therapeutics. Consequently, many, many more new drugs are produced than are really thoroughly tested as to their therapeutic action. But what the physician wants to know is only those substances which offer most decided and positive advantages over those with which he is already acquainted. Most of the drugs which are lauded as new, have some therapeutic action, but it is no better than that of the old and tried drugs.

In this the manufacturing chemists make a mistake; they needlessly burden the physician with new drugs which do not possess absolutely certain superior therapeutic advantages, while they cumber the memory with many unnecessary new names. It follows, as a matter of course, that this must gradually breed a certain apathy. Why was it necessary to inflict another arbitrary name on veronal-natrium, for instance? Pantopon, he remarks, was not accepted by the Council on Pharmacy and Chemistry of the American Medical Association, because the name did not suggest the presence of morphin. He adds that the correctness of this stand on the part of the Council is shown by Haymann's two articles on pantopon; in the first Haymann stated that pantopon did not have a tendency to induce habituation, which statement he retracted in the second article.

Heubner also gives the molecular formulas for six of the newer proprietaries, showing the close resemblance between the members of the group, while nothing in the name would suggest this. This similar constitution causes very similar action by them all; he thinks that it might even be asserted that the difference between the action of the various drugs in this group, administered to a single person, would be less than the difference between the action of a single one of the drugs given to different persons. But on account of this minute difference, the physician must burden his memory with six entirely different names. It is certainly for the interests of the medical profession, Heubner concludes, to be a little more backward in accepting the offerings of the manufacturing chemists. (Heubner has also published recently a breezy article telling his compatriots about the work of the Council on Pharmacy and Chemistry; it was reviewed in THE JOURNAL, April 5, 1911, p. 1155.)

Wiener klinische Wochenschrift, Vienna

June 1, XXIV, No. 22, pp. 775-810

110 *Dependence of Motor Functioning of the Intestines on the Motor and Secretory Behavior of the Stomach. S. Jonas.
111 *Differential Diagnosis from Cerebrospinal Fluid. (Das Verhalten des Reduktionsindex in der normalen und pathologischen Zerebrospinalflüssigkeit.) M. Lateiner.
112 Improved Radium-Holder. (Ueber St. Joachimsthaler Radiumträger.) F. Dautwitz.

June 8, No. 23, pp. 811-850

113 Experimental Research on Kidney Functioning. A. Katz and R. Lichtenstern.
114 Treatment of Wounds and Fractures. H. Ehrlich.
115 Digitalis Gelatine. (Ueber Digitalisleim—Gelina Digitalis.) M. Herz.
116 The Typhoid Epidemic at Hermannstadt. K. Ungar.

110. **The Motor Functioning of the Intestine in Relation to the Motor and Secretory Conditions of the Stomach.**—Jonas tabulates the findings in thirty-eight cases of gastro-intestinal disturbances, his conclusions being that there is no special connection between the degree of acidity of the stomach and the motor functioning of the intestines, but that any obstruction to the evacuation of the stomach has a proportional retarding influence on the passing of the contents through the intestine. Even when the motor functioning of the intestine is normal elsewhere, if the rectum has lost its sensitiveness, stool will accumulate there and the clinical picture of constipation be presented, although in reality conditions are normal except in the rectum. Jonas found the motility of the intestine always parallel to that of the stomach, that is, intestinal hypermotility seems to be the rule, at least in the upper segment, in cases of achylia, nervous hypermotility of the stomach and ulcer and sometimes with intestinal catarrh.

111. **Differential Diagnosis from Cerebrospinal Fluid.**—Lateiner gives the details of the application of Mayerhofer's reducing reaction in twenty-nine cases of certain or suspected meningitis. (Mayerhofer's technic was described in THE JOURNAL, June 11, 1910, p. 2009.) The findings compared with the course of the cases confirms the diagnostic importance of the reaction, particularly when the findings are negative. Repetition of the test in dubious cases generally cleared up the diagnosis.

Zentralblatt für Chirurgie, Leipsic

June 3, XXXVIII, No. 22, pp. 757-788

117 Isolated Relaxation of Right Abdominal Wall with Recurring Appendicitis. (Eine bisher nicht beachtete Erscheinung bei sich wiederholenden Appendicitisanfällen.) N. Wolkowitsch.
118 Movable Cecum and Appendicitis. (Coecum mobile, fixierte Appendix, Perityphlitis.) P. Sick.
119 Technic for Suturing Intestine. (Zur Technik der Darmnaht nach Schmieden.) W. Kausch.

Zentralblatt für Gynäkologie, Leipsic

June 3, XXXV, No. 22, pp. 801-832

120 Pathology of Fetal Hydrops. (Zur Pathologie des Hydrops foetus universalis.) F. Lieven and G. C. Nyhoff.
121 *Hypophysis Extract to Promote Labor. (Hypophysenextrakt als Wehenmittel.) J. Pfeifer.

June 10, No. 23, pp. 833-856

122 Puerperal Inversion of the Uterus. Nacke.
123 Vagitus Uterinus. W. v. Streit.

121. **Hypophysis Extract to Promote Labor.**—In the case reported by Pfeifer the primipara in the difficult breech presentation showed signs of pregnancy nephritis, ischuria, amaurosis and anasarca. No benefit was derived from quinin and ergot, and hypophysis extract was injected the third day on account of persisting ischuria and the delivery was forcibly completed with great difficulty. After a few hours of improvement the patient succumbed to the uremia. In future, Pfeifer remarks, he will reserve the hypophysis treatment for normal parturients.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 4, XXXII, No. 67, pp. 707-722

124 *Sea Bathing in Gynecology. L. M. Bossi.
125 Iodin Sterilization of Skin. (La disinfezione della cute col metodo Grossich.) C. Rinaldo.

June 6, No. 68, pp. 723-730

126 *Autoplastic Operation on Femoral Artery. C. Mantelli.

124. **Sea Bathing in Gynecology.**—Bossi has been much impressed with the therapeutic action of systematic sea bathing in the mild Italian climate in all chronic gynecologic affections, especially with fibromyomas, chronic endometritis, displacement with adhesions, defective puerperal involution and chronic inflammation in the genitalia. He insists on medical supervision and on the necessity for utilizing better the medical thermal and physical measures and combating the abuse of mutilating operations. In this line, Bossi adds, gynecologic thalassotherapy is one of the most effectual means with which Nature has endowed us.

126. **Autoplastic Operation on Femoral Artery.**—Mantelli's patient was a man of about 41 with sarcoma of the hip; 5 cm. of the femoral artery and vein had to be resected in removing the growth. The vein was ligated, and a segment cut from the central stump was used to bridge the gap in the artery. The autoplastic operation was done by Carrel's technic and with the best results. Mantelli says that it is the fifth case of the kind on record and the third in which the outcome was entirely satisfactory.

Policlinico, Rome

May 28, XVIII, No. 22, pp. 681-712

127 *Importance of Acetonuria in Gynecology. (Sul valore della ricerca dell'acetone nelle orine in chirurgia ginecologica.) O. Paleani.
128 Influenzal Alveolar Polyarthritis Aborted with Diphtheria Antitoxin. C. Palazzo.
129 Uterine Fever. L. M. Bossi and L. Stropeni.

June 4, No. 23, pp. 713-744

130 Intestinal Hemorrhage in Typhoid. (Per lo studio dell'enterorragia nel tifo.) L. Fornaca.
131 Obstetric Version. R. de Seigneux.

May, Surgical Section, No. 5, pp. 193-240

132 Septicemic Sporotrichosis. C. Antonio.
133 Changes in the Blood in Ether and Chloroform Anesthesia. (Le modificazioni morfologiche del sangue nella narcosi eterea e nella cloronarcosi.) A. Poggiolini. Commenced in No. 4.

127. **Acetonuria in Gynecology.**—Paleani ascribes the acetonuria following hemorrhage to reabsorption of the blood. The findings may be negative even with extensive internal hemorrhage if the blood is not being absorbed. In two cases of ruptured tubal pregnancy with great internal hemorrhage, the findings were negative until after the operation, while they were positive almost at once in a case of ruptured pyohematosalpinx with acute purulent peritonitis. Conditions favored absorption of the blood and acetone promptly appeared in the urine. The patient died but another recovered with practically the same findings except that the peritonitis had preceded the rupture and adhesions walled off the contents of the tube when it burst.

Riforma Medica, Naples

June 5, XXVII, No. 23, pp. 617-644

134 *Improved Technic for Determination of Negri Bodies. A. Martiri.
135 Case of Persisting Botallo's Foramen. (Considerazioni cliniche ed anatomo-pathologiche sopra un caso di morbo ceruleo.) U. Gasperini.

134. **Determination of the Negri Bodies.**—Martiri states that since the technic described has been adopted the positive findings have jumped from 31 to 95 per cent. The nerve tissue is mixed to a paste with glycerin and treated with a small amount of marine blue and eosin. This shows up the Negri bodies rapidly, and the stains keep well.

Hygiea, Stockholm

May, LXXIII, No. 5, pp. 513-672

136 *Practical Importance of the Wassermann Reaction in Syphilis. K. Marcus. Commenced in No. 3.
137 *Capillary Test of Acidity of Gastric Juice. (Kapillaranalys af magsaft.) I. Holmgren.

136. **The Practical Importance of the Wassermann Reaction in Syphilis.**—Marcus concludes his long monograph on this subject with the statement that a positive Wassermann reaction during a latent period should be regarded and treated as a symptom of syphilis. It indicates active syphilis. A negative reaction in itself has no significance, but in connection with other circumstances may aid in throwing light on the case under special conditions. The Wassermann reaction should not be accepted as a guide for the course of treatment as a whole. It is better to conduct the treatment according to the Fournier-Neisser-Welander principle. Marcus adds parenthetically that the time is not yet ripe for a decisive opinion on salvarsan in this respect. Mercurial treatment has a regular and decided action on the Wassermann reaction. The article is accompanied by thirty pages of international bibliography on the Wassermann reaction, with the original titles.

137. **Capillary Test for Gastric Acidity.**—Holmgren's blotting-paper test was described in The Journal, March 18, 1911, page 857. He here gives parallel findings in fifty-four cases with this and other tests, all confirming its reliability.

Norsk Magazin for Lægevidenskaben, Christiania

June, LXXII, No. 6, pp. 625-732

138 *Actinomycosis in Norway. F. Harbitz and N. Grøndahl.
139 *Fatal Benzol Poisoning from Siderosthen. (Død ved benzolforgiftning ved smurning av en septic tank med "siderosthen.") N. W. Oxholm.
140 Bismuth Does Not Neutralize Acidity of the Stomach. (Er Subnitras bismuthicus et syremaettende middel?) P. W. K. Bøckman.
141 Two Cases of Rupture of Spleen from Contusion. (Ruptur av milten.) H. Wille.
142 Arthrodesis of Ankle by Implanted Nail Cut from Fibula. (Arthrodese med benkile ved pes paralyticus.) H. Wille.
143 Improved Technic for Iridotasis for Glaucoma. J. Borthen.

138. **Actinomycosis in Norway.**—Harbitz and Grøndahl discuss the prevalence, the pathologic anatomy and the bacteriology of actinomycosis with a report of eighty-seven cases, accompanied by four colored plates. Their experiences with serotherapy were not very encouraging but they justify further trials of the method and research to discover some specific serodiagnosis.

139. **Benzol Poisoning.**—A man was wiping out the inside of a septic tank with a proprietary used for the purpose, called siderosthen, when he collapsed and died soon after being removed from the tank. The substance contained benzol and Oxholm ascribes the fatality to this, reviewing what has been written on benzol in the literature. Schmidt-Nielsen has recently reported a case of poisoning from benzol fumes, emphasizing the importance of ample ventilation when benzol in any form is used in manufacturing.

Ugeskrift for Læger, Copenhagen

May 11, LXXIII, No. 19, pp. 663-710

144 *Two Cases of Pulmonary Syphilis. C. E. Jensen.

144. **Pulmonary Syphilis.**—Jensen's first patient was a girl of 6 who was under treatment for an apical process for eighteen months after operative treatment of a tedious suppuration on the left side of the nose, supposed to be of a tuberculous nature although the microscope failed to confirm this assumption. There was no history of syphilis or tuberculosis in the family. The physical signs of mischief at the left apex were accompanied by slight evening temperature but there was no sputum. The Pirquet reaction, however, was negative, while the Wassermann reaction proved positive, and under antisyphilitic treatment the child soon was restored to health. The temperature became permanently normal three weeks after commencing the inunctions and iodid. The Wassermann test applied to the parents elicited a positive response in the mother alone. The congenital syphilis had evidently induced a chronic pneumonic process at the apex and checked the physical development of the child which took a turn for the better at once under the specific treatment. The second patient was a healthy young woman who contracted syphilis at the age of 25 and the disease ran a severe course with a tendency to repeated suppuration in spite of vigorous specific treatment. About eighteen months after the infection, the middle lobe of the right lung showed signs of infiltration and fever developed with great impairment of the general health. Under mercury and iodid the symptoms retrogressed but returned two years later, subsiding anew under another specific course of treatment. In both cases the distressing paroxysmal cough was not accompanied by expectoration. The localization of the process in the middle lobe on one side also spoke for syphilis; Grandidier has reported that in twenty-seven of thirty cases of pulmonary syphilis he found on record the lesion was located in the middle lobe of the right lung.

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ANIMAL EXPERIMENTATION IN RELATION TO EPIDEMIC CEREBROSPINAL MENINGITIS *

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Epidemic meningitis, or, as the disease is often termed, cerebrospinal meningitis, is caused by a peculiar microorganism, *Diplococcus intracellularis* or meningococcus, that gains entrance to the membranes surrounding the brain and spinal cord, where it sets up an inflammation that terminates in death, or, when life is spared, in many instances, in paralysis, imbecility or some other serious condition. Epidemic meningitis, in the past, had been abhorred alike by the laity and the medical profession. To the one it brought consternation by reason of its apparently mysterious onset as well as its terrible effects; and to the other, distress because of helplessness in dealing with so malignant a disease. Now, happily, the situation is wholly changed. Mystery no longer attends the appearance of the disease, and the discovery of a specific method of treatment has brought the malady within the power of medical control. This revolution has been accomplished through the discovery of the specific microorganism or germ which causes the disease,[1] the manner in which this germ leaves an infected to enter a healthy body,[2] where it sets up the disease, and, particularly, by the discovery, through animal experimentation, of a curative product, the so-called antimeningitis serum.[3]

It would be a mistake to suppose that epidemic meningitis prevails only in the form of epidemics, properly speaking. Indeed, we know that the epidemics represent special manifestations of the disease and that an isolated or so-called sporadic form of the same disease constantly prevails in many parts of the world. The disease is kept alive through these isolated cases and the epidemics arise from them, as a result of certain fortuitous circumstances, of which only a part are at present understood.

Within a decade, the epidemics of meningitis have become more frequent than they were for a period of a quarter of a century or longer before. In the past, the epidemics received the name of "spotted fever," from the circumstance that a hemorrhagic eruption of the skin often attends the disease. The discovery of the germ cause of the disease was made less than a quarter of a century ago, and it has been now demonstrated, beyond all doubt, that this germ is responsible for the epidemic as well as for the sporadic cases of the disease. The renewed intensive studies of meningitis, with the aid of animal experimentation and all the laboratory appliances produced by modern bacteriology that have characterized the period of prevalence of this last epidemic, have shown the manner of infection and thus have pointed the way to the application of preventive measures, and have furnished as well the specific and highly effective therapeutic weapon for its cure.

HOW THE PROBLEM OF FINDING A CURE FOR EPIDEMIC MENINGITIS WAS SOLVED

It cannot be regarded as remarkable, in view of the appalling mortality and the severe consequences of the disease, and of the absence of all really efficient means of combating it, that an effort should have been made to influence its course by means of an antiserum. At the present state of our knowledge concerning the immunization of animals with bacteria, it could be predicted that the employment of cultures of *Diplococcus intracellularis* for immunization purposes would lead to the development of an antiserum of some degree of potency, but whether this antiserum would prove of any value in the treatment of epidemic meningitis in human beings obviously could not be foreseen.

In carrying into practice the idea of the employment of an antiserum, two methods of proceeding were available. The antiserum could be produced and then applied empirically in the treatment of the disease, or an experimental basis might first be sought, on which the employment of the antiserum in man might ultimately come to be based. The first, or empirical method, as a matter of fact, was followed to a large extent in Germany,[3] while the second, or experimental method, was employed in the United States.[3] How important this difference came to be is indicated by the fact that the early results of the serum treatment of epidemic meningitis as reported from Germany, where the serum was employed chiefly by subcutaneous injection, were so unsatisfactory and unpromising that it is not likely that the serum would have come to be generally employed with confidence;[3] while, on the other hand, the experimental establishment of the value of the antiserum in controlling experimental meningitis produced in monkeys, when the serum was injected directly into the membranes surrounding the brain and spinal cord, as was done in America by

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* This paper is Pamphlet XXI of the series intended for circulation among the public, prepared for and reprinted by the Bureau on Defense of Medical Research of the Council on Health and Public Instruction of the American Medical Association. Twenty-one of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live-stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, syphilis, obstetrics, etc. A price-list will be sent on application.

1. Weichselbaum: Fortschr. d. Med., 1887, v, 622.

2. Goodwin and Scholly: Jour. Infect. Dis., 1906, Supplement No. 2, p. 21. Flügge: Klin. Jahrb., 1906, xv, 353. Flexner: Jour. Exper. Med., 1907, ix, 142.

3. Flexner: THE JOURNAL A. M. A., 1906, xlvii, 560; Jour. Exper. Med., 1907, ix, 168. Jochmann: Deutsch. med. Wchnschr., 1906, xxxii, 788. Wassermann: Deutsch. med. Wchnschr., 1907, xxxiii, 1585. Schoene: Die Therapie der Gegenwart, 1909, xlviii, 52. Flexner and Jobling: Jour. Exper. Med., 1908, x, 141-690. Flexner: THE JOURNAL A. M. A., Oct. 30, 1909, p. 1443; Internat. Clin., 1909, Series 19, iv.

Flexner,[3] supplied the actual basis on which the successful serum treatment of epidemic meningitis in man has come to rest.

It is desirable here to recall that the injection of living cultures of *Diplococcus intracellularis* into the serous cavities of small animals, such as mice, guinea-pigs, and rabbits, leads to an intoxication and rarely to an infection causing their death.[4] The experimental effects thus produced are highly dissimilar to the lesions present in the natural disease in man. As a consequence, the mere combating of this experimental disease by means of an antiserum could not afford an adequate support for the employment of the antiserum in man. Early in his experiments, Dr. Flexner found it possible to produce in certain species of lower monkeys, among which *Macacus rhesus* was shown to be well adapted, an acute inflammation of the meninges, or meningitis, by the direct injection of active cultures into the subdural space of the spinal cord, after which there develop the lesions and sometimes the symptoms corresponding to those present in the natural disease in man (Flexner[4]). This being true, it is a fair assumption that if the antiserum is capable of controlling such an infection, its favorable action in the natural disease in man might be fairly predicted. This fact became an important basis for the employment of the antimeningitis serum in the natural infection with *Diplococcus intracellularis,* constituting epidemic meningitis in human beings.

In working out the properties of the antimeningitis serum, experimentally produced, the important fact was discovered that the serum possesses both direct and indirect power of destroying the meningococci. In common with normal serum, but in a far greater degree, it exercises direct bactericidal effect on cultures of the meningococcus. This influence depends in considerable part on the degree of concentration in which the serum meets the bacteria. Weak dilutions of the serum exercise little or no effect, while strong concentrations have a marked injurious action. Now, this necessary degree of concentration of the serum at the site of multiplication of the diplococci can fortunately be secured by injecting the curative agent directly into the membranes about the spinal cord and brain through so-called lumbar puncture, in which a needle is introduced directly into the spinal canal. The serum thus introduced needs to be applied to the site of the inflammation in a state of strong concentration. If the serum be injected beneath the skin or into the blood with a view of having it carried to the site of the disease, it suffers, first, an enormous dilution, and, secondly, fails to reach the site of inflammation in any considerable amount, for the reason that substances contained within the blood are eliminated very imperfectly into the cerebrospinal fluid.[5] As already pointed out, the mistake made by the German school followed on a lack of clear understanding of the essential principles underlying the action of the antiserum, which they failed to perceive because their employment of the serum was empirical, while, in America, the employment was based directly on the facts brought out by animal experimentation.

There is another point which should not be overlooked in considering the problem with which experimenters were confronted in the production of a curative antimeningitis serum. Once it was established not only that such a serum could be produced in animals, but also that it was capable of modifying favorably the course of experimental meningitis in monkeys, it became imperative to ascertain whether the serum injected into the membranes of the central nervous system exercised any injurious action on the adjacent sensitive nerve structures themselves. It would have been a hazardous undertaking to begin the injection by lumbar puncture of the antiserum into human beings, had it not been proved that repeated injections carried out in animals were without injurious effect. This fact was established by the successful treatment of experimental meningitis in the monkey by means of the antiserum, for the injections into the membranes arrested the inflammatory processes and destroyed the diplococci, so that the animals quickly returned to a normal condition, while no perceptible injurious effect resulted from the serum itself.

At this point, a strictly experimental basis had been secured for the employment in human beings of an antiserum in the treatment of epidemic meningitis. There remained to be determined, however, whether this antiserum was capable of being produced on a sufficiently large scale to make it available for the treatment of human beings during the prevalence of epidemics of the disease. The earlier experimental work was carried on with small animals, but it became necessary now to turn to larger animals for the purpose of producing adequate supplies of the serum. The horse was the animal chosen, for the reason that its serum is in itself practically innocuous when injected into human beings; and because it yields a large amount of blood readily. It was quickly ascertained that the horse was subject to immunization with cultures of *Diplococcus intracellularis* and would, through successive inoculations and after a time, yield an antiserum of high potency. The method of preparation of the antiserum consists in the injection alternately of cultures of *Diplococcus intracellularis* and an extract soluble in water prepared from the cultures. The animals are, at the beginning of the treatment, highly susceptible to the effects of the injection of the diplococcus, so that it has been found well to employ, first, cultures which have been killed by heat at 60 C., and, later, when the animal has adapted itself to the injections and developed resistance, to resort to the living bacteria. In order to secure a serum rich in the curative or the so-called immunity principles, it was found advisable to continue the process of immunization from four to six months before collecting serum for therapeutic use.

If we undertake to summarize the manner of action of the antimeningitis serum in combating epidemic meningitis, we may say (a) that it possesses the power of acting directly on, and inhibiting the growth of, or of destroying outright, the meningococcus; (b) that it possesses the property of increasing phagocytosis and promoting intracellular digestion of the diplococcus, through which the latter is at the same time detoxicated; and (c) that it exerts a certain neutralizing action on the soluble toxic products set free by the growth and by the disintegration of the meningococci (Flexner[3]).

THE TREATMENT OF EPIDEMIC MENINGITIS IN HUMAN BEINGS WITH THE SERUM

The antiserum had now been perfected. It had also been employed to cure experimental meningitis in monkeys. It had proved to be free of injurious effects when injected directly into the spinal canal of these animals. The question that now pressed was, Would it succeed in curing epidemic meningitis in human beings, and could it be injected with safety into the spinal canal of man?

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[4] Flexner: Jour. Exper. Med., 1907, ix, 105.

[5] Flexner and Jobling: Jour. Exper. Med., 1908, x, 141; idem, p. 690.

The first opportunity to test the antimeningitis serum in human beings in the United States occurred in April, 1907. The publication of the effects of the serum in controlling experimental meningitis in monkeys led Dr. Crile,[6] of Cleveland, to bring to the attention of Dr. Flexner the fact of the prevalence of an epidemic of meningitis in the village of Castalia, Ohio. This epidemic, which was followed later by other epidemics of the disease elsewhere in Ohio, supplied the first opportunity to test the serum on human beings. The serum was first entrusted to Dr. L. W. Ladd,[7] of Cleveland, who proceeded to Castalia and made the first injections of the serum. Since the experiment now to be performed was of such significance, it assumed a dramatic character. To give some indication of the circumstances under which the serum was first applied in human beings, it should be stated that the village of Castalia has a population of about 600 persons, and that there developed there and in the country adjacent eighteen recognized cases of epidemic meningitis between January and April, 1907. Eleven of the eighteen cases were in adults and seven in children. Among the eighteen cases, there were twelve deaths and six recoveries. Among the latter, there were three recoveries without serum treatment. In all, three cases only were injected with the serum and all recovered. The serum was brought to Castalia in the early part of April at about the time that the epidemic was abating and new cases ceasing to arise. No conclusion, beyond the one that the injection of the serum into the spinal canal was itself not a source of danger in human beings, could be drawn from this small experience.

Epidemic meningitis appeared at Akron, Ohio, in April, 1907,[8] and embraced about twenty cases. Of these twenty cases, in nine the serum was not administered, either because they occurred before the antiserum was brought to Akron, or for other reasons. Among these nine cases, there was a single recovery. In contrast to this appalling result is the fact that in eleven cases of the disease, established as such by symptoms and bacteriologic examination, and treated with the antiserum, eight patients recovered and only three died. The epidemic continued to extend in Ohio, and appeared at Cleveland and then at still other points, so that now the serum began to be applied immediately as the disease arose. In each locality, however, certain patients were not subjected to the serum treatment and could be compared as controls with the cases which were treated with the serum. On the whole, the results were consistent. Without exception, more patients recovered under the influence of the serum treatment than without it.

The testimony of physicians very early was to the effect that the antiserum not only reduced the mortality, but that it exercised a highly favorable influence on the symptoms, course, manner of termination, and liability to relapse, of the disease. Besides the obvious effects on the clinical course of the disease, the serum also produces a marked and readily demonstrable beneficial influence on the inflammation existing in the membranes of the spinal cord and brain. It has now been shown that very soon after the intraspinal injection of the serum, the meningococci tend to be reduced in number in the inflammatory exudate, to disappear from its fluid parts, to be taken up partly or wholly by leukocytes, and to undergo disintegration. One of the striking effects of the serum injections is so to injure the meningococci that their cultivation outside the body is rendered difficult or impossible. Along with the destructive action of the antiserum on the meningococci go certain favorable changes in the inflammatory exudate through which it loses turbidity and tends to become clear. Closely associated with the loss of leukocytes by the cerebrospinal exudate, which attends its return to a limpid condition, is the reduction in the number of the general leukocytes of the blood, which, in favorable cases going on to recovery, fall rapidly and even critically in number (Flexner and Jobling[3]).

Dr. Flexner and his associate, Dr. Jobling, who gathered the first considerable list of cases treated with the serum, believed that their first publication, which included reports of about one hundred cases, was based on too small a number to justify any final deduction as to the value of the serum. Epidemic meningitis, in the meantime, continued to invade new territory in the United States, and to prevail in various localities abroad, so that additional data were being constantly secured concerning the action of the serum.

I will select a highly interesting and important example, which will serve to bring out the striking effects of the serum. Epidemic meningitis had begun to prevail severely in Ireland in 1907. One of the worst centers of the epidemic was Belfast, where a large number of patients with the disease came under the care of Dr. Robb,[9] who was the physician in charge of the important fever hospitals. His report on the disease states that in the first eight months of 1907, 255 patients were admitted to the hospital, among whom the mortality was 72 per cent. Within the last three months of this period, 45 patients were admitted, and this group showed a mortality of 82 per cent. In September of that year, the use of the antiserum, which had been obtained from the Rockefeller Institute, was begun. The first report deals with thirty patients treated in hospital with the serum, of whom twenty-two recovered and eight died, giving a mortality of 26 per cent. In the precise corresponding period, thirty-four patients were treated outside of hospital and received no serum, among whom the mortality was 85 per cent. The marked reduction in the mortality is not the only effect which Dr. Robb attributes to the serum. He points out that the clinical course of the disease is profoundly modified, and that in the patients treated with the serum, the period of illness is reduced, the long chronic course is practically eliminated, and the serious permanent consequences are greatly diminished. The highly favorable effects of the serum, which Robb emphasizes, constituted by no means a unique experience. The earliest observers in this country, and notably Chase and Hunt and Dunn,[10] dwelt on practically the same points. In the large number of reports which have appeared in print in the meantime a virtual corroboration of these early favorable observations has been presented.

THE EFFECT OF THE SERUM TREATMENT ON MORTALITY STATISTICS

Let us consider the influence of the serum treatment of epidemic cerebrospinal meningitis on the mortality of the disease as indicated by a statistical computation. In order to arrive at statistics which are strictly reliable, it is necessary to take into account only the cases in which the diagnosis has been established beyond peradventure. The establishment of the diagnosis is based partly on the clinical symptoms, but chiefly on the bacteriologic examination of the fluid removed by lumbar puncture from the cerebrospinal canal. Ultimately, the bacteriologic diagnosis is the more important, for the reason that, as we now know, other types of infectious meningitis may arise occasionally in the course of the epidemic disease, and the two are subject to confusion.[11] Moreover, when the clinical symptoms are alone utilized as a basis of diagnosis, there is always the possibility of confusing diseases not strictly due to inflammation of the meninges with epidemic meningitis.

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[6] Neufeld: Med. Klin., 1908, ii, 1341. Jobling: Jour. Exper. Med., 1909, xi, 614.
[7] Ladd: THE JOURNAL A. M. A., 1908, li, 1315.
[8] Chase and Hunt: Arch. Int. Med., 1908, i, 294.
[9] Robb: Brit. Med. Jour., 1908, i, 382; ii, 1341.
[10] Dunn: THE JOURNAL A. M. A., 1908, li, 15. For method of administration see Boston Med. and Surg. Jour., 1908, clix, 743.

In recognition of these possible sources of error, Flexner and Jobling[3] collated the reports of the disease from many different sources in America and Europe, basing their figures on cases in which the bacteriologic diagnosis was established. They found that the mortality reached by the disease during the height of the epidemics in the United States, Great Britain and Germany, was fairly the same and approximated 75 per cent. It is interesting in this connection to learn that the mortality of the sporadic form of the disease, as it has prevailed for the last few years in the United States, has not been considerably below 75 per cent., and it has sometimes been higher. If we consider the extremes of mortality occurring in non-serum-treated cases of cerebrospinal meningitis, proved to be caused by the meningococcus, we shall find that the figures range from about 68 per cent. to about 91 per cent. In his latest publication, Flexner[3] has subjected to analysis 712 cases of bacteriologically proved epidemic meningitis, in which the serum had been employed. This series of cases included all ages and periods of life, from infants a few weeks old to adults of advanced years. The collection has been made from a wide area, including the United States, Canada, Great Britain and France, so that it covers a wide variety of cases of the disease treated by practitioners generally, some of whom had had no previous experience with the use of the serum, and others who had used it in several scores of cases. Moreover, the serum had been applied at all stages in the course of the disease, namely, very early and very late after the appearance of the symptoms, and even toward the end of chronic cases. Consequently, in considering the value of the serum, it is desirable to take into account not only the gross mortality, but also the mortality as calculated according to the ages of the patients and the period of the disease at its first application. Epidemic meningitis is not equally fatal at all periods of life. Thus, in the very young the mortality tends to be very high, and in infants approximates 90 per cent. to 100 per cent. The disease is less fatal in older children and in young adults.

In the 712 cases analyzed, 488 patients recovered and 224 died, giving a gross mortality of 31.4 per cent. If we consider the important age groups, as they are known to affect the mortality, we shall find that among children from one to two years of age, of whom 104 cases were included in the tabulation, the mortality was 42.3 per cent. This figure represents an obvious great reduction, since, as has been stated, epidemic meningitis among infants of such tender ages has terminated fatally in the past almost invariably. Of the age groups between 2 and 15 years, there were 326 cases included in the tabulation, among which the mortality was 23.4 per cent. After the fifteenth year, the mortality, as represented by the tabulation, rises and exceeds 30 per cent. It would seem, therefore, that the most favorable period for the action of the serum, or for the favorable progress of the disease, is a certain middle period between infancy and adult life; but this immediate deduction is not justified for the reason that other factors must obviously be considered, such as the period of the disease at which the serum treatment was begun and the degree of effectiveness in the use of the serum which experience supplies.

Let us consider what the figures become when we analyze the 712 cases mentioned, according to whether the treatment with the serum was begun early or late in the course of the disease. We may choose, arbitrarily, as periods the first three days, the second three days and, then, any time later than the latter. Analyzed in this way, it found that 180 patients were injected with the serum within the first three days of illness, according to the clinical histories supplied, among whom the mortality was 25.3 per cent. In the second period, which extended from the fourth to the seventh day of the illness, shown by the clinical signs, 179 patients were injected, in whom the gross mortality was 27.8 per cent. Now, 129 patients were injected later than the seventh day of the disease, among whom the mortality rose to 42.1 per cent. These total figures indicate unmistakably that early serum injections are more effective than the later ones, which fact has an important bearing on our conclusions concerning the value of the serum. Moreover, if we should pick out one or two especially striking examples from the tabulation, the results become even more impressive. For example, seventeen children ranging in age from a few weeks to 2 years were injected with the serum in the first three days of illness, of whom only a single one died and sixteen recovered. This result is altogether extraordinary, when it is considered that in this period of life the usual mortality of the disease approaches 100 per cent. It is not probable that such a favorable result can be generally achieved, but that it could be achieved at all is a fact not without profound significance.

It was mentioned that the tabulation showed that in the age period beyond twenty years the mortality was higher than at the earlier periods. It is desirable to ascertain, therefore, whether adults really are, as would appear to be the case, less resistant to the infection or less subject to the action of the serum than younger individuals. Some light is shed on this question by the examination of the results of the serum treatment among adults, observed by those whose experience with the serum has been great enough to make it probable that they would obtain the maximum advantages which its use affords. The reports of such experienced observers as Ladd, Dunn, Sladen and Fulton[12] in the United States, Robb of Belfast, and Netter[13] of Paris, go to show that adults are not less subject to the curative action of the serum than are younger persons. Among the 712 cases are records of sixty cases occurring among adults and treated with the serum by these experienced physicians that, for all periods of the disease, show a gross mortality of 30 per cent. The largest single series of patients of this age period was treated by Robb. It embraced twenty-four cases, in which only four patients died, giving a mortality of 17 per cent.

I wish now to reproduce a tabulation (Table 1) compiled by Flexner,[3] which exhibits the prevailing mortality of epidemic meningitis in America, Great Britain.

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[11] Dunn: Am. Jour. Dis. Child., 1911, i, 95.

[12] For American and foreign bibliography consult Flexner, Internat. Clin., 1909, iv, series 19; also Schepelmann, Wien. klin. Wchnschr., 1911, xxiv, 118.

[13] Netter: Bull. de l'Acad. de méd., séance du 27 Juillet, 1909; Assn. française de pédiatrie, 1910.

Germany and France, according as the patients were or were not treated with the antimeningitis serum. The table has not been brought up to date, so that it does not include the latest American and Parisian figures. But it still suffices to impress its lesson.

TABLE 1.—REPORTED SERIES OF PATIENTS TREATED WITH THE ANTIMENINGITIS SERUM AND THE MORTALITY AMONG NON-SERUM-TREATED PATIENTS

By Whom Reported.	Number of Serum-Treated Patients.	Per Cent. Mortality.	Per Cent. of Mortality of Patients Non-Serum Treated.
AMERICA			
Dunn *	40	22.5	70
Chase and Hunt *	12	25	90
Sladen *	23	13	64
Fulton *	22	31	78.4
Koplik *	15	13.3	60
Ladd *	31	35.5	?
Morgan & Wilkinson *	10	30	?
GREAT BRITAIN			
Robb *	90	30	75
Ker *	30	43	80
GERMANY			
Krohne †	59	40.6	66
Schoene ‡	30	27	53
Levy †	23	21.7	78
Többen †	29	34	56
FRANCE			
Netter *	50	18	83

* Flexner serum employed.
† Wassermann serum employed.
‡ Jochmann serum employed.

I have pointed out that one of the striking facts that speak for the value of the serum treatment is its greater efficiency when it is applied early in the course of the disease. How great the difference in effect is, according as the serum is applied early or late, is shown by the next tabulation (Table 2), which is taken from a recent report of Dopter.[15] He adopts the classification introduced by Flexner and Jobling, and considers the cases as they have come under the serum treatment in the three arbitrary periods discussed in a previous section. It should be remarked that Netter's figures are based on cases treated in Paris with the serum prepared at the Rockefeller Institute, while Dopter's figures are based on cases treated in France with the serum which he prepares at the Pasteur Institute.

TABLE 2.—MORTALITY IN EPIDEMIC MENINGITIS UNDER SERUM TREATMENT: CASES ANALYZED ACCORDING TO PERIOD OF INJECTION

Period of Injection.	Flexner.	Netter.	Dopter.
First to third day	14.9%	7.14%	8.20%
Fourth to seventh day	22.0%	11.1 %	14.4 %
Later than seventh day	36.4%	23.5 %	24.1 %

The influence of age on the fatality of epidemic meningitis has already been alluded to, so that it becomes important to ascertain to what extent this factor can be eliminated through the specific serum treatment. Undoubtedly, increasing experience with the use of the serum is tending to remove the great differences hitherto observed; and the extent to which the age factor is being set aside is well shown by Table 3, taken also from Dopter's[15] last report. In interpreting this table, account should be taken of the fact that the epidemic of meningitis in France is the latest to have appeared in Europe and set in at a time when increasing experience elsewhere had shown the most effective way of administering the serum. This is probably the reason why Netter's and Dopter's figures are the best yet secured. That the epidemic was of average severity is shown by the mortality in non-serum-treated patients, which approximated 70 per cent.

TABLE 3.—GROSS PERCENTAGE MORTALITY IN EPIDEMIC MENINGITIS UNDER SERUM TREATMENT, CASES ANALYZED ACCORDING TO AGE OF PATIENTS

	Reported by		
Age Groups.	Flexner*	Netter†	Dopter‡
Under one year	50.0%	50.0%	48.6%
One to two years	42.1%	0.0% §	20.1%
Two to five years	23.5%	16.6%	9.3%
Five to ten years	11.4%	12.5%	8.5%
Ten to twenty years	23.8%	0.0% ¶	10.2%
Above twenty years	26.4%	0.0% ¶	14.1%

* Rockefeller Institute serum administered by practitioners generally.
† Rockefeller Institute serum administered by Professor Netter.
‡ Pasteur Institute serum. Manner of administration not stated.
§ Six cases.
¶ Eight cases.

I wish now to present a bit of personal evidence in the form of a chart based on the cases of epidemic cerebrospinal meningitis, in which the patients have been admitted to the Children's Hospital in Boston since the year 1900. The average number of patients treated each year in the hospital is twenty. Up to the year 1907, a variety of modes of treatment were employed without accomplishing any real effect in diminishing the fatality of the disease. When the serum treatment was introduced in 1907, the mortality was at its height, that is, at about 80 per cent. The sudden decrease in mortality attributable to the serum treatment is shown in the sharp drop in the curve and its continuation, with minor fluctuations, at this low level.

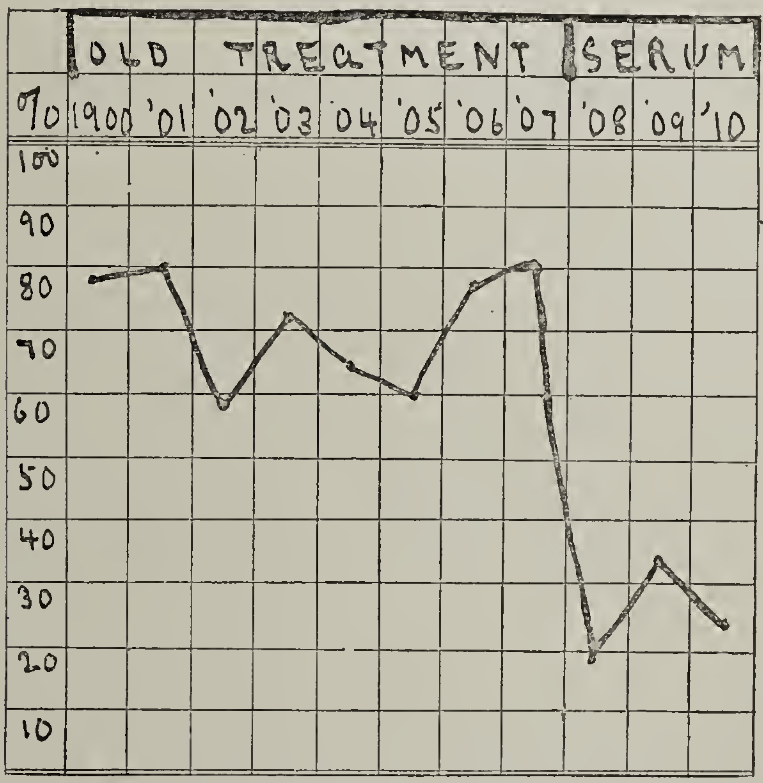

Chart showing the mortality from epidemic cerebrospinal meningitis at the Children's Hospital in Boston before and after the use of the serum treatment, during the eleven years since the diagnosis has been regularly confirmed by bacteriologic examination of the cerebrospinal fluid. The serum treatment was begun after Nov. 1, 1907. Each year shown in the chart is taken as beginning November 1 of the preceding calendar year.

ATTENUATION OF THE SYMPTOMS

There is still another way in which the favorable action of the serum is disclosed, namely, in respect to the effects produced on the symptoms, course, duration, manner of termination and permanent consequences of the disease. In discussing this topic, I shall draw largely on my personal experience with more than 100 patients treated with the serum, and I shall also supplement my observations with extracts from the experience of others I have been able, up to this time, to subject only eighty of the cases to exact analysis from the present point of view; but I can state that the remaining twenty cases showed the same general effects.

I regard the favorable influence of the serum on the general condition and symptoms of the patients as the most impressive immediate phenomenon. It often happened that within twenty-four hours there was a permanent return to consciousness, disappearance of the mental dulness or delirium, removal of the racking headache, relief of the hyperesthesia and control of the vomiting—all very distressing symptoms that accompany severe infections. To see patients pass within twenty-four hours, after one or two injections of the serum, from a state of great distress and unconsciousness to one of almost normal mentality is something the impressiveness of which is not easily to be overestimated.

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[15] Dopter: Ann. de l'Inst. Pasteur, 1910, xxiv, 96.

Not every patient responds in this rapid manner to the application of the serum. Some patients who recover show a more gradual improvement in condition and symptoms; and still others, and particularly those in the late chronic cases, fail entirely to respond. The effects that are the slowest to yield are rigidity of the neck and Kernig's sign. Children in every other way normal may, at times, be observed playing in the ward while still having the neck retracted and yielding Kernig's sign. In Table 4 I have assembled and analyzed the eighty cases according to the manner of improvement.

TABLE 4.—MANNER OF IMPROVEMENT IN SERUM-TREATED CASES

Immediate and marked	34 cases
Immediate and slight	14 cases
Immediate and temporary	7 cases
Slow improvement	15 cases
No improvement	10 cases

We find, therefore, that the influence of the serum on the symptoms of epidemic meningitis coincides with the effects exerted on the local inflammatory exudate and the viability of the meningococci. In all but a few resistant cases, the diplococci are quickly rendered incapable of multiplication and the inflammatory process is arrested and brought to rapid resolution.

Another striking effect is on the course of the disease. The average period of duration of cases going on to recovery may be gathered from the calculation of Holt, based on the New York epidemic of 1905-6. Holt[16] states that in 350 patients who recovered before the serum was perfected, the disease endured one week or less in 3 per cent., and five weeks or longer in 50 per cent. These figures are to be contrasted with those of Flexner and Jobling,[3] who found that in 288 serum-treated patients the active symptoms persisted on the averages eleven days after the first injection.

The action on the manner of termination of the disease is also striking. Epidemic meningitis rarely terminates spontaneously by crisis. Indeed, the disease is better characterized as an infection tending to a fatal termination, or to a prolonged course and frequent relapses. Recovery when it occurs tends to be gradual or by lysis and almost never abrupt or by crisis. Yet in 275 serum-treated patients whose cases were analyzed by Flexner and Jobling,[3] the symptoms disappeared by lysis in 200 and by crisis in seventy-three. Hence, it can be concluded that about 25 per cent. of patients recovering under the influence of the serum do so by crisis. Robb, Dunn, Netter, Dopter and others have all observed and dwelt on the amelioration of the symptoms brought about by the serum treatment.

RARITY OF PERMANENT SEQUELÆ

The serious permanent effects of epidemic meningitis are chiefly deafness, blindness, paralysis and idiocy. It is necessary to consider to what degree these blighting results of the disease are affected by the serum treatment.

Flexner and Jobling[3] were the first to point out the infrequency with which serious consequences followed on the epidemic disease when patients were treated with the serum. Since then, and as larger and larger series of cases have come to be reported, other authors have emphasized the same fact, and notably Netter.[17] The serving consequences are of two kinds: one temporary, although persisting for some weeks or months; among these are lesions of the joints and partial deafness. Ultimately they disappear. The others are permanent, and include deafness, blindness, paralysis, etc. The joint affections can themselves be influenced by the serum treatment, since some of them are caused by secondary localizations of the meningococci in the joints, causing suppurative inflammation, which can be terminated, as Ladd[7] and later Netter[17] have shown, by direct injection of the antimeningitis serum into the inflamed part.

CONCLUSIONS

The published reports on the action of the antimeningitis serum leave no doubt of its value in the treatment of epidemic meningitis. No one can read the conservative report of Flexner and Jobling,[3] who regarded 400 cases as too few on which to base a final decision of the value of the serum, or the reports by many physicians based on observations at the bedside, without being convinced that this severe and pathetic disease has been largely conquered by means of specific serum-therapy. Those who were spared the pain of attending the disease before the days of the serum treatment cannot well imagine how hopeless was the outlook presented to the physician and how helpless he felt in the presence of this malignant malady; and it is, therefore, almost equally difficult to appreciate, by contrast, what a boon it now is to have at command this powerful remedy. How all this has been accomplished cannot fail to interest all those who are concerned with the conquest of disease. The steps of the achievement I have endeavored to trace in the first part of this paper. The benign result was accomplished by scientific investigations, carried out logically, step by step, and directed toward the definite end of finding a cure for epidemic meningitis. We owe this cure entirely to animal experimentation, for it was through experiments on animals that the additions to our knowledge regarding this difficult problem were won, which culminated in the finding of the curative serum, and thus in the control, to a great extent, of the disease.

It can scarcely be questioned whether this scientific investigation was worth while, or whether the benefit accruing to humanity outweighs the sacrifice of the score of monkeys which contributed to the final result. In estimating the cost of the achievement, the fact should not be lost sight of that while the experimental part of the work leading to the discovery of the antimeningitis serum need never be repeated, the saving of human misery and of human lives, through the application of the serum, will go on indefinitely until such time as by the rigid application of hygienic preventive measures, many of which still remain to be discovered, epidemic meningitis is eradicated from the world.

The antimeningitis serum was kept under control by the Rockefeller Institute for more than three years while its action was being subjected to the closest clinical scrutiny, during which time it was being supplied gratis to hospitals all over the world. The control has just been relinquished and its preparation and distribution turned over to health authorities and private individuals. This action has been dictated by the consideration that the value of the serum as a curative agency is no longer under discussion, but has been established by as rigid clinical tests, carried out in many countries, as could well be devised.

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[16] Holt: Brit. Med. Jour., 1908, ii, 1336.

[17] Netter: Bull. et mém. Soc. méd. d. hôp. de Paris, 1910, p. 131.

We may, therefore, conclude with Dr. Flexner,[3] who, in his last report embracing 712 cases of epidemic meningitis, in which the patients were treated with the serum, says:

> In view of the various considerations presented, the conclusion may be drawn that the antimeningitis serum, when used by the subdural method of injection, in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing, in large measure, the chronic lesions and types of the infection; of bringing about complete restoration of health, in all but a very small number of the recovered, thus lessening the serious, deforming and permanent consequences of meningitis; and of greatly diminishing the fatalities due to the disease.

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THE OPTOMETRY QUESTION AND THE LARGER ISSUE BEHIND IT *

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Before they were appreciated as an agency for the prevention and cure of disease, glasses had been used for five hundred years. The optical properties of lenses and of the eye had been worked out by physicists, Galileo, Keppler, Gauss, Brewster and others. Skilled opticians had met every demand made on them to correct the optical deficiencies of the organ of vision. Yet only a small minority of elderly people put back the limitations of age by wearing spectacles for reading. Perhaps one myope in fifty had extended his range of vision by concave lenses. The royal astronomer at Cambridge, England, and a philosophic clergyman in New York, with the help of a Philadelphia optician, had worked out corrections for their own astigmatism.

Meanwhile Milton, Eulenberg and many other scholars went blind from eye-strain. Pepys, at the age of 37, laid aside his inimitable diary, giving up a hopeless struggle with hyperopia, and preparing for blindness which never came, though he lived thirty years afterward. Educated Germany grew largely myopic, and the great mass of suffering from eye-strain and disability caused by ametropia went wholly unrelieved.

But sixty years ago a trained physiologist and physician, Donders, became interested in the optical defects of the eye. Other men trained in medicine took up the subject—Snellen, Knapp, Dyer, Weir Mitchell and their successors. The influence of errors of refraction and their correction was seen from a new point of view, and the use of spectacles was enormously extended. To-day more lenses are worn for correction of eye defects in a single city than were used sixty years ago in the whole world.

From the imperfections of the human eye that disqualify it for meeting the requirements of modern life, and the ability to give relief by properly chosen lenses, there has developed a great industry engaged in supplying the mechanical aids to vision, and a great opportunity for professional service in bringing to each individual the peculiar assistance required. As in the opening up of any new field of activity, men have rushed into this one to exploit the opportunities here offered. Among the medical profession a certain number have appreciated this field for service, and the rewards for such service. On the other hand, among those who approached it from the non-medical, the mechanical and commercial sides, many have perceived its richness. Each party has pushed forward, proclaiming its superior right, by priority and fitness, to the field in question, like prospectors in a new mining camp. In this way has arisen the optometry question, which now seems to be reaching its most acute stage.

In discussing this question two important facts should be kept in view.

1. The process of estimating the refractive condition of the eye is a distinct technical process. It is as different from a chemical analysis, a microscopic examination, a physical exploration of the chest, a skilful combination of drugs, or a capital operation on the brain or abdomen, as these are different from one another. Ability to measure the refraction of the eye is no more to be presupposed from ability to do these other things than is ability to remove a brain tumor to be presupposed from a possession of skill in chemical analysis.

2. Errors of refraction and their measurement are of general interest because of their broad general influence on health. Until this influence was recognized the economic importance of spectacles, or of their adaptation to the eye, was insignificant. All attempts to escape this relation of glass-fitting to health, and to the departures from it that constitute disease, will fail. Bearing in mind these two facts, the special character of the process of measuring the refraction of the eye, which may well entitle it to a distinctive name—optometry, and the clear inclusion of optometry within the circle of the healing arts, let us look at the present situation with regard to it.

THE OPTOMETRY LIE

In twenty-six states of this country and three provinces of Canada there are so-called "optometry laws." All of them are based on the supposition that the practice of optometry is actually and properly something apart from the practice of medicine. They assume that a person may be qualified to practice optometry who possesses but a superficial and theoretic knowledge of the eye, and who is ignorant of the structure, workings, and diseases of all other parts of the body. Let us discuss the subject on the basis of this theory, ignoring for the time the practice which, under each of these laws, has conferred the advertising advantages of a state license on all who have been engaged for a certain period in the optical business, without even such limited knowledge as these laws assume to be necessary.

The most able and brilliant champion of this theory of optometry, recognized as such by optical associations and journals, Mr. C. F. Prentice, president of the State Optometry Board of New York, has recently put forth a challenge to the editors of the medical journals. It includes seventeen statements, which he calls "tersely stated truths." These so nearly express the thoughts and claims of optometrists in general that some of the maxims have been adopted as mottos to be displayed on buttons at their optical meetings, in their advertising, and in the campaigns before the legislatures.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The first of these statements is "Physics is not physic." This is one of those epigrams, containing the literal, insignificant truth, which best serves to hide the larger falsehood implied in the use made of it. The words "physics" and "physic" are derivatives of the same Greek root, with history and meaning in common. They have become differentiated, the one to mean the science or sciences of the phenomena associated with matter in general, the other to mean the application of the resources of the material world to the relief of disease and suffering. Physics, like chemistry, may be so applied in the service of "physic" or medicine; indeed, to refuse the aid of physics to medicine would be as absurd as to deny medicine the aid of chemistry. The shaping of a lens, according to the laws of optics, belongs no more peculiarly to physics than does the shaping of a brace or splint; and either may be as true and legitimate a curative agent as a serum or a drug.

The second of these "tersely stated truths" is, "A lens is not a pill." No, it is not a pill; neither is a pill a hypodermic syringe, or a clinical thermometer, or a stethoscope, or a collyrium, or an operating-knife. But a lens, like all of these, may be used to prevent or cure disease or relieve suffering. Neither the lens nor the pill are of general interest simply because they are solids of a certain limited size, specific gravity, or color. They are of general interest because they may be made to prevent or cure disease or relieve suffering; because they are efficient means of accomplishing what men in general desire to accomplish. And for this reason they have equal claims to recognition in the armamentarium of those who practice the healing art.

Then Mr. Prentice goes on, (3) "A lens treats light"; (4) "A lens does not treat disease." The lens itself exerts the same influence on light in the engineer's transit, the astronomer's telescope, the microscope, the opera glass, or the photographic camera. In each of these uses of the lens some men are interested. But the general important interest that has thrust the optometry question into the arena of heated discussion and legislative action is the application of the lens to the relief of suffering or the treatment and prevention of disease.. So when Mr. Prentice goes on to say (5) that "Optometry is not medical science," and (6) that "Optometry is founded on optical science," he has put himself pretty fairly in opposition to the facts he is trying to deal with.

Using the term "medical" in the broader sense in which it is generally used, and which every intelligent man understands, he would be far nearer the truth if he were to say that optometry is only a part of medical science. Optometry is the application of optical science to the purposes of medical science. But enough has been said to show the basis of independence and separation from medicine on which optometrists have claimed, and to some extent have secured, recognition as a distinct pseudo-profession.

To illustrate the falsehood of that claim one does not need to go beyond their own utterances. In the same number of the *Optical Journal and Review* from which Mr. Prentice's challenge has been quoted, I find in the first article what purports to be a statement of the permanent action of atropin on the accommodative function, "which our friends the oculists have not noticed." There is a paragraph as to diagnosing disease by the iris, which takes seriously a scheme of quackery that has arisen in Germany. For changes in the refraction of a case it is editorially suggested, "Possibly there is some pathogenic condition within the retinal blood-vessels which has caused them to swell at times." And for eyes that see print of different sizes, "It looks very much like a pathologic condition of the eye whereby the rods and cones are being forced apart, perhaps by some growth behind them." The address of Mr. Parsons before this Section last year is quoted *in extenso.* Of course, the medical opinions in any way adverse to the use of cycloplegics are paraded as completely settling the practical question of the use or non-use of those drugs. One of the articles is headed, "The Cooperation of the Patient"; and another, "How to Please your Patient"—not "customers" or "clients," but "patients," the term always used as correlative of physician or surgeon. One correspondent urges that the optometrists "should be allowed to use all means in order to make a proper diagnosis." "With a two or three years' course in a reputable college, optometrists will easily master the pharmacal, clinical, and therapeutic value of the very few drugs necessary in eye work." Another correspondent discusses the physiologic action of atropin, making comparisons with that of alcohol. It is not surprising also to find here that the Rhode Island Society of Optometry has decided, "that optometrists are justified in using the title of doctor, that it is a benefit to them from a commercial standpoint, and that it tends to elevate the profession."

The favorite definition of optometry in the laws relating to it is: "the employment of any means other than the use of drugs, for the measurement of the powers of vision and the adaptation of lenses for the aid thereof." Some of the laws require examinations in the anatomy and physiology of the eye. Others leave the scope of the examination entirely to the Board of Examiners. The discussions in the societies of optometrists and their advertisements show keen appreciation of the medical bearings of their work.

In their actions, which speak far louder than the words in which they plead for special legislation, the optometrists show that they understand that optometry, as they wish to develop it and practice it, is a part of the general practice of medicine. In their argument for the legal recognition they desire, they quote as a pertinent conclusive predecent, the profession of dentistry and its legal status; and when they do this they raise the true question, the greater issue behind optometry.

SHALL THERE BE ONE OR SEVERAL PROFESSIONS OF MEDICINE?

This is the question that is facing, not only the ophthalmologist, but equally the whole medical profession and the public. No true profession will ever be permanently established on the narrow basis on which optometry legislation has been advocated. The measurement and correction of errors of refraction for the relief of symptoms will be associated with a knowledge of symptoms, and of the causes of symptoms, as well as of the general knowledge of the structure and functions, of the organs in which these symptoms arise, and of the application of other means to their relief.

In deciding whether it would be better that the body of workers engaged in the practice of different branches of the healing art should be divided among separate professional bodies, or if it would be better to have them in the specialized groups of a single profession, with common educational requirements, professional associations and ideals, the precedent of dentistry will have an important influence. It is generally admitted by the leaders of professional thought among the dentists, and by those who have given attention to the organization of the medical profession, that the separation between medicine and dentistry is to-day too wide for the best interests of either profession, or of the general public. Physicians should know more of dental pathology; dentists should know more of medicine. Dental organizations are endeavoring to raise the educational requirements for their profession more nearly to those of the medical profession. The recognition of dentistry as a specialty of medicine in our national medical organizations, especially in the Section on Stomatology of the American Medical Association, seems to indicate that the need and advisability of a profession of dentistry, as a separate profession apart from medicine, is by no means established.

It cannot be denied that dentistry as a separate profession has shown a remarkable development, and has accomplished great results in the prevention and cure of disease and the relief of suffering. It is better to have dentistry as a separate profession than not to have it at all. And to achieve its present development in the period in which it has developed, it may have been necessary that it should free itself from the trammels that might have been placed upon it by the leaders in the medical profession, who were not sufficiently informed or interested with regard to its needs to render it any valuable assistance.

But in this respect the case of ophthalmology is quite a different one. The development of ophthalmology has been somewhat hindered by the professor who insisted that he could teach all it was necessary to know of diseases of the eye in two of his surgical lectures; and by the men who, as students, listened to such inadequate presentation of the subject, and who now as leaders and seniors in the medical profession fail to appreciate either the extent or the practical value of ophthalmic science. But even in the particular branch of optometry development has been wholly within the medical profession, from Helmholtz and Donders to George T. Stevens and George M. Gould, the advances in optometry, and even the popularizing of it have been the work of men within the medical profession.

The optical journals to-day mix their articles on lens-grinding, frame-fitting, window-dressing, and newspaper advertising with quotations of all articles written by members of the medical profession bearing on optometry. The medical journals are still the chief source of this part of their literature, which is supplemented by articles written by men of medical education who find their chief sources for practice and revenue among the optometrists. Only since they started out to convince the legislatures that optometry was physics and not physic, have these journals begun to call on professors of physics for statements of those laws and facts of optics which have an established place in the annals of mathematical science alongside the propositions of Euclid. The books which are advertised to the optometrist and which he is advised to study have either been written by members of the medical profession, or paraphrased from standard works by the older authorities on ophthalmology. This specialty, which has arisen within the lines of medical practice, cannot fairly be compared with dentistry of outside origin.

In another aspect of practical importance optometry differs from dentistry. The dentist can find full employment and an adequate income in the service of a comparatively few people. As one of them has put it, he has thirty-two patients in each mouth. Few people who take care of themselves can go more than a year without spending some time in the dentist's chair. A dentist may have plenty of work though his reputation reaches but a very few hundred people. On the other hand, the oculist may have loyal patients, and render them every service they need, and yet several years may elapse between their visits. If his work is confined strictly to the specialty of ophthalmology, he will be kept busy, and command a fair income, only when he is known by reputation to thousands. Deprive the oculist of the opportunity of becoming known through the recommendation of those who are practicing other branches of medicine, and it would be difficult for him to achieve a full practice without resorting to the methods of modern newspaper advertising. Separate ophthalmology from the other branches of medicine, and the self-praising newspaper advertiser would be placed at a distinct advantage.

But the important reason that ophthalmology should remain a recognized branch of general medicine is that the eye has most intimate relations with other important organs; and in its structure presents, readily accessible to observation, specimens of the more important general tissues of the whole body. Its lesions are samples of the changes which general morbid processes work elsewhere. They furnish the evidence of changes in other organs of the highest importance in general diagnosis. They are to be successfully combated by general remedies, diet, change of climate, internal medication, vaccine, and serum-therapy, as well as by local measures. The close connection with ophthalmology is as important to both general medicine and surgery as is that connection of each with the other, the ignoring of which, as pointed out by Clifford Allbutt and others, caused the sterile centuries of medical history.

WHAT IS TO BE DONE?

In view of the fact that optometry is a part of medical science and art that will not and cannot be dissociated from the diagnosis and treatment of non-refractive defects and diseases of the eye; in view of the fact that it is very important that those who practice ophthalmology should be trained in general medicine, and should continue within the medical profession in close association with those who practice other branches of the healing art: what should be done with regard to the present agitation for the recognition of optometry as a separate profession?

The attempt to ignore that agitation is folly, but mere opposition, the determination to "stand pat," is almost equally fatuous. If the optometrists are able to convince the public and the legislatures that laws are needed to protect the eyes of the people from the doings of optical fakers, mere opposition to any and every law on the subject places the medical profession in a false and indefensible position. If something is proposed as a measure to protect the public health, it is not for those who claim the right to advise on all such matters merely to oppose, while themselves suggesting nothing. It is more consistent, more public-spirited, and more effective, to endeavor so to modify legislation as to make it supplement and support the laws now enforced with reference to medical practice.

Every optometry law hereafter enacted or amended should be made to draw a sharp distinction between the license to fit glasses, and the license to practice medicine. In limiting the operations of optical fakers, it must not overlook those fakers who desire to use the word "doctor" for the purpose of confusing the public as to the training and fitness of the man who has studied only "physics" and not "physic." The simple insertion of a clause like the following, taken from the bill before the last session of the Colorado legislature, would rob optometry laws of most of their power for evil.

> "Nothing in this act shall be construed to apply to persons licensed to practice medicine in this state, or to give any person the right to attach the title M.D., surgeon, doctor, physician, oculist, ophthalmologist, eye-specialist, doctor of refraction, doctor of ophthalmology, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects, or injuries of the human eye, or to use drugs or medicine in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

No doubt such a clause would diminish the attractiveness of a license for "optometry"; and in the end might prevent the development of that pseudo-profession of which some optometrists dream. It would strictly confine the advantages of the license to the comparatively few intelligent, well-trained opticians, who wish only to work at the measurement of refractive errors and the fitting of glasses. The existence of such a class will never seriously endanger the public health, or interfere with the normal development of ophthalmology as a medical specialty.

But the most important thing the medical profession has to do is to provide for the adequate teaching of ophthalmology, including optometry, in the medical schools; to meet the needs of the practitioner of other branches of medicine, and to build up a definite class of practitioners especially trained to recognize and treat the defects and disorders of the eye. It is the failure properly to perform this duty toward the public that is responsible for the optometry question, and the larger issue of a division in the medical profession. Ophthalmology can be learned without special schools or systematic courses of teaching. Medicine and surgery were so learned by apprenticeship for hundreds of years. But the apprentice system is gone from medicine, as it is gone from the mechanic arts. As matters stand now, the graduate, after a scanty introduction to ophthalmology in the medical school, is permitted to pick up ophthalmic knowledge and skill here and there, from desultory reading, by study of chance cases, in the unsystematized clinics of postgraduate schools, from the courses of self-constituted teachers, and by a partial return to the apprentice system through assistantship in the eye clinic or private office.

This has made ophthalmologists of apt students, sufficiently conscientious to persist in the effort to obtain knowledge under difficulties. But it has also created a large number of fakers within the profession—men who pose as specialists before colleagues slightly less informed than themselves, and before the still more ignorant general public. This system, which is a lack of system, has not met the legitimate needs of the profession, or the best requirements of the public. The feeling that although a physician's license to practice gives the privilege of ophthalmic practice, it does not guarantee any fitness for such practice, has led the public to be ready to look for ophthalmic advice outside the profession as well as in it.

The establishment of the degree of Doctor of Ophthalmology, and of the course leading to that degree, in the University of Oxford points to a practical way of meeting the need of the profession and the public for some authentic evidence of fitness to practice ophthalmology. The offering of such a degree, based on requirements of graduation in medicine and evidence of special acquaintance with ophthalmic science and art, by a few of our better American universities would sweep away the false conditions, the lie in medical education, out of which the optometry question has grown. There can be no better time than to-day, and no better place than the Section on Ophthalmology of the American Medical Association for starting a demand on the part of the medical profession for the adequate teaching of ophthalmology in all well-equipped, efficient schools of medicine.

530 Metropolitan Building.

ABSTRACT OF DISCUSSION

At the conclusion of his paper Dr. Jackson offered the following resolutions and moved their adoption:

Whereas, A thorough preparation for ophthalmic practice requires the study of certain subjects not demanded of the candidate for the degree of doctor of medicine,

Resolved, That the American Medical Association, through its Section on Ophthalmology and its House of Delegates, expresses the desire that at an early date courses in ophthalmology requiring previous graduation in medicine and one year's work in an accredited ophthalmic hospital and dispensary service shall be established in each medical school possessing the necessary facilities.

Resolved, That the Council on Medical Education is hereby requested to consider the curriculum for such a course.

These resolutions after discussion were unanimously approved by the Section and by the House of Delegates.

Dr. W. E. Lambert, New York: The passage of the optometry law in New York was due to the indifference of the profession at large, and to certain unfortunate conditions as to representatives of the ophthalmologists in Albany at the time the opposition was made to this law. I happened at the time the law was passed to be chairman of the Academy of Medicine of New York and of the New York Ophthalmological Society, and also on the committee on legislation of the County Medical Society. So that I went to Albany with this committee and endeavored to oppose the passage of this bill, without any success, and the reason for it was that we had no support from the profession at large, and very little even from our colleagues in ophthalmology. I therefore think that one of the first and most important things to do in opposing this thing is to educate our fellow doctors as to the evils and dangers of optometry; that the treating of errors of refraction and ocular diseases should be done by those having a medical education. It is surprising how many medical men in New York City refer their headache cases to the opticians. One optician had a list of 500 physicians who send their patients to him for glasses. A reputable physician in New York took his patient himself to one of these optometrists to have his eyes treated. This patient came under my care subsequently. He had albuminuric retinitis and died in one year. The New York Ophthalmological Society was lukewarm on the subject until recently, when they were stirred up by the action of Columbia University in establishing a course in optometry in their course of extension teaching. This was established without the knowledge of the medical faculty, and in the circular advertising the course they called attention to the "new profession of optometry established by this course in Optometry in Columbia University." The optical journals were full of this. They were advertising themselves as pseudo-ophthalmologists, claiming the privilege of calling themselves doctors when they had a certificate from Columbia. The New York Ophthalmological Society took the matter up. I was a member of the committee from that society, as were Dr. Knapp and Dr. Thompson, and it was brought before the county society. We sent out a circular to the well-known ophthalmologists in the city asking them to send us a list of cases in which serious diseases had been overlooked, but treated by glasses. In reply to this we received a list of fifty or sixty cases of glaucoma, tumors and other diseases. We presented the report to the New York Ophthalmological first and protested against the establishment of this course in Columbia, and were authorized to bring the matter before President Butler. He said he was not familiar with the situation himself and would ask that Professor Egbert be present. Dr. Egbert called on me and tried to persuade me that they were compelled to do this, that pressure had been brought to bear on them in Albany. It was simply to provide a route whereby men could be educated sufficiently to conform to the law of the state which had created this class of gentlemen calling themselves optometrists. However, I saw very plainly that he had been converted to the ideas of the optometrists, the chief disciple persuading Egbert that they were right, or other means had been employed, and the thing to do was to take it to President Butler. Dr. Thompson presented the subject to him. The result is that while they have not decided to withdraw the course they have modified it so that it will not be particularly objectionable, withdrawing the word "optometry." It has been a very serious handicap to the opposition.

Dr. Sherman Voorhees, Elmira: Last winter I prepared a letter to the profession about my city, some 500 or 600 men. I set out the status of the opticians and what harm this New York law had worked, and also stated to them that many physicians, as Dr. Lambert has said, were sending their patients to the opticians, or optometrists. The replies which I got to that letter were very gratifying. I think it did a great deal of good. I was not aware that the letter would fall into the hands of the committee of the A. M. A., but it did, through Dr. Thorington of the Pennsylvania society. I believe it would be a good plan for the ophthalmologists to call the attention of the physicians personally to the working of this law. We are troubled terribly in our locality with the optometrists. They do a great deal of damage. I think I have operated three times for glaucoma in the past year in cases in which the optometrist told the patient his eyes would be all right and that he could cure him. After he got accustomed to the glasses vision would return. There is one thing that catches the medical profession and the people alike. The optometrists tell the people that if there is anything the matter with their eyes they will send them to the ophthalmologist, but as we know, many diseases of the eyes cause no local manifestations.

Dr. W. H. Roberts, Pasadena: We are face to face with a real condition and I think as physicians we might call it a diseased condition, and that is this: The untrained physician has no business to refract. The untrained physician has no business to do eye work. I have seen some refracting just as poor, if not poorer, coming out of the offices of untrained physicians, as out of the offices of the optometrists. I am unalterably opposed to their doing this work. But if the medical profession are going to take this work out of the hands of the optometrists and put it into their own hands, where it rightfully belongs, they must raise their own standards. I am heartily in accord, therefore, with this resolution that a graduate degree should be required of all men doing eye work and that nobody in the profession should be permitted to do optical work of any description without having the degree called for in this resolution. If we are going to change this state of affairs we have got to begin with the profession. I do not believe the attempt to alter public opinion or the opinion of legislators is going to help matters. The disease is in the profession itself and if we are going to change this we have got to cure the disease.

Dr. F. Park Lewis, Buffalo: We might just as well face things as they are. We are never going to get rid of optometry, existing as it does, by simply opposing it. I think if we were to get together the record of the bad work of the untrained doctors it would at least very nearly equal that coming from the optometrists. I believe Dr. Jackson has struck the root of the matter. The legislators assume that we have personal reasons for our opposition, and until we can raise our own standards—limit the practice of ophthalmology to those who are trained in ophthalmology—by the adoption of a degree or some estimate by which there can be assurance that ophthalmologists are qualified, we are going to have optometrists and they are going to be recognized by the states. I do not believe there is any other way but by establishing a differential degree that will give us control of the most important part of ophthalmology—refraction.

Dr. J. A. Donovan, Butte, Mont.: I have had several letters during the last year asking why our governor endorsed the optometry law in Montana. The state of Montana has a law granting the title, doctor of optometry. It has already been mentioned that the bill was not a compromise, but a trade. The physicians who introduced the bill simply made a trade with the friends of the optometrists that if they would support the amendment to the medical practice act the physicians would support the other bill. We had already been pledged in the legislature to support this bill and we were practically bound to do so. There is one thing about the resolution as it stands. We are already kicking about too many medical schools, and I believe the resolution should be a little more specific on what the qualifications should be. I would be in favor of sending it back to the committee to make the recommendations more specific and more explicit as to qualifications and as to schools. As it stands I am inclined to think there would be a number of schools springing up and that we may not be accomplishing much. With that single exception I am heartily in favor of this resolution.

Dr. Melville Black, Denver: I want most heartily to second this resolution of Dr. Jackson. I think as far as the objections raised by the last speaker are concerned there will be no trouble. In the first place, any school which is qualified to confer a medical degree would be qualified to take up this postgraduate work. New schools could not spring up at the present time for the reason that it is becoming more and more difficult to obtain qualifications to confer the medical degree. The degree of Doctor of Ophthalmology, we hope, will be conferred in Colorado within the next year by the University of Colorado. We hope to have this course in full operation during the coming summer, so that we will be able to give you more detailed information with regard to it a little later on, but it seems to me the only intelligent way to meet this situation. They are putting it right straight up to us and we must meet it. Otherwise we are not capable of showing wherein the medical man is better able to do these things than the optician.

Dr. M. W. Ward, Woodland, Cal.: The state of California is one of the oldest states that has worn the yoke of optometry, and more than that, an ophthalmologist sat in our governor's chair and signed that bill. Dr. Pardee, one of our members, sat in the governor's chair and signed the bill that makes this kind of legislation in California the oldest in the United States. That shows about how much interest the ophthalmologists in the state of California have in this question. A few years after that the American Medical Association took this up and had committees appointed in the different states to have something done to arouse the ophthalmologists along this line. I received a communication that Dr. Ellis and myself were appointed on the committee in this state. We chose Dr. Ferguson as the representative in the legislature to do this work. He was not an ophthalmologist, but he was an effective man before the legislature. But nothing was done. This law was passed and we have been living under it about six years. The optometrists call themselves doctors and the laity call them doctors. They are crowded out after an education of about four weeks, while we have to take four to seven years, but we are all before the public in the same light. As I say, California has worn this yoke as long as any state in the Union for the simple reason that we will not do anything and we look to the other states to arouse a sentiment on this subject and see that ophthalmology means something beside fitting eyes with glasses.

Dr. H. S. Miles, Bridgeport, Conn.: We were greatly aided in our state by Dr. Bossidy of the committee on optometry and if there are states that have not laws I would advise the assistance of Dr. Bossidy. A great many ophthalmologists sell glasses. This should not be. It is no part of the physician's work. I think if we do it we lose somewhat the respect of the patient, the optician and ourselves.

Dr. Hiram Woods, Baltimore: Dr. Black says that it will not be long before they will be ready in Colorado to confer the degree of Doctor of Ophthalmology. That is exactly the degree a number of these quacks are disporting themselves with in the East, and they buy a diploma from various schools for $25 after a six weeks' course. Doctor of Ophthalmology is the term they use; I have seen it in print. I opposed one of them in the legislature last year. We had a close call in Maryland a year ago. A doctor from Baltimore, a professor of obstetrics, was approached by the opticians and convinced that this thing was an advance in education. He introduced the bill and the night after its introduction he walked into the University Club, where four or five oculists were discussing it. They convinced him of the iniquity of it and the following morning he presented the amusing spectacle of opposing his own bill and of trying during the rest of the session to defeat it. Then the opticians sent out cards all over the state asking physicians whether they endorsed this bill to set up a standard of education for opticians. They got from 500 to 600 replies from physicians saying they did endorse it. A lot of these, of course, found they were in the wrong, and others asked what they should do about it, and it brought out some opposition. During the hearings when we were trying to convince the committee of the legislature that spectacle fitting was a part of medicine, one question was asked by a committeeman of an optician: "Do you know how to fit glasses?" The optician said, "We are the specialists to whom these things can be referred by the general practitioner." On this statement it was reported favorably and it passed the house because it had medical endorsement. It passed the senate because certain politicians traded it for something else, and afterward it was vetoed, largely through the personal influence and work of Dr. William H. Welch, who took the matter up and persuaded the governor of its wrongfulness. In Maryland the State Medical Society has taken it up, and if there is any future fight on the subject it will be done through the medical organizations.

This brings up one question: If there could be written by such men as Edward Jackson, Dr. Thompson and others a clear and concise, brief paper which would appeal to the laity, to the average legislator, presenting in a way that a layman could understand the fact that ophthalmology is a part of medicine, and that spectacle fitting is a part of ophthalmology, with reference to the general health, it would go a long way toward helping the situation. The average legislator is too busy to read large reports. About four pages issued by a special committee of this Section that would appeal to the comprehension of a layman would go a long ways. They do not want to encourage quackery. They simply do not know. We are wanting in the kind of literature that will appeal to the men we are dealing with. That was the difficulty we were laboring under in Maryland last year. I do not know where such literature exists, but I do believe it would be an enormous help to us in our future fights.

Dr. S. L. Ledbetter, Birmingham: Alabama passed a bill providing for an optometry board but the governor sat down on it. He said optometry, as he conceived it, was a mere matter of fitting glasses and was not a profession. Now, the way we propose to get at that in Alabama, to prevent the further spread of this infection, is to limit and describe the things that belong to medicine and then enact laws regulating the practice of medicine, so that anything that impinges on these lines will be an infringement of the practice of medicine. Anything that would take up the study of anatomy and physiology, as the optometrists propose to do, would be an infringement on the study of medicine, and by making a medical law which would include these subjects it would prevent them from putting these features into their bills. As I conceive it the only way we can shut them off is to include in medicine the things the optometrists want to take up.

Dr. J. H. McLeod, Santa Rosa, Cal.: I cannot see how we are going to be benefited by extending an evil that already exists by passing it on and putting it into the hands of every general practitioner. According to the view of the member who introduced the resolution you are going to empower every man who practices medicine by a diploma to go forth and do the very thing the optometrists are doing. I believe if the same energy were expended in educating the general practitioner to send patients to the proper source, and if the general public were educated to go to the proper source, you would do more good. It means an extension of the present evil. The general practitioner has no time to practice ophthalmology and will not study the subject. With a little information he will attempt to do a great deal. Educated people are not going to the optometrists as they formerly did, and they can be educated to go to the oculist instead of to the optician.

Dr. Edward Jackson, Denver: I should like to ask the last speaker what privilege he or I, or anybody else in this Section, has that is not in the hands of every practitioner of medicine as to practice before the law or before the people. The idea here is to create a distinct class, and if all do not belong to that distinct class of ophthalmologists, distinguished by a special education, at least enough will belong to that class to bring it home to the general practitioner of medicine that it is to this class that his patients should be referred. I can conceive of no better educational work in the general profession than this of establishing a special course. Bear in mind with reference to this special course that is proposed that it is based on the complete medical course. It is a postgraduate course, including not less than one year—not six weeks or three months or six months—in some postgraduate school. It contemplates coming before university examiners and passing a special examination; university examiners who examine for the other postgraduate degrees in the university, sustaining a very definite standard. For instance, in the University of Colorado we propose to grant the degree of Doctor of Ophthalmology, to make it a genuine university degree, and when this has been done it will not be taken up by any man who chooses to have that distinction.

I want to commend the clause in my paper in the direction of Dr. Ledbetter's suggestion. When it was announced in the papers that the compromise optometry bill had been introduced into the Colorado legislature some of the men here very quickly had letters from Dr. Thorington, Dr. Bossidy and others in the East asking about this compromise bill, and we replied to them and gave them our view of it. It was taken up by the optical journals all over the country. The opticians in Colorado had formed a national optical society and from that body a committee was appointed to stop that bill. They did stop the bill. It was introduced as their bill at their request by the health officer of Denver. This is why they stopped it:

> "Nothing in this act shall be construed to apply to persons licensed to practice medicine in this state, or to give any person the right to attach the title M.D., surgeon, doctor, physician oculist, ophthalmologist, eye-specialist, doctor of refraction, doctor of ophthalmology, doctor of optometry, or any word or abbreviation to his name indicating that he is engaged in the treatment or diagnosis of diseases of, defects, or injuries of the human eye, or to use drugs or medicine in any form for the treatment or examination of the human eye, or to use any therapeutic measures or agencies other than glasses for the treatment of the human eye."

That is what stopped that bill. The optometrists pulled it off very quickly, and if such a clause was introduced into every bill, or such an amendment was insisted on by every ophthalmologist to be put into every bill or into existing optometry bills, a clause which is perfectly legitimate, entirely in the interests of honesty, not against the opticians or the optometrists, but in the interests of simple honesty, making it apply to those to whom it should apply, then not an optometry bill in the country would do a bit of harm.

With reference to the resolutions, they are not as full as they might be made, and yet they should be brief. The year's work is to be done in an accredited ophthalmic hospital before a man can come up for this examination or before he can get any credit for special instruction in ophthalmology. And as to the final resolution, "Resolved, that the Council on Medical Education is hereby requested to consider the curriculum for such a course"— this is the psychological moment to consider this. The president of the American Medical Association recommended a fifth year; as he put it, an internship in a hospital for one year. The Council on Medical Education in their report to the House of Delegates recommended that the fifth year be added on after the completion of the present course, whether the degree should be given at the end of the four years or whether it should be deferred until the end of the fifth year being a matter to be determined. This very disposition on the part of medical educators to raise the standard should be taken advantage of and here is a way for us to raise the standard of things with reference to ophthalmology, and that is the thing we have in mind to do.

SEROUS LABYRINTHITIS

REASONS FOR RECOGNITION: DIFFERENTIAL DIAGNOSIS: CONTRA-INDICATIONS AGAINST LABYRINTH OPERATION: PROGNOSIS *

JOHN R. FLETCHER, M.D.
CHICAGO

REASONS FOR RECOGNITION

Serous labyrinthitis should be recognized as one of the inflammatory diseases of the labyrinth, which it is, rather than a stage of diffuse suppurative labyrinthitis, which it is not, It is true that serous labyrinthitis is etiologically dependent on a neighboring inflammatory process and may, from this point of view, be regarded much as is a collateral edema or effusion into a joint or visceral cavity. Serous labyrinthitis should be given a place of first importance because of its close resemblance to diffuse suppurative labyrinthitis, which is destructive and very dangerous, while the serous form is not. Serous labyrinthitis subsides without damage; the suppurative does not. The suppurative may make the labyrinth operation necessary; the serous does not. In true serous labyrinthitis the fluid is sterile. That it can become infected, no one denies, but this is after the suppurative middle-ear process has progressed to the point of communication with the membranous labyrinth. When we think of the almost simultaneous involvement of the middle ear and the labyrinth in panotitis, it is difficult to conceive of serous labyrinthitis having been one stage of the infection.

That hyperemia and serous labyrinthitis are not stages of the suppurative is apparent because the succession may not follow. The serous appears without the hyperemic; the suppurative without the serous. An active hyperemia is regarded as a defensive process, not a destructive one. While it is true that these phenomena do sometimes follow in the order named, it is not true that they must. That is, it is not true that we must have an active hyperemia or increase of the amount of arterial blood brought to the part in a given time, preceding serous labyrinthitis, and the latter in turn preceding suppurative labyrinthitis.

We have but to read Hunter's experiments in regard to the temperature of inflamed parts, the opposition to his conclusions by Semon and Weber; Zimmerman's theory, and finally, Jacobson's most thorough and scientific investigation, to come to the conclusion that such a view is not correct.

Bezold's experiments with the manometer on fresh temporal bones demonstrate that prolonged intralabyrinthine pressure is impossible in the healthy labyrinth, because the pressure causes escape of fluid through the cochlear and vestibular aqueducts.

Serous effusion presupposes, first, some hindrance to the normal exit of blood carried to the labyrinth; second, an edema of the membranous labyrinth; third, effusion because there is no obstruction to the incoming arterial blood except the capillary engorgement; fourth, obstruction to the outflow of labyrinthine fluid. The walls of the capillaries are not strong enough to resist the normal arterial tension with obstruction in front, and in consequence they leak. If the edema extends to the aqueducts, this swelling, together with the accumulation of fibrin, which Herzog says causes the labyrinth to become a closed cavity, prevents the outflow of the fluid.

In hyperemia there is an excess of both arterial and venous blood, while in effusions there is an excess of venous or capillary blood, because of obstruction to the return flow. A real anemia of the part may occur in serous labyrinthitis because of the increased pressure caused by the effusion. Herzog thinks that it is the increased intralabyrinthine pressure which interferes with the function of the organs of Corti and equilibrium.

Hyperemia is a transient irritant to the static labyrinth. This is observed in the periodic attacks in circumscribed labyrinthitis. In certain cases there are attacks of vertigo, nausea and vomiting, and nystagmus to the diseased side, accompanied by tinnitus, with increase of deafness; in other cases vertigo without nausea and vomiting, or vertigo and nausea without vomiting; nystagmus to diseased side, and more deafness with or without tinnitus. These attacks are, to my mind, caused by simple hyperemia. The best evidence is their briefness and the total recovery of the former status.

DIFFERENTIAL DIAGNOSIS

The affections of the labyrinth which are most apt to cause confusion and false diagnosis are diffuse hyperemic, serous and suppurative labyrinthitis and diffuse hemorrhage into the labyrinth.

The symptoms which are common to them all are vertigo, nausea and vomiting, nystagmus, disturbances of equilibrium and deafness. In the first two deafness is partial; in the latter two it is complete. In the first three there is always an otitis media and they are usually unilateral. In the last otitis media may or may not be present. When present, it is only coincidental. The hemorrhage is usually bilateral. It will readily be seen that to find that a patient suffering from acute or chronic suppurative otitis media is deaf to conversational speech, to the watch on contact and to a few forks; has nystagmus, vertigo, nausea and vomiting, and disturbance of equilibrium, is not enough to warrant the diagnosis of a labyrinthitis requiring operation. In addition to the above-named diseases, these symptoms are present with slight modifications, in perilabyrinthitis, multiple circumscribed hemorrhages of the labyrinth, labyrinthine anemia, meningitis of the posterior fossa, cerebellar abscess and acoustic tumor; present but transient in circumscribed labyrinthitis. It will serve no purpose to go deeper into the consideration of the last group of diseases. They are mentioned only to call attention to them. Their differential symptoms are sufficiently marked to set them apart.

To differentiate clearly between hyperemic, serous and suppurative labyrinthitis and diffuse hemorrhage into the labyrinth, the following must be carefully considered: history, mode of onset of attack, initial or early symptoms of attack, direction plane and intensity of nystagmus, responsiveness of vestibular apparatus to caloric, turning and galvanic tests, reactionary body movements, direction of seeming motion of surrounding objects, influence of the position of the body on the severity of the symptoms, presence or absence of subjective noises and the course of the disease.

To facilitate this study I have prepared the accompanying table.

The condition which must be accepted as serous labyrinthitis occurs most frequently as a complication of acute suppurative otitis media, and acute exacerbations of chronic suppurative otitis media, especially, in the latter, of relatively short standing. In old cases of chronic suppurative otitis media the pneumatic cellular

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

bone frequently surrounding the capsule of the labyrinth is gradually changed into sclerotic bone, which forms a barrier to the extension of acute exacerbations into this area, and, of course, renders serous labyrinthitis much less probable, but not at all impossible. It must be remembered that the lateral wall of the labyrinth capsule is much less cellular than that portion communicating with the mastoid process, and that some part of it is by far the most frequently attacked portion in chronic middle-ear suppuration.

Shambaugh has demonstrated that communication exists between the blood-vessels of the bony and membranous labyrinth. So long as the cellular construction surrounding the bony capsule is unchanged, these vessels are more liable to be attacked or influenced by an inflammatory process within the cells, which in turn gives rise to either hyperemic or serous labyrinthitis.

Diffuse hemorrhage and diffuse suppurative labyrinthitis destroy both the static and acoustic labyrinth completely and quickly. Minute multiple hemorrhages, serous and hyperemic labyrinthitis only partly, or temporarily, impair the labyrinth. Anemia of the labyrinth changes its tonus for a more or less short period, unless due to permanent extralabyrinthine lesion or new growth, which lessens the blood-supply.

When, on the other hand, there exists chronic suppurative otitis media, with a history of attacks of vertigo coming on while arising from bed, leaning forward, lifting, straining, etc., or without external cause, and lasting from a few minutes to some hours, and the above group of symptoms suddenly develop, we can safely say that the patient has had a circumscribed labyrinthitis which has become diffuse suppurative. Here the history of attacks of vertigo, and perhaps, in addition, the fistula symptom, constitute the differential points. This disease is almost always unilateral.

When, in the course of acute suppurative otitis media or acute exacerbation of the chronic, all of the above group of symptoms, except total deafness, present themselves, the patient has serous or hyperemic labyrinthitis. Differentiation is desirable, though the main point is to determine or exclude the presence of diffuse suppurative labyrinthitis or diffuse hemorrhage into the labyrinth, from both the surgical and prognostic standpoints.

This paper is essentially a plea for accurate clinical diagnosis and prognosis as they govern the surgical question, which is grave. We may check or repair the ravages of disease, but who will correct our errors?

In determining total deafness, it is best to use the whole series of forks and to exclude the good ear by Barany's noise apparatus or some modification of it. If any hearing exists, the Rinné is positive, and Schwabach shortened in both serous and hyperemic labyrinthitis. The Weber, while a somewhat doubtful sign, is to the diseased side in the latter, as pointed out by Neumann, if the hyperemia is due to perilabyrinthitis.

An analysis of the table herewith presented shows graphically both the likeness and the unlikeness of the four diseases, the initial symptoms of which are the same except in degree. It shows, further, the necessity of close observation of the nystagmus, and points out the great information the tuning-forks furnish us, both at the onset of the disease and during its course. If we are unable to determine by the rapidity of onset or direction of the nystagmus whether we have to deal with diffuse suppurative or serous labyrinthitis, the small a′ fork or some other will determine the question by showing in the hyperemic and serous that some hearing remains. Hyperemic and serous labyrinthitis are easily mis-

TABLE OF DIFFERENTIATING CHARACTERISTICS OF HYPEREMIC, SEROUS AND DIFFUSE SUPPURATIVE LABYRINTHITIS, AND DIFFUSE HEMORRHAGE INTO THE LABYRINTH

	Hyperemic Labyrinthitis.	Serous Labyrinthitis.	Diffuse Suppurative Labyrinthitis	Diffuse Hemorrhage into the Labyrinth
History	Acute suppurative and subacute exacerbations of chronic suppurative otitis media; circumscribed labyrinthitis. Drugs. Systemic diseases.	Acute or chronic suppurative otitis media. Perilabyrinthitis. Intracranial diseases.	Chronic suppurative otitis media. Acute exacerbations of circumscribed labyrinthitis. Panotitis. Diabetes mellitus.	Violent exercise. Excessive heat. Trauma. Caisson workers. Systemic diseases.
Rapidity of onset	Rapid	Rapid	Rapid	Instantaneous.
Severity of initial symptoms: vertigo, nausea, vomiting, disturbances of equilibrium.	Moderate	Severe	Intense	Intense.
Early nystagmus	Moderate; to both sides, strongest to diseased side.	Strong to sound side	Strong, to sound side	When unilateral, to sound side; strong. Bilateral disease. To both sides, strong.
Late nystagmus	Subsiding; to both sides; strongest to diseased side.	Subsiding; to sound side or to both sides; strongest to sound side.	Subsiding; to sound side	Unilateral disease, to sound side. Weak. Bilateral disease, subsides earlier. To both sides weak.
Reactionary body movements	Slight; staggering toward sound side.	Severe; falls to diseased side.	Intense. Falls to diseased side.	Intense. Unilateral disease, falls to diseased side. Bilateral disease, eyes to left, falls to right; eyes to right, falls to left.
Direction of seeming movement of surrounding objects.	Both right and left	Right or left	Right or left	Unilateral disease, right or left. Bilateral disease may change direction with eyes to right or left.
Influence of position of the body on severity of symptoms.	Increased in recumbent	Decreased when lying on the sound side. Increased when lying on the diseased side.	Decreased when lying on the sound side. Increased when lying on the diseased side.	Unilateral disease, decreased when lying on sound side; increased on the other. Bilateral disease, no influence.
Vestibular reaction	Increased	Early; negative. Later responds to caloric test.	Negative	Negative.
Early status of hearing	Much diminished	Greatly diminished	Negative	Negative.
Late status of hearing	Almost spontaneous improvement.	Gradual improvement	Negative	Negative.
Subjective noises	Present	Present only when improving.	None	None.

taken one for the other, as are serous and suppurative, and in less degree of probability the diffuse hemorrhagic. The likeness between the serous and suppurative is just the point for the greatest need of a word of caution. It will be seen that the symptoms up to the consideration of early status of hearing differ only in degree in the first few days. As the disease progresses (and it must be allowed to progress in case of doubt), the differences are greater. The serous grows better in many respects, showing return of function, while at best the suppurative grows better only in the sense of subsidence of symptoms. It may become markedly worse within four days, signs of cerebral irritation appearing. These settle the question of doubt.

CONTRA-INDICATIONS

Serous and hyperemic labyrinthitis and diffuse hemorrhage into the labyrinth positively contra-indicate the labyrinth operation, as there is nothing to be gained, and an otherwise sterile cavity is exposed to infection, and the life of the patient is needlessly endangered through extension of the infection to the cranial cavity.

On the other hand, diffuse suppurative labyrinthitis is more dangerous to the life of the patient without operation, especially if caused by a capsule coccus, than when ably handled surgically, because of the free communication of the labyrinth with the cranial cavity through the aqueductus cochleæ, the aqueductus vestibuli and the porus acusticus internus, etc. The saccus endolymphaticus, which is the terminal enlargement of the aqueductus cochleæ, lies between two layers of the dura on the posterior wall of the pyramid, and communicates directly with the lymphatic system of the dura. These facts cause meningitis of the posterior fossa and cerebellar abscess to be much feared. The statistics of Politzer's clinic from 1904 to the fall of 1907 show that it is better not to operate than to partly drain the labyrinth. All of the canals and the cochlea should be opened. For this purpose there is no better operation than Neumann's. The only modification I would suggest is the use of a hemispherical bur to open the three canals at the same time just behind the prominence. This, by the way, is the only excuse I can find for the use of this instrument in the mastoid region.

It is my belief that hyperemic and serous labyrinthitis occur oftener than is generally believed, and that they are operated on when they should not be, thus giving rise to the often-heard statement that it is better not to interfere. This is certainly true when they have been mistaken for suppurative labyrinthitis, and I repeat that the utmost precaution must be practiced; but when a positive diagnosis, according to my table, has been made of diffuse suppurative labyrinthitis, and especially when symptoms of cerebral irritation develop, I cannot lend my sanction to this view. Be timid when there is doubt. Be bold when there is none. It sometimes requires as much courage to wait when one is almost convinced as to operate. Too much haste will bring this work and the worker into disrepute. Operation in case of diffuse hemorrhage is totally out of the question.

SUMMARY

The differential diagnosis must be made under circumstances which can cause more than one of the four diseases under consideration; therefore, little has been said of systemic conditions as causative factors.

I have shown that hyperemic and serous labyrinthitis should be recognized as independent diseases, and not stages of diffuse suppurative labyrinthitis, first, because the succession does not of necessity follow; second, because neither need be preceded by another; third, that the hyperemic and serous tend to recovery without interference, while diffuse suppurative labyrinthitis and diffuse hemorrhage into the labyrinth are destructive. As prognosis is so important because it governs the surgical question, differential diagnosis is doubly essential.

Nystagmus, vertigo, nausea, vomiting, disturbances of equilibrium and deafness are common to them all, and are their initial symptoms.

Diffuse hemorrhage into the labyrinth and diffuse suppurative labyrinthitis destroy the labyrinth. The others do not. The suppurative may invade the cranial cavity; the others do not. Hyperemic and serous labyrinthitis usually recover completely; the others do not.

Hemorrhage into the labyrinth is most frequently bilateral; the others are not. Unilateral hemorrhage, suppurative and serous labyrinthitis closely resemble each other up to the hearing tests, except in degree. Hyperemic labyrinthitis does not; close observation shows nearly the whole course to be different. The nystagmus of bilateral diffuse hemorrhage resembles that of early hyperemic labyrinthitis, except in degree; in the others it does not.

Suppurative labyrinthitis must often be operated on. The others must not. In doubtful cases the surgeon should wait. In sure cases of diffuse suppurative labyrinthitis, especially with intense initial symptoms and meningeal or other brain symptoms, he should not.

For a working differential diagnosis the reader is referred to the table.

PROGNOSIS

The prognosis of hyperemic and serous labyrinthitis as indicated above is good. Serous labyrinthitis leaves a permanent lesion only when there is a fibrinous exudate which becomes organized. In diffuse hemorrhage into the labyrinth and diffuse suppurative labyrinthitis it is absolutely bad with relation to hearing. The latter disease is bad from all points of view, and should be regarded much as are bad cases of appendicitis.

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ABSTRACT OF DISCUSSION

Dr. Hugh Frey, Vienna, Austria: I want to ask Dr. Fletcher how the cases are here stated. One may make up one's mind that cases showing such and such symptoms are cases of hyperemic labyrinthitis, but one cannot prove that those symptoms are pathognomonic of that condition. For instance, I think that the symptoms Dr. Fletcher has in his first column might answer just as well for the cases of edema of the labyrinth, which is really not labyrinthitis, and which is comparatively often present in acute or chronic suppuration. In this list I miss any mention of the temperature. The temperature is most important in diagnosis, and in many cases will enable us to make the diagnosis between the conditions mentioned in the second and third columns. In serous labyrinthitis we may not find any clinical difference from acute suppurative labyrinthitis, except the general symptoms. The functional tests depend on the mechanical changes in the labyrinth, and we are enabled to determine whether a case is serous or suppurative only after the general symptoms develop, among which the temperature is the most important.

Another interesting point is the increased vestibular reaction in the first column. It is a question whether we are able to state in a single case that the vestibular reaction is increased or not. At first we thought it was not possible at all. Now we know we can in some cases tell whether the vestibular or cochlear reaction is increased. The bilateral cochlear test will give results only in cases in which the mediums by which the higher or lower temperature is conducted to the labyrinth are about identical on the two sides. In acute labyrinthitis that is not the case. Another point is that the hearing is supposed to be greatly diminished in serous labyrinthitis.

Dr. A. H. Andrews, Chicago: After having done considerable work along this line, it seems to me that one of these conditions merges into another, and we will have great trouble in differentiating clearly one from the other. Indeed, I do not know of its ever having been demonstrated pathologically that there is a separate and distinct hyperemic and a serous labyrinthitis. We only assume that such conditions must exist to explain the symptoms we find. Regarding the temperature I have had some cases of positively demonstrated purulent labyrinthitis without a rise of temperature. I am not ready to accept the statements regarding the importance of differentiating between a suppurative labyrinthitis and the other varieties for the reasons mentioned, that the suppurative cases should always be operated on, but the others never. I agree with the former, but not the latter.

Dr. C. F. Welty, San Francisco: The important question is not the hyperemia, but it is the differentiation between simple labyrinthitis and acute purulent labyrinthitis. The serous labyrinthitis may go on to a suppurative labyrinthitis. Now, if you follow the Vienna school, you will not have so much difficulty in arriving at a proper interpretation of your case. This confuses the issue somewhat. Dr. Fletcher has made a beautiful picture. Such a table makes one feel that one could scarcely make a mistake. But in one instance, you will operate simply because you have fever in a serous labyrinthitis that has deepened, and in another you will not. The cochlear reaction and the hearing are also important. The putting in of Ménière's disease simply obscures the matter, and the hyperemic labyrinthitis also clouds the issue somewhat.

Dr. Wells P. Eagleton, Newark, N. J.: I think often we operate without sufficient examination. Dr. Fletcher has made an effort to induce us to be more careful in the preliminary examination. The point Dr. Fletcher brings out, as to the loss of hearing, is of the greatest importance. I have seen, in consultation with other pathologists, that the diagnosis may be very difficult. It is important to remember that in suppurative labyrinthitis the patients are totally deaf. If there is the slightest hearing, the case is not one of suppurative labyrinthitis, unless it is a localized form. It is possible to have a little hearing with serous labyrinthitis, but not in general suppurative labyrinthitis.

Dr. H. B. Graham, San Francisco: I think the serous and the suppurative cases merge into each other. How do you know there is not serum there? Or, if you have a serous labyrinthitis, how do you know there is no pus there? We know sections have been taken in serous cases and pus has been found. We cannot say with certainty that a case is serous or that it is purulent.

Dr. J. R. Fletcher, Chicago: My paper is a plea for clinical diagnosis. It has been suggested that we may leave out hyperemic labyrinthitis and diffuse hemorrhage into the labyrinth. That is true, but if you notice the difference between the initial symptoms, it is easy to mistake one for the other. As to whether we can come to any practical conclusions, I know that we cannot at the present time. I made dogmatic statements here to call attention to the importance of differentiating between serous and purulent labyrinthitis. I have seen a labyrinth operated on when it was perfectly well, in more than one instance, and that is sufficient to induce us to ask for greater care in the differential diagnosis in these cases. We are teaching our students to operate without this knowledge. Where are they to get it, without a knowledge of serous and hyperemic labyrinthitis? All through the history of medicine we have made clinical diagnoses of presumed conditions before their pathology was worked out. Here are two conditions very much alike—hyperemic and serous labyrinthitis. That there are differences between the cases that go on to recovery, as far as symptoms go, there is no doubt. I have examined a great many cases myself, and in the serous labyrinthitis, which almost completely puts the labyrinth out of working condition, we find some hearing left, on careful examination.

TUBERCULOUS CYCLITIS FOLLOWING NON-PERFORATING INJURY TO THE EYE*

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CLINICAL OBSERVATIONS BY DR. DODD

The following case presented some very interesting features. Two of the most unusual conditions were the rupture of the retina, which was present in the region of the ora serrata as the result of a contusion, and an anterior tuberculous uveitis manifesting itself several months after the injury, with negative results from the diagnostic use of tuberculin.

History.—The patient, T. L., aged 10 years, was first seen by me in March, 1908, and the following history obtained: The family had noticed a spot on the left cornea for about eight weeks, and although the eye at times was inflamed and at other times free from irritation, this spot remained. The child had been struck over the left eye with a baseball about ten months before; the lids became discolored and the eye-ball inflamed. A few months prior to that he had been struck near the eye with a stone, the injury producing severe epistaxis and great swelling and discoloration of the eyelids. He gave an indefinite history of not having seen so well with that eye as with the right, but could not say whether this reduction of sight followed either one of the injuries or not. His general health was good and no recent illness was reported, although his mother said that at about the time the eye trouble began he complained of headache and was drowsy and slept a great deal, even falling asleep when he came home from school at noon. As he complained of no other symptoms of illness, however, little attention was paid to this. He had had the usual diseases of children, also a suppuration of the ears when about two years old.

Family History.—No history was given of any trouble which could be considered tuberculous or syphilitic in any member of the family. The mother had delicate health as the result of a fall which injured her spine, when she was a small child. The patient had one brother older and two sisters younger than himself, and there was a stillbirth occurring about eighteen months previous to his birth.

Examination.—The patient's right eye was perfectly normal, with vision equaling 5/6, but he had not been able to use it in school for some time on account of the sensitiveness of the left eye. With the left eye, he could count fingers at 18 inches. There was some ciliary congestion, which was more marked at the lower part of the eye-ball, and a great deal of photophobia and lacrimation. The cornea had a triangular opacity involving its lower third and extending up to and covering part of the pupil. This was quite dense and the epithelium over this part was stippled as in interstitial keratitis. There were some small opaque spots in the cornea above this, and the pupil was small and did not dilate readily with atropin. The tension was normal, but no view could be had of the fundus on account of the corneal opacity. Atropin and dionin were used in the eye, mercuric inunctions applied, and iodids given internally. Under this treatment the irritation and inflammation of the eye subsided somewhat, and the pupil finally became fully dilated so that examination of the fundus was possible. At the extreme lower part was a whitish mass apparently extending forward to the ciliary body and ending near the meridian of the eye. This was glistening white, nonvascular, and was in front of the retina, no detachment of which could be seen. By the use of the transilluminator I found that light passed through it readily.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Course of Disease.—Judging that the corneal trouble, as well as the condition involving the ciliary body, was tuberculous in origin, I used the ophthalmo-tuberculin test in the right eye, but got no reaction. By the latter part of May the eye was slightly improved, the cornea being less opaque and the sensitiveness to light about gone, but on discontinuing the use of atropin the eye would become irritated.

June 22: The patient went to the hospital for a thorough tuberculin test and, after having his temperature taken for several days, I gave him progressive doses of old tuberculin up to the final dose of 10 mg. His temperature remained normal and at no time was there any reaction, local or general.

July 30: By this time, the eye was much improved; there was less photophobia and the cornea was much clearer.

August 13. The patient came to see me before going away for a vacation. I found the eye quiet with only a slight opacity of the cornea. There was no change to be seen in the whitish exudate, the vitreous was clear, and there was no detachment of the retina, or anything to make one suspect a growing tumor.

October 20: The patient returned to-day, having noticed for two weeks that the sight of this eye was failing. The eye was irritated and would become greatly congested on handling, and the lens was becoming opaque at the lower part. The pupil was fairly well dilated, but the whitish mass could hardly be seen on account of the lenticular opacity. This opacity continued to increase quite rapidly so that by November 9 I could not see into the eye. The iris was pushed forward below apparently as the result of a rupture or dislocation of the lens at its lower part. The eye was greatly irritated. The possibility of an intra-ocular tumor occurred to me at this time, and I requested the family to consult another oculist.

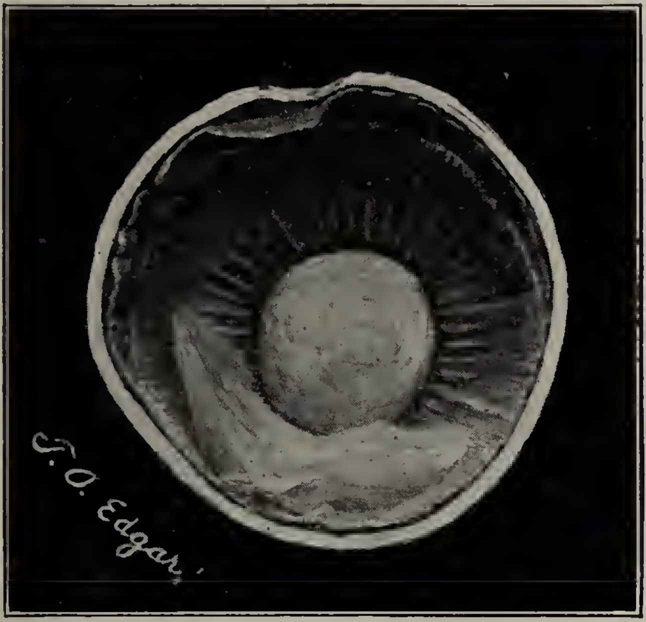

Fig. 1.—Drawing by Dr. T. O. Edgar, of anterior portion of eye, showing mass of exudate.

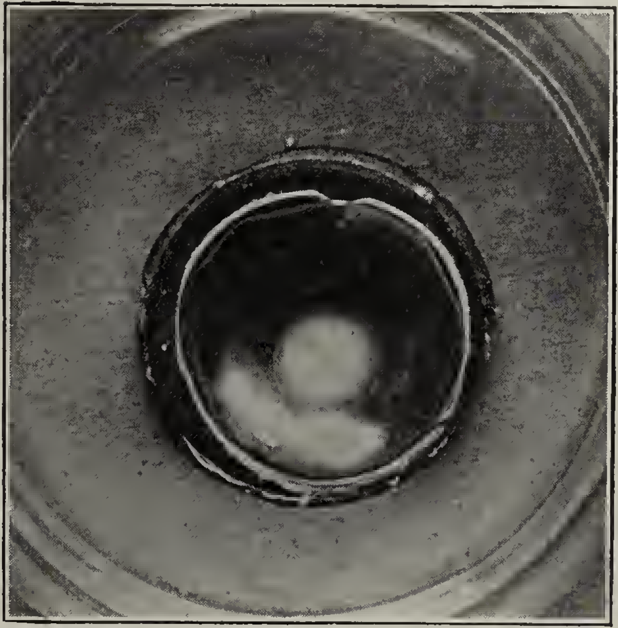

Fig. 2.—Photograph of anterior section of eye.

November 12: Dr. Suker was consulted and expressed the opinion that a tumor had caused the rupture of the lens capsule and that enucleation should be done at once.

November 17: I enucleated the eye, following which the patient made a good recovery.

Result of Operation.—The irritation of the right eye which had been so marked, especially toward the latter part of the trouble, making it impossible for the patient to use it for reading or school work, subsided as soon as the left eye was removed. I have seen him from time to time since and he continues in good health and his vision is normal in the right eye.

Dr. Lane has made a thorough examination of the enucleated eye and his report of the pathologic findings forms a part of this paper.

When the patient was first seen by me the clinical appearance of the eye was that of beginning interstitial keratitis. A slight diffuse infiltration in the stroma and some roughness and stippling of the corneal epithelium were present, which prevented the principal pathologic condition of the cornea—the endothelogenous membrane covering the posterior surface below—from being demonstrated clinically.

After the dilatation of the pupil and a partial clearing of the cornea the cyclitic mass became visible, and made me consider the history of traumatism of more significance. Later, when the pathologic examination revealed the rupture of the retina and the exudate at its site, the importance of the traumatism as a cause of the trouble was substantiated.

Rupture of the retina rarely occurs without being associated with rupture of the chorioid. When it occurs alone it may be the result of a chorioidal hemorrhage which detaches the retina and finally breaks through into the vitreous chamber, or it may take place from an indirect blow in the same manner as a chorioidal rupture. When this occurs, the most frequent points are at the macula, or at the ora serrata, as in this case. The earlier exudate or organized hemorrhage, having its source at the site of the retinal rupture, was cicatrized and showed no characteristic tuberculous changes. The later tuberculous exudate was from the ciliary body and iris and was still fresh and in a cellular condition.

The long period of time—nine months or more—between the last injury and the time when the inflammation was first noticed is worthy of consideration. Did the infection occur at the time of injury and remain dormant, or did it occur later and become localized at this point of lessened resistance? Either may have happened, for we frequently see cases of tuberculous inflammation which remain quiescent for several months and then suddenly take on new activity due to the lessened resistance of the patient or some local irritation. In one of my patients who had a severe tuberculous sclero-keratitis, healing took place under treatment with tuberculin and the eyes remained well for over two years. On account of working under poor hygienic conditions her general health became affected, she lost weight, and had a recurrence of the same local inflammation for which I had previously treated her. Stock, by his experiments, proved that large tuberculous foci may exist in the ciliary body for a long period without producing any symptoms of cyclitis, and also that tubercle bacilli may be found in the iris months after apparent healing.

The absence of reaction to the tuberculin test is very difficult to explain, as in every case of ocular tuberculosis, in my experience, the reaction was well-marked both locally and generally. Not considering the negative ocular tuberculin test as sufficient, I had a thorough subcutaneous test made in the hospital where the patient's temperature could be taken frequently and the condition of the eye noted. Old tuberculin was given in progressive doses until 10 mg. were given, the largest amount I ever use for the test. No reaction was obtained. After learning the pathologic condition of the enucleated eye I again gave him a thorough tuberculin test, with the same negative result. To eliminate hereditary syphilis I had a Wassermann test made and it also was negative.

Localization of the trouble in one segment of the eye is no diagnostic help in the differentiation between intraocular tumors and tuberculosis. The whitish mass which was present in this case might have been a non-pigmented sarcoma, although in so young a patient this would have been very unusual. Solitary tubercle of the chorioid, occurring far forward, is usually of far more rapid growth, and would have produced detachment of the retina visible with the ophthalmoscope at an early date. Tuberculous cyclitis is frequently localized in one section of the eye and may remain so for months before other portions of the eye are affected. The negative tuberculin reaction, however, made me discard the diagnosis of tuberculosis in any of its phases, so that when the extension of the process began again, I concluded that it must be some form of ciliary tumor.

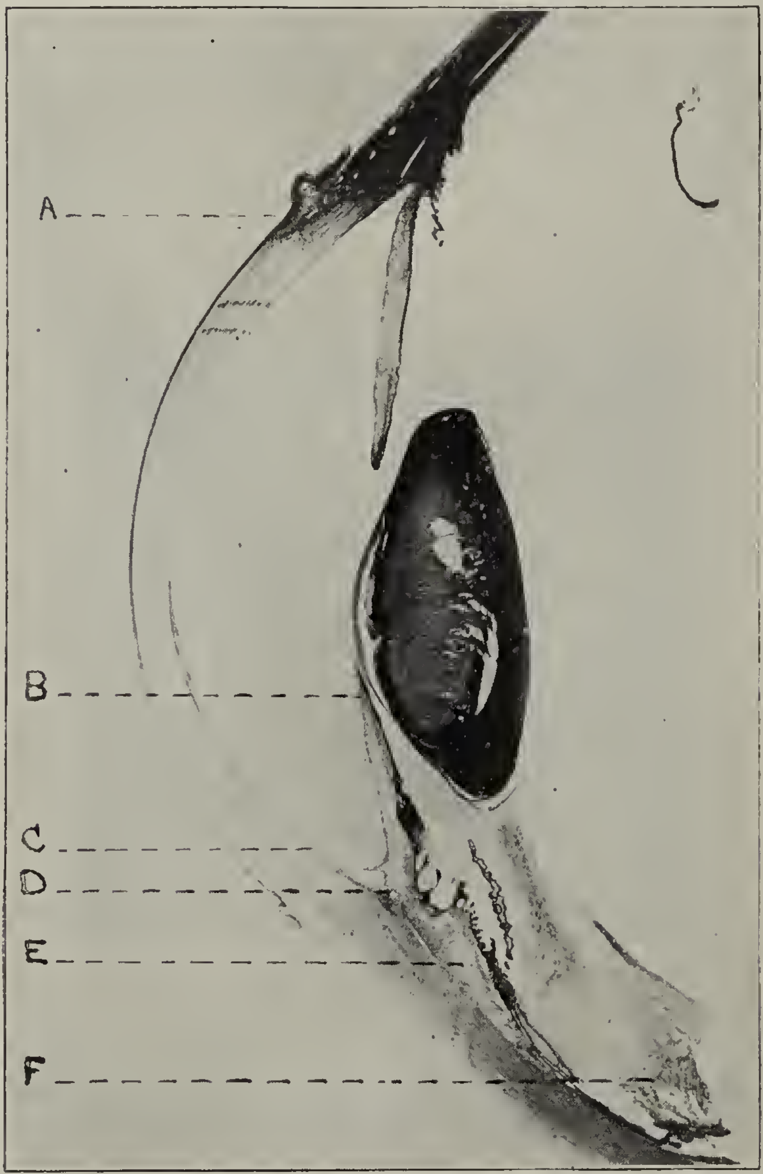

Fig. 3.—Vertical section through the anterior half of the eye, showing the miliary tuberculous iridocyclitis, etc., in the lower portion. (a) Upper limbus region; (b) posterior synechia; (c) endothelogenous cuticular membrane; (d) anterior root synechia; (e) active tuberculous cyclitis; (f) old cicatrized exudate and end of ruptured retina.

PATHOLOGIC REPORT BY DR. LANE

GROSS FINDINGS

Left Eye.—Laboratory No. P. 283. (24x23x23 mm.) There is no evidence of a penetrating wound. The entire cornea is superficially hazy, and deep in the lower quadrant is a triangle of fairly dense uniform opacity. The anterior chamber appears a trifle shallow below. The pupil is horizontally oval and measures 5 mm. in its long axis; a thin gray exudate lies in its lower part, and a 1 to 2 mm. broad spindle-shaped opacity, apparently just behind the lens capsule, runs diagonally from axis 60° to 240° through its center.

When sectioned coronally, the anterior half shows the following: The lens is somewhat opaque and is displaced a trifle downward. On the equator of the lower outer third there lies a dense, glistening white, flat exudate, resting principally on the inner surface of the middle and anterior portions of the corresponding part of the ciliary body. The exudate spreads up along the equator of the lens both temporal and nasalward like two wings, the tips of which reach the level of the horizontal meridian. It rapidly converges posteriorly and continues backward and to the temporal side as a short, 3 mm. thick, round stem; its posterior end is attached to the anterior part of the detached retina 1 to 2 mm. behind the ora. The optic nerve is 8 mm. long. The posterior half of the bulb shows no special changes.

Both halves of the eye were fixed in Zenker's solution, imbedded in celloidin, and sectioned parallel to the plane of the meridian passing through the axis 105°. Four hundred and thirty serial sections were made of the anterior half in order to exclude the possibility of a penetrating wound or the presence of a foreign body, and also with the special object of studying the large exudate and the adjacent structures. Eighty-six sections, every fifth one, were stained with hemalaun and eosin, forty-one with carbol-fuchsin, a few by the van Gieson and Mallory methods, and some stained for iron.

MICROSCOPIC FINDINGS

Unless otherwise stated, the following description has reference to the lower half of the bulb, inasmuch as the most important anatomic changes are found here.

A foreign body is not present. Three distinct, quite superficial, spindle-shaped nodules of round cells are found in front of the perforating vessels in the superficial layers of the sclera (10 to 12, 65 to 70, and 76 to 80)[2] (Scleritis). Files of cells run off from the anterior ciliary vessels and the marginal loops. A few scattered wandering cells are seen, especially between the basement cells of the corneal epithelium, and, moreover, they are increased throughout the interlamellar spaces of the corneal stroma (5).

Near the end of Descemet's membrane the posterior lamellæ are slightly spaced apart and many cells with deeply staining oblong nuclei lie in the narrow fissures (1 and 56). A cellular membrane is found on the posterior surface of the cornea and is worthy of detailed description. It begins at the center, spreads downward and gradually increases in thickness until its superimposed layers reach a maximum of from 12 to 15 strata just above the periphery of Descemet's membrane (1). In some sections this deposit is arranged in particularly definite lamellæ (1, 56 and 57 v. G.), whereas in other sections (10 and 20) lamellation is less regular; here more cells abound, some have large faint-staining oblong nuclei, others have smaller, deeper staining, curved and irregular-shaped nuclei (endothelogenous cuticular deposit). Between Descemet's membrane and this new-formed tissue an interrupted layer of compressed endothelial cells is found. This same arrangement of cells and tissue prevails between the new lamellæ to a lesser extent (1 and 56).

In Section 20, alternating areas are present where the endothelial cells are irregularly grouped, and absent between the new tissue and Descemet's membrane (endothelial degeneration). Between the layers of the deposit a few scattered pigment-bearing cells and free pigment granules can be made out (3) (old precipitates). The cuticular deposit extends a short distance beyond the peripheral margin of Descemet's membrane, overlapping the anterior end of the inner lamellæ of the corneo-scleral trabeculæ (1). Aggregations of leukocytes and plasma cells laden and interspersed with pigment lie in a delicate network of fine fibrin on the posterior surface of the deposit (3) (fresh precipitate).

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[2] 2. Arabic numerals in parentheses refer to the serial section number.

In Section 35 these precipitates consist almost exclusively of plasma cells. Many lymphocytes and wandering cells of various types are seen in both the angle of the anterior chamber and its bordering walls (1 and 4). In Section 10 an unusual number of eosinophils are present in this location. The canal of Schlemm is completely hidden (6) (partial impermeability of the infiltration angle). Delicate fibrinous strands, in the meshes of which are leukocytes and plasma cells, stretch across the angle (3 and 4) and pull the thickened iris root forward until it is actually approximated to the cuticular deposit 1/3 mm. above the end of Descemet's membrane (local peripheral anterior synechia). The canal of Schlemm is here completely blocked. The anterior chamber is free from exudate except at the angle; yet a few plasma cells and leukocytes lie on the anterior surface of the iris, and not a single section shows open stomata of the crypts (cellular exudate on iris surface). The iris stroma, particularly its posterior portion, is thickened by a diffuse infiltration of leukocytes, plasma and mast cells and a few scattered hyaline globules (Russel's bodies) (4). The chromatophores have mostly lost their graceful branches and have become transformed into shapeless conglomerations of pigment. Along with this diffuse infiltration are found many large, fairly sharply circumscribed nodular aggregations of lymphocytes. Several of these nodules reach a size equal to the thickness of the iris and can easily be detected macroscopically (32, 61 and 72) (nodular iritis). Epithelioid cells are present in the center of a few of these nodules (33 and 34), but in none of them can giant cells be found. Vessels are seen inside the nodules in a few sections (32 and 60), yet for the most part they lie at the periphery or entirely outside the nodules. Time was not taken to determine the exact number of nodules present, but their distribution, frequency and characteristics, were closely studied. Fifty-one, or two-thirds of a total of 86 sections studied, show that each section passes through from one to four nodules. In all, 94 cross-sections of such nodules can be counted.

From the observations made one can conclude that (1) the greater number of nodules are located in the lower half of the iris; that (2) they are situated principally in the vicinity of the circulus arteriosus minor; and that (3) they are poor in vessels. These three findings agree with those described in typical miliary tubercles of the iris, and indeed the condition coincides with it entirely except for the fact that giant cells could not be found in a single section.

Attached to the lower pupillary border of the iris is a moderately cell-rich inflammatory exudate. It extends upward for a short distance and tapers off in the pupillary region of the anterior lens capsule (pupillary membrane) and below and behind the pupillary border of the iris and binds the tunic to the lens capsule. This latter portion of the exudate contains a few clumps of pigment (3 and 57). It can be traced downward as a thin pellicle along the posterior surface of the pigment epithelium as far as the ciliary zone of the iris (3) where it suddenly becomes one-half the thickness of the iris (5). The succeeding twelve sections show that the exudate extends, indeed, almost to the ciliary body, and that markedly proliferated pigment epithelium separates it from the posterior surface of the iris; also that it drags narrow bands of pigment toward it and that the exudate fuses with some of the displaced ciliary processes (12 and 13) (posterior synechia).

The traction set up by this exudate membrane pulls the pupillary border of the iris backward and downward so that the sphincter is bent on itself in the shape of a hook (3). A thin stratum of connective tissue separates the two somewhat broken-down pigment layers near the outer edge of the pupil (59). The intima of the vessels is often surrounded by small round cells and plasma cells and occasionally a lumen is obliterated (71). The same diffuse cellular infiltration described in the iris prevails in the ciliary body and thickens it proportionately. The ciliary processes are most extensively and very densely infiltrated. Some of them are swollen and elongated (8 and 29), others are pushed forward and grown fast to the posterior surface of the iris (26). Still others stretch upward as far as the equator of the lens and lie on the anterior fibers of the zonula (4). In the vascular layer of both the corona (24 to 29) and the orbiculus (36 to 38) a number of round-cell nodules are present. Just behind the corona the pigment epithelium is split and separated from the ciliary epithelium by cicatrical tissue (11 and 27). The ciliary muscle itself has to a large extent escaped infiltration (56). A few sections, particularly No. 6, show the radial bundles widely spaced apart by the same kind of cells that infiltrate the vascular layer, while in others nodules of round cells with numerous eosinophils are found in the immediate neighborhood (24). A diffuse infiltration is present in the lower quadrant (36). Two typical giant-cell systems with central degeneration lie in the muscle opposite the middle and posterior parts of the corona (36 to 40). The stratum pigmentum is broken through in the same sections.

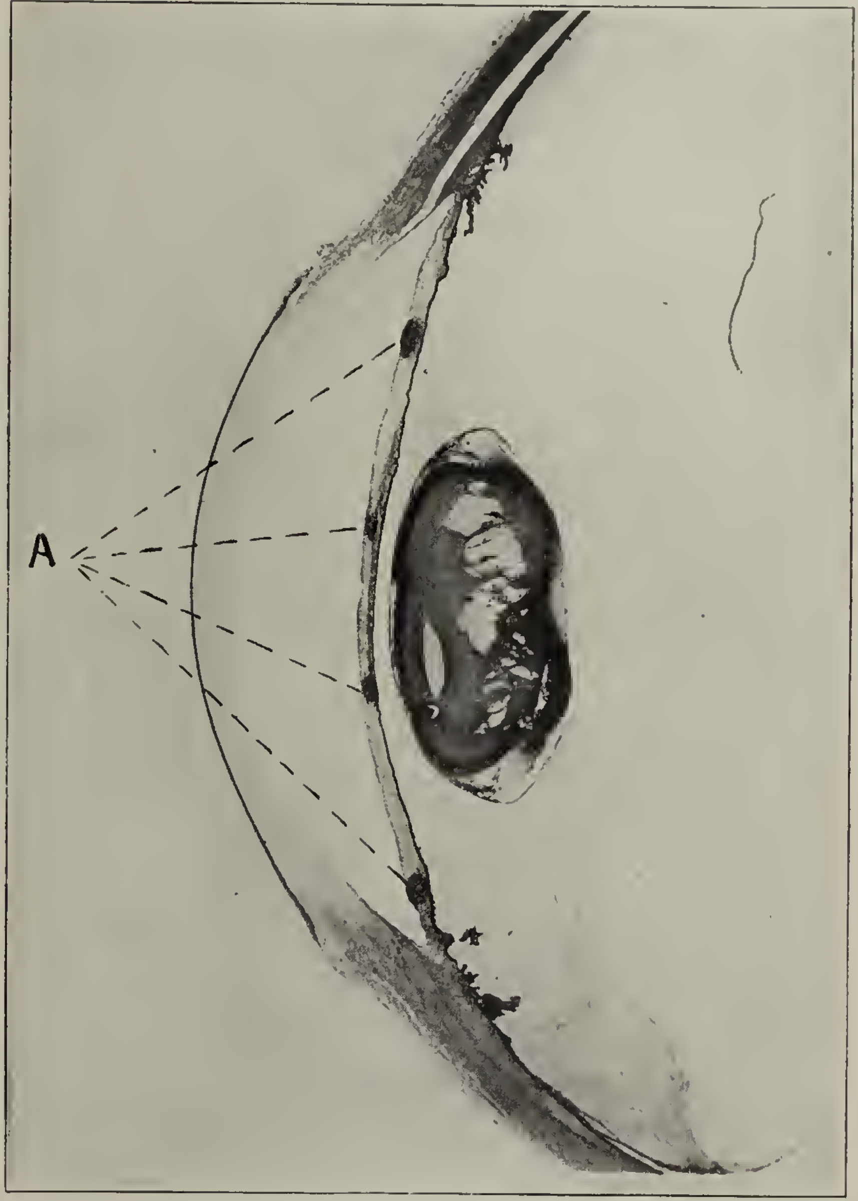

Fig. 4.—Miliary iris tubercles (a).

In all, 41 specimens were stained with carbol-fuchsin and a close search made for tubercle bacilli, but bacilli were found in only one section (40c). Morphologically, the bacilli are a little shorter and possibly a trifle thicker than typical tubercle bacilli. A single bacillus having all the morphologic characteristics of the tubercle bacillus was found in smear made from those sections taken from the giant-cell areas and treated by the alkaline - hypochlorite (antiformin) tissue - dissolving method.

A 2 to 3 mm. thick organized exudate lies on the inner surface of the ciliary body and on that (peripheric) portion of the retina which is pulled forward as far as the middle of the orbiculus (2) (cyclitic exudate). It extends upward and imbeds the processes and equatorial zone of the lens, and sends fine filaments up behind the posterior lens capsule, fusing it to the anterior limiting layer of the vitreous. A cellular exudate is pouring out through the broken apices of the swollen processes; it takes a centripetal, axial course (15 to 19) (active exudate). This mass has only a moderate number of vessels (4 and 11), is irregularly infiltrated with the same types of cells found in the ciliary body, and, as in the ciliary body, shows areas where nearly all the cells are eosinophils (15 to 17) (less recent exudate).

While some connective tissue network permeates the more cellular portion, the inner and posterior parts of the exudate are by far the richer in a connective tissue which has become more or less laminated (15 and 27 v. G.) (old organized exudate). Here and there pigment is seen (10). In fifteen of the sections giant cells are to be found (15 and 24). The oldest or most posterior part of the exudate, and the connective tissue which separates the slanting ciliary epithelium from the pigment layer, lie on the inner surface of the back part of the orbiculus, while the more recent cellular exudate is situated opposite the corona. The mass extends for a short distance behind the ora and is attached to the folded and degenerated, severed retina. These facts furnish conclusive evidence that this mass originated from the region of the ora and not from the corona ciliaris. The lens is slightly subluxated downward. The equatorial zone of the lower half is completely enswathed in the cyclitic "callus" of organized exudate (15) (cataracta accreta). A thin delicate film of connective tissue with a few pigment-bearing cells, and some free pigment, covers the lower part of the anterior capsule. The capsule is wrinkled at the lower equator, probably from hardening. A thin fibrous tissue with spindle-shaped nuclei lies behind the capsule and extends over the entire pupillary surface of the body of the lens. This tissue consists of layers of imbricated spindle-shaped cells packed closely together and does not differ essentially in appearance from ordinary connective tissue (57 and 57 v. G.) (anterior capsular cataract). Fragments of broken-up cortex are imbedded in the capsular cataract. Clefts in the lens substance are filled with fluid and globules of Morgagni (55 and 57) (consecutive cataract).

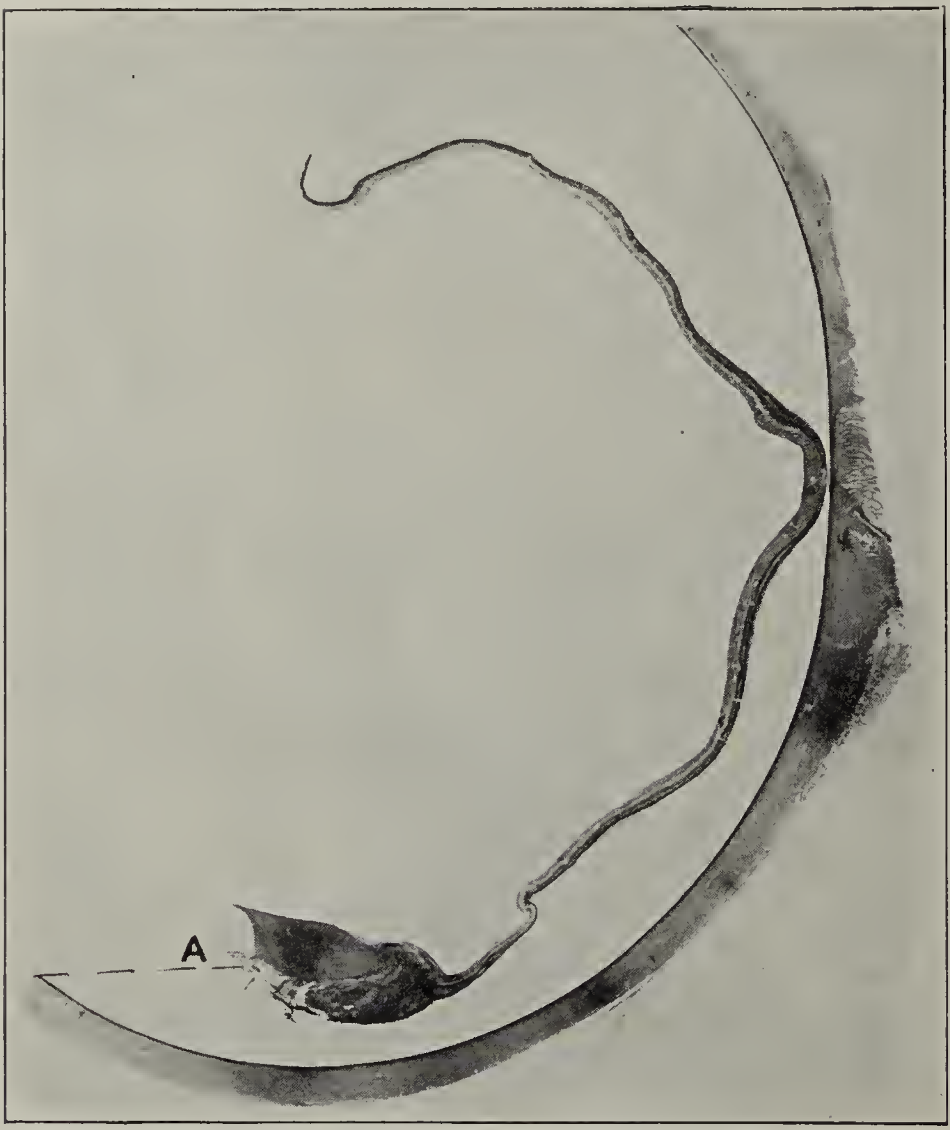

Fig. 5.—Vertical section through the posterior half of the eye, showing the tear in the retina and the old organized connective tissue "callus." A, tear in the retina.

The peripheral part of the chorioid is infiltrated with lymphocytes, leukocytes and plasma cells.

Anatomic Diagnosis.—1. Rupture of the retina following trauma; (2) chronic plastic iridocyclitis limited to lower part and consisting of two stages: (1) An old affection resulting in the formation of cicatricial tissue. (2) A recent affection of the ciliary body which has spread out in all directions, invading the iris and episcleral tissue, evidently along the perforating vessels and characterized by the formation of nodules of round, epithelioid and giant cells with central degeneration—a formation which can be considered miliary tuberculosis.

31 North State Street.

ABSTRACT OF DISCUSSION

DR. B. F. CHURCH, Redlands, Cal.: I have had such results in the treatment of tuberculous keratitis in a patient with tuberculosis by means of injections of guaiacol in 5 to 10 minim doses, that I wish to report it. I think it is a much shorter route than resorting to tuberculin, and is certainly much easier.

DR. JOHN E. WEEKS, New York: There are two or three features in this report which have interested me very much, and which I think can be discussed with benefit. The appearance of the slight exudate, mentioned in the paper just read, is, so far as I have observed, quite characteristic of tuberculous infection. This exudate occurs in cases of tuberculosis of the iris, and in cases also of tuberculosis of the uveal tract further back. It is a very white exudate, fairly limited and not accompanied by hemorrhage or the appearance of vessels in the exudate. When we have tuberculosis of the iris, of course the iris is thickened in addition. These masses of exudate have the appearance sometimes of tufts. There will be perhaps one to three in the pupil when the iris is affected with tuberculosis. I would like to emphasize as forcibly as I can this typical exudate in the interior of the eye. Another point is that there was no reaction after the subcutaneous injection, as I understand it, of 10 mg. of T. O. Was the sample of tuberculin used reliable? I have observed quite a number of cases of intra-ocular tuberculosis, and I have never failed to get a local reaction by the subcutaneous injection of 3 mg. I have failed in using 1 mg., and in or two cases 2 mg., but 3 mg. has never failed in tuberculosis of the eye, whether of the sclera and cornea alone or of the conjunctiva or in intra-ocular tuberculosis. The Calmette and the von Pirquet tests are, in my opinion, of no consequence unless we are introducing into the circulation or into the system more than 0.5 mg. T. O. With the von Pirquet test by using the old drug undiluted we may introduce into the system 1 mg. or more than 1 mg. of tuberculin that may produce a general reaction, and with the general reaction we may get a local reaction in the eye when tuberculosis is present. The objection is that the reaction in the conjunctiva, or the reaction on the skin with the von Pirquet, is of no particular consequence, as we get the reaction when the tuberculous lesion is in some other part of the body. Unless in connection with these tests we get a local reaction, we cannot say the condition in the eye is tuberculous. So the test that is of value is the local reaction as obtained by the subcutaneous injection of a diagnostic dose of tuberculin. Now 10 mg. of preferred T. O. will often produce a reaction in the normal individual who has not had tuberculosis, and it seems to me incredible that this preparation of tuberculin was a reliable preparation because of the fact that no reaction whatever was obtained, either general or local, in this case. I may say in regard to another feature of this case, that improvement seemed to follow the introduction of the tuberculin. If I read the report right, after this diagnostic dose was given the eye seemed to improve somewhat. Is that not so?

DR. OSCAR DODD, Chicago: I was giving other treatment and the patient had considerable improvement before.

DR. JOHN E. WEEKS, New York: It seemed to me that the patient, even though no general reaction occurred, showed little improvement after the tuberculin was used and had a relapse of his tuberculous process and became worse afterward. In the treatment of tuberculosis I have had two or three relapses because the tuberculin was discontinued too early, but a resumption of its use brought about recovery. In quite a number of cases—I think about eighteen—the results have been quite satisfactory by the subcutaneous use of tuberculin, using only T. R. for therapeutic purposes. But the ordinary T. O. also possesses marked therapeutic value, as has been demonstrated in a few cases in which I have used it purely.

DR. J. A. DONOVAN, Butte: Dr. Weeks introduced an innovation about the reaction of tuberculin that I thought about in connection with this case. I had a series of cases—in fact, they are under treatment now—of six patients whom I had been treating with one of the local tuberculins. In two of these cases in which I was not getting as much results as I expected I switched to a German preparation. One woman and one man in whom I got practically no reaction at all before, were put in bed sick, with an elevation of temperature. A laboratory man said that tuberculin was not standardized at all and that I should not have done it. I treated one patient in St. Paul some years ago with tuberculin with apparently beneficial results, but in two or three instances I had to go back to guaiacol. I got the suggestion of guaiacol (2 per cent. in glycerin) from Dr. Darius, and in every case I have had that gives immediate reaction, and it is very much more positive, so far as improvement is concerned, than tuberculin.

DR. OSCAR DODD, Chicago: The appearance of the exudate, as mentioned by Dr. Weeks, to me was suggestive of tuberculosis; so much so that I could hardly believe the fact of not getting a reaction. As to the reliability of the tuberculin, it was the preparation used in the hospital which they had obtained results with. I should have made tests with other patients in order to control it. As to the improvement after the use of the tuberculin, the tuberculin test was not given until after the eye was really rather quiet. Under atropin and dionin the eye would quiet down and remain so until I stopped the atropin again. The tuberculin test was not given until the latter part of June, on account of the fact that the patient would not consent to go into a hospital until that time, and the eye made no particular change, so far as I could see, following that. About August 13 the patient went away on a vacation and did not return again until October 20. The eye remained quiet until about two weeks before he returned, when the rapid changes in the lens and eye necessitated removal. Another point which I do not speak of in the paper was the fact of the irritation of the other eye. It was very much irritated, and after the pathologic examination the specimen was carried by Dr. Lane to Professor Salzman, who said at once that the patient must have had irritation of the other eye, a fact that was true throughout the case. He was unable to use his other eye to any extent.

Barbers and Surgery.—The barber of the present day is not expected to do surgical work, although his sign still gives notice that accidents may happen. The bloody pole with its white bandage reminds us of the day when the barber was the surgeon. The family of Poisson decided for him in his youthful days that the work of a notary required greater intelligence than he possessed, and advised him to become a surgeon. It was not until 1745 that the "barberous" work of the surgeon and the surgical work of the barber were, in England, eliminated by law, says F. E. Nipher in *Science*.

PLASTIC SURGERY OF THE EYELIDS, USING THE WOLFFE GRAFT *

F. PHINIZY CALHOUN, A.B., M.D.
ATLANTA, GA.

Plastic surgery has always impressed me as being the height of all surgical skill. For obvious reasons plastic surgery about the face, about the eyelids particularly, not only requires good judgment on the part of the operator, but his technic is put to the severest test.

The operation for the restoration of the lids and of the cul-de-sacs in contracted orbits, in the complete ectropions, especially from burns, and many other conditions, makes the deep cutaneous graft of Wolffe the ideal one to be used in such cases. My experience in twenty-five cases in which this cutaneous graft was applied has been so satisfactory and the method employed is so simple that I present the subject with the hope that it will be of interest. No claim is made to originality in the operation to be described, for my ideas were obtained from observing other operators.

There are two important steps to be remembered: First, the surface to be grafted must be denuded and must have sufficient blood-supply to nourish a healthy graft; second, a graft must be obtained of sufficient size to more than cover the area.

The ideal case is a complete ectropion of the upper or lower lid, and the one I now report, in which the result was most brilliant, was that of a farmer who, eighteen years before the first operation, had fallen into an open fire, burning the left side of his face and forehead. In time there was a complete distortion of that side of the face from the cicatricial contraction, and the ciliary margin of his upper eyelid occupied the position of his eyebrow, which had been destroyed, and the margin of the lower eyelid was pulled well down on the cheek. The conjunctival surfaces of the lids were completely everted and exposed, and from prolonged exposure they had become much thickened, resembling a velvety type of trachoma. The picture he presented was horrible. Fortunately the man had excellent vision, the globe in no way being injured. Two operations, at six months' interval, were required, the upper eyelid being first operated on.

After cleansing the face with ivory soap and water, then irrigating with a normal saline solution, I made a superficial incision above the ciliary margin, then little by little I undermined the whole lid, as one would in an ordinary integument dissection, preserving the muscular structure. This flap of the lid, when folded down over the globe, nearly covers the entire exposed conjunctival surface of the lower lid. Bleeding is of no consequence, but should this be troublesome a small artery clamp applied for a few moments would control the annoying vessel. After this part of the operation is completed, and the operator is sure that the eyelid will remain in place from its own weight, a pad saturated with hot saline solution is applied and gentle pressure made by an assistant, while the graft is obtained from the inner surface of the arm, forearm or thigh. I have never obtained a graft except from the inner arm, and in one case I removed, at intervals, five grafts from the two arms. The left arm is generally prepared, after the usual manner of shaving, cleansing with green soap, bichlorid of mercury and a saline dressing applied some hours before the operation, so that the graft will be as little irritated as possible at the time of the operation. A nurse or an attendant holds the arm out from the body by the hand, and the arm is wrapped with sterile towels.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Some idea should be had as to the size of the place to be covered, and I usually measure it roughly with the handle of my scalpel, then make the graft at least one-third larger, allowing for shrinkage and a loose fit. An oval graft is advisable, as the wound of the arm which is to be subsequently closed leaves only a linear scar. I usually mark off on the skin of the arm with the knife four small lines indicating the size of the graft, then connect them with a superficial incision, and as the graft is removed the incision is deepened, extending down to the fatty layer. A pair of tissue forceps and a Desmarres lid scarifier are the only instruments necessary in this step of the operation.

The graft should not contain any of the areolar or fatty tissue, and after its removal, with a pair of scissors curved on the flat, the raw surface should be trimmed of all the loose and unnecessary tissue; it is then placed in a towel wet with warm saline solution and is ready to be applied to the raw surface previously made.

The arm wound can be repaired by an assistant, or later by the operator. This operation simply consists in undermining the edges sufficiently to bring them together without tension. Two or three silkworm gut retention sutures are best used, followed by a continuous silk suture of coaptation; a dry dressing is applied and the wound is not disturbed until the fourth day. The nurse should watch for swelling of the hand for several hours after the operation; if present, this would indicate a restricted blood-supply from too tight a bandage or tension of the wound.

The new graft should be applied immediately to the raw surface for its nourishment, but all bleeding of the wound must first be controlled, lest a blood-clot subsequently forming beneath the graft delay healing or form a good nidus for infection. I use a strabismus hook to smooth the graft into place, and it is remarkable how an irregular surface can be beautifully and evenly covered. Small sutures of No. 5 black silk are used to hold the graft in place. They are first placed at four equidistant points, to even the graft, then the space between is filled in with as few as possible to hold the graft steady. If the graft is too large, it can be trimmed after it is in place; but it is better to have a too large, loose fitting graft than a too small, tight one. The subsequent contraction may spoil a beautiful operation.

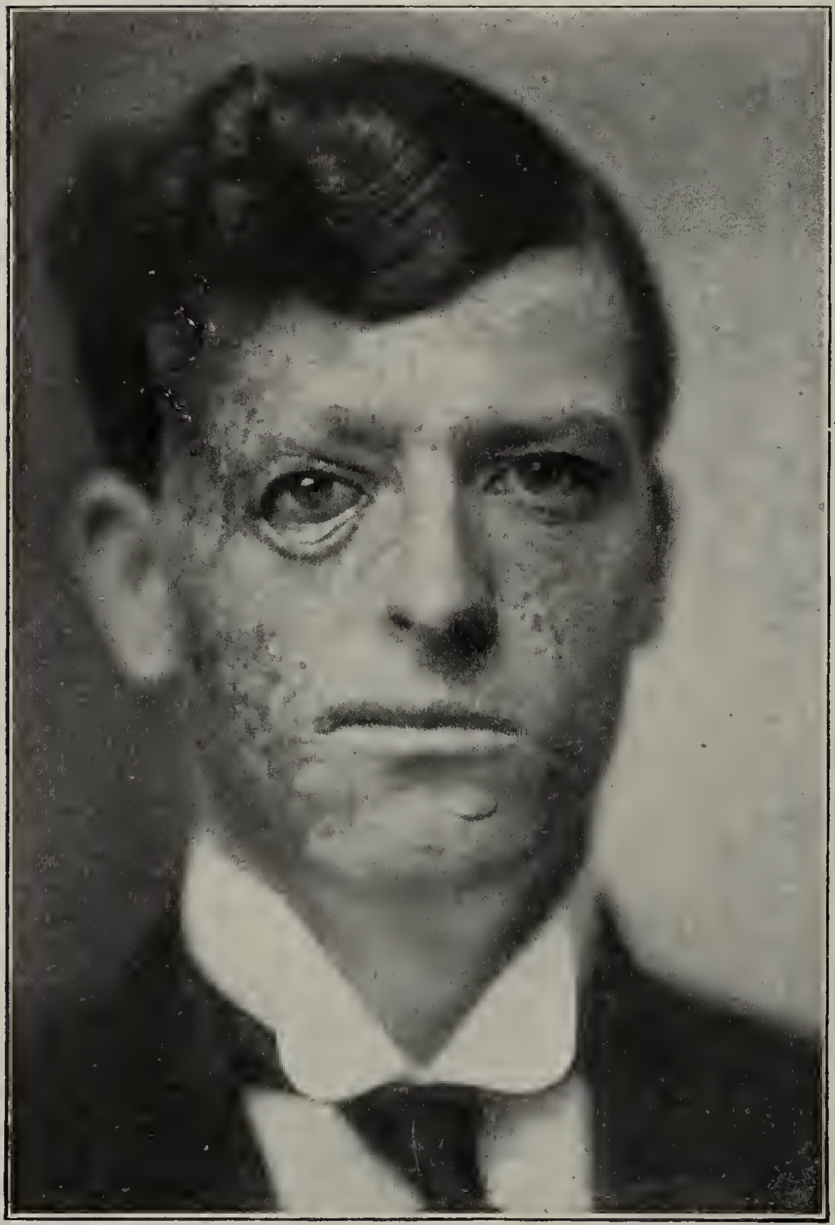

Fig. 1.—Ectropion of upper and lower lids of twenty years' duration, from burn of face.

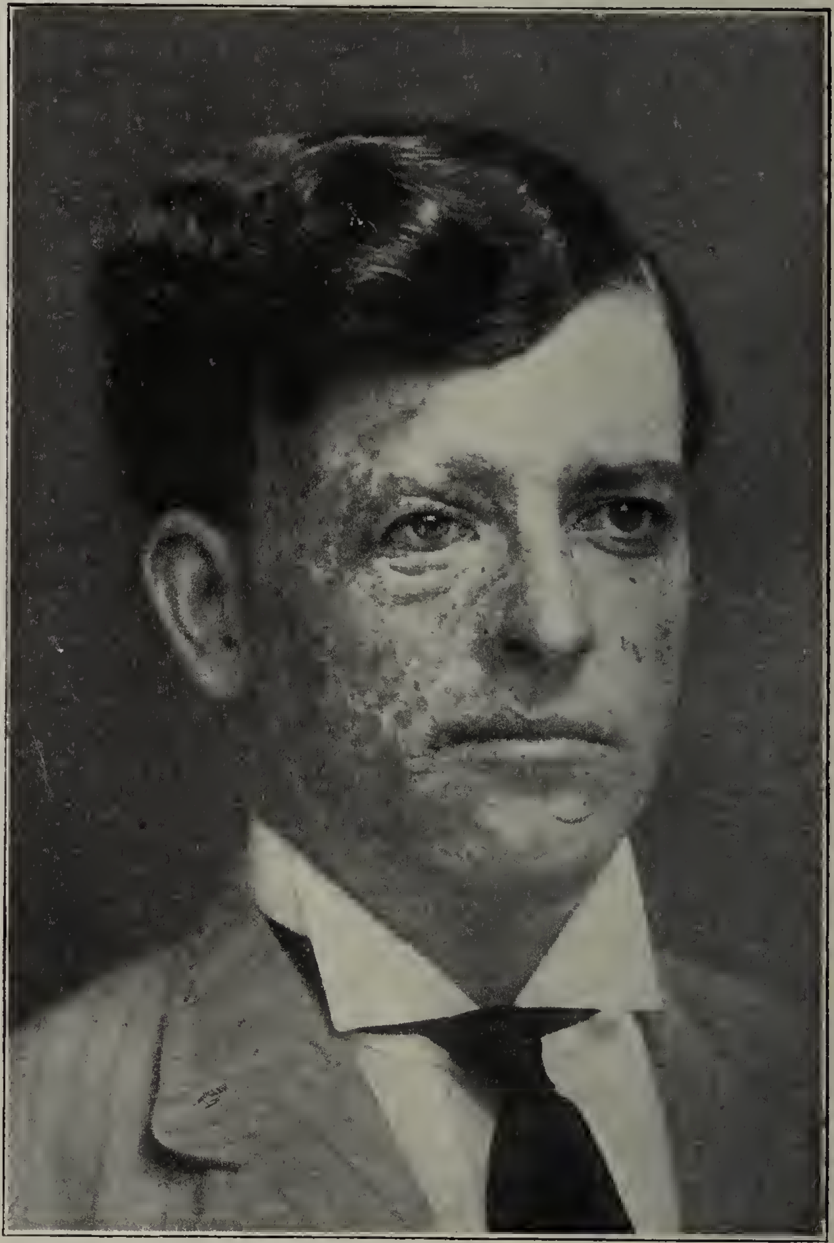

Fig. 2.—Lower lid repaired with a Wolffe graft. Picture taken one year afterward.

A dry dressing is applied, made up of several layers of gauze to absorb the secretion, then loose gauze on top. The first dressing should not be made sooner than the fourth day, then the adherent pieces of layer gauze should be moistened in order not to pull apart the wound. The sutures can be removed, or at least a part of them, for I have found that delayed removal may cause a slight infection, which may destroy the graft. Sterile petrolatum should be gently smeared on the wound, and a tight dry gauze dressing applied. At intervals of two or three days the dressings should be changed until the superficial epithelium of the graft commences to slough, then the wound should be cleansed daily. The slough may be frequently trimmed. In about three weeks the patient can go without a bandage or other protection, but for many months later it is well to have the patient massage the new lid daily with petrolatum, so that it may be kept soft.

In my second case of ectropion of the lower lid there was a slight recurrence two months afterward, but daily massage entirely corrected the condition. The method of restoration of the cul-de-sac by using the Wolffe graft is described in the excellent monograph of Weeks.[1] While the major points of that operation are similar to the method just described, some niceties in technic and the application of sutures and the use of the dental rubber plate for the holding of the graft are more thoroughly explained.

While the operation that I have just described applies best to flat surfaces to be grafted, chiefly ectropions, I have recently used it with success in two nose cases in which the alæ had been destroyed by burns, and in a case of burn in which the upper lip had been pulled high up on the cheek from the scar contraction. The vermilion border was undermined, the scar in part being dissected out and a very loose graft applied. The appearance was much improved.

So far I have not had an infection or a complete failure. The nearest approach to failure occurred in a severe case of ectropion of the lower lid referred to me by Dr. W. P. Nicolson. The patient had had a mole removed from his cheek years ago by the application of some caustic paste, which had caused so much tissue necrosis that most of the soft tissue of the cheek on one side had been destroyed, exposing parts of the upper and lower jaws. Dr. Nicolson restored the cheek by a pedunculated graft removed from the neck, and referred the patient to me to correct the lid deformity. There was little sound surface for the graft, except the deflected ectropic lid, and the slough that followed only delayed epidermization.

672 Peachtree Street.

ABSTRACT OF DISCUSSION

Dr. John E. Weeks, New York: The operation for restoring the lid in ectropion presents a number of important features which may be mentioned, and one is the preparation of the area to be covered. In burns of the skin either above or below, if the burn is extensive the margin of the lid is drawn well up to the brow, and in some cases the ectropion is complete. In these cases the margin of the lid, or what remains of it, the conjunctiva and the tarsus, with a portion, perhaps of the orbicularis muscle, should be dissected from the underlying tissue, and it is well to attach the margin of the lid to the cheek by means of sutures so that the margin of the upper lid, if we are operating on that lid, overlaps the lower lid in its normal position from 1/3 to 1/2 inch, in order, to give as extensive an area as possible on which to apply the flap, because we must provide for subsequent shrinking. The flap, as Dr. Calhoun has said, should be made somewhat larger than the area to be covered as it is marked out on the surface from which the skin is to be removed, as the arm, so that if we make an allowance of one-third of the diameter of the denuded area it will shrink so that it will just about cover the area. The largest flaps I have transplanted have been 2½ by 2¾ or 2½ by 3 inches in diameter. The flap is removed, taking with it as little subcutaneous tissue as possible, and this tissue, if it has been raised with the flap, should be removed as well as possible before the flap is put in position. The question of the retention of the flap in position then comes up. It was my practice years ago simply to undermine the edges of the denuded area to some extent and to crowd the edges of the flap into this little groove thus formed and to permit it to lie in position without the application of sutures; but later I employed fine sutures to attach the flap to the margin of the denuded area, and also one or two sutures passed through the center of the flap to hold the flap to the underlying tissues. This is not often necessary. It occurred in one or two cases that the margin of the flap became displaced somewhat unless it was held in place by sutures. In regard to the dressing, it has been my custom to cover the flap either with gold-beater's skin or with rubber tissue, the surface of which has been smeared with sterile petrolatum, or petrolatum to which some bichlorid has been added in the strength of 1 to 5,000, then to apply a dry dressing and permit the eye to remain bandaged three to five days before disturbing it, according to the symptoms. The place from which the flap should be obtained is the inner surface of the arm, provided this is available. In some cases it is not available and I have removed the flap from the inner surface of the thigh. In one case I had a failure with a flap from the thigh. This was in a patient who was burned, and her condition was not very good, and because of some peculiarity which I did not and do not understand I had sloughing of the flap. The flap can be removed deliberately. There is no necessity for hasty removal although the removal of the flap and placing it in position should be as expeditious as is consistent with good technic. Perforation of the flap is not harmful.

Dr. F. B. Tiffany, Kansas City, Mo.: I wish to emphasize the importance, as Dr. Weeks has said, of freeing the flap from the connective tissue below. This will prevent its shrinking. There will not be nearly as much shrinking if this is done.

Dr. William Zentmayer, Philadelphia: My experience with the Wolffe graft has not been very satisfactory on account of the amount of contraction that occurs with the lapse of time. A year ago I operated for a cicatricial contraction of the lower lid, and when I exhibited the patient at the Clinical Society at Wills Hospital the result was as nearly perfect as it could be. That flap from that day on has dwindled and dwindled until to-day the result is very little better than it was originally. I remember very well Dr. Hart telling us of a case shown at the American Ophthalmological Society. He took the patient to New London and exhibited him, and then took the patient to the meeting a year later to show that the flap had disappeared. There was not a trace of it remaining. I am sorry to say my experience has been the same with small flaps. There may be some fault in the technic; there may be some subcutaneous tissue left, but I try to do it just as Dr. Weeks explains it.

Dr. W. E. Lambert, New York: I have had the opportunity of doing a number of these cases. Dr. Zentmayer has emphasized the importance of removing the subcutaneous areolar tissue, which takes away the tendency to shrink. A large flap is important. I would emphasize the importance of using the sutures. I had a similar case in which this operation was made for the cure of an ectropion, and the picture of the case here reminds me of that. Proceeding as Dr. Calhoun has described, the result was satisfactory. Dr. Calhoun did several of these operations while an intern with us, and I can testify to his expertness. We are glad to turn these cases over to the house surgeon. A case similar to the one described I did some time ago and the result is yet most satisfactory.

Dr. F. Phinizy Calhoun, Atlanta, Ga.: The longest time I have had a case under observation is six years, and every year it seems the patient improves. There is no contraction such as Dr. Zentmayer describes in his case. I do not know why that takes place except that the areolar tissue is left and makes the contraction more marked. This paper deals with twenty-five cases, and since writing it I have had three others. In the first of the series of three by accident the graft fitted the denuded surface exactly. I noticed that the healing was quicker than when a large graft would be crowded into an area, but I do not know that this is advisable, because the contraction in instances in which the flap fits exactly would be more marked than when the flap would more than cover. The cases in which operation has been done were mostly cases in which there were severe burns of the face of long standing. The second patient of this series of three was a man who was burned about six months ago. Three months after the burn I operated, and that really is the only case in which I have had a failure, the only case in which there has been marked contraction of the flap following the operation. I attribute that to the fact that I did not wait long enough. If I had waited six months longer, or a year, or two or three, the result would have been better. I usually take the flap from the inside of the left arm in right-handed people. But I have operated on a girl five times. I have restored the upper and lower lids, the area about the nostrils, and have operated also for contraction of the upper lip. I have taken two grafts from each arm and one from the inner surface of the thigh. I only operate on one lid at a time, because in these cases it is necessary to undermine the lid to pull it down and it more than covers the eyeball, whereas if you operate on both lids at one time one lid would overlap the other, which would be objectionable. I always apply a dry dressing first to absorb as much of the moisture, tears and blood as possible. The application of petrolatum, I believe, would prevent this absorption. After the first dressing petrolatum is an ideal dressing.

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[1] Tenth Congress of Ophthalmology, Lucerne, 1904.

A CASE OF ACUTE GASTRIC ULCER OF THE ANTERIOR WALL

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Ulcers of the posterior wall and greater curvature of the stomach and duodenum in the region of the pylorus are most common, while those of the anterior wall all the way to the fundic region are distinctly uncommon—comprising, possibly, not more than 10 per cent. of the areas with which gastric juice comes in contact in the process of gastric digestion. Ulcers in the latter location are but rarely diagnosed medically, diagnosis usually taking place at operation for their perforation, a complication most likely to happen in these cases because of the unprotected anatomy of the anterior area of the stomach. The rapid peritonitis consequent to perforation of these ulcers, also makes the diagnosis of them important, and a case is offered in which this was possible and in which the medical treatment was successful.

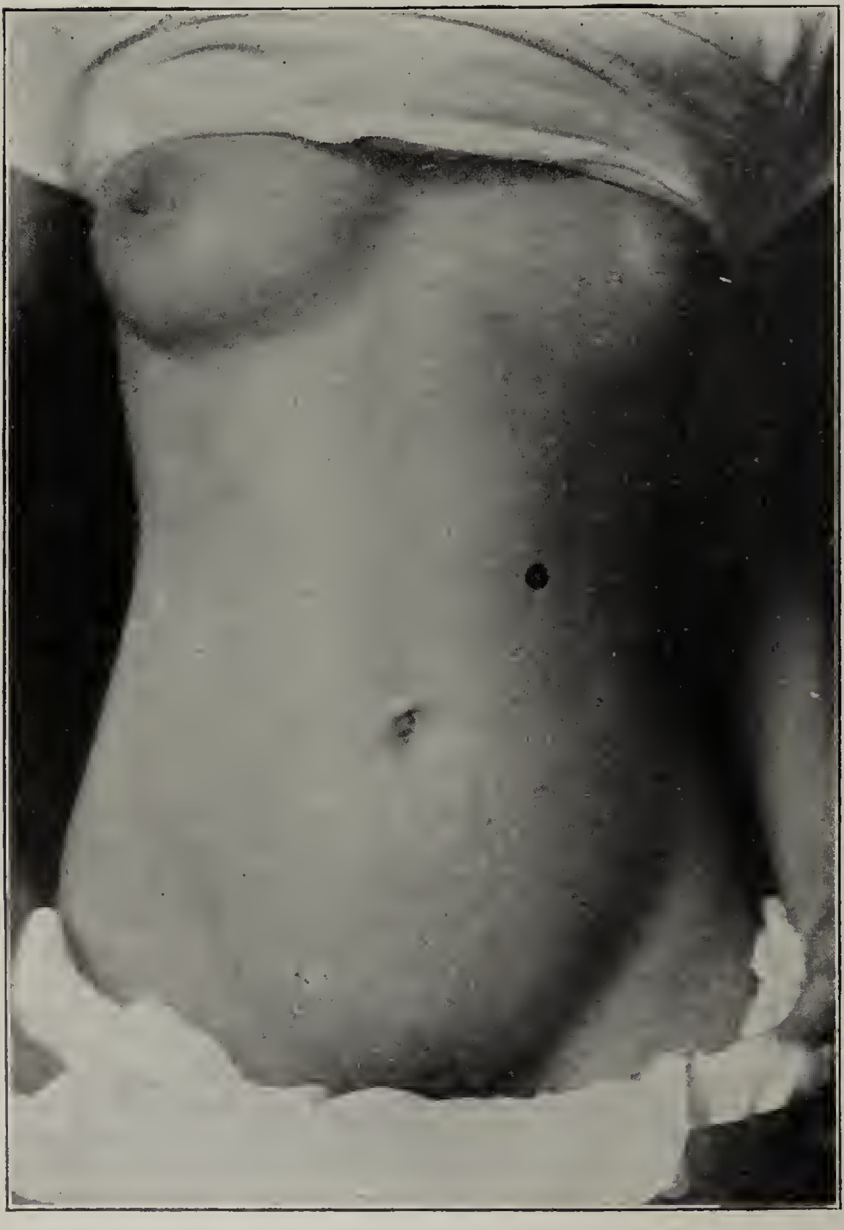

Fig. 1.—Showing the patient and the location of the subjective pain, the point of tenderness on pressure and the plastic exudate. There was no referred pain or tenderness in the back.

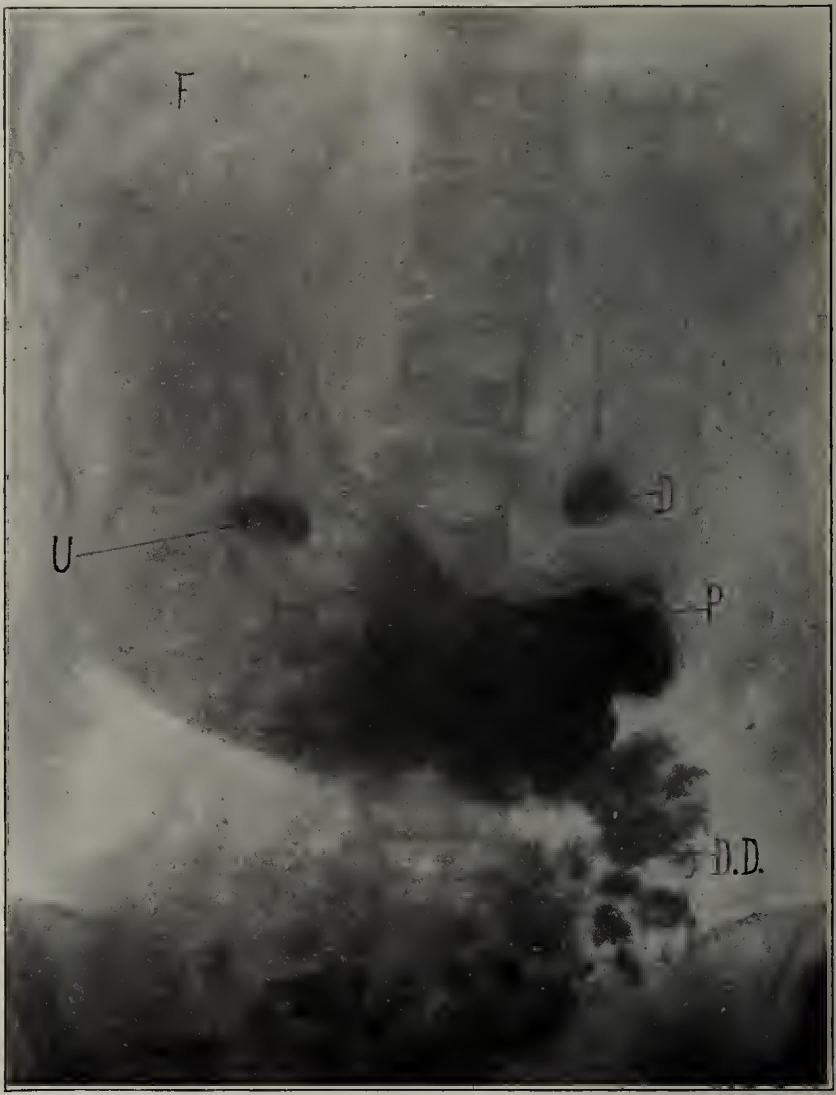

Fig. 2.—*X*-ray plate of the patient, showing the ulcer, the large and prolapsed stomach and the hypermotility. U, ulcer; D, first part of the duodenum; P, pylorus; DD, lower portion of the duodenum; and F, fundus with the stomach rugæ below it.

Patient.—Miss E. McD., a stenographer, 18 years old, was first seen on Feb. 28, 1911. Her father died at the age of 45; cause unknown. The patient's mother was living and well. The patient had always been fond of sweets (mostly candy) and had indulged intemperately for several years, which at times had brought on an acute distress in the stomach with a day or so of anorexia; other than this the patient had had no illness except measles and scarlet fever in early childhood. In December, 1910, she began to have a constant distress in the stomach, in which the symptoms of excessive gas collection with eructations and pain an hour after meals in the left side of the abdomen were the prominent features. This pain, which was most acute, was relieved to a moderate degree by the taking of food, more so by bicarbonate of soda, and was entirely relieved when the patient lay flat on her back with her corsets off. She stated that by taking milk, eggs and other simple foods in small quantities at a time with the assistance of bicarbonate of soda, she was able to be about at her work. The solid foods she ate evenings and Sundays when she could lie down for three or four hours after taking them. According to her statement, she had lost only 4 pounds since the beginning of her illness.

Physical Examination.—The patient's facial expression was that of intense suffering while sitting and changed to one of complete relief when lying. The lungs were normal, and the heart also, excepting a hemic blow over the body which was transmitted to the vessels of the neck. The skin and mucous membranes were abnormally pale. There was but slight development in the soft body tissues; the long chest and abdomen presented the type of a girl. On palpation the abdomen was held contracted, especially on the left side, and notably the left rectus muscle. An area of exquisite tenderness to pressure was evident about 2 inches above the transverse umbilical line and just at the edge of the rectus. Careful palpation of this area with the knees raised toward the thorax disclosed a mass, thin and soft to the touch, at the exact site of the tenderness, which I am led to believe was a plastic exudate on the gastric peritoneum over the ulcer. The stomach was low and dilated, and gases could be heard passing through the pylorus. The right kidney was palpable to within an inch of the upper pole under deep inspiration. The test-meal (simple) taken the next morning showed a return of 120 c.c., a free hydrochloric acid, 55; combined hydrochloric acid, 28, and a total acidity, 87. A small amount of macroscopic blood was present with one small clot. The feces voided the day before and two days afterward showed the presence of occult blood. Three *x*-ray plates were then taken. Each showed that the stomach had discharged the greater portion of the ounce of bismuth given into the small intestine (hypermotility), that the organ was large and low (dilatation and prolapse), and that the ulcer-bed was lined with bismuth. When the *x*-ray plates were held against the patient's body, and the ensiform and umbilical markers on the plates matched to these parts on her body, the location of the ulcer noted on the plate corresponded exactly to the point of tenderness and the plastic exudate.

Course of Disease.—The next morning when the patient went into the hospital, the blood showed erythrocytes 3,700,000, morphology normal, hemoglobin 67 per cent. (Dare), color index 0.6, leukocytes 8,290, and differential count normal. Kept steadily in bed for three weeks, she was fed by the Lenhartz method, the feedings of milk being given at stated times and amounts during the day and night. The administration of finely comminuted foods was begun late in the third week. The stomach was maintained alkaline by a mixture of alkaline powders, without soda bicarbonate, this being given at three-hour intervals. The bowels were moved each day by a castile soap enema (not saline, because this increases the hydrochloric acidity in the stomach). Liquor ferri albuminatis in 2 dram quantities in water t. i. d. was used to combat the anemia, and an ice-bag was employed during the first days to decrease the tenderness at the ulcer site, although this was hardly necessary as the patient was on her back all of the time. She made a perfect recovery, and when she left her bed there was no spasm of the left rectus, no tenderness on pressure over the ulcer site, and no plastic exudate. The blood had come up to 4,100,000 erythrocytes, 87 per cent. and color index 0.85. She was then fitted with a corset which raised the pyloric region over four inches; her feeding was increased to the taking of more solid foods, the alkaline powder kept up, the iron tonic diminished to half quantity each day, and Carlsbad salts used to move the bowels. She went into the hospital weighing 98 pounds, and now at the end of two months thereafter weighs 127 pounds, and is without a symptom of digestive distress. The *x*-ray plates of to-day do not show the ulcer; the stomach is smaller in capacity, hypermotility is no longer a feature, the test-meals are normal, and the feces free from blood.

126 East Sixtieth Street.

Legal Sentence of Optional Suicide.—In Nevada a condemned first-degree murderer may select one of several methods of self-poisoning in lieu of hanging. Among the poisons he is allowed to select for self-administration is hydrocyanic acid with the information conveyed with the death potion given him, that a drop of this drug put on the tongue will kill instantly.—*Alienist and Neurologist.*

FRACTURE OF THE CERVICAL SPINE *

THOMAS M. WILLIAMS, M.D.
PALO ALTO, CAL.

History.—H. M., aged 24, a Stanford student, very muscular and athletic, while performing in the gymnasium was tumbling over a horse 2 to 3 feet high. He had taken hold of the saddle, flexed his head and neck, and was in the act of going over when his hands slipped off the saddle. His feet being in the air he fell to the mat on the same side of the horse from which he started. He landed on the left side of the head, with the neck completely flexed and was picked up by the boys in the gymnasium and found to be completely paralyzed from the neck down. He was entirely conscious, and complained of some pain in the neck. He had difficult and asthmatic breathing and a weak pulse. Dr. Mosher, who was near at hand, had him placed on one of the stiff mats and with a student to hold his head in extension sent him to the Peninsula Hospital where I saw him on arrival. He was cyanotic and in a state of considerable shock, but had a normal pulse-rate and was given camphorated oil and strychnin with good effect. The pain in the neck was relieved to some extent by slight extension and pull on the head. This also improved the character of the breathing. If the pull was allowed to relax, the patient became more cyanosed and his breathing more asthmatic and some one had to hold his head in this position until we could get a head harness arranged and fitted to him. On first manipulating the head I obtained crepitus in the lower cervical region and a slight prominence could be felt on the right side of the midcervical region. This extension had to be kept up so long as the patient lived, except when he would ask to have it removed for short intervals. This change gave his neck a rest but he would soon ask to have weights reapplied. At first 15 to 20 pounds was necessary. Later 5 pounds was sufficient.

Examination.—At this time Drs. Josiah Kirk and H. B. Reynolds of Palo Alto saw the case with me. A few hours later Dr. Stanley Stillman and Dr. R. L. Wilbur of San Francisco were called and a complete examination disclosed:

1. Complete paralysis of all muscles below those supplied by the nerves from the fourth cervical segment. Patient could shrug his shoulders or move his head.
2. Complete loss of sensation in all its forms extending up to a line of demarcation extending across the chest 2½ to 3 inches below the clavicle and running out over the upper part of the deltoid and around the back.
3. Loss of knee-jerk, ankle-clonus and cremasteric reflex. Plantar reflex normal. (The patient felt the tapping in the back of the neck when the patellar tendon was struck. This was not felt when tapped at any other point.)
4. Priapism partial. Increased by passage of catheter. Bladder and rectum paralyzed.
5. No profuse or abnormal sweating in paralyzed or other parts of body.
6. No areas of hyperesthesia or pain pointing to irritation.
7. Pupils contracted slightly but reacting to light and accommodation.
8. Temperature 97; pulse 71; respiration 32;
9. Respirations purely diaphragmatic and asthmatic. It is is interesting to state here that the boy was a sufferer from asthma, and that the accident brought on an acute asthmatic attack.
10. No interference with swallowing and no hematoma in pharynx.

Dr. Kirk succeeded in getting an *x*-ray photograph of the neck taken from the side which showed a fracture of the fifth cervical vertebra and a dislocation between the fourth and fifth. Displacement was very slight. The plate also shows very prominent body of axis, which might lead one to believe that there was an anterior displacement of the vertebra.

At this time all those who saw the case, I believe, were agreed that there was no indication for operation but that in all probability the cord had been severed and the dislocation had been reduced.

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* Read before the California Academy of Medicine, April 24, 1911.

The diagnosis was probable fracture and dislocation forward of fourth cervical vertebra completely severing the cord.

The following day Dr. Watters of Watsonville, the boy's family physician, saw him but could see no reason for an operation.

The symptoms as above given remained practically constant for the next five days, except that after two days the plantar reflex became greatly exaggerated so that a stroke on the sole of the foot would cause a contraction of all the muscles of the leg and thigh. The asthma cleared up and breathing was easier, and the patient had at times a sensation of fulness in the stomach and bladder; a time or two also he said that he had a tingling in his hands, that one foot was drawn up or that his hands were extending up above his body.

The bowels were moved by enema, and the bladder emptied of normal urine by catheter. There was some increase of gas in the bowel but no marked tympanites. There was no profuse sweating, no indication of pressure necrosis, and less pain in the neck. The patient slept fairly well. He continued to have trouble clearing his throat of mucus, as he was unable to expel it by coughing, but he had no trouble whatever swallowing food and water. At times he said that he felt like vomiting but he never did so. At times he said that he had pain in the small of the back relieved by change of position. The blood-pressure varied between 110 and 130 mm. and the temperature ranged upward from the beginning, reaching 104.4 F. twelve hours before death. The pulse remained slow and of good quality; the respiration was irregular at times, and the patient was slightly delirious a few times at night, though otherwise perfectly conscious up to within two hours of his death.

On the morning of the fifth day he was cyanosed, with weak pulse and the right heart extended considerably to the right of the sternum; the breathing was shallow, the pupils contracted and the patient restless and uncomfortable. There was dulness at the base of both lungs with coarse râles. The pulse grew weaker rapidly, and the respirations more shallow; the patient became unconscious and both pulse and respiration ceased. The patient went through all the death agonies and was apparently dead, but after some minutes the heart began to beat violently, and respiration began again. Within a few minutes the color was good, pulse stronger, and respiration as easy as at any time. Again the respiration and pulse failed and life seemed extinct. This was repeated four times before death, the patient remaining unconscious from the first collapse. The cause of death was apparently an edema of the cord extending downward to the first dorsal segment, leading to the narrowing of the pupils, and upward to the phrenic centers in the fourth cervical cord segment, causing the respiratory disturbance.

Thomas, in the Report of the Boston City Hospital for 1900, sums up the indications of complete severance of the spinal cord as follows:

1. Complete paralysis, usually of flaccid character.
2. Complete loss of sensation in all its forms.
3. Absence of reflexes, especially of knee-jerk, while the plantar on the other hand is often retained.
4. Complete paralysis of bladder and rectum with priapism.
5. Vasomotor paralysis with sweating of paralyzed parts.
6. Most important is absence of variation of symptoms.
7. Absence of irritative phenomena such as pain.

We had then apparently the classical symptoms of completely severed cord.

One thing apparently mentioned by many reports is the profuse sweating, which was lacking in our patient; and another thing in this case, not brought out in anything I have read, was the great exaggeration of the otherwise normal plantar reflex. This was not of the Babinski type.

The young man's father was willing and anxious for a necropsy and we were thus enabled to confirm or disprove our diagnosis. There was no difficulty in saying to what segment of the cord the injury reached, but those of us who were willing to venture a diagnosis as to what vertebra was fractured before making a close study of the *x*-ray plate placed the fracture too high up, as is practically always the case, according to various clinical reports.

Necropsy.—Dr. Zinsser and Dr. Meyer performed the necropsy. The right heart was markedly distended with dark blood, and there was congestion of the pulmonary bases, but no sign of infection in the body. Dr. Meyer was kind enough to remove the first six cervical vertebræ with the cord and to prepare the specimen for me. His report follows:

Anatomic peculiarities, first six vertebræ: Ventrally the specimen as a whole is slightly asymmetrical, the right half being larger. On its ventral surface there is a marked depression directly inferior to the arch of the atlas. This depression is due to the presence of a large arch with a prominent tubercle in the mid-line and to a still more marked right superior articular process on the axis. Moreover the anterior surface of the odontoid process slopes gradually backward or dorsally throughout its extent and the body of the axis is unusually prominent.

The spine of the axis is very broad and thick, but that of the third vertebra is very narrow and pointed and deflected to the left so as to be united closely with the left process of the deeply bifurcated spine of the fourth. The spine of the fifth, which is deeply and asymmetrically bifurcated, is markedly inclined, completely clasping the spine of the sixth and firmly interlocking with it.

On external examination no displacement of the spines was noticeable. Pharyngeal examination revealed nothing save a marked depression high up in the retropharynx. Digital pressure in this depression accompanied by firm support of the occiput followed by sudden relaxation resulted in a slight but definite impact.

The six cervical vetebræ were dissected *in toto.* No ecchymosis or displacement was noticeable until all muscles had been removed. On the anterior aspect of the specimen a slight depression and ecchymosis into the deep fibers of the longus colli muscle and the anterior common ligament were noticed over the right half of the body of the fifth vertebra. There was also a fracture of the right inferior articular process of the fourth and a superficial fracture of the dorsal inferior portion of the corresponding lamina. A similar fracture of the dorsal inferior surface of the left lamina of the fifth was also present but there was practically no displacement of these fragments; the ligamenta subflava were intact and the external or lateral portion of the articular capsule of the fourth was not ruptured, though the extension of the fracture into the pedicle of the fourth would seem to imply that the minor portion of the capsule was torn.

There was no extradural blood, but the dorsal surface of the dura was somewhat hemorrhagic in the region of the third and fifth vertebræ. But a small amount of cerebrospinal fluid escaped, though the subdural space was completely obliterated by the swollen cord, which completely filled the dura from the third vertebra. The pia and arachnoid were intact, but the cord was plainly hemorrhagic throughout the region of its enlargement. There was marked softening and a depression in its substance was palpable opposite the root of the fifth nerve.

After hardening, the nerve-roots on the right side were cut and the cord reflected to the left. A slight round prominence and a longitudinal tear 2 cm. long on the dura and posterior common ligament were found opposite to the fourth and fifth vertebræ. The prominence was confined to the body of the fifth, while the mid-point of the tear was opposite the third intervertebral disk, i.e., the one between the fourth and fifth vertebræ. Opposite this tear a similar one, but only 1 cm. long, was found in the arachnoid and pia, and through it about one-third c.c. of cord substance protruded. There was only a trace of a clot surrounding the tear in the dura and ligament. On transverse section the gray matter of the cord was found to be practically obliterated by hemorrhage and there was softening of the whole substance of the cord in this region of enlargement.

On sagittal sections of the bodies of the vertebræ a comminuted fracture of the right part of the body of the fifth accompanied by a transverse fracture of the disk between the fourth and fifth were found present.

Some of the organs (lungs, kidneys, spleen, heart and aorta, piece of stomach) were submitted to Dr. William Ophüls for examination who reports as follows:

Pathologic Report.—Some irregular areas of collapse in both lower lobes; no scars of apices. Very slight pigmentation with coal dust. Aorta small, moderate hypertrophy of left ventricle (athletic). Few small slightly elevated yellow spots in aorta and on large flap of mitral valve. Hemorrhagic erosions in stomach. Marked fetal lobulation of kidneys. Marked passive congestion of spleen and kidneys. Emphysematous inflation of asthmatic lungs. Sections of lungs show hypertrophy of involuntary muscle in small bronchi. Much contracted and lumen of bronchi very narrow. Lung tissue hyperemic, air-spaces partly dilated, partly collapsed. Few areas of cellular thickening and fatty degeneration in intima of aorta; some fibrosis in media and adventitia. Kidneys show desquamation in small tubules, few hyaline glomeruli, no arteriosclerosis in larger arteries. Marked hyperemia of venous capillaries in spleen. Mucous membrane of stomach normal. Asthmatic lung, partial collapse of lung tissue, passive congestion of kidneys and spleen; beginning arteriosclerosis of aorta.

ANAPHYLAXIS AND THE TOXIC SUBSTANCE FROM VIRULENT PNEUMOCOCCI *

E. C. ROSENOW, M.D.
CHICAGO

From a study of the action of autolytic extracts in NaCl solution of virulent pneumococci, it has been learned that they become very toxic to normal guinea-pigs at a certain period during autolysis. Intravenous or intracardiac injections of from 3 to 7 c.c. produce symptoms and post-mortem changes in every way typical of anaphylactic shock obtained in sensitized pigs following the second injection of protein. The symptoms usually begin before the injection is completed and death occurs in from two to ten minutes. Thus far, eight strains of virulent pneumococci have yielded this highly toxic substance. Early the extracts are only slightly toxic to normal animals, but very toxic to animals sensitized with extracts of pneumococci. At the end of from twenty-four to forty-eight hours at 37 C. (especially if ether has been added) or from four to ten days in the ice-box (without ether) they are very toxic to normal animals, but only moderately or not at all to sensitized animals, while still later they become quite harmless to both normal and sensitized animals. It makes no difference whether the cocci are washed or not, whether grown in broth or on blood-agar slants. Nonvirulent pneumococci, which as a rule contain little or no autolytic ferment, heated virulent pneumococci and pneumococci killed with formaldehyd solution or bichlorid of mercury fail to yield any toxic substance for normal guinea-pigs. The toxic property of extracts of virulent pneumococci is destroyed largely on heating to 60 C. for half an hour and wholly on boiling for ten minutes. Digestion with serum, with leukocytes or with trypsin at 37 C. for eighteen to ninety-six hours also destroys the toxic power. A similar toxic substance is obtained at a certain period in broth, and especially in serum broth, cultures of virulent pneumococci. Here especially and less so in the NaCl solution extracts, the toxicity is greatest when proteolysis as determined by the formalin titration method has reached a definite point.

From consideration of the results and from a comparative study of the effect of extracts in NaCl solution and of the anaphylotoxic substance obtained by the interaction of pneumococci (antigen), immune serum (amboceptor), and normal serum (complement), and by normal serum alone on pneumococci it seems certain, first, that pneumococci, and hence probably other bacteria furnish at least a part of the anaphylotoxic substance when treated with amboceptor and complement *in vitro*, as well as *in vivo* when injected into previously sensitized animals, and second, that the symptoms in pneumococcus infections may be due to this highly toxic substance. The finding of this toxic property of extracts of pneumococci has another important bearing. Based on studies of anaphylaxis a number of investigators conclude that bacterial intoxication is possible only after certain antibodies have been formed which now attack the infecting bacteria and convert their relatively harmless bacterial proteins into highly toxic products. That this may be the case in many infections is supported by clinical observations. But in view of my results and other facts, it seems certain that at least some strains of virulent pneumococci possess all the essential properties to produce disease forthwith.

A fuller report of this study will appear in a forthcoming number of the *Journal of Infectious Diseases.*

122 South Michigan Avenue.

EMPHYSEMA OF THE SKIN OCCURRING DURING LABOR

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NEW YORK

Emphysema of the skin is of rare occurrence, especially as a result of violent straining during labor. It has been known to occur from excessive vomiting or paroxysmal attacks of coughing, which caused a rupture of the pulmonary alveoli with the escape of air into the subcutaneous tissues. The case here reported is the only accidental complication of its kind that has occurred in the Sydenham Hospital.

The patient is a primipara, 20 years of age, a shop-worker by trade, admitted in labor into the maternity wards of Sydenham Hospital at 7 a. m., March 21, 1911. There was a three-finger dilatation of the cervix, head engaged (R. O. A.), membranes unruptured, heart sounds audible in the right lower quadrant anteriorly. A vaginal septum ¼ of an inch thick, extending from a point just below the meatus urethræ and disappearing into the fourchette, completely divided the orifice. The pelvic diameters were normal, measuring respectively, external conjugate, 20 cm.; diagonal conjugate, 10.5 cm.; interspinal, 22 cm.; intercristal, 26 cm.; anteroposterior at the outlet, 9.5 cm.; transverse at the outlet, 7.5 cm. The temperature was normal; catheterized specimen of urine negative.

At 2 p. m. the same day the membranes ruptured, pains became more frequent and as the presenting part was dilating the vulvovaginal orifice and stretching the septum in advance of it, the patient made excessive efforts to overcome this obstruction. Spontaneously with her straining a swelling suddenly appeared on the right side of her neck and around the angle of the lower jaw, gradually covering the face on that side, distorting it and closing the eye completely. By the time the septum had been broken through and delivery of the child was accomplished, the swelling had extended to the root of the neck and upper part of the chest with a distinct line of demarcation. Complicating this, as a result of violent straining, there was a prolapse of the cervix outside of the vagina which, after the placenta was expelled, was replaced and retained by a vaginal pack. This degree of prolapse is rare in primiparæ. This patient was in labor sixteen hours.

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* From the Memorial Institute for Infectious Diseases. This work was aided by a grant from the American Medical Association.

On examination of the swelling, a cushiony feeling with a distinct crackling sensation was imparted to the fingers over the entire area. There was no redness, pain or tenderness accompanying it, but there was some dyspnea and a slight cyanosis. No wound of the face or mouth was perceptible and laryngoscopic examination of the throat showed everything normal, rupture probably having taken place at the apex of the right lung with a burrowing of air in all directions. Percussion produced a tympanic note over the swelling on the upper part of the chest, palpation, a decrease of tactile fremitus, and auscultation, distant breathing and fine crepitant râles. The patient was left alone and the swelling gradually subsided day by day until it had entirely disappeared at the end of the tenth day, when she was discharged. Normal temperature persisted throughout; the catheterized urine was still negative and breathing on that side more distinct.

220 East Twelfth Street.

[Comment.—Emphysema of the skin occurring during labor is rare. Kosmak in the *Bulletin* of the Lying-in Hospital of New York in March, 1907, collected reports of seventy-seven cases from the literature since 1791. In Dublin there were only seven cases in 13,478 labors. The complication is found almost always in primiparæ. Like the case described above, the swelling generally begins in the face and spreads to the neck. In many of the cases tenderness and dyspnea were more prominent. No anatomic explanation of the rupture of the air cells was found in any case. The emphysema began generally with severe bearing down pains.

The prognosis is always good, the swelling disappearing in from a few days to several weeks. The treatment is symptomatic and expectant.—Ed.].

REMOVAL OF AN OPEN SAFETY-PIN FROM THE TRACHEA BY UPPER BRONCHOSCOPY

G. HUDSON-MAKUEN, M.D.
PHILADELPHIA

The inhalation of an open safety-pin is a sufficiently rare accident to warrant the following brief report, and with one possible exception, the removal of an open safety-pin from the trachea by any other than a cutting operation seems not to have been mentioned in the literature.

Patient.—A. S., a girl of 13 years, was referred to me by Dr. John Hoskins, Chester, Pa., May 8, 1911, with a history of having "swallowed" a safety-pin on the preceding day, while laughing with some of her friends.

Examination.—The doctor reports having seen the child a half hour after the accident and having found her in a very nervous state, with slight aphonia, but suffering no pain or other inconvenience. The patient thought she could feel the pin just below the larynx in the region of the cricoid cartilage; but Dr. Hoskins failed to locate it by means of the laryngoscopic mirror. Thinking that it was probably in the esophagus, he then resorted to various emetics, but the resultant vomiting failed to dislodge the pin. The child was then put to bed and on the following morning she was taken to the hospital, where another unsuccessful attempt was made to locate the pin by means of reflected light, and to remove it by means of esophageal forceps. A skiagraph was then taken, and the patient referred to my department by the visiting surgeon, Dr. H. M. Hiller. I immediately examined the patient by means of reflected light and the laryngoscopic mirror, and I thought I could see the head of the pin about a half or three-quarters of an inch below the glottis, but I could not be sure. The skiagraph indicated that the pin lay in an antero-posterior plane, however, and this seemed to indicate its lodgment in the trachea rather than in the esophagus, because (as has been pointed out by Dr. Chevalier Jackson and others) the plane of an open safety-pin in the esophagus is usually in the lateral position.

Having no bronchoscopic instruments at hand, and the patient being comparatively comfortable, with the exception of a slight sensation in the trachea during occasional spells of coughing, it was decided to put her in bed again until the necessary instruments could be obtained, and other preparations made for securing the pin.

Removal of Pin.—On the following evening, the patient was chloroformed and the Jackson bronchoscope passed into the trachea in the usual manner through the laryngoscope. The projecting, flat, square head of the pin almost immediately came into view, and by means of the special instrument, devised originally, I think, by Dr. Algernon Coolidge, Jr., of Boston, the distal spiral end of the pin was engaged in the ring and pushed down and the pin was closed with the forked probe.

When, however, an attempt was made to withdraw the bronchoscope and the inclosed instruments with the pin attached, it was found impossible to do so, and thinking that the obstruction might be due to some twisting of the pin and to a possible tugging on the tracheal wall, but little force was used. I then decided to withdraw the two instruments in the tube, first the pin-pusher, and then the ring instrument, and to our great gratification, the pin came through the tube on the end of the ring. It was under slight pressure, however, so that it snapped off the ring on the floor before we could get any definite knowledge as to how it was engaged in the instrument. It was then with considerable difficulty that the glottic spasm was overcome and the tube removed from the larynx.

Subsequent History.—The patient took the anesthetic well, and with the exception of slight reflex spasms of the respiratory muscles, notwithstanding occasional applications of a 20 per cent. solution of cocain to the tracheal wall, no unusual difficulties presented themselves. A hypodermatic injection of two hundredths of a grain of atropin before the operation served to check secretions at the end of the bronchoscope, so that an aspirating apparatus was unnecessary.

Barring a little tracheal catarrh for a few days, the patient had no after effects that could in any way be referred to the presence of the foreign body, or to the measures employed for its extraction. She lost no blood in the operation, nor was there any tinge of blood in the two or three days of slight cough and expectoration which followed.

1627 Walnut Street.

STUDIES ON PYOCYANEUS IMMUNITY

WITH SPECIAL REFERENCE TO THE THERAPEUTIC VALUE OF VACCINES *

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PHILADELPHIA

Inoculations with dead, attenuated, and even fully virulent bacteria, and extracts of their cells, have been employed to some extent as prophylactic and curative measures in combating the ravages of certain infections diseases during the past thirty years. In spite of the accumulated experimental evidence demonstrating the value of these agents in inducing immunity, however, their employment was not widespread and, with the exception of an occasional wave of interest sweeping over the medical world and soon becoming quiescent, comparatively little attention was directed toward this phase of therapeutics by the practitioner.

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* From the Laboratory of Hygiene; Dr. A. C. Abbott, Director.

This state of affairs existed until Wright, after years of arduous experimentation, advanced a new theory regarding immunity, namely, the opsonic, and advocated the employment of bacterial vaccines in the treatment of certain infections and, with other investigators, as prophylactic measures against other diseases, advancing at the same time an extremely ingenious method of controlling the inoculations by determining the opsonic value of the serum. Here, at last, was something tangible as regards when, where and how to employ bacterial vaccines as therapeutic agents and the attention of the profession was attracted; numerous articles on the clinical phase of the subject appeared; bacterial vaccines were placed on the market by enterprising manufacturers, and these agents were employed at one time or another in treating the majority of bacterial diseases, frequently with little knowledge or forethought on the part of the physician as to the nature of the disease or the organism responsible for its existence.

The therapeutic employment of bacteria and their products in combating infections had not, up to this time, by any means kept pace with scientific experimentation; while, as regards the opsonic theory and the employment of Wright's vaccines, the reverse is true. Scientific research has not kept pace with the attempts on the part of numerous practitioners to cure, by the use of vaccines, various forms of infection, the specific cause of which is known; failing to realize that immunity is of various types, and that certain infections are of such a nature that little or nothing can be expected from the use of vaccines.

Among the infections in which vaccines have been employed as therapeutic measures are those in which the *Pseudomonas pyocyanea* (*Bacillus pyocyaneus*) is concerned either as the primary cause or as the secondary invader of a process primarily due to some other organism. There are decided variations of opinion among those who have employed pyocyaneus vaccine regarding its value. Some claim to have obtained excellent results; others are of the opinion that the vaccine is of little or no value; while still others are non-committal.

I have employed vaccines in treating local infections in which this organism was present, but have never observed improvement in the condition that could be attributed to their action, and, have, on several occasions, made the statement that pyocyaneus vaccine, so far as personal experience went, appeared to be of no value. This statement occasioned some adverse criticism, and the following research was undertaken with the object of determining if possible, by animal experimentation coupled with clinical experience, whether or not vaccines could rationally be expected to exert a curative action on pyocyaneus infections. In this work, as was anticipated, some difficulties were encountered. When one considers the fact that the infections produced by this organism, as compared with those due to many other bacteria, are infrequent, it would seem that their consideration was of less importance than problems relating to other subjects; yet the attention attracted by, and the severity of such infections in many instances, together with the differences of opinion regarding the value of vaccines, raises the problems to a sufficient degree of importance to warrant a somewhat extended investigation in attempting to decide the questions raised.

This organism, first isolated by Gessard, is widely disseminated and varies markedly in its pathogenicity; some strains having very slight, if any, pathogenic properties, being often present apparently only as harmless saprophytes; other strains possess a greater or lesser degree of virulence, some being so highly virulent as to cause death in a very short time after the tissues are invaded. It is usually found in local infections, in some cases as the primary causative agent, but more often as a secondary invader of a condition primarily due to some other organism. The organism may gain access to the general circulation and bring about, by the action of their toxic products, either a septicemia or a pyemia.

These general infections, while not common, are of great severity, usually terminating in death. Such infections are usually seen in individuals whose resistance has been lowered by some metabolic disturbance due to other causes—in other words, some systemic condition in which the normal defenses of the body have been decreased.

Waite[1] reports two interesting cases of general pyocyanic infection, and gives an excellent summary of the various conditions in which the organism under consideration is found, together with references to the literature on the subject.

Different strains of the organism likewise vary in the degree of pathogenicity toward the lower animals; some apparently exerting no detrimental influence on the animals of the laboratory, while others cause death in a shorter or longer period. Cultures grown on artificial media usually lose their virulence, to a great extent, within a comparatively short time. One may succeed in bringing about an increase in the virulence of some attenuated strains by passing them through a series of guinea-pigs; in other cases, the virulence is apparently lost.

The pathogenic action of this organism, as is well known, is not due to one, but to several toxic substances; which fact must be taken into consideration in the treatment of infections caused by its presence. Wassermann[2] demonstrated the presence of a soluble toxin which differs from the majority of toxins in its resistance to heat, 100 C. not rendering it inactive. He further concluded that an endotoxin was formed. These facts have been confirmed by others. Gheorghiewski[3] demonstrated a destructive action on the leukocytes, which he attributed to the action of a leukocydin.

This phenomenon is frequently observed in making opsonic preparations, especially with highly virulent and active cultures, and was an interfering element in our work, the counting of the bacteria in the leukocytes being rendered difficult by the fact that many of these cells presented a granular or disintegrated appearance. This was so marked in some preparations as to render their study of no value, and correct numerical estimations in these preparations were impossible. This difficulty was overcome by washing the organisms in salt solution, centrifugalizing, and employing for the suspension the sedimented bacteria. The phenomenon was at first attributed to enzyme action. It may have been due to a leukocydin. Extracts of the bacterial cells did not, in the few experiments made with them, bring about this change in the leukocytes, but old toxic filtrates exert a marked leukocytolytic as well as hemolytic action.

The organism also contains a pyogenetic proteid (pyocyaneus proteid) which can be separated from the cell, and exerts marked positive chemotactic properties.

Immunity against the *Pseudomonas pyocyanea* is composite, as might be expected from the multiplicity of the toxic agents produced. Wassermann,[2] by immunizing with old sterile, toxic, bouillon cultures, produced an antitoxic serum which was active against the toxin and immunized to some extent against the living organisms; he also demonstrated the fact that the serum of animals immunized with the living organisms exhibited the agglutinative phenomenon,[4] but had very little or no action against the toxin. These results have been confirmed by others. He further claimed that the serum of such animals exerted a marked bacteriolytic action when injected with the organisms into the peritoneal cavity of normal animals, and that when the organisms were injected into the peritoneal cavity of immune animals this phenomenon was quickly manifested, but the serum of such animals did not exert a bacteriolytic action greater than normal serum in vitro.

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[1] Waite, H. H.: Jour. Infect. Dis., 1908, v, 542.
[2] Wassermann, A.: Ztschr. f. Hyg., 1896, xxii, 265.
[3] Gheorghiewski: Ann. de l'Inst. Pasteur, 1899, xiii, 298.

Muller[5] states that he was able to demonstrate a bacteriolytic action *in vitro* under anaerobic conditions.

With the advent of the opsonic theory the opsonizing power of various sera was tested in relation to a large number of the known pathogenic species of bacteria, among them being the *Pseudomonas pyocyanea,* and, as will be seen in the following report, a marked increase in the opsonins can be brought about by actively immunizing animals with both living and dead organisms.

In the experiments made I failed to demonstrate a bacteriolytic action *in vitro,* under either aerobic or anaerobic conditions, more marked than with normal serum. In dealing with this phenomenon, the agglutinative action of the serum must be taken into consideration, as but one colony will be produced from a mass of agglutinated bacteria, although such a mass might contain fifty or more organisms capable of developing. It is offered as a suggestion that some of the conflicting evidence regarding the bacteriolytic action of immune sera is due to the fact that this factor did not receive due consideration. After some disappointing and conflicting results, glass beads were placed in the tubes of diluted serum employed for the purpose of demonstrating bacteriolysis, and the interference caused by agglutination eliminated by shaking. The same precedure was resorted to when working with the peritoneal exudates.

I failed to demonstrate the marked bacteriolytic action in the peritoneal exudate, as described by Wassermann, either in the peritoneal cavity of immune animals or normal animals injected with immune serum and bacteria; but did note a moderate exhibition of a process that simulated Pfeiffer's phenomenon, a marked agglutination and pronounced phagocytic activity. I am, therefore, forced to the conclusion that the principal factors in eliminating the organisms are agglutinins and opsonins.

Following the injection of the organisms into the peritoneal cavity, there is marked exudation of leukocytes. This is much more noticeable in immune than in normal animals, and in normal rabbits than in guinea pigs, the latter succumbing to the infection in a short time when a virulent culture is employed. Non-virulent cultures do not bring about this extensive leukocytic exudation, but there is evidence of both phagocytosis and agglutination.

Gheorghiewski[3] demonstrated this phagocytic and agglutinative phenomenon in the peritoneal fluids before the advent of the opsonic theory.

Following the injection of the organisms, both intravenously and intraperitoneally, there is a decrease in the number of leukocytes in the circulating blood, this being followed within a few hours by a marked increase, which is limited principally to the polymorphonuclears. The non-virulent organisms did not produce this phenomenon to any extent.

The animals employed in the majority of the experiments were rabbits. Some guinea-pigs were used, especially for the purpose of determining and enhancing the virulence of the different strains, and to study the phenomena following intraperitoneal injections.

Six different strains of the organism were employed, their characteristics being as follows:

Culture A.—Isolated from the oral cavity; cultivated on artificial media for four years; non-virulent for rabbits and guinea-pigs; an active producer of pyocyanin.

Culture B.—Source unknown; has been growing on artificial media for at least ten years; non-virulent for rabbits and guinea-pigs, and virulence could not be restored.

Culture C.—Isolated from suppurating wound on leg; low degree of virulence for guinea-pigs; non-virulent for rabbits; virulence was increased by passage through guinea-pigs.

Culture D.—Isolated from suppurating wound; highly virulent for guinea-pigs; killed rabbits in from five to seven days.

The other two cultures presented no features differing from A and B and were discarded after preliminary tests.

IMMUNIZATION WITH NON-VIRULENT CULTURES

The non-virulent cultures may be disposed of in a few words, for in no instance could the protective elements be increased in a noteworthy manner with the exception of the agglutinins; which, in the case of two rabbits, were increased sufficiently to agglutinate in dilutions of 1:400 and 1:500, respectively, the strain of the organism employed in the immunization, but would agglutinate the virulent culture (D) only in low dilutions. This is contrary to the results obtained with the serum of rabbits immunized with the virulent organisms; here the agglutination was approximately as great for the other strains as for that employed in immunizing; neither would the non-virulent strains or the old filtrates render animals immune to the action of the virulent cultures, the treated animals succumbing to the infection as soon as the normal controls.

IMMUNIZATION WITH VIRULENT STRAINS

A. Living Organisms.—In this series the organisms were cultivated on agar for twenty-four hours, suspended in salt solution, and rabbits immunized by injecting subcutaneously the fully virulent organism, at intervals of five days, beginning with a dose of 5,000,000 and gradually increasing to 100,000,000. The number of injections varied from four to ten. The first two or three inoculations produced some induration at the point of inoculation, but later doses apparently had no effect.

In these animals there was a primary fall in the opsonic index, never amounting to more than 30 per cent., followed by an increase amounting to, in the case of animals receiving eight to ten injections, from 80 per cent. to 100 per cent. After the first injection, following a primary decrease which persisted for a few hours, there was an increase in the number of leukocytes in the circulating blood. After an interval of from two to four days, these became normal; this phenomenon was not as marked following subsequent inoculations. The agglutinins were markedly increased, the serum of immune animals agglutinating in dilutions of 1:1200 and in one case over 1:1500. Two of these animals were later inoculated, ten days after the last injection: one into the circulation; the other, into the peritoneal cavity, with large doses of the virulent organisms. They survived the inoculations, showing no manifest symptoms. The opsonic index following the inoculation became somewhat depressed, but rose again after a few days. The agglutinins were not appreciably affected. The phenomenon appearing in the peritoneal exudate has already been mentioned.

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[4] Wassermann: Ztschr. f. Hyg., 1903, xlii, 267.

[5] Müller, Paul: Centralbl. f. Bakteriol., u. s. w., xxviii, 577 and 903.

B. Immunization with Killed Organisms.—Rabbits were given, at five-day intervals, eight doses of the organisms heated to 60, 65 and 75 C., respectively, for one-half hour. The serum of rabbits immunized with the vaccine heated to 60 and 65 C. was very nearly as active as that of those immunized with the living organisms; while the rabbits treated with vaccine heated to 75 C. exhibited but a moderate increase in either the opsonic or agglutinative elements. Those exposed to high temperatures were apparently inert.

Of the animals treated with the organism heated to 60 C. one was inoculated intraperitoneally and another intravenously with the same amount of culture employed in inoculating those immunized with the living organisms; both survived. Two immunized with organisms heated to 75 C. were inoculated in the same manner; both succumbed to the inoculation in fourteen and eighteen days respectively. Normal controls inoculated with the living organisms died in from five to seven days, showing the characteristic parenchymatous changes.

C. Immunization with Extracts of Cells.—The organisms were cultivated for twenty-four hours on agar, washed with salt solution, heated to 60 C. for one-half hour, and placed in the incubator, in salt solution, for four to five days, then well shaken and centrifugalized until the fluid became clear. This fluid contained the endotoxin liberated through autolysis of the organisms during the period of incubation. The serum of animals treated with these fluids agglutinated in dilutions of from 1:150 to 1:200. Normal controls did not exert the agglutinative function in dilutions of over 1:10 to 1:15. The opsonins were apparently unaffected, no evidence of either an increase or decrease presented. These animals succumbed to the action of the virulent organisms as quickly as did the normal controls.

D. Immunization with Toxic Filtrates. — Rabbits treated with from eight to ten doses of an old, sterile bouillon filtrate, beginning with 0.1 c.c. and gradually increasing to 2.0 c.c. showed no marked evidence of either opsonic or agglutinative immunity. There was some increase of the agglutinins, but in no instance did they agglutinate in a dilution greater than 1:100. These animals were rendered immune to large doses of the toxic filtrate.

Attempts to immunize rabbits with the pyogenetic proteid were made, but there was no demonstrable increase in either the opsonins or agglutinins. The animals so treated succumbed as quickly as normal controls to the action of the virulent organisms.

Two rabbits treated with pyocyanin showed absolutely no increase in protective substances; there was a transitory decrease in the opsonin content of the serum.

The injection of vaccine into animals inoculated intraperitoneally and intravenously with virulent organisms at no time exerted a beneficial effect, these animals succumbing as quickly as those not treated with vaccine.

Neither could I regularly demonstrate what might be called a marked beneficial action by injecting vaccine into rabbits inoculated subcutaneously with virulent organisms. In all cases the animals survived the inoculation, but so did the majority of controls inoculated with the same dose and treated with a corresponding amount of vaccine. It is true that in but one of the animals treated with vaccine did the local infection suppurate and form an abscess; while in three out of five controls suppuration, with abscess formation, was produced, from the effects of which they recovered in a few days. One control died from a general septicemia, while the other recovered from the inoculation with no further evidence of infection than a marked subcutaneous induration which gradually disappeared.

The question primarily under consideration now awaits an answer. It is not my desire to enter into a detailed discussion of the subject. The foregoing experiments, together with those of other observers, leave no doubt in my mind as to the multiplicity of both the toxic agents and the protective elements concerned in pyocyaneus infection and immunity.

There is no doubt of the fact that, experimentally, there is a marked increase in the opsonins and agglutinins produced by immunization, not only with the living organisms, but with the vaccine as well; this point, coupled with the fact that the leukocytes, not only in the peritoneal cavity, but also subcutaneously, exert a marked phagocytic action, leads one to consider that opsonic immunity is of much more import in connection with pyocyaneus infections than has been attributed to it up to date. This being the case, it might be expected that vaccine would be the rational agent in treating infections produced by the organism under consideration. When one considers the toxic substances produced, however, and the fact that the immunity is composite, in which at least three elements enter (antitoxins, agglutinins, opsonins), with evidence furnished by some in favor of a fourth (bacteriolysin), one may hesitate in expressing an opinion. It would seem that, even in local infections, the vaccine would not bring about sufficient stimulation of one or two properties (agglutinins and opsonins) to overcome, not only the organisms, but the effects of their toxins, which we cannot hope to render inert by injecting vaccine into the tissues. This toxin is evidently an important factor in pyocyaneus infections. Active antitoxic sera have been produced, and it would appear that the rational procedure would be to employ such serums in conjunction with vaccine; but here difficulties arise, which so far have interfered with the production of antitoxic serum in sufficient quantities to be of value as a therapeutic agent.

The fact that the vaccine will not regularly exert a curative action on infected rabbits is noteworthy, but must not be considered as a condemnation of these substances; that they do exert such an action to some extent in local infections is important. The fact that they have apparently no curative action when the organisms are injected into the peritoneal cavity and circulation only bears out what seems to be the opinion of the majority regarding the bacterial vaccines in general; i. e., that their value in the treatment of general infections is limited. I saw no evidence in animals suffering from a general infection that could lead to the conclusion that the vaccine had exerted a detrimental influence. As the course of such infections may be hastened by the injection of a very small amount of toxin, vaccines should be employed with care. They should be prepared from twenty-four hour agar cultures, freed from pyocyanin and any toxin by washing in salt solution, centrifugalizing, and utilizing the sedimented bacteria in preparing the vaccine. If such vaccine be employed it should always be prepared from the strain of the organism causing the infection, as non-virulent strains will not confer immunity; not only should those possessing no virulence when isolated be avoided, but also those in which the virulence has been reduced by continuous existence on artificial media.

SUMMARY OF RESULTS AND CONCLUSIONS

1. A marked increase in both the opsonic and agglutinative elements can be induced in the animal economy by the injection of vaccine as well as living organisms. Therefore, employment of vaccine in treatment of local pyocyaneus infections would appear rational.

2. However, there is also a toxin produced by the organism under consideration, the action of which manifestly cannot be counteracted by the use of the vaccine.

3. Should one decide to employ vaccine in treating these infections, such vaccine must be prepared from the organism concerned in the individual infection under treatment, and never from strains that have been cultivated on artificial media for a number of generations. These organisms soon lose their virulence under artificial cultivation and at the same time, at least to a great extent, their power of conferring immunity.

4. Bacteriolytic elements could not be demonstrated *in vitro* under either aerobic or anaerobic conditions.

5. The phenomena appearing in the peritoneal cavity of guinea-pigs and rabbits, following the injection of the organisms, are apparently essentially agglutinative and opsonic (phagocytic); but little evidence presented to confirm the statement to the effect that there is an active bacteriolysis.

6. Old toxic filtrates or extracts from the cells produce little or no increase in the agglutinative and opsonic functions; but the toxic filtrates do produce a high degree of immunity against such filtrates.

A CASE OF RAYNAUD'S DISEASE

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It is estimated that there is about one case of Raynaud's disease among every thousand patients sick from all causes. The disease is, therefore, somewhat rare, and the following case is especially interesting because of its unusual severity, both with respect to the gangrene and the accompanying nervous symptoms.

Patient.—E. J. C., a white man, was a farmer, aged 30, with good habits and no history of syphilis. His father is an alcoholic and his mother a syphilitic. About two years ago, while in good health, patient had a sudden dry gangrene of the tips of his right fingers, developing in a few hours. No exciting cause, as cold or emotional disturbance, was noticed, neither were any preliminary stages of pallor and cyanosis, but the patient was a poor observer, ignorant and unreliable. The attack was followed by sloughing of the necrotic tissue, but before the fingers were healed the gangrene reappeared, attacking the fingers higher up, so that two or three had to be amputated. Then patches of gangrene appeared on the hand, and after a time it was amputated. Gangrene and amputation followed each other up the arm until, after five or six operations, only the upper third of the upper arm remained. Then two finger-tips of the left hand became gangrenous but healed spontaneously, leaving scars. About this time three gangrenous areas, each about the size of one's little finger, appeared on the front of the chest, below the right nipple; these healed, leaving red, angry-looking scars. The left great toe was also affected and a slight scar produced. Then, last of all, the posterior surface of the left hand was attacked. At bed-time, April 13, 1911, he felt a burning, stinging sensation of this region, and, from previous experience, knew what to expect. He went to bed and to sleep but was awakened at 3 a. m. by terrible pain in his hand, which he found necrotic and black over part of the posterior surface. He hurried to a hospital, where we saw him for the first time.

Physical Examination.—The patient appeared to be a well-developed, muscular young man with a florid face. The scars noted above were seen. Thoracic and abdominal organs were negative; arteries normal. One undescended testicle had been removed; the other testicle was in the scrotum but undeveloped. The mental state was one of extreme depression; the patient wept freely and begged that his hand be saved. But at the same time he rather overacted and seemed to court sympathy and interest in his case. The gangrenous patch was on the inner half of the posterior surface of the left hand. It covered about four square inches, was irregular in outline with sharply defined borders, was black and dry, and reached down the dorsum of the three inner fingers. On the middle and ring fingers it was limited to the proximal phalanx, but on the little finger extended to the nail. The tips of all the fingers were healthy. The healthy skin on the back of the hand was of a dusky hue. The urine was normal, except for the presence of uric acid crystals; blood was also normal.

Course.—Twelve hours later the gangrene had extended an inch toward the wrist, but there it stopped and never spread further. The necrotic tissue after a few days was dissected off (it was very superficial and still dry), and the wound began to heal by granulation with unusual rapidity. The nervous symptoms from the date of entrance, April 14, until the date of death, May 26, were spectacular. Six times the patient was suddenly seized with a total motor and sensory paralysis, at which times he was wholly insensible to painful stimuli. During the attacks he could not speak above a whisper. The average duration of these attacks was about twenty minutes, and they always left as suddenly as they had come. Twice he became totally blind; he remained so once for twenty-four hours and once for forty-eight hours. Ptosis was present most of the time. His commonest symptom was epileptoid attacks. These were not attended by loss of consciousness, were very painful and consisted of spasm of all the flexor muscles, drawing him forward into a bow. Retention of urine was present for three days. Several times he became delirious, but each time the delirium, after several hours, left him suddenly and completely. Much of the time a coarse tremor of the legs was present. Motor aphasia came and went several times, independent of the paralytic attacks. The face was usually flushed, the appetite poor, the bowels constipated. Pain was present most of the time and was excruciating. It was referred to the occiput, the spine, the stomach, the bladder and the gangrenous little finger. These pains were only partially controllable by large doses of morphin. Mentally, the patient remained depressed, even in despair. He was, nevertheless, fond of talking about himself and his disease, boasted of the operations he had been through, hinted that he ought to be exhibited to the medical society and seemed generally inclined to play for sympathy. He was very suggestible; the epileptoid attacks could sometimes be brought on by talking of them, and hypodermic injections of sterile water often relieved his pains. But his pain was frequently genuine, and finally, after several days of great suffering, the pain being in the head and bladder, the patient died, presumably from exhaustion.

Only a partial autopsy could be obtained. The organs of the chest and abdomen were found normal, but the brain and cord were not examined.

Most of the above symptoms may be found in the books as occurring in severe cases of Raynaud's disease, and they may be explained on the grounds of localized, temporary anemia occurring in various regions of the brain or in other parts of the body. For instance, angiospasm of the skin causes gangrene; angiospasm of the retina, transitory blindness; angiospasm of the walls of the intestine, colic. The relation of hysteria to Raynaud's disease is discussed by the neurologists; there certainly was in this case, as in most others of this disease, a hysterical element, and without the gangrene the clinical picture would have been one of hysteria major.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

SCARLET R MEDICINAL, BIEBRICH.—Rubrum Scarlatinum.—Scarlet R Medicinal, Biebrich, is amido-azo-toluol-beta napthol, $CH_3.C_6H_4.N:N.C_6H_3.CH_3N:N.C_{10}H_5.OH$.

Scarlet R Medicinal, Biebrich, is a dark brownish red powder, nearly insoluble in water, slightly soluble in benzene and acetone and easily soluble in chloroform, oils, fats and phenols. It is slightly soluble in cold alcohol, somewhat more soluble in hot alcohol, while warm petrolatum and paraffin dissolve rather large quantities. When heated to 175° it softens, begins to melt at 181°-188° and at 260° swells up and decomposes. Further heating yields heavy brown, aromatic vapors, which burn, leaving a difficultly but completely combustible residue. The saturated aqueous solution is a clear scarlet red color, which on dilution or in thin layers has a bluish tinge. It is decomposed by nitric acid.

If about 1 mg. of Scarlet R Medicinal, Biebrich, be sprinkled on about 1 Cc. concentrated sulphuric acid it will dissolve in the acid with a bluish-green color, which, on diluting with water, changes consecutively to blue, then to purple and finally red. After a time a brown flocculent precipitate gradually forms.

If to a small quantity of Scarlet R Medicinal, Biebrich, a few Cc. alcohol and 2 drops of concentrated hydrochloric acid be added and the mixture boiled the solution will take on a purple color. This solution on the addition of a few drops of glacial acetic acid becomes scarlet red. If not too small a quantity of the substance was taken it will crystallize out of the acetic acid solution in the form of fine needles.

If about 0.5 Gm. Scarlet R Medicinal, Biebrich, be heated to boiling with ⅔ Cc. acetic acid and then, while boiling, zinc dust be added, the solution will become colorless. A bluish color appears on exposure of this solution to air.

Actions and Uses.—Scarlet R Medicinal, Biebrich, is claimed to have a marked power of stimulating the proliferation of epithelial cells.

It is said to be useful to promote the growth of epithelium in the treatment of burns, wounds, chronic ulcers, etc.

Dosage.—It is generally used in the form of an ointment containing 4 to 8 per cent. of the substance.

The surface to be treated is first thoroughly cleaned with warm water and soap and then dried. The ointment is then applied lightly. In ulcers it is spread very thinly over the surface, from the skin edge inward, unless it be very large, in which case the ointment is applied around the edges only. The application may be left undisturbed for two or three days, after which time, and for a similar period, some bland ointment can be used.

Manufactured by Kalle & Co., Aktiengesellschaft, Biebrich a. Rh., Germany (Heilkraft Medical Co., Boston, Mass).

Not patented or trademarked. Sold in the form of ointment only. See below.

Scarlet R Salve.—Scarlet R Salve is a mixture containing Scarlet R Medicinal, Biebrich, Kalle & Co., 8 parts, eucalyptol 2 parts and petrolatum 90 parts.

Prepared by the Heilkraft Medical Company, Boston, Mass.

HORMONAL.—Peristaltic Hormone-Zuelzer.—Hormonal is a liquid extract obtained from the spleen of an animal killed at the height of digestion.

It is prepared by killing the animal, e. g., a guinea-pig, at the time when its digestive process is at the highest point. The spleen is removed, macerated, pressed or extracted with physiologic salt solution or diluted hydrochloric acid. The pressed-out liquid or the neutral extract is then filtered under aseptic precautions.

Hormonal is a yellowish liquid which is often turbid, but the slight flocculent precipitate does not appear to affect its efficiency.

The liquid seems to be stable for at least a year when protected from the light.

Actions and Uses.—It is claimed that the peristaltic hormone has the property of exciting the peristalsis of the intestine and provoking the evacuation of the feces.

It is claimed that Hormonal is useful in the treatment of chronic constipation and as a means of relieving paresis of the intestine in peritonitis and after operation. A prophylactic injection at the time of operation on the abdomen is claimed to be a rational procedure. Its use is still in the experimental stage.

Dosage.—20 c.c. (5 fluidrams) with proportionate doses for children are given by injection, either intramuscular or intravenous.

Manufactured by Chemische Fabrik auf Actien, vorm E. Schering, Berlin, Germany (Schering & Glatz, New York) German patents Nos. 229,168, and 229,169. U. S. Patents applied for.

Hormonal Intramuscular.—A preparation of hormonal containing 0.25 per cent. of beta-eucaine hydrochloride and 0.4 per cent. of trikresol in brown bottles, each containing 20 Cc. intended for intramuscular injection. The injections are sometimes painful, in which case another site should be chosen. The injections are always followed by a rise of temperature. The date of preparation is given on the packages.

Hormonal Intravenous.—A preparation of hormonal containing 0.4 per cent. trikresol furnished in blue bottles for intravenous injection. This is claimed to be useful, especially in cases of intestinal paresis and postoperative ileus. The date of preparation is given on the packages.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

Change of Formula

The manufacturers have revised the formula of Supracapsulin Inhalant by the omission of chloral, substituting for the formula in N. N. R. 1911, page 81, the following.

Supracapsulin Inhalant.—A solution 1:1000 of supracapsulin in an aromatized neutral oil, containing approximately 10 per cent. of alcohol.

Therapeutics

HEADACHES

This most frequent complaint is due to so many causes, is so mistreated when the etiologic factor is not discovered, is so patiently tolerated by a part of mankind, is so impatiently borne and so maltreated by the majority of mankind, and is such a revenue for patent medicine venders, that a better understanding of the condition is imperative.

Half the battle is won in the eradication of a troublesome symptom when the etiologic factor has been discovered. A symptom can be suppressed or combated without a diagnosis, and when a diagnosis has been made of the cause, it may not be possible to remove this cause, but in this case at least a prognosis can be offered, which is the top round of the therapeutic ladder.

The causes of headaches may be divided into several large classes: (1) toxic, (2) circulatory, (3) local, (4) reflex.

TOXIC

- Fever
- Auto-intoxication
  - Intestinal
  - Kidney insufficiency
  - Liver insufficiency
  - Thyroid disturbance
- Drugs

CIRCULATORY

- Valvular disease
  - Venous congestion
- Plethora
- High tension
- Arteriosclerosis
- Anemia
- Leukemia
- Lung consolidation
  - Diminished aeration

LOCAL

- Eye inflammations
- Frontal sinusitis
- Ethmoiditis
- Ear inflammations
- Meningitis
- Exudates into the ventricles
- Changes in the cerebral vessels
- Tumors
- Syphilis

REFLEX

- Eye-strain
- Nasal disturbances
- Aural disturbances
- Facial neuralgias
- Uterine displacements (?)

In the majority of the above conditions the headache is only one of many symptoms, and often is not the thing complained of or the symptom for which the patient comes for treatment. Correction of the general disturbance almost always relieves the headache, and this is true of the headache due to any of the causes in the first and second classes. Anything that removes or corrects the condition in the third class stops the headache.

It is in the fourth class that a failure of diagnosis of the cause is most frequently made, and it is this class that constitutes about 90 per cent. of all cases of headache that come to the physician. In about 10 per cent. of all of these headache patients the cause can be attributed to the nose, teeth, ears, uterus (if there is such a cause of headache), and tic douloureux. In the other 90 per cent. the cause is eye-strain, or eye defect, or ocular trouble in some form. It is for these eye headaches that multiple combinations of acetanilid and other coal-tar products exist. It is on account of these headaches that patent medicine men get rich, that our drug-store counters are covered with nostrums, and that various caffein soda-fountain drinks are offered. It is on account of these headache preparations that many patients, ill with serious disease, are found to have weak hearts, poor nutrition, are perhaps anemic, and have poor recuperative power. These patients will not suffer pain, and even if they would, they must get help to keep about their work. Therefore, the question is, what are we physicians going to do about it?

EYE-STRAIN REFLEXES

The most constant condition caused by eye-strain is, of course, the headache. This headache may develop slowly or rapidly, may be centered in one eye, one side of the forehead or one side of the head, or may be referred to both eyes. In fact, there is no part of the head that may not ache from eye-strain. Very frequently, however, one eye is more likely to be affected than the other, as one eye is likely to be unlike the other eye and be more defective than the other eye. Astigmatism and far-sightedness, or both, are the most frequent causes of eye-strain headache. Weakness of the ocular muscles is another cause.

The pain is perhaps most frequent in the supra-orbital region, but is often in the temple, and may be frequenty referred to the inner angle of the eye, especially if there is astigmatism. It perhaps occurs very frequently in this region on account of the overactivity of the superior oblique muscle which endeavors to overcome an astigmatic affection. Headaches from defective vision from any reason, and especially when a person becomes presbyopic and has not glasses to correct it, or at least has glasses that are insufficient to correct it, are more likely to be in the occipital region. Such headaches most frequently occur in the early morning, and are discovered by the patient on awaking.

Eyes that are defective as ocular instruments are likely to be inherited; certain kinds of eyes appearing in different members of the family, the children suffering the same defect from which the parents suffered. Such children are likely to have the headaches begin at any age, but perhaps more frequently after a year or more of school work. These headaches are likely to come periodically, perhaps once a week, perhaps once in two weeks, perhaps only once a month, but with a constant tendency to become more frequent little by little. They sooner or later become a megrim, or migraine, which is typically a headache for a number of hours followed by nausea, vomiting, prostration, sleep, and recovery.

The title given to most of these headaches by the laity is "a bilious attack," and the cause is attributed to overeating, eating at night, eating indiscriminately, or is attributed to particular kinds of food, which, if the patient is old enough to decide for himself, are gradually removed from the diet, until almost every kind of food and drink is subjected to more or less suspicion. He then attributes his trouble to his liver, or finds serious fault with his stomach. If he is constipated, he lays it to that, as he finds that after free catharsis, or at least after such a length of time as a cathartic will generally act, the headache disappears. He, therefore, thinks it is due to constipation. Girls and women with these eye defects are more likely to have headache before or during menstruation, and they attribute it to that function. Others learn that they get these headaches when they are overtired mentally or physically. Some soon learn to become suspicious of their eyes on account of having the headache after theater-going, card-playing, car-riding, shopping, sewing, or reading too long, or, if they are office clerks, after an extra amount of proof-reading or of mathematical work.

After the headache habit has once been formed a neurotic element enters into it, and there is likely to be a cyclical headache, even if the eye defect has been corrected, so that a patient who has the headache habit thoroughly formed will always have them more or less, at least until the eyes become presbyopic and focusing for near objects has almost been abolished. It is also true that neurotic patients who are subject to high tension and nervous irritabilities are more likely to have headaches from slight eye defects than are more calm and less nervous individuals.

That these eye defects with their headache sequences are on the increase, is perfectly logical from the overuse of the eyes in the civilized community of to-day. The young child, instead of playing by itself, is shown figures, pictures, objects to put together; and finally come the ill-judged kindergarten eye propositions; it is all eye work, some of it very injurious eye work. Then comes the school with its enormous amount of objective teaching, and only a certain proportion of knowledge is now acquired by quiet personal study, or is acquired through the ears. The major part of education is now pushed in through the eyes by more or less distant object, diagram and picture teaching. To show the modern use of the eyes and their need for light one has only to look at the school buildings of to-day, whose whole sides are windows; to note the enormous amount of light which we all require to do any evening work; to note the excessive glare of light which we like and have become accustomed to as compared with what was called light fifty or even twenty-five years ago. We should also note the greater number of hours that even children, to say nothing of grown people, are up and alert, with eyes never at rest, as compared with those which our grandparents spent in that way.

We are now going one step farther; more eyes must have glasses, and more young eyes must have glasses, and the glass now must be better than it ever was; we must have toric lenses, and those of us who need a bifocal glass must have it ground into one lens so as to have no disturbance whatsoever of almost perpetual vision.

Another cause of eye-tire is the excessive speed of objects to-day. In other words, with the advance in science and civilization, it seems to be the eye that is the part of our bodies that suffers the most.

Like everything else in modern life, the supply must meet the demand, and one has but to count the ever-increasing number of opticians to realize that the world needs glasses. Unfortunately the world does not realize the delicateness and the wonderful constitution of its eyes; therefore, a large part of the world thinks that any optician, traveling or otherwise, can fit eyes to suitable glasses. All the patient is asked to decide is whether he sees better or worse with this or that lens. Undoubtedly an enormous amount of serious damage is done to eyes by ignorant opticians.

It is a mistaken idea, both of physicians in general and of the laity, that optical determinations by oculists are infallible. I do not know of any class of medical work that requires more patience and more good judgment than the decision by an oculist as to just what lenses a person with defective eyes requires. In the first place, the patient is more or less unable to determine accurately when or how he sees the best. In the next place, when the eye is made as immobile as possible with homatropin or some other paralyzant, still there is sufficient mobility to impair accurate judgment as to just what sort of optical instrument the eye is. Even if the defect is absolutely determined, it is then a question of judgment as to whether to give the whole correction, two-thirds the correction, or half the correction to the individual patient. Under any circumstances, he must get used to his lenses, and the eyes will but gradually, except in some instances, accept the help that is given them, and the patient quickly believes that the glasses are wrong. Therefore, the oculist's work is not an exact science any more than is the work of the internist. A patient may go from one oculist to another, and each time receive different lenses; one patient, for instance, went to five different first-class oculists and received five different kinds of lenses. The physician is more to blame than is the patient for the latter's not persisting in going to the same oculist until the lenses suit his eyes. This is much better than to go from one man to another. If every time the internist failed to improve his patient, the patient went to another physician, how sorry would be our practice!

One more fact should be impressed on the patient, and that is, that if an oculist tells him he has astigmatism, the glasses must be frequently adjusted. They must be absolutely straight to correct the meridian of the eye that is abnormal.

A fact that should be impressed on oculists is that a small defect, sometimes so slight that the oculist feels that the patient does not need lenses, may cause more reflex trouble than a serious defect. Also, the amount of trouble that will be caused by an eye defect depends on the individual; nervous, high tension, or neurotic patients have much more reflex trouble than do more phlegmatic individuals, or those who may not be doing high-tension work.

All physicians now more or less recognize recurrent headaches as due to eye-strain, but a large number do not recognize that the patient may have stomach and heart reflexes without headache, and still due to eye defect. Dizziness, gastric indigestion, even nausea and vomiting may occur without any headache whatever and still be due to eye-strain. Cold hands and feet, chilly sensations, faint feelings, palpitation, and irregular heart and pain referred to the cardiac region so as to cause the patient to believe he has heart disease, may be due to eye-strain and be corrected by correcting the eye defect.

If a patient comes to the physician with a headache, or wants to know what he shall do when he has his next headache, what shall we give him? It is often unwise to give him a prescription. Whatever the sedative prescription contains will be repeated and used indefinitely. It is better to give the patient some tablets from the office or from the pocket case, made according to a formula which is satisfactory to the individual physician.

There is nothing more likely to help this kind of headache than acetanilid, and the dose is not necessarily large, and it is well to combine it with bicarbonate of sodium. While caffein adds to the toxicity of the coal-tar product, caffein has a useful action in curing a headache of the eye-strain class. If much of a dose of a coal-tar product is given, the patient should lie down for several hours, if possible. Otherwise, the cardiac depression caused by the eye reflex plus the depression caused by the coal-tar drug will produce faintness and more or less temporary debility. While acetphenetidinum (phenacetin) is perhaps a safer coal-tar drug to use, the dose must be so much larger than the acetanilid dose that the depression is about the same. With some patients antipyrin works the best. With other patients a brisk catharsis is advisable. Some find cold to the head of advantage, although with many it causes nausea. Others find hot applications satisfactory. Sometimes a hot foot-bath will change the circulation sufficiently to relieve the head congestion. Some patients are cold, and some feel hot, and the circulation on the surface of the body is likely to vary depending on the intensity of the pain or the occurrence of nausea.

It is sad to adopt any opium treatment for these headaches. On the other hand, one is often driven by the very intensity of the condition to the limit of medical resources, and sometimes cardiac depression is so serious that it becomes a question of either morphin or large doses of alcohol. Patients who have these terrible megrim attacks frequently cannot well stand coal-tar products so often repeated, as, unless the dose is enormous, the result of their administration is nil. A morphin habit and an alcohol habit, to say nothing of the frequent acetanilid habit or caffein habit, may be acquired on account of eye-strain headaches. The deaths indirectly due to coal-tar products are probably very many, not even to be guessed at. Investigation of the number of headache tablets or powders sold over the drug-store counters shows that the sale is enormous. One firm alone has issued from one small town 2,000,000 acetanilid tablets per month.

Sanatoriums for Tuberculous.—In the campaign against tuberculosis it is perhaps too early to evaluate the numerous methods that have been proposed for lessening or eradicating this disease, writes E. O. Jordan (*Science*, June 2, 1911), but it is already evident that some are more directly repaying than others in proportion to the effort involved. Among the methods for which public funds are legitimately available none is more promising than the provision of sanatoriums for advanced cases of consumption. Newsholme and Koch have shown that the general diminution in the death-rate from tuberculosis observed in most countries can be more reasonably attributed to the establishment of sanatoriums than to any other factor, and that in addition to its humanitarian advantages, the segregation and proper control of the advanced and dangerously infective cases is one of the most useful methods that can be employed by the community to protect itself against the spread of tuberculous infection.

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ARTERIOSCLEROSIS IN THE ANCIENT EGYPTIANS

We are accustomed to ascribe to a high-pressure and altogether modern system of living the prevalence of arterial degeneration and its results, ignoring altogether the lack of any evidence of value that arteriosclerosis occurs earlier or oftener nowadays than formerly. Now comes forward Marc Armand Ruffer[1] to tell us that among those ancient Egyptians who still persist in mummified form, sclerosis and atheroma of the vessels were extremely common. In all respects the lesions which developed three thousand years ago were quite the same as those which exist in modern times, not only macroscopically, but also microscopically, since the degree of preservation of the mummy material still permits histologic study.

The question of foremost interest is: Why did the Egyptians suffer so much from arteriosclerosis, since so many of the supposed causes of arterial degeneration did not exist in their time? Tobacco, which of all things probably is accused most in this connection, certainly was not responsible so many centuries before the American Indian and his pipe of peace had been discovered. That other enemy of the arteries, syphilis, was also unknown in old Egypt, so far as examination of mummy material and varied historical evidence indicate. While alcohol was known and appreciated in Egypt in ancient times, yet Ruffer states that the Egyptians as a race are not and never have been habitual drunkards; furthermore, the influence of alcohol in promoting arteriosclerosis is highly doubtful. As to work and worry it is not easy to draw conclusions, but such timetables as have been discovered show that the working hours of ancient Egyptians were practically the same as those now in vogue in the same country. Heavy muscular exertion and eating of an excessive amount of meat can also be excluded, according to all the existing evidence, and so we find that in Egypt of bygone days arteriosclerosis was a common condition in spite of the absence of the factors to which we now ascribe this process of degeneration.

Possibly we have erred in our ideas of the etiology of arteriosclerosis. In any event, it would seem that the disease is not a new one, and that we cannot correctly ascribe it to newly developed social condition or new tendencies of occupation and modes of living.

"GETTING" DR. WILEY

Those who have followed the history of federal pure food legislation in this country know that whatever of good in this work has been accomplished has been more largely due to the indefatigable efforts of Dr. Harvey W. Wiley than to any other one man, or possibly to any group of men. Dr. Wiley is one of those rare public officials who believe that laws that have been passed in the interest of the public should be enforced in the interest of the public. And he not only believes it, but he acts on it.

It is probably no exaggeration to say that no law that has been placed on the federal statute books in recent years has been enforced with the same energy and freedom from favoritism as has the federal Food and Drugs Act of June 30, 1906. It is a regrettable fact that the sympathies of Dr. Wiley's superiors in the Department of Agriculture have always seemed to be in the direction of those interests that have amassed fortunes by adulterating drugs and doping the food-supplies of the country.

If the pure food law has been a powerful instrument wielded in the interest of the people instead of a musty dead letter on the statute books, it is because the chief of the Bureau of Chemistry—Dr. Harvey W. Wiley—has made it so. He has made it so in the face of opposition such as cannot be conceived by those not acquainted with the actual facts. And that opposition, to the shame of the government be it said, has not come exclusively from outside sources.

While it is only one of the fights that Dr. Wiley has had to wage against vested wrongs, the sodium benzoate controversy was possibly the best known and most sensational. As a result of the knowledge gained from a series of experiments, Dr. Wiley held that, under the Food and Drugs Act, the addition of this chemical to foods should be deemed adulteration. The interests affected at once brought pressure to bear at Washington, and were able, through an autocratic use of executive power, to bring into existence a body whose function was to pass on the various findings of Dr. Wiley. This body was technically known as the Referee Board of Consulting Scientific Experts, a title which has been colloquially shortened to "Referee Board." Pending the decisions to be handed down by this board—and, apparently, it may be years before the final one is given—Secretary Wilson gave permission for the use of such chemicals as sodium benzoate, saccharin, copper sulphate, etc.

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[1] Ruffer, M. A.: Jour. Pathol. and Bacteriol., 1911, xv, 453.

The decision of the Referee Board on the sodium benzoate question is now history. It was that sodium benzoate "in small doses" is not harmful. On the strength of these findings, Dr. Wiley's superiors gave the manufacturers permission to use sodium benzoate not only in "small doses," but in any quantity they saw fit, requiring only that the amount of this chemical they found it convenient to use should be stated on the label!

On the question of saccharin, the Referee Board upheld Dr. Wiley in his contention that it was deleterious to health. The Department of Agriculture thereupon declared that after July 1, 1911, all saccharin-containing foodstuffs should be declared adulterated. Again the food adulterators protested. Then the Department of Agriculture, with its fine sense of justice to the interest of manufacturers and its equally fine indifference to the interests of the public, at once extended the period of probation for saccharin until May 1, 1912. Probably before that date arrives another extension will be granted.

These points, which have been discussed in THE JOURNAL before, are merely recalled to make clear the enormous handicap under which Dr. Wiley has been placed in his attempt to enforce the Food and Drugs Act in the public's interest. If space permitted, it might also be well to recall the high-handed way in which the Secretary of Agriculture, after his conversion to the benzoate camp, brought to bear the enormous influence and prestige of his department in jamming through the convention of the Association of State and National Food and Dairy Departments a set of resolutions endorsing the report of the Referee Board on the use of sodium benzoate. Reference might also be made not only to *Collier's* statement that Vice-President Sherman showed great solicitude for the Duffy Malt Whiskey concern when Dr. Wiley's subordinates were investigating it, but also to the allegation that Mr. Sherman's son is financially interested in the firm of catsup makers that was chiefly responsible for the creation of the Referee Board.

Enough has been said, however, to make clear to the reader how onerous Dr. Wiley's position has been. Now comes the report from Washington that Dr. Wiley's enemies have at last found a technical point on which they can ask for his dismissal, and of course, they are playing their hand for all it is worth. Briefly, the charge against Dr. Wiley is that he employed a pharmacognosist of national standing, Dr. H. H. Rusby, in such a way as technically to violate the rules of the department. Dr. Rusby held his services at $20 a day. Under a law recently passed an expert can be hired at a salary not to exceed $11 a day. Dr. Wiley, believing that the public's interest were best conserved by having the services of a big man for part of the time rather than the services of a second-rate man all the time, recommended that Dr. Rusby be employed for so many days during the year, that the maximum salary permitted by the department would total the minimum remuneration that would be accepted by Dr. Rusby. This agreement was not made privately, but had been taken up by Dr. Wiley with his superiors and apparently agreed to by them. Now Dr. Wiley's action in this matter has been passed on adversely by what is referred to as the Committee on Personnel, a committee composed of men who are known to have been open antagonists, if not actual enemies, of the chief of the Bureau of Chemistry. Attorney-General Wickersham—another gentleman whose solicitude for the "interests" is well known—recommends that the President approve the dismissal of Drs. H. W. Wiley, W. D. Bigelow and H. H. Rusby and the reduction in rank of Dr. L. F. Kebler, who for years has been Dr. Wiley's able and energetic assistant.

At the time of writing, President Taft has made no official move in the matter and it is said to be the opinion in official circles at Washington that probably the President will merely reprimand Dr. Wiley for his technical error. The country awaits with interest President Taft's action in this matter. From the standpoint of public interest there can be no question that Dr. Wiley's services should be retained. President Taft, in deciding this case, has it within his power to administer a stinging rebuke to the food dopers and "patent medicine" makers and to those officials at Washington who are more concerned with private gain than they are with public health.

COOPERATION OF TEACHER AND PHYSICIAN IN DEVELOPING BETTER CITIZENS

That a deeper sense of the responsibilities and obligations of citizenship must be inculcated in the young, and that a healthy mind, a necessity for wholesome citizenship, cannot be built up on a defective body, are statements on which stress was laid at the recent meeting of the National Educational Association at San Francisco. On the home and the school largely rests the responsibility for the first condition, and, it was emphasized, to the physician, authorized and supported by the parents, the public must look for the teaching and the measures to overcome the physical defects and the inimical surroundings which lead to delinquency and bad citizenship, or to downright criminality. On the cooperation of these two agencies depend the most far-reaching results to society and to the nation.

In a vigorous arraignment of the materialistic tendencies of the present day, which appal by reason of the utter carelessness and thoughtlessness of the rights of individuals, and deploring the general lack of discipline and regard for law in the scramble to secure wealth and to gratify selfish ambitions, Mrs. Emmons Blaine laid the responsibility for these things on the defective methods of our schools and on the teachers, "whose opportunity is the heart of the whole subject." The development of the commercial spirit has extended too largely even to the schools, with inevitable resulting deterioration in the quality of work done and a consequent lowering of the moral standards of scholarship and of citizenship. She sees in this even a menace to our nation, and feels that as a representative government we have not altogether made good to our forefathers, to the world and to ourselves. But, she says, the citizens of tomorrow are all in the hands of the teachers before materialism grips them by the throat. And what possession, she asks, other than our children do we treat so carelessly? There is no higher ambition and no more important duty than that of making good citizens.

Another essential step in the development of good citizens is the correction of physical defects in the children and the raising of the general standard of health to the highest point. To this end a committee has been appointed by the Section on Preventive Medicine and Public Health of the American Medical Association to confer with a like committee of the National Educational Association, of which Dr. David Starr Jordan is chairman, in a broad investigation of health conditions which prevail among children in large cities, and of adolescent ailments which have a direct bearing on education. This investigation includes, further, the more active cooperation of boards of education and departments of health to reduce child delinquency and crime. Dr. W. A. Evans, chairman of the first-mentioned committee, speaking at the same meeting, said that study of the health conditions of the school children of our large cities and movements to improve that health were as vital in the work of education as any of the theories of education. It is also vital in the work of medical research. Without doubt, a large share of child delinquency is directly traceable to adolescent ailments, and their elimination by timely medical attention meets with an immediate reduction in delinquency and crime among the young.

The work of the school, on the one hand, is to endeavor to build up character and greater respect for authority and obedience to the law of the land, to inculcate greater regard for the rights of others, and to combat the selfish materialistic tendencies of the times. That of the medical profession, on the other, is to endeavor by scientific means to remove all remediable physical defects and to establish satisfactory hygienic and sanitary conditions. It may, therefore, be believed that these two agencies, cooperating in the proper spirit, should be able largely to overcome the defects of our citizenship of which Mrs. Blaine, Dr. Evans and many others justly complain.

THE ARGUMENTS AGAINST CREMATION

Probably the main objection to cremation has hitherto been religious. Yet we believe that there are to-day many clergymen who consider this method to be not contrary to divine law, but preferable to burial. Indeed, in the light of the beautiful Pauline statement, read in Christian services, that, "there is a natural body and there is a spiritual body," it is difficult to find in cremation anything contrary to Christian precept. It is the natural body which material nature must separate and return into its elements, whether this be done by the slow process of decomposition in the grave, or by the more rapid combustion on the funeral pyre. In very truth human living, in its physical aspects is, from the cradle to the grave, a continuous process of combustion; cremation, at its end, is only the same process concentrated within a few minutes of time.

But one other objection to cremation remains—that of the facility which it is assumed to afford criminals for the concealment of the means employed for murder. While the theoretical existence of such a danger must be admitted, practically, under proper precautions, it is probably almost infinitesimal, or at least negligible. In every suspicious case (however slightly so) the coroner or the equivalent legal officer can require an autopsy, with the removal of parts or the whole of organs and their preservation for examination, in the event of alleged poisoning. If these measures seem inadequate, additional safeguards could be established. For example, it might be provided that, as in England, no one might be cremated until two independent death certificates have been made by medical men. In the event of doubt, necropsy should be provided for and viscera would, if necessary, be preserved. Post-mortem examination should be prescribed as a routine procedure in certain instances, as in the cases of persons dying in public institutions and those dying under the custody of others than their natural guardians.

While there are no conclusive objections to cremation, there are positive reasons against burial. Cremation affords a clean and rapid disintegration, while burial is a slow process, most repugnant to any imagination that would dwell on it, and inspiring much occasionless fear of death. Burial is also dangerous to the living, emphatically so when the death has been by reason of a contagion and especially in graveyards adjacent to human habitations. For sparsely settled regions this consideration is not so powerful; but under modern living conditions—when so large a proportion of humanity lives in cities, when so many rural districts become suburban, which in their turn almost as rapidly become urban—the cleaner, more wholesome and more esthetic method of cremation should obtain. The possibility of contagion becomes thus more and more necessary to consider, as districts become congested to a degree surely unprecedented in human history. Many varieties of pathogenic bacteria, transferred by the dead to their graves, multiply inconceivably in the earth. How great a danger is this to the living whose dwellings are near those graves!

Our spreading civilization ruthlessly claims for its economic purposes patches of land hitherto sacred to the dead. No sentiment here! Is it in consonance with the religious sense to see huge factories and tenements towering above and overshadowing little cemeteries, whose dwellers are of other and forgotten centuries? Does it conform with the reverent mood to see workmen, while excavating for the foundations of mercantile buildings, dig up churchyard slime and toss away the bones of long-forgotten dead? Thus, there is not only a hygienic, but also an economic objection to burial. It would be useless to inquire here as to the propriety of the latter; we may but record that it exists and is insurmountable. The acreage in and about large cities now devoted to cemeteries is enormous; the earth now sanctified will certainly in time be desecrated. The crematory is thus the only solution.

Current Comment

AN INVESTIGATION WELCOMED

Since the publication of the charges made against Dr. Wiley by his official enemies, Congress has taken a hand in the affair and an investigation of all the facts leading up to the present episode has been called for. No one will welcome such an investigation more than will Dr. Wiley, unless it is the general public. But it must be an investigation and not another official whitewashing. A real investigation will show several things. It will show, for instance, that Dr. Wiley made powerful enemies when he ruled against a mixture of crude alcohol and a small amount of real whisky being labeled "whisky." It will show that he incurred enmity when he declared that inferior flour was adulterated when it had been bleached by chemical process to resemble a high-grade product. It will show that he aroused violent antagonism when he protested against the use of such chemicals as sodium benzoate, saccharin and copper sulphate in foodstuffs. It will show that he made an implacable foe of the glucose trust when he protested against its product being sold under the misleading and euphemistic name, "corn syrup." It will show, also, that he set in motion a tremendously powerful and vicious organization when he exposed the frauds and dangers inseparable from the "patent-medicine" business. All this it will show, and much more, that Dr. Wiley has done in the interest of public health and safety. Then, too, if it is a real investigation, we may learn why the hundreds of thousands of dollars that have been spent on the investigations by the Referee Board should have come out of appropriations intended for the enforcement of the Food and Drugs Act. We may learn why, although it is illegal to pay a pharmacognosist more than $11 a day when acting as an expert for the government, legal experts for the government may be paid as high as $150 a day—out of "contingent funds"! We may learn why the cases which were started by Dr. Wiley's assistants against the Duffy Malt Whiskey outfit have been held up for years by his superiors and have not yet come to trial. It may show, although we are hardly optimistic enough to believe that it will, what relationship there is between the Vice-President of the United States and the Duffy Malt Whiskey interests. It may show why two small-calibered men were put in a position of equality with Dr. Wiley so as to handicap his aggressiveness in the public interest. It may show a number of other things—providing it is a real investigation. One thing it will show, and that is that Dr. Harvey W. Wiley has been standing alone, fighting the people's fight for pure food and pure drugs, abused, maligned, and vilified by special interests, and receiving little support from his official superiors. And by the time the investigating committee is through with its work Dr. Wiley's position before the country will be strengthened, while the machinations of his enemies will have been exposed.

THE DEATH OF SENATOR

We chronicle this week the death of one of the most eminent clinicians in modern medicine, Professor Senator—at once a practical physician, an able teacher and an indefatigable investigator. Germany has lost one of her master minds in medicine. His many-sided learning is indicated by the number of his works covering various departments of medicine. While his devotion to general medicine led him at one time to decline the directorship of a children's clinic on the ground that he wished to be a physician, not a specialist, nevertheless he distinguished himself in some of the most specialized branches of medicine. He early turned his attention to legal medicine, and some of his works in this branch, especially on the changes after death from chloroform poisoning, are models of research. Later he also devoted much study to skin diseases, and still later to physiology and pathology, and especially to the pathology of metabolism, which led to the production of his most important writings, those on albuminuria, kidney diseases and diabetes. In July, 1910, on account of advancing age, at the same time as the venerable Olshausen, he resigned his professorship in Berlin University. His was one of those virile minds that have long made Germany the Mecca in medicine for the students of the world. Few men have made such an impression on two generations of postgraduate workers as has Senator, and his genial interest has been a stimulus to scientific achievement in other countries besides his own.

THE LETTER OR THE SPIRIT OF THE LAW?

The straits to which Dr. Wiley's enemies have come in their attempt to have him removed from his position are best realized by those familiar with official methods in Washington. He is accused of technically violating the law regarding the payment of salaries. As several newspapers have said, technical violations of this sort are of daily occurrence in Washington. The creation of the Referee Board, which was brought into existence to pass on Dr. Wiley's findings, was probably a technical violation of the law. It is still an open question whether that board has any legal existence. When Attorney-General Wickersham was asked for an opinion on the matter, it is said that he turned the problem over to his assistant, James M. Fowler, for investigation. It is asserted that Mr. Fowler, after a careful examination, held that the Referee Board had no legal existence, but that Attorney-General Wickersham disregarded Mr. Fowler's opinion and the matter was referred to the solicitor of the Department of Agriculture, George P. McCabe. McCabe, it is alleged, prepared another opinion declaring the Board legal. McCabe, by the way, with F. L. Dunlap constituted, with Dr. Wiley, the Food and Drugs Inspection Board. It has long been understood that McCabe and Dunlap were put on this board for the purpose of restricting Dr. Wiley's activities as greatly as possible and rendering him a mere figurehead. It is well-known that both Dunlap and McCabe have, either openly or secretly, antagonized Dr. Wiley whenever possible. It was Dunlap who, dressed in brief authority as Acting-Chief of the Bureau of Chemistry, and in the absence of Dr. Wiley, preferred the present charges against his chief. McCabe was one of the three members on the Committee on Personnel which have recommended —with Wickersham's approval—Dr. Wiley's dismissal. Possibly Dr. Wiley is technically in the wrong and probably Wilson, Wickersham, McCabe and Dunlap are technically in the right. It is the letter of the law that kills! This much is certain, Dr. Wiley's enemies, both in and out of the government service, have been watching for years for an opportunity to find something out of which they could make a "case" and this trivial technical charge is the worst that can be brought against him. As the public learns the facts, it will perforce hold the opinion that the hawk-like vigilance of Dr. Wiley's official antagonists could have been better employed in detecting the crimes against the public health than in trying to hamper, harass and badger an aggressive, honest and efficient public servant.

OBTAINING MONEY UNDER FALSE PRETENSES

The case of John J. Arberry, the California quack, who, conducting a "medical institute" under the name "Dr. Taylor & Co.," was convicted of obtaining money by false pretenses, was related at some length in The Journal, January 29, 1910. This case was of interest because of several unusual features connected with the prosecution. Arberry tried to obtain money from a young man, who had come in from the country, by falsely telling him that he was suffering from a valvular disease of the heart. Arberry's defense was that he had made a mistake in diagnosis and that all physicians may disagree in such matters. Mr. Walter Kaufman, the attorney who was prosecuting the case, however, held that this was a matter of fact and not of opinion; a contention that the court upheld. So vital to the quack fraternity were the points raised in this case that their San Francisco members were said to have raised a purse of $25,000 to fight the case. Nevertheless, Arberry was found guilty. Of course, he appealed; the decision of the court of appeals is given at some length in the Medicolegal Department of this issue. The appellate court affirmed the judgment of the lower court, convicting Arberry of obtaining money by false pretenses. Moreover, the Supreme Court of California denies a rehearing. It will be appreciated, of course, that Arberry was not tried for practicing without a license—the usual way of attempting to check these impudent frauds—but for obtaining money under false pretenses. The Journal has heretofore suggested that this method is much more advisable, and will more readily appeal to the public, than prosecuting a man for the practice of medicine without a license. As a matter of fact, most of these advertising quacks do have licenses, and hence are proof against prosecution so far as this is concerned. Few of them, however, are proof against the charge of obtaining money under false pretenses. As we remarked once before, the important point is that under such charges the quack becomes a common felon. While the layman may experience difficulty in recognizing the danger of quackery *per se,* he finds no such obstacle in a case of plain robbery. The average man is perfectly willing to play fast and loose with his health, but he objects to any such harsh treatment of his purse. Let the public once realize that quackery and robbery are usually synonymous, and the outcome of legal action instituted against quacks may be safely predicted.

Medical News

ARKANSAS

Typhoid in Little Rock.—Following an appeal to the federal authorities in Washington for aid in controlling an epidemic of typhoid fever in Little Rock, the Governor has been advised that Passed Assistant Surgeon W. H. Frost, U. S. P. H. and M.-H. Service, is on his way to make the required investigation.

Personal.—Dr. James H. Lenow has been elected dean and Dr. Joseph P. Runyan, vice-dean, for the consolidated medical departments of the University of Arkansas, and Dr. Charles S. Holt, Fort Smith, has been elected professor of operative surgery.——Dr. R. R. Dinwiddie has resigned as city physician of Fort Smith.

State Board Appointments.—The Governor has announced the following appointments to the State Board of Health: First district, Dr. Octavius L. Williamson, Mariana; second district, Dr. Thomas I. Stout, Brinkley; third district, Dr. Asbury J. Vance, Harrison; fourth district, Dr. J. Gilbert Eberle, Fort Smith; fifth district, Dr. Robert L. Smith, Russellville; sixth district, Dr. Charles Dake, Hot Springs, and seventh district, Dr. E. R. Rowland, El Dorado.

Medical Schools Consolidated.—It is reported that the College of Physicians and Surgeons of Little Rock has been merged with the Medical Department of the University of Arkansas and that the consolidated school has been accepted by the Board of Trustees of the State University as an integral part of that institution. This is in accordance with an act passed by the last legislature providing for the development and support of the Medical Department of the University of Arkansas.

CALIFORNIA

Personal.—Dr. Joseph M. Toner has been appointed coroner of San Francisco County, vice Dr. William J. Walsh, deceased, and Dr. Max E. Magnus has been appointed autopsy surgeon. ——Dr. Francis H. Mead has been reelected health officer of San Diego.

College to be Hospital.—The committee on grounds and buildings of the University of California has been given power to have alterations made in the Los Angeles Medical Department structure to fit it for hospital uses. The legislature has made an appropriation of $25,000 for this purpose.

State Sanitation Car.—The state sanitation car which has already traveled more than 10,000 miles in California, diffusing valuable information to the public on preventable diseases, and which was on exhibition in Los Angeles during the meeting of the American Medical Association, is continuing its tour of the state, going north over the Coast Line.

Lane Medical Lectures.—The Lane Medical Lectures, founded in 1896 by Dr. Levi Cooper Lane, San Francisco, consist of "a free course of lectures on medical subjects by men distinguished at home or abroad for their work in either medicine or surgery and are intended for medical students and the medical profession at large." For this year the directors of Cooper Medical College have invited Dr. Ernest Fuchs, professor of ophthalmology in the University of Vienna, who will deliver ten lectures between August 21 and 25. The subjects are: "Operations on the Eye," "The Eye in Tabes" (two lectures), "Trachoma," "Tumors of the Eye," "The Eye in Brain Affections" (two lectures), "General Symptomatology," "Corneal Ulcers" and "The Anatomical and Functional Development of the Eye from Its Lowest to Its Highest Type Through the Animal Kingdom." The lectures will be delivered in English in Lane Hall, San Francisco, and will be fully illustrated and members of the medical profession are invited to attend.

ILLINOIS

New Hospital Staff.—The following members of the staff of Julia F. Burnham Hospital, Champaign, have been reappointed: Drs. Cassius M. Craig, William E. Schowengerdt, William L. Gray, Clyde D. Gulick, J. F. Mason, William M. Honn, Charles H. Spears, Jennie Lyons, Albert S. Wall, Cyrus F. Newcomb, Otis O. Stantley and A. Darwin Kirby.

Personal.—Dr. Frank P. Norbury, superintendent of the Kankakee State Hospital, has resigned and after spending some time in the East in study will take up practice of his specialty in Illinois.——Dr. Arthur E. Rogers, Bloomington, who has been ill at St. Joseph's Hospital, is reported to be convalescent.——Dr. Seymour H. Woodworth, Park Ridge, sustained a serious cut of the leg in an automobile accident near Lake Zurich, July 7.

Sanitary Appropriations.—The appropriations of the State Board of Health for sanitary purposes were increased by the General Assembly just adjourned. The sum of $46,000 was given for the purchase and free distribution of diphtheria antitoxin in the state. An appropriation was made for the care of poor persons bitten by rabid animals. Liberal appropriations were made for the enforcement of the medical practice act, to take the place of the fees turned in under the new law. Unfortunately it is specified in this last appropriation that no part of the sum shall be expended for legal services.

State Board of Health Handicapped in Prosecutions.—The recently enacted law, in effect July 1, requiring the State Board of Health to turn into the state treasury all moneys received from fees, fines and penalties, leaves the board without means to hire special attorneys to prosecute violators of the medical practice acts in the several counties of the state. Suits must be brought hereafter through state's attorneys, few of whom instituted prosecutions in the past, even when paid the fines collected. It is believed that none will do so in the future, when the fines are to be turned into the state treasury. The State Board of Health fears that under the conditions now existing, the state will be overrun with unlicensed practitioners, who will practice in defiance of the law.

Chicago

Typhoid Carrier Isolated.—Miss Rose Boersma, who is said to be responsible for the recent epidemic of typhoid fever in Englewood, has been isolated at the home of her uncle in Morgan Park and will be kept under medical care until all risk has disappeared.

Upholds Pure Food Act.—The pure food and drugs act was declared to be constitutional by Judge Landis, June 22, when he overruled the demurrer of three ice-cream companies, which had been indicted on the charge that they were selling ice cream which contained impurities.

Bequests.—By the will of the late Sylvester T. Smith, $2,500 is bequeathed to the Alumni Association of St. Luke's Hospital.——By the will of Mrs. Nannie Loewenthal, $3,000 is bequeathed to Michael Reese Hospital and $1,000 each to the Chicago Lying-In Hospital and Dispensary, and the Alexian Brothers' Hospital.

New Hospitals Open.—The Columbus Extension Hospital at Polk and Lytle Streets was opened with impressive ceremonies July 16. The new hospital is a branch of the Columbus Hospital.——The West Side Physicians' Club, in memory of Dr. Nicholas Senn, has established and opened a charitable free dispensary, to be known as the Senn Polyclinic, at 740 South Loomis Street. The dispensary has sixteen departments and will be open both days and evenings.

Personal.—Dr. Oren J. Waters is seriously ill in Passavant Hospital with septicemia, due to an operation wound.——Dr. Edwin R. LeCount has been appointed coroner's physician of Cook County, vice Dr. Henry G. W. Reinhardt, resigned, to become statistician of Cook County Hospital.——Dr. John E. Siebel, Jr., has sailed for Europe.——The summer home of Dr. George F. Fiske, at Lake Forest, was destroyed by fire July 12.——Dr. George J. Spencer has been appointed city physician and Dr. Max A. Weisskopf a member of the bridewell board.——E. E. Palmer, for twenty-seven years secretary of Truax, Greene & Company, died at his home in Oak Park, July 9, aged 48.

Louisiana Health Exhibit Car.—The health exhibit car of the Louisiana Board of Health, to which we have referred before, arrived in Chicago, July 18, and was on exhibition at the Illinois Central Station, Park Row, for two days. The train was on exhibition at Los Angeles during the meeting of the American Medical Association, then went to San Francisco and has made fourteen stops for exhibition en route and six dates are to be filled between Chicago and New Orleans. The train is under the personal charge of Dr. Oscar Dowling, president of the State Board of Health. The burden of this movement is pure food, pure drugs, better doctors, cleaner homes and higher health standards.

KENTUCKY

Louisville Water.—A report has been made by the Louisville Water Company which shows 26,742,551 gallons of water were used each day during the month of June. The daily analysis of water showed the average number of bacteria before filtration was 850 per c.c. and 120 per c.c. after filtration.

Personal.—Prison Physician Richard H. Moss narrowly escaped death by electricity during the first electrocution under the new state law at Eddyville July 8.——Dr. Thomas J. Morgan has been reelected medical inspector of the schools of Covington.——Dr. J. T. Tichenor, Waterford, is reported to be seriously ill as the result of heat exhaustion.——Dr. W. Hamilton Long, Louisville, has been commissioned first lieutenant in the medical corps of the state and has been assigned to the First Infantry.——Dr. and Mrs. Edward Spiedel, Louisville, celebrated their silver anniversary at the Seelbach, July 6.

State Board Meeting.—At the meeting of the State Board of Health at Louisville July 12 the chief topic of discussion was the result of the campaign of the board to improve the water supply of the state and prevent its contamination by slop from distilleries. The board is planning to get data to make maps of the water supply of the state as a preliminary movement for the betterment of the water supply and to make tests of the water in various streams in the state to determine its purity and where it is found necessary to improve conditions by making changes in the drainage, building ditches and other methods.

MAINE

Personal.—Dr. and Mrs. Adam P. Leighton, Jr., Portland, leave for Europe early next month.——Dr. Frank W. Searle, Portland, has been reappointed a member of the Board of Registration in Medicine.

Faculty Changes.—In the Medical School of Maine the following changes in the faculty have been made by the resignation of Drs. Alfred Mitchell and Frederick Henry Gerrish: Dr. Addison S. Thayer has been elected dean and professor of medicine and Dr. Alfred King has been placed in charge of the department of surgery. Dr. Ambrose H. Weeks has been elected instructor in medicine, Dr. Fred P. Webster, lecturer on diseases of children, and Dr. James E. Keating, assistant professor of medicine.

MARYLAND

Personal.—Dr. Eugene L. Crutchfield, Baltimore, was given the honorary degree of A.M. by St. John's College, Annapolis, recently.——Dr. Clarence E. Downs, Baltimore, has been made health warden of the eleventh ward, vice Dr. Nathan E. B. Iglehart.——Dr. A. L. Blessing, Brownsville, was severely injured in a runaway accident June 27.——Dr. George Heller, who has been ill in St. Joseph's Hospital, Baltimore, for several weeks, is reported to be improving.

MASSACHUSETTS

Scholarship Established.—By the will of Frank Dunlap Frisbee, who died in Newton, May 16, a scholarship is provided for at Harvard Medical School, to be known as Jesse F. Frisbee Scholarship, to be given to "poor and deserving students."

Doctors' Club Elects.—The Attleboro Doctors' Club held its annual meeting June 13 and elected the following officers: President, Dr. Joshua W. Clarke; vice-president, Dr. Wilfred F. Milot, and secretary and treasurer, Dr. George E. McPherson.

Personal.—Dr. and Mrs. David D. Johnson, Boston, sailed for Europe July 2.——Dr. Joseph P. Murphy, Brookline, has been appointed assistant to the chief of the child hygiene division of the Boston Health Department.——Drs. Thomas H. O'Connor, Roxbury, and Joseph H. Devenny, Dorchester, have been appointed ward physicians of Boston.

MICHIGAN

Gift to Tuberculosis Fund.—Mr. E. C. Mershon has presented the Saginaw Antituberculosis Society with a check for $1,000.

Fire in Hospital for the Insane.—The dining-room and kitchen of the State Hospital for Insane Criminals, Ionia, was destroyed by fire July 5, causing a loss of $50,000. No casualties occurred.

Annual Clinic.—The sixth annual clinic of the Detroit Boulevard Sanitarium, given under the auspices of the board of directors, Dr. Edgar B. Smith, William J. Stapleton, Jr., and A. L. French, and Hon. Frank T. Lodge, was held July 10 and 11, 14 and 15.

Health Board Exhibits.—The special train, a part of which contains the exhibit of the Michigan Agricultural College, Lansing, and two cars of the State Board of Health exhibit, will leave Lansing August 1 on a twelve-day tour of the state. The State Board exhibition will be in charge of Dr. Robert L. Dixon and two other officials of the department.

Personal.—Dr. Ralph E. Balch, Kalamazoo, has been severely ill with septicemia.——Dr. James C. McGregor, Flint, was operated on recently for appendicitis in a hospital at Los Angeles, Cal.——The University of Michigan has conferred the honorary degree of Doctor of Public Health on Dr. Guy L. Kiefer, health officer of Detroit.——Dr. Flavius J. Knight, Charlotte, was stunned and burned by a lightning shock recently.——The office of Dr. Charles F. O'Neill, Middleton, was destroyed by fire recently.

MINNESOTA

Baby Welfare Association.—The St. Paul Baby Welfare Association was organized July 3, and was attended by physicians, society workers and other citizens. Dr. Justus Ohage was elected president, and Drs. Walter R. Ramsey, Dr. James T. Christian and Jennette M. MacLaren were elected members of the board of directors. The society will establish a clinic and milk laboratory in charge of a competent nurse and will become a branch of the National Association for the Prevention of Infant Mortality.

County Medical Society Meets.—The forty-third annual meeting of the Wabasha County Medical Society was held at Plainview, July 6. The following officers were elected: president, Dr. Michael J. Shaughnessy, Wabasha; vice-president, Dr. Walter W. Nauth, Minneiska; secretary and treasurer, Dr. William F. Wilson, Lake City; delegate to the state association, Dr. Emery H. Bayley, Lake City; alternate, Dr. Dormic P. Dempsey, Kellogg, and censor, Dr. William T. Adams, Elgin. It was voted to hold the next annual meeting at Lake City.

Personal.—Dr. Hibbert Winslow Hill, director of the division of epidemiology of the Minnesota State Board of Health, received (by examination) the diploma of public health of the University of Toronto, at the recent commencement, June 9. Dr. Hill graduated from Toronto University in 1893 with honors and a postgraduate scholarship, receiving the degree of M.B., which is the only degree granted by the Toronto University in graduation of medicine. In 1899 he received the degree of M.D. together with the Starr gold medal, the latter awarded for a doctor's thesis on "Relation of Bacteriology to Public Health." The diploma of public health just granted is the first given by the University of Toronto, although the course has been open and the degree available for several years.——Dr. Arthur W. Shaleen, Hullock, has returned from Europe.——Dr. Herbert O. Collins, formerly city physician of Minneapolis, has been elected superintendent of hospitals of that city.

MISSOURI

Personal.—Dr. Walter S. Wheeler has been reappointed health commissioner of Kansas City with an increase of salary.——Major Oliver C. Gebhart, M.C., N.G.Mo., in charge of the field hospital, has been appointed chief surgeon, vice Dr. Daniel H. Morton, St. Joseph, resigned.——Dr. William R. Schaefer, Columbia, who was operated on for appendicitis July 1, is reported to be making satisfactory progress toward recovery.

St. Louis

Barnes University Assigns.—It is reported that William G. Schofield, St. Louis, has been appointed assignee of the Barnes University property. The indebtedness of the college is said to be about $218,000 and the assets about $87,000. Two mortgages on the property are outstanding; one, which is for $45,000, covering the university and hospital, and the second mortgage for $40,000 on the hospital, guaranteed by the university to secure an issue of bonds made by the hospital. The university corporation has outstanding about $65,000 in unsecured claims and $3,500 of floating indebtedness. The hospital, which is a separate corporation, has about $4,500 floating indebtedness. A reorganization of Barnes Medical School with the state university has been considered, but without any tangible result.

NEW YORK

Personal.—Dr. Edwin Fancher, Middletown, while making a call to inquire into the sanity of a patient, was shot at three times by the patient, but fortunately escaped injury.——Dr. Robert B. Lamb, medical superintendent of the Matteawan State Hospital, has resigned.

New York City

Bequest.—By the will of Miss Adele A. Dortie, the Presbyterian Hospital will receive $100,000, and the New York Infirmary for Women and Children, $2,000.

New Dispensary Dedicated.—The new home for the Ladies' Hebrew Dispensary, Brooklyn, was dedicated July 3, and a fair was opened which was continued during the entire week for the benefit of the institution.

Training School for Midwives.—The trustees of Bellevue and Allied Hospitals have opened a training school for midwives. No civil service examination is required for entrance, but a knowledge of foreign languages is very desirable. The teaching will be under the direction of a resident and an assistant resident obstetrician.

Decrease in Infant Death-Rate.—From July 1, when the intense heat began, to July 15, 706 babies under 1 year of age died in this city as compared with 1,006 for the first two weeks in July of 1910. For the week ending July 15, there were 359 deaths of infants under 1 year of age, as compared with 568 for the same week in 1910. The health department believes that the concerted action of the many agencies employed in combating infant mortality are largely responsible for the decreased death-rate.

Appointments to Board of Inebriety.—The Board of Inebriety authorized by the legislature in 1910 was brought into being on July 11 when the mayor appointed seven members to serve on this board; two physicians, Dr. William G. Browning, Brooklyn, and Dr. John Dorning, New York, and two clergymen. The law requires that the board shall consist, in addition, of the commissioner of charities and correction, ex officio, and one layman. All male persons arrested for intoxication will come under the influence of the board. An industrial colony which will provide the opportunity for permanent reformation is being planned.

The Cholera Situation.—Despite the precaution made by the health officer of the port of New York there have been five deaths from cholera and eighteen cases of the disease among immigrants who arrived July 5 on the *Moltke*. Out of the five, one died at Auburn, N. Y., one at Brooklyn and the other three at the Swinburne Island Hospital. There are at present eighteen patients with cholera, all of whom are reported to be convalescent. The task of examining the 600 immigrants who arrived on the *Moltke* and *Perugia* was begun July 17. The first native case of cholera ended July 13, in the death of a night watchman at the quarantine station. He was ill for three days before the case was diagnosed as cholera on the day before he died.

Temperature of Milk.—The health commissioner in his press bulletin of July 13, makes public the plan of the department to keep milk at a low temperature as it comes into the city. A schedule was first arranged that two inspectors were detailed to inspect milk at thirteen points at which it comes into the city. Under the present arrangements each inspector is detailed to night work once in about eight days and each receiving point is thus inspected about once in two weeks. During the recent extremely hot weather an additional number of inspectors was detailed to inspect the milk especially in regard to temperature at the receiving points as well as on the delivery wagons. Four to eight were thus detailed each night during the hottest week of the year. The highest temperature of 888 specimens examined was 49 degrees. On the hottest days 718 specimens were examined and of these seventy-eight were found to be above the temperature of 50 degrees. In addition to this work two inspectors have been detailed each week to inspect milk delivered on wagons to retail stores, and it is found that this milk is almost always kept below the temperature required by the health commissioner. The inspection of milk in retail stores shows almost universally that the cans are surrounded with ice in ice-boxes or tubs while the milk is on sale. On June 16, special investigation was made on milk on sale in retail stores and out of 253 inspections only 156 quarts were found to be above the legal temperature, and this milk was destroyed. The commissioner furthermore calls attention to the necessity of refrigerating milk on account of the enormous increase of bacterial content with high temperature.

Buffalo

Personal.—Dr. F. Park Lewis has been reappointed commissioner for the State School for the Blind, Batavia.——Dr. Arthur R. Gibson has resigned as milk inspector.

To and From Europe.—Drs. John M. Snow, Matthew D. Mann, Cornelius J. Carr, James L. Gallagher, William H. Billings and George A. Himmelsbach have sailed for Europe, and Dr. George J. Haller has returned from abroad.

Academy Meeting.—At the annual meeting of the Buffalo Academy of Medicine the following officers were elected: president, Dr. Stephen Y. Howell; secretary, Dr. Harry R. Trick; treasurer, Dr. Lawrence Hendee; trustee, Dr. John H. Pryor, and section officers—medicine, Dr. Henry C. Buswell, chairman, and Dr. Carl S. Tompkins, secretary; surgery, Dr. James H. Lewis, chairman, and Dr. Herbert A. Smith, secretary; obstetrics, Dr. Joseph S. Lewis, chairman, and Dr. Alfred H. Nahren, secretary; and pathology, Dr. Henry Adsit, chairman, and Dr. Guy L. McCutcheon, secretary.

District Nurses.—The twenty-sixth annual meeting of the District Nursing Association of Buffalo shows that during the year 28,364 visits were made and 2,176 patients were under care. The work of the association is divided into district nursing, tuberculosis work, the baby's dispensary and social service. There are eight nurses in the district work, and six in the tuberculosis work, one in the babies' dispensary and the others in the social service. In the babies' milk dispensary 213 patients attended; 16,707 quarts of milk were distributed and 102,650 bottles were sterilized.

NORTH CAROLINA

Personal.—Dr. Clarence Judd, Holly Spring, has been elected resident physician of Rex Hospital.——Dr. George W. Long, Graham, has been elected superintendent of health of Alamance County.

Field Hospital at Asheville.—It has been decided to make Asheville the headquarters of the field hospital of the organized militia of North Carolina. Captain Francis J. Clemenger has been designated to recruit and command the field hospital. The field hospital, the ambulance company and three regimental infirmaries will be organized first. The ambulance company will be located at Raleigh under the command of Lieut. Herbert Haywood.

PENNSYLVANIA

Pure Milk Crusade.—During the last month, samples of milk for analysis have been taken in over thirty counties and eight prosecutions for the sale of milk containing formaldehyde or other preservatives were commenced July 12 by Dairy and Food Commissioner James Foust.

Personal.—Dr. L. H. Marshall, Conneautville, had two ribs broken and received serious injury in an automobile accident July 12.——Dr. R. W. Brown, Greenville, has been appointed chief surgeon of the Bessemer and Lake Erie Railroad, vice Dr. Samuel M. Ziegler, deceased.——Drs. George D. Nutt and John G. Clump have resigned from the board of trustees of Williamsport Hospital. Dr. Charles W. Youngman has been appointed president of the board of trustees of that hospital and Drs. G. Franklin Bell and Charles E. Heller have been elected trustees. The following staff has been selected: consulting physician, Dr. Eugene B. Campbell; physician-in-chief, Dr. Horace G. McCormick; surgeon-in-chief, Dr. G. F. Bell; physicians, Drs. Horace G. McCormick and William E. Glosser; diseases of children and contagious diseases, Dr. Waldo W. Hull; surgeons, Drs. G. Franklin Bell and Charles M. Adams; gynecology and genito-urinary diseases, Dr. Edward Lyon; pathologist and microscopist, Dr. Ferd. E. Weddigen; outdoor department, Drs. John P. Harley and George R. Drick, Robert F. Trainer and Charles J. Cummings, and eye, ear, nose and throat, Drs. Wesley F. Kunkle and H. Murray Ritter.

Philadelphia

To Enlarge Race Street Pier.—It has been found necessary to add fifteen beds to the Race Street Pier Hospital, as the present capacity of twenty-five beds has proven too small. This hospital is open day and night, and besides the general hospital equipment, it has a medical staff consisting of Dr. Le Roy A. Wilkes, resident physician; Drs. James D. Brittingham and Henry J. E. Newman, attending physicians, and Drs. Edwin E. Graham and J. P. Crozer Griffith, consulting physicians. There is a nursing staff of six trained nurses.

Gift to Red Bank.—Mr. and Mrs. John F. Combs have given $15,000 for building a sea wall to protect the property at Red Bank, N. J., conducted by the Sanatorium Association of Philadelphia. At Red Bank there is a grove where children are allowed the greatest amount of liberty, and a building, fitted up as a hospital, with large airy wards in which are beds capable of accommodating about twenty-five children. Last summer more than 103,000 persons were taken to the resort and during the time that the Sanatorium Association has been in charge almost three and a half million needy persons have been taken there.

Personal.—Dr. John A. Kolmer has been elected professor of pathology and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. Joseph S. Neff, director of public health, who has been seriously ill, is reported convalescent.——Dr. Herbert Fox, chief of laboratories of the State Department of Health, has resigned to assume the position of director of the Pepper laboratories of the University of Pennsylvania.——Drs. Edward B. Beasley and Albert Bowen have been appointed to the Queen's Hospital in Honolulu, Hawaii.——Dr. Melvin Franklin sailed for Europe July 10.

Gifts to Medical Libraries.—Since the former report of the chairman of the library committee, April 15, a number of substantial donations have been received at the Central Branch of the Free Library, northeast corner Thirteenth and Locust Streets, e. g. from Dr. John M. Cruice, six volumes of journals; from Dr. Francis W. Sinkler, twenty-six volumes, and from Dr. K. L. Storm (through Dr. A. B. Hirsh) numerous recent medical periodicals. There are thirty-six new and standard works in the Central Branch of the Free Library. These will also be forwarded to the Northeast Branch for the benefit of its members and physicians in good standing, as well as medical students on showing a matriculation card. A few additional books have been ordered to be purchased out of the appropriation of $100 made by the Philadelphia County Medical Society, and the following journals will be sent to the Northeast Branch after July 1, 1911: THE JOURNAL of the American Medical Association, *Therapeutic Gazette*, London *Lancet*, and the *American Journal of Surgery, Gynecology and Obstetrics.*

WYOMING

Change in Medical Board.—Dr. J. B. Tyrell, Laramie, formerly secretary of the Wyoming State Board of Medical Examiners, is now vice-president and Dr. Albert B. Tonkin, Riverton, formerly vice-president, has been made secretary of the board.

Election.—The Big Horn Medical Association, at its recent meeting in Basin, elected the following officers: president, Dr. C. Dana Carter, Basin; vice-president, Dr. R. M. Hamilton, Grayboull; secretary, Dr. George A. Harris, Basin, and treasurer, Dr. Torgeson, Lowell.

GENERAL NEWS

Prize Essay.—Dr. Lewis D. Mason, Brooklyn, vice-president of the American Society for the Study of Alcohol and Other Narcotics, has offered a prize of $150.00 for the best essay on "Biologic and Physiologic Relations of Alcohol to Life." The essay must be the result of original research which shall confirm or disprove the present theories of the inherited effects of alcoholic degeneration and indicate how far the defects of the parents are transmitted to the children. Such work may be carried on in man or animals, and the results may be illustrated by drawings or photographs, and must be typewritten and sent to the office of the secretary before July 1, 1913. This offer is open to students in all countries, and each essay should be accompanied by a motto and a sealed envelope containing the same, with the author's name and address. All inquiries should be addressed to Dr. Thomas D. Crothers, Hartford, Conn., secretary.

Railway Surgeons Hold Meeting.—At the annual meeting of the Monon Surgical Association, held in Indianapolis, June 29, Dr. Arthur J. McDonald, Bedford, Ind., was elected president, Dr. H. E. Sharrer, Hammond, Ind., vice-president, and Dr. Samuel L. Ensiminger, Crawfordsville, Ind., secretary-treasurer.

Annual Meeting of Surgeons.—The annual meeting of the American Surgical Association was held in Denver, June 19-21. Montreal was selected as the meeting place for 1912. Dr. Arpad G. Gerster, New York City, was elected president and Dr. Robert Grier Le Conte, Philadelphia, was reelected secretary.

Medical Editors' Association.—The forty-second annual meet-of the American Medical Editors' Association, held in Los Angeles, June 26 and 27, under the presidency of Dr. Joseph McDonald, Jr., New York City, elected the following officers: president, Dr. Walter Wyman, Surgeon-General U. S. P. H. and M.-H. Service; vice-presidents, Drs. Thomas L. Stedman, New York City, and Walter Lindley, Los Angeles; secretary and treasurer, Dr. Joseph McDonald, Jr., New York City, and executive committee, Drs. Wallace C. Abbott, Chicago; Cyrus L. Stevens, Athens, Pa., and George H. Kreidler, Cincinnati.

Rockefeller Institute Staff Appointments.—The board of scientific directors of the Rockefeller Institute for Medical Research announces the following appointments to the staff: Dr. Alfred E. Cohn, associate in medicine; Dr. Arthur W. M. Ellis and Dr. Alphonse R. Doches, assistant resident physicians; Frank W. Bancroft, Ph.D., and Reinhard H. Beutner, Ing.D., assistants in experimental biology; Drs. James B. B. Murphy and Henry K. Marks, assistants in pathology; J. J. Bronfenbrenner, fellow in pathology; Frederick B. La Forge, Ph.D., and Angelia M. Courtney, assistants in chemistry, and Helen L. Fales, research scholar in chemistry.

Hospital System for Railroads.—The Illinois Central Railroad Company announces that, beginning with this month it will open a surgical department to include its entire lines. The department will be in the hands of a cooperative benefit and relief association, where each employee who desires may contribute 50 cents a month to the maintenance fund. Dr. Guy G. Dowdall, chief surgeon of the road, will be in charge of the department. All who contribute to the fund are entitled to hospital treatment and medical and surgical care at designated hospitals, to medical and surgical treatment at their homes or at the offices of the surgeons of the hospital department; to medical and surgical dressings, artificial limbs and eyes, trusses, elastic bandages and other appliances, and to eye-glasses when required as the result of injury.

FOREIGN NEWS

Central America Medical Congress.—The first International Medical Congress for the states of Central America has been organized, to be held at San Salvador during November. Dr. J. G. Palomo is to preside.

Danish Automobile Club.—The physicians of Denmark have a special "Danske Lægers Motorklub," and at the annual meeting recently there was an interesting exhibition of cars and appliances for the use of motoring doctors.

Semicentennial of Polish Medical Journal.—The journal, *Przeglad Lekarski*, the official organ of the Cracow Medical Association, celebrated the fiftieth anniversary of its foundation July 17. Cracow is the capital of Austrian Poland and numerous invitations to the celebration were sent out. Prof. N. Cybulski is the president of the association. Prof. S. Ciechanowski is editor of its journal.

University for Iceland.—The University of Reikiavik was formally organized last month and will enter on its work next October. There has been a medical college there since 1876 and this will be incorporated with the university. It is stated that the new university will open with nine professors and twelve docents, and that the higher official positions on the island will henceforth be reserved for those who have passed the examinations of the university.

Death of Professor Senator.—The cable brings word of the death of the eminent Berlin clinician, Hermann Senator, aged 77. His seventieth birthday was celebrated in 1904 with much ceremony and his medical diploma was renewed in 1907 on the occasion of the fiftieth anniversary, his golden jubilee. He has kept up his frequent contributions to medical literature to the last, the current mail containing another article from his pen on "Idiopathic Enlargement of the Spleen." His works on albuminuria, diabetes and kidney disease have passed through many editions and been translated into all the current languages. He was born Dec. 6, 1834, in a small town in Posen, but has always lived at Berlin, becoming privatdocent for internal medicine and medical jurisprudence in 1868 and regular professor in 1875, and has been in charge of the third university medical clinic since 1888 until recently. He has long been president of the Berlin Medical Society but declined reelection this year on account of his advanced age. He resigned his professorship in 1910, at the same time as Olshausen who is a year younger. Senator's student days were distinguished by his poverty and his diligence; it is said that he selected his room near a street lamp that he might save the cost of lighting the room. His earnestness soon won recognition so that he became the "famulus" or amanuensis of his teacher, J. Müller, by the end of the third semester. Senator early won a large consulting practice, and was one of the physicians of the Emperor Frederick, but his chief distinction was as a teacher and investigator. His lectures were characterized by his power of clear exposition and his ready flow of language. On the celebration of his seventieth birthday one of his pupils collected the titles of nearly 200 articles published by him. Some of his works on legal medicine, neurology and various infections are regarded as classics, and his article on the changes after death from chloroform poisoning was so complete that C. Strauch in the *Berliner klin. Wochenschrift*, 1904, commented on this article that after forty years no essential advance over his description had been made notwithstanding the finer methods of investigation now at the disposal of medicine. The pathology of metabolism was Senator's special field, and in this he much increased the store of knowledge. He was one of the first to recognize auto-intoxication from the intestinal canal. He refused the charge of the pediatric clinic, after the death of Henoch, saying that he wished "to be a physician and not a specialist."

LONDON LETTER

(From Our Regular Correspondent)

London, July 8, 1911.

The National Insurance Bill

The profession is making great efforts for the removal of the objectionable features of the national insurance bill. The whole of England has been divided into large areas and medical committees appointed for each. These interview the local members of parliament and acquaint them with their views. There is every prospect that the struggle of the profession will be crowned with success. As stated in the previous letters to The Journal, the great bone of contention is the income limit of $800 for medical benefits, which the profession considers much too high. With practical unanimity the profession is opposed to any plan under which persons who can reasonably be expected to pay fees and do pay fees at present, should obtain medical attendance on the capitation system of the insurance bill. Although Lloyd-George at first regarded the demand of the profession on this point as impossible, he is now negotiating on it. In the many meetings of friendly societies which he has attended, and deputations which he has received, he has again and again referred to the great difficulties he has had with the profession and shown a desire to satisfy it, as far as possible. He has declared that it is important that the profession should work whole-heartedly in the scheme, and that members whose lives depend on skilful medical treatment should come in feeling that they have been well treated on the whole and given the best brains. It is reported that he has adopted a new scheme to satisfy the doctors on the question of wage limit. Under this, persons who can pay fees to doctors, but have medical benefit under the bill, are to continue to pay fees, but medical benefits are to be accumulated. When illness comes, these accumulated benefits will go toward paying the doctor and when they are exhausted, the patient will pay from his own resources. At the forthcoming meeting of the British Medical Association at Birmingham on July 21, a full statement will be presented to the representative meeting as to the position of the profession in relation to the bill. The subject will be further discussed by the whole association in the medical sociology section under the heading "Medical Aspects of the Poor Law Question with Special Reference to State Insurance and the Provision of Better Medical Attendance on the Poor by (a) Whole Time Medical Officers; (b) Provident Dispensaries and Other Forms of Contract Practice; (c) Private Medical Practitioners." On other points than the wage limit the chancellor has made important concessions to the profession. He is prepared to provide that the insurance commissioners should include at least one doctor who has had personal experience of practice in the class from which the insured would be chiefly drawn. He will also provide that the advisory committee shall include representatives of the profession, who have had similar experience, and that the number of medical members on the local health committee shall be increased by at least three, two of whom shall be directly elected by the local profession.

A Colonial Entomologic Research Committee

The great results in tropical hygiene achieved by the anti-mosquito campaign have caused attention in this country to be devoted to the entomology of our colonies, particularly in its economic aspects. The latest result of this movement is the establishment of a Colonial Entomological Research Committee. This was decided on at an important meeting of the representatives of the self-governing colonies, who are now present in this country for the conference. The object of the meeting was to discuss a scheme for the prevention of the spread of disease in agriculture and horticulture. Lord Cromer, the chairman, stated that it was proposed to establish a central organization in London for the transmission of information to various parts of the empire, for the promotion of a greater knowledge of insect-pests than exists at present. This information would be useful, no doubt, in preventing the spread of disease in animals and plants throughout our various dominions, and indirectly human life would be benefited.

Scientific Research Under Government Grants

The president of the local government board has authorized the following special researches to be paid for out of the annual grant voted by Parliament in aid of scientific investigations concerning the causes and processes of disease: (1) A research into the causes of premature arterial degeneration in man, by Dr. F. W. Andrewes, pathologist to St. Bartholomew's Hospital; (2) an inquiry by Dr. J. H. Thursfield of St. Bartholomew's Hospital into the causes of death in measles; (3) a comparison by Professor Nuttall, F. R. S., quick professor of biology at the University of Cambridge, of the number and kinds of fleas found on rats; (4) a continuation by Dr. C. J. Lewis of Birmingham University of his investigation into the degree of prevalence and the characteristics of microorganisms known as non-lactose fermenters in the alimentary canal of infants; (5) an investigation into the same subject by Dr. D. M. Alexander of Liverpool University; (6) an inquiry by Dr. Graham Smith of Cambridge University into the incidence of non-lactose fermenters in flies in normal surroundings and in surroundings associated with epidemic diarrhea; (7) a study by Dr. F. A. Bainbridge of the Lister Institute of the anaerobic bacteria in the alimentary canal of infants; (8) an investigation by Dr. Graham Smith into the possibility of pathogenic microorganisms being taken up by the larva and subsequently distributed by the fly.

The Medical Service of the Royal Navy

A committee to consider the conditions of service of the medical department of the Royal Navy, including medical officers, nurses and sick-berth staff, has suggested important reforms which will shortly be promulgated. The changes recommended and now approved are far-reaching and will, it is anticipated, bring contentment to the medical service of the premier fighting force of the nation. The new regulations provide not only for improved conditions of service in the medical department, but also for increased facilities for post-graduate professional study and accelerated promotion for those officers who show special merit. In Queen Alexandra's Royal Naval Nursing Service the age of entry has been raised, the rates of pay increased and an intermediate grade of superintending sister instituted. In the sick-berth staff, improvements are made as regards entry, training, examination and special allowances for certain special work. In the nurse profession of the army, similar reforms were made after the Boer war and have not only produced contentment but have raised the scientific level of the army doctor.

PARIS LETTER

(From Our Regular Correspondent)

Paris, June 30, 1911.

Personal

On June 27, the Académie de médecine elected a member in the section of medical pathology in place of Dr. Kelsch who recently died. Dr. Pierre Marie, one of the most distinguished pupils of Charcot, was elected. Dr. Marie is known especially for his work on the diseases of the spinal cord. Our knowledge of acromegaly, or "Marie's disease," especially, is due to him. Lately he has published a series of investigations tending to recast completely the classical doctrine of the localization of aphasia. Dr. Marie is now physician at the Salpêtrière. In 1908 he received the chair of pathologic anatomy at the Faculté de médecine de Paris, succeeding Professor Cornil.

Protection of Maternity

A bill has recently been introduced into the Chamber of Deputies to give all mothers of families employed in industrial establishments an hour a day for a year from each childbirth to suckle their children during working hours. This hour may be divided into two periods of thirty minutes each, which may be taken by the mothers at hours fixed by agreement between them and their employers. This hour may not be deducted in reckoning the day's wages. The sponsors of this bill urge the necessity of combating infant mortality, which is equal to that of tuberculosis. Statistics for the death-rate in 681 cities of France, including a total population of 13,190,721, shows that 167 out of every thousand deaths, about a sixth, are of infants under one year old, and 80 per cent. of these deaths are among the working population. This terrible coefficient rises in Lille to 274 per thousand, in Dunkirk to 342, in Nancy to 414, and in Saint-Pol-sur-Mer it reaches 509 per thousand; in other words, in this last city the mortality of infants under one year is more than half the sum of the general mortality. In searching for the cause it has been recognized that out of every thousand deaths of infants under one year, at least 766 might have been avoided, for 385, directly due to gastro-enteritis and diarrhea, are indirectly due to bad nutrition and especially to deprivation of the maternal breast, and 171, attributed to congenital debility, are really due to overwork of the mother during pregnancy and neglect of necessary hygienic precautions. In six years 220,000 children that might have been saved have died.

Consumption of Absinthe

In spite of the ravages caused by the consumption of absinthe it has not yet been prohibited. The senate has just received the report of the commission charged with the examination of the bill of M. de Lamarzelle to prohibit the manufacture and sale of absinthe. The commission has approved the bill which prohibits under a penalty of from $20 to $400 (100 to 2,000 francs) the manufacture, the sale, the transportation, the storage for the purpose of sale and the importation of all drinks or alcoholic liquors containing thujol, essence of absinthe. The law will go into effect two years after promulgation, except as regards importation, which will be immediately prohibited. According to official communication the known consumption was in 1872, 6,713 hectoliters, 10,150 hectoliters in 1878 and 18,000 hectoliters in 1880. From that date on the consumption of absinthe increased prodigiously and regularly until it reached 238,467 hectoliters in 1900, since which time consumption has declined a little, varying between 160,000 and 207,000. It was about 172,116 hectoliters in 1910.

Hygiene of Illumination

The Ministry of the Interior has organized a technical committee on natural and artificial illumination, presided over by Dr. Gariel, professor of physics at the Faculté de médecine de Paris. This committee is (1) to study from the point of view of general and ocular hygiene the various modes of artificial illumination at present in use; (2) to determine the composition and the hygienic qualities of the various artificial lights and in the case of the lights produced by combustion, the harmful gases and the heat developed; (3) to fix the minimum quantity of artificial light compatible with the normal function of the eye; (4) to establish the most practical means of measuring luminous intensity; (5) to establish the best rules of application of the methods of artificial illumination at present in use for each class of the principal industries; (6) to present to the department a report of the relations of myopia and blindness and the best means of removing the causes of myopia.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, June 29, 1911.

The Imperial Insurance Bill

The society of German physicians at its meeting of June 23, the annual Aerztetag, which had been awaited with the most earnest expectations with reference to the position to be taken in regard to the proposed imperial insurance law, adopted a resolution which has fully met the hopes which I have previously expressed. The fears of the friends of the medical profession and the hopes of their opponents that the organization would put itself in opposition to the social legislation and hinder the participation of physicians in carrying out the new reform have fortunately not been fulfilled. On the other hand, the meeting proposed a scheme for an organization which will serve to regulate the relations of physicians with the Krankenkassen and will better matters so far as the free choice of physicians is concerned. For this purpose a general contract bureau is proposed, to be arranged by the insurance committee of the society in conjunction with the executive committee of the Leipsic league for testing all contracts of physicians with the Krankenkassen. It is to be the duty of the existing local bodies for examining these contracts to transmit every contract to this central bureau and to accept a contract only after it has received the sanction of the central body, which will insist on the following provisions: *a*, to promote and extend the free choice of physicians in accordance with local conditions; *b*, to provide for an adjusting committee for disputes arising from the contracts, in which both sides shall be equally represented and for the discussion of all common affairs and to act as an arbitration tribunal; *c*, to make provisions for the arrangement of courts of appeal; *d*, provisions to render impossible treatment by quacks at the expense of the Krankenkassen; *e*, provisions for fees for medical work according to the time occupied, and *f*, to hinder the annihilation of private practice, especially in country districts, that is threatened by the raising of the insurance limits and the extension of insurance privileges to those able to pay, and to ensure that persons who have a total income exceeding $500 (2,000 marks) shall pay for medical attendance, according to the methods and with the fees used in local private practice. The Leipsic league will lend its aid to the local organizations in carrying out these provisions, and in conjunction with the business committee and the assembly of delegates will give directions for the provisions of contracts to the bureaus for examination of contracts and the societies, and will communicate to them the measures which must be employed in case the demands of the physicians meet with opposition on the part of the insurance authorities. The hope may be expressed that this well-thought-out resolution may receive recognition from the government and that the decisiveness with which the medical profession is willing to take in hand the regulation of the affairs of insurance physicians according to a uniform plan will contribute to prevent the continuance of the previous frequent disagreements between physicians and the insurance societies. To the Leipsic league belong about 24,000 physicians, which is more than 95 per cent. of the entire German profession. May 1 the league had ten national and provincial departments, 129 sections, 20 local groups, sixteen groups of assistants, 1,088 superintendents and thirty-three superintendents of employment bureaus for assistants and universities. Its activity as agent for filling medical vacancies is shown by the fact that in the last year 3,000 positions open to physicians were provided for. So far the league has taken part in not less than 1,000 disputes with the Krankenkassen, of which 920 were decided in favor of the physicians, thus failing in only eighty.

Regulation of School Medical Examinations

The Prussian minister of education has issued the following order in regard to school examinations: 1. The examination of children, especially with exposure of the body, may be made only when the parents make no objection. In general, an exposure of the back and breast will be sufficient. 2. In the examination of girls a male teacher must never conduct the examination, but always a female teacher, or in case there is no female teacher another suitable woman (such as an industrial instructress, or the wife of the teacher) must make the inspection. 3. The examination of children must be conducted singly. If a special room is not available, a screen shall be used that will hide the undressed child from the view of the others.

Exclusion of Children from Moving Picture Shows

The chief of police of Berlin has issued an order that children under 14 are forbidden from visiting moving picture shows after 9 p. m., even when accompanied by adults. The chief has provided by this order against the dangers that threaten from pictures that exert a brutalizing and exciting action on young minds. As this danger was not sufficiently avoided by very thorough supervision it was necessary to make the prohibition complete. The attempt of the owners of the theaters to remove this prohibition with the help of the courts has been of no avail, as the highest Prussian court has decided that the order is entirely legal. This step of the Berlin chief of police has been followed by the provincial authorities. Some time ago the police received the general right from the authorities to forbid the exhibition of unsuitable cinematographic films, especially when young persons are admitted. As the moving picture firms often conceal from the provincial police officials the fact that many films are prohibited in Berlin, in future a list of the interdicted films will be published twice in the Prussian Central Police Journal, the *Preussische Zentralpolizeiblatt*.

Ernst v. Leyden Foundation

In order to secure larger funds for the investigation and extinction of cancer, the German central committee for cancer research comes before the public with an appeal to create a foundation which is to be known as the Ernst v. Leyden foundation for cancer research and repression. By bearing the name of the dead scientist it will fulfill the purpose of a memorial offering to one who gave a new impulse to the campaign against this disease. We scarcely believe any great interest in this foundation will be manifested in Germany. Modern investigations have, to be sure, thrown much valuable light on the general pathology of malignant growths, but the darkness has not been lessened in the most important fields of etiology and therapy. On account of this relative failure no great inclination exists in the public mind to devote more money to this purpose. Not even the name of Leyden himself will afford sufficient attractive force for the purpose.

Effect of the Social-Democratic Boycott on Spirits

As I have noted several times, the social-democratic party two years ago decided to boycott alcohol as a weapon in their fight against the landowners and as a hygienic propaganda. According to official statistics of the alcohol industry in Germany, it appears that the resolution has been successful. To be sure such calculations should be made with caution, as many factors, not always evident, affect economic changes. According to the statistics in the trade year of 1909-10, only 1,783,027 hectoliters of spirits for use as beverages were put on sale as compared with 2,650,622 in 1908-9. This is a reduction of 867,595 hectoliters (66,265,550 gallons). We thus had a consumption of 2.8 liters of spirits per capita for drinking purposes as compared with 4.2 liters in 1908-9, a reduction of 1.4 liters below that of the previous year, or exactly one-third. In the last twenty years, the consumption of spirits has varied between 3.8 and 4.7 liters per capita, so that the differences from year to year have been at the most 0.3 liter. Probably the reduction will continue for the trade year 1910-11, for the excise taxes on spirits for the fiscal year 1910 were only 153,000,000 marks, while the revenue from this source in 1909 was 187,000,000 marks, a difference of $8,500,000.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, July 5, 1911.

Celebration of the Fourth of July by the American Physicians in Vienna

Fourth of July was celebrated by the American physicians of Vienna this year by an excursion to Baden, a charmingly situated health resort with numerous hot sulphur baths, some twenty miles south of Vienna. Upward of 200 doctors, with their wives, also several children, were brought by special train to the watering place, where representatives of the municipality and of the medical societies of this place received the honored guests. The day was spent partly in the beautiful surroundings, partly in the park, where a baseball game was arranged. A trip to the interesting hot sulphur springs, to the hydrotherapeutic and the other medical institutions of Baden formed an instructive diversion after dinner and supper. Needless to say that the doctors were well cared for by the municipality of the bathing place, the mayor (*Burger-*

meister) of which is also a medical man. Besides, a reception took place at the American Embassy, in which also a large percentage of the American doctors staying at present in our city were welcome visitors.

Statistics Regarding Suicide in Vienna

The first half year of 1911 has shown for the first time in fifteen years a decrease of the number of suicides, and also of the attempted suicides. The figure was 265, or 10 per cent. less than any other half year since 1896; 188 men, seventy-three women and four children (three boys and one girl) killed themselves. The latter figure is the more startling as the suicides of children are increasing in frequency. The youngest of these was 9 years old, the oldest 14 years. These victims were mostly driven to desperation by fear of punishment from school, a fact much commented on in the papers. It is interesting to note that the winter months and the gloomy early spring days bring fewer attempts at suicide than the glorious days of May and June. This has been noted for our country for a series of years. No satisfactory explanation is yet given. The oldest person who killed himself was 87 years, and the highest number of suicides was fifty-seven in May and fifty-one in June (twenty-two and seventeen women, respectively).

The First-Aid Corps in June

The Wiener freiwillige Rettungsgesellschaft (Voluntary First-Aid Corps of Vienna) has intervened in the month of June in 3,187 cases of sudden disease or accidents. Of these, 108 were more or less successful attempts at suicide, forty-seven cases of madness, thirty-three cases of persons found dead and eleven cases of malingering, while 1,139 injuries were taken care of by the officers of the corps, who besides assisting in 650 instances of attacks of disease in the streets (apoplectic attacks, heart failure, etc.), had to attend in eight large gatherings of people on account of the elections to parliament. Since the existence of the corps, 256,590 persons were attended to.

Gymnastics for Middle Schools

The school board for lower Austria has instructed all head teachers of the lower and middle schools to pay special attention to light athletic sports and gymnastics for the youths of 10 to 18 years in the open air. Eighty to 100 boys will form gymnastic classes and a novel experiment will be the self-government of these classes. The two new groups of open-air exercises are swimming and ball games, including football, while running, fencing and gymnastics with apparatus are already at present much favored in our schools. Winter sports will also be taken up in the program; sledges and skating, as well as marching and excursions into snow regions on skis. Shooting will not be made compulsory, but it will be encouraged by the teaching staff. The pupils will also be encouraged to walking exercises, excursions lasting from one to three days with camping out, and the vicinity of mountains will be made use of by judicious mountain climbing. Practical teaching in combination with these outdoor exercises is earnestly recommended. For the purpose of obtaining funds necessary for the apparatus, small sums will have to be paid by those of the pupils who can afford to do so, 2 to 10 kronen (40 cents to $2) being the limits. Arrangements have been made with public baths, transport societies and like institutions to permit frequent use of the respective properties. Exemption from the light exercises will be granted only on medical advice while the more difficult exercises are optional.

Miscellany

Careful References Save Time.—F. A. McDermott writes in *Science* (June 2, 1911), that it has been his duty, during the past two or three years, to compile, or to assist in the compiling of, a number of extensive bibliographies and lists of references to the literature of various chemical subjects, and during this work it has been often impressed on him with what laxity and apparent disregard of consequences some authors handled—or failed to handle—their references to prior work. The same difficulty is all too often experienced when looking up some apparently simple subject. For instance, an article was recently desired by a chemist employed in certain synthetic work, describing a method for the reduction of certain compounds, referred to in a scientific paper, without further information, as "Ladenburg's" method. Persistent search of the indexes of the journals where the paper would most probably have appeared yielded only a brief polemic note, which made no reference to the appearance of the original paper. The proper method was finally found as a side issue in a paper on oximes, through the use of a very recent hand-book of laboratory methods, the author of which had very probably gone through the publications of Lanenburg until he struck this article. Had the author of the paper from which the reference (?) mentioned in the first sentence of this paragraph taken half a minute's more time and given this reference, he would have saved others literally hours of searching. Another instance: Certain important and excellent work was recently done in Philadelphia on methods of sewage disposal. As one feature of this work, a large number of determinations of the amounts of nitrates present were made by what was referred to as "McRae's narcotin test," no reference or description of the method being given. It became necessary elsewhere to find the details of this method, and it so happened that the usual chemical abstract journals had missed this paper. As a last resort, the "Index Medicus" was looked through and finally a reference to the paper was found, though even here the citation given was not the one where the paper would usually be most easily found. Had the author of the report of the Philadelphia experiments given a half-line reference to the place of publication of this method, he would have saved an hour or more of the time of one or two men in a busy laboratory. Fortunately, cases of the total omission of an important reference are comparatively rare, though the embarrassment and additional work caused by such omissions is quite sufficient to warrant their being judiciously guarded against. More frequent, and sometimes equally troublesome are the cases in which erroneous page, volume or year numbers are given, or sometimes even an erroneous journal or book name. A recent case was that of an author who referred some eight or nine times in a paper of four pages, to the work of another author "Schreiber"—"Schreiber's" correct name was "Fleischer."

Prevalence and Distribution of Small-Pox.—The last government report on public health (June 23, 1911) contains a review of the general prevalence and geographic distribution of small-pox during 1910. The most notable feature of this disease has for the last ten years been its extreme mildness and low death-rates in this country, as compared with reports from abroad. There is, however, a considerable increase since 1909, in both the number of cases and the number of deaths. From all reports available, including those states from which only local reports have been received, it is seen that the number of cases reported have increased by one-fourth (from 24,099 in 1909 to 30,352 in 1910) and the number of deaths have almost trebled (from 150 in 1909 to 415 in 1910). There have during the year been quite a number of severe outbreaks, and the question arises as to their source, whether they are instances of infection from abroad, or if the mild strain of the disease under certain conditions becomes virulent. Utah shows the highest case-rate in 1910, as in the preceding year. The most notable increase in a single state took place in Florida, which for 1910 reports 1,286 cases against 3 cases in 1909. The statistical material of this report was available for only twenty-six states and the District of Columbia.

Susceptible Protoplasm.—It is an incomplete statement to say that the tubercle bacillus is the cause of tuberculosis, or alcohol the cause of delirium tremens, says Dr. C. B. Davenport (*Pop. Sc. Month.*). Experience proves it, for not all drunkards have delirium and not all that harbor the tubercle bacillus die of consumption—else we must all die of that disease. No, the causes of death as given in the health reports or census bulletins are not the real causes. All of these results are due to an inciting condition acting on a susceptible protoplasm. The real cause of death of any person is his inability to cope with the disease germ or other untoward condition.

Scarcity of Physicians in Russia.—According to figures published by the St. Petersburg *Herold,* June 15, 1911, European Russia has only 1 physician to 8,000 inhabitants, while the proportion in France is 1 to 2,630 inhabitants, in England 1 to 1,730 [and in the United States 1 to 650]. In Siberia there is only 1 to 15,200 inhabitants and in the Caucasus only 1 to 20,000. The physicians in Russia are mostly congregated in the cities; at St. Petersburg the proportion is 1 to 700 inhabitants; in the country it ranges from 1 to 27,000—the generally prevailing proportion in European Russia outside of the towns—to 1 to 91,600. This scarcity of physicians explains, the *Herold* says, the high mortality in Russia outside of the towns and the unchecked spread of epidemics. The single physician is powerless in face of such extremely unfavorable conditions and, besides this, he has to contend with the dense superstitious ignorance of the people. The medical schools turn out only a few hundred graduates each year, the number having progressively declined from 1,078 in 1898 to 798 in 1907.

Jewish Attitude Toward Hygiene.—The preservation of physical well-being is looked on in Judaism as a religious command. The neglect of one's health was regarded as a sin; and the Nazarite who vowed to abstain from wine was considered a sinner, as well as he who fasted or underwent other penance, without reason. There was not a distinct department of public health in the government of the ancient Jews. The charge of infectious diseases, such as leprosy, and of epidemics of all kinds, was delegated to the priests, who acted as the physicians. The Talmud mentions the office of a physician in the temple, whose duty it was to look after the health of the priests. In later times every town counted among its permanent officials a physician who supervised the circumcision of children and looked after the communal well-being. A scholar was forbidden to live in a city where there was no physician. For domestic sanitation the commandments given in the Bible direct the covering of the blood of a fowl or of a wild beast with dust, and the covering of excreta with earth, and the appointing of a special place outside of the camp for depositing the excreta. In order to prevent the spread of leprosy, a complete system of quarantine laws was developed in the Levitical code. From the data of various writers, it is reasonable to conclude that biblical and modern leprosy are, in all probability, not the same disease, the former not being considered contagious, the segregation of lepers being regarded, at any rate, at certain periods, more in the light of a religious ceremonial than as a hygienic restriction. The numerous laws of purity and health scattered throughout the Bible were afterward regarded as important factors, and the system of bath ablution which forms a large portion of the Jewish laws of cleanliness has had a marked influence on the physical health of the people, so that in epidemics they have frequently been immune.—Dreyfus in *Jour. Am. Pub. Health Assn.*

Finger-Prints and Identity.—It is thought that the epidermic ridges of the fingers and palms, as well as the soles of the feet, are a survival of the pads or permanent callosities of the mammalian paw which bear the weight in walking. In the typical paw there are five pads at the ends of the digits and five on the surface of the palm or the sole. In monkeys, where the habit of climbing instead of walking makes requisite a delicate organ of touch, the pads have become flattened and their hard covering replaced by a soft epidermis, whose lines and ridges show the positions of the pads by scroll and whorl patterns. In man, the arrangement of these ridges has become of secondary importance; a standard form is no longer maintained, and individual variation has enormously increased. It is this high degree of individual variation which is important from the standpoint of identification. It is, practically speaking, infinite. Not less important is the fact that the patterns are formed in embryo, and from the sixth month of uterine life remain unchanged until the destruction of bodily tissue. A system of classification of the digital ridges was first devised by Galton, and has been elaborated by many workers, notably the Argentine, Vucetich. In some form dactyloscopy, so called, has largely superseded the Bertillon system in police work. It requires, however, study and experience as well as intelligence in operation. An American, Dr. H. H. Wilder, has proposed the extension of the observations to the palm of the hand and to the sole of the foot. The advantage of this is that the variation in these surfaces is greater and the details larger and more obvious. From the scientific standpoint, therefore, finger-prints offer strong evidence of identity, though only properly available in trials through expert testimony.—*Journal of Criminal Law and Criminology.*

The Doctor on the Witness Stand.—In an article of practical advice, not on expert testimony, but on the deportment of an ordinary physician on the witness stand, the *Medical World* says: Never permit yourself to take sides; simply tell the straight truth; it is up to the jury to form opinions as to the merits of the case, and it is not anybody's business what your personal opinion is. Do not tell a long story. Keep the attorney asking questions. Answer each as tersely as possible and then stop. Study well beforehand any anatomic or physiologic points that will come up, and then you will not need to let any attorney frighten you by an apparent grasp of medical subjects. Tell nothing but what you know to be a fact. The attorney may try to tempt you into turning a guess into a statement of fact, and then he will have the advantage of you. Never say that you have read a certain book; say you have read parts of it, lest the lawyer expect you to be perfectly familiar with the whole book. Be polite, professional and courteous and demand the same consideration.

Treatment of Psychoses.—It has been the experience of F. W. Robertson (*Monthly Cyclopedia and Medical Bulletin,* May, 1911) in the treatment of the psychoneuroses where the power of attention has not been too much disturbed, that well-selected amusements, card-playing, games, some of the plays, or conversation on subjects which arouse the patient's interest frequently have a most beneficial effect. A visit for a week with friends, or a change of location, he has found will also often work wonders as a recuperative agency. In many instances, when treating patients in their homes, he has found it unwise to relieve women altogether of the light household duties, or the men of outdoor games or moderate exercise. To his mind, both as a means of exercise and occupation, the crying need of our hospitals and sanatoriums to-day is for properly equipped workshops and amusement rooms for men and women. Added to the benefits to accrue from the exercise and occupation afforded (occupation being used in the sense of a pastime), would follow the disciplinary effect on the patient, which would be a curative measure not at present sufficiently recognized, and one which he believes to be of inestimable value. For example, if (selecting proper cases) women were taught basketweaving, millinery, dressmaking, the lighter forms of woodcarving, drawing, painting, clay modeling, hammered brass and metal working; and if the men were taught pipefitting, patternmaking, mechanical drawing, carpentry, modeling, gardening, stenography, typewriting, painting (signs or frescoing), and both men and women were to have a choice of work, Robertson believes our institutions for the treatment of mental diseases would speedily be transformed.

The Cause of Pellagra.—In the theory advanced by George C. Mizell (*Atlanta Journal-Record of Medicine,* June, 1911), the attempt is made to establish an etiologic relationship between cotton-seed oil and pellagra. He says that the cotton-seed oil industry parallels the development of pellagra in the United States. Occasional cases may have occurred before this period from eating lard obtained from hogs fattened on cotton seed or through eating adulterated olive oil. From a historical standpoint this accounts for pellagra in every region for all time. A visit to the hospitals will show that there many patients develop the erythema on exposure to the sun. Further, many patients do not develop the erythema because of certain individual characteristics such as exert an influence on and determine the other clinical features of the disease, in different individuals. Different people take on or lose different amounts of fat from the same diet. For some such individual characteristics everyone who is exposed to the cause of pellagra may not develop the disease. Mizell's investigations tend to show that the length of time between the beginning of eating cotton-seed oil varies according to the preparation used and, perhaps, individual characteristics. This period of time may be a few months or several years. Certain communities use almost entirely one brand. Others do not use cotton-seed oil at all. In some sections the people began the use of cotton-seed oil when the price of lard advanced in 1908. Many people began its use for the sake of economy; others because it was supposed to be more wholesome. Many people still buy and use lard. Pellagra in Georgia is limited to no section or class. Only individual characteristics determine immunity. Pellagra, then, in Mizell's opinion, is a disease due to eating semi-drying oils in quantities that cannot be disposed of normally, in which case they are deposited as fat foreign to the human organism, and in their final disposition by oxidation there is developed a series of end-products that act in a deleterious manner on all the cells and intercellular tissues of the body. The treatment proposed by Mizell is based on what he believes to be the biochemistry of the disease. Sulphur antagonizes the oxidation of linolin. Calcium given in combination with it is especially indicated; hence, as a specific agent, he gives calcium sulphid. Given in doses of one-half to 2 or more grains, three or more times daily, it shows its effects in a few hours. He began the use of calcium sulphid eighteen months ago and has never been disappointed in the results. That it does not relieve all cases is due to the fact that some are complicated by a long-standing gastro-intestinal lesion which antedates the onset of pellagra by a more or less long period of time. Mizell advises against the use of fats and oils of every kind, except castor oil.

Marriages

EDWARD CHAUNCEY REGISTER, M.C., U. S. Army, to Miss Jeannie DuBose Hayward at Sullivan's Island, Charleston, S. C., June 1.

ALBERT PATTON CLARK, M.C., U. S. Army, to Miss Mary Catherine Gannon of Washington, D. C., at New Orleans, June 24.

JOHN EDWARD WILSON, M.D., Natick, Mass., to Miss Harriet H. Greene of Southington, Conn., at Colorado Springs, July 6.

JOSEPH ROYAL PHELPS, M.D., U. S. Navy, to Miss Helen Alfredia Mansfield of Newton Highlands, Mass., July 1.

WILLIAM J. DURANT, M.D., Spencer, Iowa, to Miss Anna Mable Seemann of Greenville, Iowa, July 2.

HARRY ALONZO SIBLEY, M.D., Pontiac, Mich., to Miss Alice Sanford Wixom of Wixom, Mich., June 7.

WALTER E. EGBERT, M.D., to Miss Anna Davis Mahon, both of Chester, Pa., June 30.

SAMUEL A. DICKSON, M.D., to Miss Bula Dillingham, both of Shreveport, La., July 7.

Deaths

William Bailey, M.D., one of the oldest practitioners of Louisville and president of the Kentucky State Board of Health since 1909, died at his home in Louisville, July 15, aged 78. He was born in Bridgeport, Ky., and was graduated from the Kentucky Medical Institute near Frankfort as B. A. in 1853, and a year later the honorary degree of M. A. was conferred on him. For three years he acted as a professor of mathematics in his alma mater. He was graduated from the Kentucky School of Medicine in 1857 and seven years later had conferred on him the degree of M.D. by the University of Louisville. He practiced in Shelbyville, Ky., until the opening of the Civil War, throughout which he served as major and surgeon with the Ninth Kentucky Volunteer Cavalry. His college work commenced in 1869. He occupied successively chairs in the Kentucky School of Medicine, the Hospital School of Medicine, of the faculty of which he was president, and at the time of his death was the professor of materia medica and therapeutics in the University of Louisville. He was a member of the American Medical Association, president of the American Public Health Association in 1894, president of the state medical society and many other local societies of which he was a member. He was a member of the State Board of Health of Kentucky for twenty-six years and its president at the time of his death. He was also a member of the local board of pension examiners for many years. His illness commenced in December last when he fell and sustained an intracapsular fracture of the humerus. Soon after he had a cerebral hemorrhage. He improved after this, but a malignant growth of the mouth developed, which caused his death. Although honored by his professional confrères in every possible manner, Dr. Bailey was a man of very modest disposition; he was clean in his profession and pure in his life, was devoted to his family and beloved by all who knew him.

Sewell Matheson, M.D. Long Island College Hospital, Brooklyn, 1895; for several years an instructor in his alma mater; a member of the Medical Society of the State of New York; resident physician of the Manhattan Lying-In Hospital; demonstrator of operative surgery at the Post-Graduate Hospital; physician to the Frauen Klinik; assistant gynecologist at the Williamsburg Hospital; instructor in obstetrics at the Brooklyn Post-Graduate Medical College, and assistant obstetrician and later attending surgeon at Seney Hospital; died at his home in Brooklyn, from typhoid fever, complicated by pneumonia, aged 41.

Edmund L. Cocks, M.D. Bellevue Hospital Medical College, 1885; a member of the American Medical Association and New York Academy of Medicine; former president of the Harlem Medical Association, chief of the dermatologic staffs of the Fordham and Harlem hospitals, visiting dermatologist to Randall's Island Hospital, and assistant dermatologist to the New York Skin and Cancer Hospital; who was overcome by heat while conducting a clinic at Harlem Hospital, June 30; died at his home in Rockaway Park, Long Island, July 5, aged 55.

Edward Shippen, M.D. University of Pennsylvania, Philadelphia, 1848; medical director U. S. Navy, with rank of rear admiral, who entered the navy in 1849, and after thirteen years and four months of sea service and twenty-two years and one month of shore and other duty, was retired in 1888, on attaining the age of 62 years; author of numerous instructive and interesting works regarding naval life and history; died at his home, Chestnut Hill, Philadelphia, June 16, aged 85.

Pern Almyr Wakefield, M.D. Rush Medical College, 1899; a member of the Wisconsin State Medical Society; local surgeon for the North-Western Railway at West Salem, Wis.; physician and surgeon to the LaCrosse County Hospital for the Insane; died at his home in that city from heart disease due to over-exertion in fighting the fire which destroyed the business section of that town, July 2, aged 35.

Enoch Edgar Hume, M.D. University of Louisville, 1869; Bellevue Hospital Medical College, 1875; a member of the American Medical Association; formerly a member of the legislature from Anderson County, Ky.; prominent as an educator and for many years a trustee of the State Normal School for Negroes, Frankfort; died at his home in that city, July 4, from nephritis, aged 67.

Madana Fuller De Hart, M.D. New York Medical College and Hospital for Women, New York City, 186—; said to have been the first woman practitioner of New Jersey; founder of a free dispensary for women in Jersey City; for several years a member of the board of managers of the State Home for Girls; died at her home in Mount Freedom, N. J., June 22.

Linus Shephard Ludington, M.D. Metropolitan Medical College, Eclectic, New York City, 1854; adeundem Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; a veteran of the Civil War; a member of the common council of New Britain in 1873; said to have been the oldest practitioner of Connecticut, died at his home in New Britain, July 3, aged 92.

John Frederick Sprink, M.D. John A. Creighton Medical College, Omaha, 1906; a member of the Iowa State Medical Society; assistant professor of histology in his alma mater; president of the staff of Mercy Hospital, Council Bluffs, and secretary of the Council Bluffs Medical Society, was found dead in his office, July 2, from heart disease, aged 33.

Henry Van Tyle Passage, M.D. Rush Medical College, 1861; Bellevue Hospital Medical College, 1868; a member of the Indiana State Medical Association; formerly representative in the state legislature from Miami County; for four years secretary of the local pension board of Peru; died at his home in that city, June 15, aged 75.

George M. Haines, M.D. College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association; for thirty-three years a practitioner and once mayor of Durand, Ill.; once vice-president of the Winnebago, County Medical Society, died in Grand Junction, Colo., July 5, from nephritis, aged 64.

Crown Torrence, M.D. University of Nashville, Tenn., 1898; a member and once second vice-president of the South Carolina Medical Association; formerly president of the Union County Medical Society; a specialist on diseases of the eye, ear, nose and throat, of Charleston, died at his home in that city, July 8, aged 36.

Jefferson Cooperrider, M.D. Cincinnati College of Medicine and Surgery, 1885; of Madison, Ind.; a member of the Indiana State Medical Association and a specialist on diseases of the nose and throat; a veteran of the Civil War; for many years secretary of the local board of health; died at his home, July 3, aged 72.

William D. Van Antwerp, M.D. Miami Medical College, Cincinnati, 1876; for several years a member of the local board of pension examining surgeons of Mount Sterling, Ky.; a veteran of the Civil War; died at his home, near Mount Sterling, June 28, from nephritis, aged 70.

Francis H. Mansfield, M.D. Long Island College Hospital of Brooklyn, 1893; chaplain of the One Hundred and Thirty-Second New York Volunteer Infantry throughout the Civil War; a clergyman since 1860; died at his home in Brooklyn, July 2, from cerebral hemorrhage, aged 76.

Daniel F. Summey, M.D. New York University, New York City, 1860; a surgeon in the Confederate service during the Civil War; one of the founders of the Buncombe County (N. C). Medical Association; died at his home in Leicester, June 13, from heart disease, aged 84.

Harry B. McKlveen, M.D. College of Physicians and Surgeons, Chicago, 1890; formerly of Coin, Iowa, and Junction City, Kan.; died in Los Angeles, Cal., January 21, from the effects of an overdose of chloroform, taken to relieve the pain of otitis media, aged 41.

Edward A. Hotchkiss, M.D. McGill University, Montreal, 1904; of Hartford, Conn.; a member of the Connecticut State Medical Society, and assistant secretary of the Hartford Medical Society, died in the Hartford Hospital, July 2, from typhoid fever, aged 28.

Lucy Hughes Brown, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1874; said to have been the only colored woman physician of South Carolina; one of the founders of Cannon Hospital and Training School in Charleston; died at her home, June 26.

Matthias Muhlhausen, M.D. Medical College of Evansville (Ind.), 1854; one of the founders of St. Mary's Hospital in that city; a founder, director and for twenty-seven years president of the Peoples Bank, died at his home in Evansville, July 3, aged 78.

Carl H. Lellmann, M.D. University of Göttingen, Germany, 1854; a member of the Medical Society of the County of New York, of New York City, consulting physician to the German and St. Francis hospitals; died in Karlsruhe, Germany, June 21, aged 79.

Stephen H. Barham, M.D. University of Louisville (Ky.), 1875; a veteran of the Civil War; for many years a member of the local district medical examining board, died at his home in Nacogdoches, Texas, June 30, from acute nephritis, aged 69.

Joseph H. Aleshire, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; for thirty-two years a practitioner of Plainville, Ill.; a member of the Adams County Medical Society, died at his home, June 24, from heart disease, aged 62.

Franciscus Brunning, M.D. Medical College of Ohio, Cincinnati, 1867; a member of the American Medical Association and one of the most prominent specialists on internal medicine of Cincinnati, died at his home in that city, July 9, aged 65.

James B. Eby, M.D. University of Pennsylvania, Philadelphia, 1886; formerly a member of the American Medical Association; president of the First National Bank of Newport, Pa.; died at his home, June 21, from locomotor ataxia, aged 71.

Charles W. Eastman, M.D. Detroit College of Medicine, 1904; a member of the American Medical Association, and a practitioner of Three Oaks, Mich.; died at Epworth Hospital, South Bend, Ind., July 4, from typhoid fever, aged 32.

Charles Park Donelson, M.D. University of Michigan, Ann Arbor, 1872; member of the American Climatological Association and Michigan State Medical Society; of Muskegon, Mich.; died at Hackley Hospital in that city, July 5, aged 64.

Jacob W. Wells, M.D. Rush Medical College, 1891; assistant physician to the Iowa Hospital to the Insane; surgeon of the Rock Island System and president of the board of health of Ossian, Iowa; died at his home from heat exhaustion, July 2, aged 43.

Ralph Ernest Gallinger, M.D. Dartmouth Medical School Hanover, N. H., 1897, of Concord, N. H.; a member of the American Medical Association; was killed in an automobile accident near Pembroke, N. H., July 11, aged 39.

John S. Laughead, M.D. Ensworth Medical College, St. Joseph, Mo., 1904; a member of the South Dakota State Medical Association; of Letcher; was drowned recently while wading in the James River, near Letcher.

Walter Silas Eldridge (license, years of practice, Maine) of Portland; for thirty-four years a practitioner of that state; a veteran of the Civil War; died in Groveton, N. H., June 17, from chronic bronchitis, aged 66.

Hamlet Hart, M.D. University of Michigan, Ann Arbor, 1878; died at his home in Eureka, Mich., July 12, from the effects of an abscess of the left kidney, followed by a general breakdown, aged 69.

William J. Bell (license Arkansas, 1903), of O'Neal; a member of the Independence County (Ark.) Medical Association; died at his home in Bethesda, March 11, from senile debility, aged 80.

William Oscar Prosser, M.D. McGill University, Montreal, 1874; of Eugene, Ore.; a member of the Oregon State Medical Association; died in Chicago, July 1, after a surgical operation, aged 50.

James E. Gross, M.D. Hahnemann Medical College, Philadelphia, 1850; for many years a practitioner of Chicago; died in Washington, D. C., July 9, from cerebral hemorrhage, aged 85.

Eliry M. Marshall, M.D. Eclectic Medical Institute, Cincinnati, 1897; of Albion, Pa., was killed instantly, June 25, in a collision between his automobile and a freight train, aged 33.

Robert J. Steele, M.D. Louisville (Ky.) Medical College, 1888; a member of the Arkansas Medical Society, died recently at his home in Morrillton, and was buried, June 20, aged 47.

Henry F. Horstman, M.D. University of Pennsylvania, Philadelphia, 1873; a director of St. Vincent's Orphan Asylum, died at his home in Philadelphia, July 5, aged 65.

Leonidas Bruce Arnold, M.D. Bellevue Hospital Medical College, 1871; formerly a surgeon in the Army; died at his home in Omaha, July 4, from heat exhaustion, aged 65.

William George Fitzsimmons, M.D. Baltimore Medical College, 1904; a member of the Ohio State Medical Association; died at his home in Steubenville, June 26, aged 26.

W. I. Beamer, M.D. University College of Medicine, Richmond, Va., 1896; of Laura, Ill.; died in Proctor Hospital, Peoria, Ill., July 6, from nervous disease, aged 38.

Gordon B. Meldrum, M.D. Denver (Colo.) College of Medicine, 1899) of Buffalo, Wyo.; died suddenly in Omaha, July 7, after an operation for appendicitis, aged 37.

Robert H. Gantt, M.D. University of Maryland, Baltimore, 1909; first lieutenant, Medical Corps, U. S. Army, died at Fort Sam Houston; Texas, June 11, aged 28.

Alexander C. Paisley, M.D. Western Reserve University, Cleveland, 1893; died at his home in Cleveland, July 2, from disease of the throat, aged 41.

I. M. Selby, M.D. (license, years of practice, Iowa, 1886); for many years a practitioner of Elliot, died at his home in Odebolt, June 10, aged 61.

John Ward Hill, M.D. Jefferson Medical College, 1857; died at his home in St. Petersburg, Fla., June 17, from cerebral hemorrhage, aged 75.

John I. Bradley, M.D. University of Louisville (Ky), 1886; died at his home in Camden, Tenn., June 24, from cerebral hemorrhage, aged 61.

William L. Hockaday, M.D. Jefferson Medical College, 1866; died recently at his home in Richmond, Ky., and was buried, June 15, aged 64.

Thomas H. Wilde, M.D. Long Island College Hospital, Brooklyn, 1906; died at his home in Baldwin, Long Island, July 4, from pneumonia.

Duncan M. Broach, M.D. University of Tennessee, Nashville, 1897; of Coupland, Texas; was shot and killed at Mumford, Texas, June 26.

Susan Silver Diffenbacher (license, Iowa, years of practice, 1888); died at her home in Creston, July 2, from tuberculosis, aged 64.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

IODONUCLEOID

An Iodin Product Under a Misleading Name

To the Editor:—Please give me information with regard to iodonucleoid. A friend of mine with disease of the internal ear writes me that he is taking twelve pills daily without upsetting his stomach. I suspect that the medicine, like most iodin preparations, is a fraud, but find it purports to be recommended by physicians, as you will see from enclosed circular.

George Minges, M.D., Lakeside, Cal.

As iodonucleoid does not appear in New and Nonofficial Remedies, the Association laboratory was asked to report as to the nature of this preparation. The following is its reply:

This preparation was at one time considered for inclusion with New and Nonofficial Remedies, and at that time it was examined in this laboratory. The examination showed that iodonucleoid contains:

Phosphorus	0.79 per cent.
Calcium	0.43 per cent.
(Equal to 0.6 per cent. CaO).	
Iodin	24.2 per cent.

When 2 gm. was dissolved in tenth-normal potassium hydroxid volumetric solution and acetic acid added until faintly acid, an abundant, white, flocculent precipitate formed. This precipitate was collected, washed with water, transferred to a beaker, phenolphthalein added and tenth-normal potassium hydroxid volumetric solution run in until a pink color was produced. This required 15 c.c. of tenth-normal alkali. Subtracting from the 2 gm. of iodonucleoid the 24 per cent. iodin, leaves 1.52 gm.; this divided by the c.c. of alkali used indicates an equivalent weight of 1013.

Authorities differ widely regarding the amount of phosphorus contained in nuclein from different sources, the figures ranging from 2.9 per cent. to as high as 10 per cent. If the nuclein from which iodonucleoid purports to be made contained but 2.9 per cent. phosphorus, the preparation, after allowing for 24 per cent. iodin, should still contain 2.2 per cent. phosphorus instead of 0.79 per cent., as found by analysis. A true nuclein should contain no calcium. If iodonucleoid is a casein compound of iodin we might expect to find, if the casein had been freed from milk by acidulation without further purification, both calcium and phosphorus. The equivalent weight of casein is given by Long (*Jour. Am. Chem. Soc.*, 1906, xxviii, 372) as 1124. This figure was obtained on a casein of high purity, and the figure of 1013 given above agrees fairly well with Long's figure for casein. The evidence, therefore, indicates that iodonucleoid is a compound of iodin and casein, and not a nuclein compound.

The findings of the laboratory were at that time submitted to Prof. John H. Long of Northwestern University, who said:

> "We have also made a number of examinations of iodonucleoid. We determined in it the iodin and found the amount 24.2 per cent. by weight, which is a little more than that claimed by the manufacturer. We have also tested the solubility of this substance and find it to behave about as your laboratory did. As you know, we have been making a number of preparations from casein, and recently we have determined the combining power of casein with various acids, including hydriodic acid. This acid when evaporated in moderately strong solution with casein yields finally a hard, dry mass, which may be ground up to a powder resembling very closely the preparation under discussion. Various amounts of iodin may be combined here, depending on the strength of the iodin solution used, and we have secured some containing over 35 per cent. of iodin. Several of these preparations resemble closely iodonucleoid, so far as solubility, appearance and reaction with alkalies on titration are concerned. I am unable, therefore, to distinguish this preparation from the casein compounds which we are making."

From this it would appear that iodonucleoid is not a compound of nuclein, as indicated by the name, but instead is a casein compound of iodin.

Iodonucleoid, then, seems to be another one of the many iodin "substitutes" which have been put on the market. Other iodin substitutes are Iodalbin, manufactured by Parke, Davis & Co.; Iodipin, manufactured by E. Merck & Co., and Sajodin, manufactured by the Farbenfabriken of Elberfeld Co. As these products have been examined by the Council and found eligible for inclusion with New and Nonofficial Remedies, physicians who wish to use substitutes for potassium iodid would do well to use them instead of a product presented under a misleading name. Physicians should understand, however, that these organic iodin compounds are non-irritating because the iodin is held in such combination that it is much less active. It seems probable that they are therapeutically active only to the extent that the iodin content is dissociated from the organic compound and converted into ionic iodin. A discussion of a number of iodin substitutes is found in an article by von Notthafft (*Monatsh. f. Prakt. Dermat.*, Oct. 15, 1910, p. 343), which was abstracted and commented on in The Journal, March 4, 1911, p. 685.

Von Notthafft believes that the lower degree of toxicity which these remedies exhibit has its basis in a feebler activity; either the substitutes evolve too little iodin or they split it off with greater difficulty. Physicians should, therefore, view with some distrust the claims of manufacturers that their products are not only non-irritating but at the same time possess unusual therapeutic efficiency. This will apply with especial force if there is any tendency to conceal the nature or origin of the combination.

AMEND IT

"The Supreme Court of the United States has done something to the Pure Food and Drugs Act never intended by Congress. Its recent decision in a test case means that any quack and faker can put up the most worthless stuff, label it a 'sure cure for cancer' and not be interfered with.

"And the worst of it is that the nostrums carry the phrase 'guaranteed under the Food and Drugs Act,' which is misleading to so many who believe that Uncle Sam has thus become sponsor for the alleged remedy.

"The law should be amended before it gives any further aid and comfort to liars and charlatans."—*Boston Post.*

Correspondence

Physicians Should Address the Public on Temperance

To the Editor:—A noteworthy movement marked the session of the American Medical Association at Los Angeles. This appeared first at the Atlantic City session three years ago, in the number of requests, from pastors of churches, to have visiting medical men address their people on the temperance question. Three or four physicians complied, speaking on the Sunday before the meeting and at special evening meetings during the week.

At St. Louis last year, these requests were more numerous and came from pastors of churches, philanthropists and persons interested in the temperance work, soliciting physicians to speak on the alcoholic problem in the various pulpits. I succeeded in placing seven physicians in the different pulpits, some of them speaking two and three times, on the various sides of the alcoholic problem. Two physicians spoke during the week at special meetings, in large churches.

At the Los Angesles meeting, the requests for services of this kind were very numerous and a dozen physicians would have been warmly welcomed in the various churches, where no doubt the temperance question has never been discussed before. Pastors and leading church members showed unusual interest to hear leading physicians discuss the temperance problem.

According to the daily papers, nearly twenty physicians spoke in the churches and various halls on hygienic subjects, including temperance and other great health questions.

I was both astonished at the requests for temperance talks from the different churches and societies, and embarrassed because of the fact that I could secure only four physicians who were willing to make this the theme of these services. A few physicians with myself have been trying to rouse new interest in this subject among physicians, who of all should have no hesitation to speak on the alcoholic problem.

I could have found for more than a dozen physicians at Los Angeles, audiences who would have warmly welcomed talks on the alcoholic problem.

The impression started a few years ago has settled into a conviction that the leading members of the A. M. A. should give more accurate information on this great problem than others; and it is now expected that when they come into the neighborhood they will be asked to speak on these subjects.

The Association has practically recognized the great value of having the leading men speak on hygienic topics before, during and after the annual sessions. Of all subjects, the alcoholic problem is the most vital and intense, and the desire of the public to be instructed on this as well as other topics, is a great forward movement which the profession should be anxious to meet.

The future meetings of the A. M. A. will show further interest in this direction, and it would seem to be the highest kind of wisdom to anticipate this increased desire of the public, and to provide speakers for this and other great hygienic questions that are growing in the public mind.

T. D. Crothers, M.D., Hartford, Conn.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LITERATURE ON STREPTOCOCCI

To the Editor:—Please give references to the latest and best literature in English, German or French on streptococci, especially articles dealing with methods of staining and differentiation of the various varieties of streptococci. Dublin.

Answer.—The following list includes the most important articles that have appeared within the last eighteen months:

Albrecht: Ueber einige Eigenschaften des Streptococcus equi, *Ztschr. f. Veterinärk.*, 1910, xxii, 441.

Buchanan, R. E., and Truax, R.: Non-Inheritance of Impressed Variations in Streptococcus Lacticus, *Jour. Infect. Dis.*, 1910, vii, 680.

Rickmann: Zur Frage der Identität der Erreger des Schweinerotlaufs des Erysipeloids und der Mäuseseptikämie, *Ztschr. f. Hyg. u. Infektionskrankh.*, 1909, lxiv, 362.

Hamm, A.: Bemerkungen zu Fromme's Differenzierungsverfahren der Streptokokken mittels Lezithinbouillon, *Zentralbl. f. Gynäk.*, 1910, xxxiv, 278.

Boughton, T. H.: Infections of Homologous Streptococci Killed by Galactose in the Treatment of Suppurative Complications of Contagious Diseases, *Jour. Infect. Dis.*, 1910, vii, 99.

Todd, D. D.: A New Color Medium for the Isolation and Differentiation of Streptococci, *Jour. Infect. Dis.*, 1910, vii, 73.

Winslow, C. E. A., and Palmer, G. T.: A Comparative Study of Intestinal Streptococci from the Horse, the Cow, and Man, *Jour. Infect. Dis.*, 1910, vii, 1.

Arzt, L.: Zur Kenntnis des Streptococcus mucosus und der von ihm verursachten Krankheitsformen, *Centralbl. f. Bakteriol.*, 1910, liv, 394.

Lignieres, J., Quelques notes à propos du streptocoque de Schütz; considérations générales sur la qualité pathogène et la différentiation des microbes d'un même groupe, *Arch. f. wissensch. u. prakt. Tierh.*, 1910, xxxvi, Suppl. vol., 283.

Traugott, M.: Zur Differenzierung von Streptokokkenstammen durch Frommes Lezithinverfahren, *Ztschr. f. Geburtsh. u. Gynäk.*, 1910, lxvi, 331.

Hoessli, H.: Das Verhalten der Streptokokken gegenüber Plasma und Serum und ihre Umzuchtung, *Centralbl. f. Bakteriol.*, 1910, lv, 135.

Zangemeister, W.: Ueber Verbreitung der Streptokokken im Hinblick auf ihre Infektiosität und ihre hämolytische Eigenschaften, *München. med. Wchnschr.*, 1910, lvii, 1268.

Swift, H. F., and Thro, W. C.: Study of Streptococci with the Complement Fixation and Conglutination Reactions, *Arch. Int. Med.*, January, 1911; abstr. in The Journal, Feb. 25, 1911, p. 621.

Mächtle, H.: Differentiation of Hemolytic Streptococci by Lecithin Bouillon, *Zentralbl. f. Gynäk.*, March 11, 1911.

Schleissner, F., and Spät, W.: Differential Bactericidal Properties of Leukocytes in Respect to Streptococci, *Jahrb. f. Kinderh.*, March, 1911.

Metzger, D.: Hemolytic Streptococci in Puerperal Infection, *Presse méd.*, April 15, 1911; abstr. in The Journal, May 27, 1911, p. 1621.

REMOVAL OF TATTOO MARKS

To the Editor:—Please describe in detail a method for removing tattoo marks from the human body. A. L. Ceasar, New York.

Answer.—This question has been answered before in this department of The Journal and it is answered in text-books on skin diseases (Pusey, for example); but as we have recently received several requests for this information we give the details below:

The principle of treatment of these marks is to excite an inflammatory process by means of chemical irritants so as to cause destruction of the superficial layers of the skin. Two methods have been devised, the method of Variot and the method of Brault.

Variot's plan of treatment, according to Brocq, is as follows: First, he places on the tattoo marks a concentrated solution of tannin, and tattoos this in. Then a silver nitrate pencil is rubbed vigorously over the surface until the surface becomes black from the formation of silver tannate in the superficial layers of the skin, and the surface is then washed with water. In the next few days a slight inflammatory reaction occurs, and over the surface treated a closely adherent dark crust forms. After the third or fourth day there is no pain except when there is movement of the muscles under a large crust. Occasionally there is a little suppuration under the crusts, but if secondary infection is avoided no severe inflammation occurs. After fourteen or sixteen days the crust comes off spontaneously, the corium and the epidermis underneath have been repaired, and the locality of the mark is recognizable only by a superficial pink cicatrix which gradually becomes of normal color. A couple of months after the operation the scar is hardly noticeable.

Brault's method of removing tattoo marks consists in tattooing the region, previously rendered aseptic, with a solution of 30 parts of zinc chlorid to 40 parts of water. The needles with which the tattooing is done are dipped in this solution and the surface is lightly moistened with the same solution after the tattooing. If properly done the resulting inflammation is slight and after a few days, there forms a superficial crust which remains about a week and then falls, leaving a slight, eventually almost imperceptible, scar. This method succeeds in a few cases but requires skill and care in its application in order to obtain good results and to avoid suppuration and deep cicatrization.

ETHER RAUSCH IN CANADA

To the Editor:—I was interested to know that the so-called ether *Rausch* was not generally known to practitioners in America. Dr. Frank Buller, late professor of ophthalmology at McGill University, taught this method to every student that sat under him. He used an aluminum cone covered with stockinet and plugged with gauze saturated with ether. The patient administered the anesthetic to himself and when he was anesthetized the cone fell to the floor. Dr. Buller insisted that the method was absolutely safe for operations in the erect (sitting) position and he used it for all short operations on the eye or ear. All McGill students for the past twenty-five years have been instructed in the method, whether they have used it or not.

Malcolm Mackay, Sherbrooke, Quebec, Canada.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 8, 1911.

Waterhouse, S. M., major, relieved from duty at Fort Washington and ordered to Fort H. G. Wright, N. Y., for duty.

Williams, A. W., captain, relieved from duty at Fort H. G. Wright, N. Y., and ordered to Philadelphia, as attending surgeon.

Woodbury, F. T., granted twenty days' extension of leave.

Wales, P. G., major, twenty days' leave of absence, to take effect on completion of examination for promotion, granted.

Baker, F. C., major, granted leave of absence for three months from Aug. 5, 1911.

Bayly, R. C., first lieut., relieved from duty in the Philippine Islands and ordered to San Francisco on the transport to sail from Manila Oct. 15, 1911, and report to the adjutant general of the Army for further orders.

Perley, H. O., colonel, ordered to proceed to Fort Leavenworth, Kan., and report in person to the commanding officer for duty.

The following named officers of the M.R.C., recently appointed, are ordered to active duty in the service of the United States and will proceed to stations named below and report to the commanding officer for duty, and by letter to the commanding general of the department: Burnett, T. W., to Fort Slocum, N. Y.; Meehan, J. W., to Fort Howard, Md.; Poust, L. R., to Fort Jay, N. Y., and Ingold, J. G., to Fort Wayne, Mich.

Phillips, H. A., first-lieut., ordered to former station when *Sumner* is placed out of commission.

Koyle, F. T., M.R.C., ordered to former station when *Kilpatrick* is placed out of commission.

Walker, T. C., M.R.C., ordered to former station when *McClellan* is placed out of commission.

Crampton, L. W., colonel, after arrival in New York City, and on expiration of leave of absence, will proceed to this city and report to the adjutant general of the Army for further orders.

Baker, C. R., M.R.C., ordered to active duty, and will proceed to Fort Hancock, N. J., July 10, 1911, and report to the commanding officer for duty.

Nichols, H. J., captain, left Army medical school on thirty days' leave.

Austin, T. C., lieut., left from duty at Yuma, Ariz., on thirty days' leave.

Ashford, B. K., major, relieved from present duty and will report to the governor of Porto Rico as aide.

Gunckel, G. I., D.S., relieved from duty at Fort McPherson, Ga., and ordered to Fort Barrancas, Fla., for duty.

Roberson, H. M., first-lieut., relieved from duty at Army medical school in this city.

McMillan, C. W., first-lieut., relieved from duty at Army medical school in this city.

Rhoades, T. L., major, will proceed to Fort McHenry, Md., and accompany the 142d Co. C. A. C. to San Francisco, and then return to his proper station.

Ragan, C. A., captain, ordered to report to the president of the examining board, Army Museum Building, Washington, D. C., for examination to determine his fitness for promotion.

Reynolds, Royal, first-lieut., ordered from general hospital, presidio of San Francisco, to report to the medical superintendent, Army transport service, this city, and assume duties of surgeon on transport *Sherman* en route to Manila, and report on arrival to commanding general, Philippine Division.

Connor, C. H., captain, ordered to report to commanding officer, 1st Battalion, 5th Field Artillery, presidio of San Francisco, for duty with that command, en route to Fort Sill, Okla., and on completion of this will return to his station, Maneuver Division, San Antonio, Texas.

Anderson, E. A., M.R.C., granted leave of absence for three months, to take effect on or about Aug. 1, 1911.

Church, James R., major, detailed as inspector and instructor of the medical corps and hospital corps, organized militia of New York, at coast defense exercises, July 5-August 7, and State of Maine, July 17-26.

Little, William L., captain, detailed as inspector and instructor of the medical corps and hospital corps detachments with coast artillery reserves, organized militia, State of Rhode Island, during coast defense exercises, July 9-16.

Bartlett, C. J., captain, detailed as above with organized militia, State of Massachusetts, July 9 to 16, 1911.

Geddings, E. F., major, detailed as above with organized militia of State of Maryland, July 15 to 24, 1911.

McAndrew, P. H., major, detailed as above with organized militia, State of Connecticut, July 20 to 29, 1911.

Reno, William W., detailed as inspector and instructor of the medical corps and hospital corps detachments with coast artillery reserves, organized militia, State of New Hampshire, during the coast defense exercises, Sept. 5 to 12, 1911.

Stone, F. P., D.S., left from temporary duty at Fort Rosecrans en route to station at Army general hospital, San Francisco.

Birmingham, H. P., colonel, promoted to rank from June 7, 1911.

Fisher, Henry C., lieut.-col., promoted to rank from June 7, 1911.

Bartlett, Cosam J., major, promoted to rank from June 7, 1911.

Medical Corps, U. S. Navy

Changes for the week ended July 15, 1911.

Eator, W. E., asst.-surgeon, detached from the *North Dakota* and ordered to the *Virginia*.

Pollard, J. B., asst.-surgeon, detached from the *Virginia* and ordered to the *North Dakota*.

Gardner, J. E., medical director, commissioned medical director from June 2, 1911.

Crandall, R. P., surgeon, ordered to the *Franklin*.

Plummer, R. W., surgeon, detached from the *Franklin* and ordered to the naval training station, North Chicago, Ill.

Miller, J. T., P. A. surgeon, detached from the *Franklin* and ordered to the Navy yard, Norfolk, Va.

Zalesky, W. J., P. A. surgeon, ordered to the *Franklin*.

Riker, G. A., asst.-surgeon, detached from the *Louisiana* and ordered to the *Dixie*.

Field, J. G., medical inspector, detached from the Navy yard, Norfolk, Va., and ordered to command the naval hospital, naval training station, North Chicago, Ill.

Kaufman, J. B., P. A. surgeon, detached from the Navy yard, Norfolk, Va., and ordered to the *Louisiana*.

Byrnes, J. C., medical director, commissioned a medical director in the Navy from June 11, 1911.

Reed, E. U., P. A. surgeon, detached from duty on the *Princeton* and ordered to duty at the naval station, Tutuila, Samoa.

Biello, J. A., P. A. surgeon, commissioned a passed assistant surgeon in the Navy from April 11, 1911.

Lanning, R. H., asst.-surgeon, appointed an assistant surgeon from June 21, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 12, 1911.

Francis, Edward, P. A. surgeon, directed to proceed to Auburn, N. Y., on special temporary duty.

Creel, R. H., P. A. surgeon, granted seventeen days' leave of absence from July 15, 1911.

Roberts, Norman, P. A. surgeon, granted nine days' leave of absence from June 22, 1911, on account of sickness.

de Valin, Hugh, P. A. surgeon, granted fourteen days' leave of absence from June 28, 1911, on account of sickness.

Friedman, H. M., A. A. surgeon, granted twenty-one days' leave of absence from July 15, 1911.

surgeon, leave of absence for thirty days Light, S. D. W., A. A. from June 6, 1911, amended to read "twenty days from June 6, 1911."

Safford, M. V., A. A. surgeon, directed to make monthly visits to Providence, R. I., for the examination of arriving aliens.

Boards of medical officers convened to meet as soon as practicable to conduct medical surveys of officers of the Revenue-Cutter Service, as follows:

Fort Stanton, N. M. Passed Assistant Surgeon H. S. Mathewson, chairman; Passed Assistant Surgeon F. C. Smith, recorder.

San Francisco, Cal. Surgeon J. M. Gassaway, chairman; Passed Assistant Surgeon R. E. Ebersole, recorder.

Society Proceedings

AMERICAN ACADEMY OF MEDICINE

Thirty-Sixth Annual Meeting, held at Los Angeles, Cal., June 23-26, 1911

The President, Dr. Charles S. Sheldon, Madison, Wis., in the Chair

A list of the officers that were elected at this meeting for the ensuing year was given in The Journal, July 15, 1911, page 228.

The Latest Improvement in Medical Education—The Prevention of Disease and the Prophylaxis of Health

Dr. Charles Stuart Sheldon, Madison, Wis.: The vast field of usefulness of a National Department of Health is clearly recognized by every intelligent physician; yet this most sensible measure has met bitter, and thus far, successful opposition. The magnificent work of Col. W. C. Gorgas is one of the most glorious victories of preventive medicine. As with yellow fever, so with malaria and typhoid. The crusade against tuberculosis illustrates the possibilities of accomplishment when once the people have learned the facts. Only recently has there been any thorough study of the prevention of infant mortality.

Dr. Abraham Jacobi of New York has shown that the industrial conditions in many of our communities are largely responsible for the high infant mortality. Thus the economic protection of the mother is of prime importance. It is obvious that some wisely planned system of compulsory medical school inspection should be legally instituted. The matter of adequate playgrounds for children also deserves attention. The intimate relation which the medical profession bears to the whole health propaganda shows that to secure the best results every physician should be a center of influence in all matters relating to health.

Eugenics of the Human Race

Dr. Henry B. Ward, Urbana, Ill.: Disease, excess and war have been reducing factors in human evolution, but are fast disappearing. The energies of philanthropy have been directed to the improvement of external conditions, but the determining factor is found in the blood. The result of any external influence depends on its nature, but also on the character of the protoplasm on which it works. A eugenics record office is collecting data concerning inheritance in American families, and various committees are studying the facts concerning the heredity of defectives and delinquents. Investigations show that the classes of our population characterized by their effectiveness are not maintaining their present numbers, while the most undesirable classes, including defectives and degenerates, have increased markedly in the last fifty years. Perpetuating and strengthening effective lines must be secured by improving the blood. Eugenics proposes to point out means by which the worthless elements may be reduced and the unfit eliminated.

Some of the states already limit the propagation of criminals and degenerates, but the state must safeguard marriage further by adequate legislation concerning marriage permits. A nation must encourage the higher development of its best elements if it hopes to continue its existence and perpetuate its high standing.

Teaching Preventive Medicine in Universities and Normal Schools

Dr. Henry B. Hemenway, Evanston, Ill.: Preventive medicine is not taught in a thorough manner in the majority of medical schools. There are few competent to take positions as professors of public health in universities. There is also the obstacle of finance. The Massachusetts Institute of Technology is probably giving better instruction in this regard than any medical school in America. It would seem that instruction can best be given in a lecture course open to the entire student body. If possible, some credit should be given for attendance and for work in the laboratory and seminary.

DISCUSSION

Prof. Henry B. Ward, Omaha: The first reason why this work is not done is that there is no organized plan, and a more important difficulty is that there is no demand for such a course. Until such demand comes we shall not make very great headway.

Dr. Edward Jackson, Denver: In the University of Colorado a course in preventive medicine has been given which has been attended by nearly all who can arrange for the hour. As Dr. Ward has said, we cannot expect university authorities to take much interest until something definite is formulated.

Should We Expect More than Mediocrity from the Medical Profession?

Dr. Francis M. Pottenger, Monrovia, Cal.: The one thing which American physicians as a whole lack in comparison with their colleagues across the water is a good preliminary training, not only in the branches underlying the foundation of medicine, but in the foundation of medicine itself. American medical literature, however, shows a keen application of principles and an ability to produce results. No matter how high the entrance requirements for our medical schools or how stringent the final examinations, many men, doomed to be failures in their chosen profession, will find their way into the ranks of medicine. All professions and branches of business have their leaders and geniuses, but it must be remembered that the great majority of us follow our leaders at a great distance. That the raising of the standard of our profession offers better medical service, we have every reason to believe, but that a high standard of medical education can guarantee a general service beyond that mediocre standard is open to question. No amount of training can overcome the difference in capabilities of men. The best can be had only from those who are able to give it, and must come by close cooperation and consultation between the members of our fraternity who are able to give the best and those who are not.

Publishing Details of Suicides in the Public Press

Dr. Henry B. Hemenway, Evanston, Ill.: Alienists are practically unanimous in the opinion that the suggestive effect of reading of details of suicides is a powerful factor in the causation of suicides among susceptible individuals. Newspaper men, while not denying the truth of the claim, reply that it is the province of the papers to publish the news. Attempts at legislation are practically useless unless preceded by a general demand on the part of the public. A statistical study is given which shows a continual increase in the death-rate from suicide, aggregating 60 per cent. in the nine years ending 1908. Not only is the suicide rate increasing, but it constituted 1.2 per cent. of all deaths reported in 1909. Geographically, the crime is not uniformly distributed. Nationality also has a bearing. It is found that those engaged in such occupations as keep one active physically are little prone to the act, except soldiers and sailors. If papers persist in publishing scandals, homicides and suicides, why not confine such pernicious matters to a separate sheet of distinct yellow color? We as defenders of the health and morals of the communities request the press of America to refrain from further publication of such affairs. On the estimated average value of a human life at $3,000, the loss from suicide in this country in 1908 was $24,996,000.

Neurotic Books and Newspapers as Factors in the Mortality of Suicide and Crime

Dr. Edward Bunnell Phelps, editor of the *American Underwriter:* The founder of the modern system of vital statistics, Dr. William Farr, seventy years ago expressed the deliberate opinion in one of his official papers that "some plan of discontinuing, by common consent, murder and bloodshed in the newspapers is well worthy the attention of their editors."

The Press and Crimes Against the Person

Dr. Frances Fenton, Mt. Holyoke, Mass.: In the study of newspapers made by me, including an analysis of approximately fifty-seven different papers from different sections of the country, the average percentage of news alone which should be withdrawn from the columns was 23.02 for the highest and 7.94 for the lowest. The average percentage of all kinds of antisocial matter, excluding advertisements, in the entire paper which should be removed is 8.11. Bills bearing on this subject have been introduced in some of our state legislatures. The Church bill, prohibiting the publication in newspapers of any detailed account of crime, passed both houses of the Illinois legislature and went up to the governor at the recent session. The press has threatened to make it a dead letter if it becomes a law. This indicates that we must look to the quality of our judges and to an educated public.

The Newspapers and Crime

Dr. William S. Wadsworth, Philadelphia: From my professional study of the subject I have no hesitation in pointing out that newspaper accounts of crime influence those who commit crime. We are having just at this time an epidemic of cyanid poisoning that we predicted would result from the lurid newspaper accounts of a crime committed some months ago. It is for the protection of those accidentally potential and the congenitally defective that we plead for methods of prevention. The fight is not against the press as such, but against its pollution.

Present Magnitude of Altruistic Medical Effort in the Far Orient

Dr. Charles McIntire, Easton, Pa.: When one reads that the first medical missionary in China, Dr. Peter Parker, opened an ophthalmic hospital in Canton in 1835, securing one patient the day after its opening, and then turns to reports submitted to the Edinburgh Conference last year, and learns that there are now 207 hospitals in China that treated 58,757 in-patients for the year of the report, one begins to realize the healthy growth of the movement and to gain some idea of its present magnitude. We also learn that in Korea, Japan, the Chinese Empire, Siam and French Indo-China, the Dutch East Indies and India there are 716 missionary physicians, 410 hospitals and 681 dispensaries. The cost per patient a year is $8.40. Our study seems to show it to be a big thing and a good thing, and, as such, demands the intelligent and sympathetic cooperation of the profession at home.

Contagious Diseases in Schools

Dr. Ernest Bryant Hoag, Berkeley, Cal.: The principal points to be considered in relation to contagious diseases in schools are: 1. The direct effect of the diseases themselves. 2. The direct or indirect effects of such diseases in producing "physical effects." 3. The relation of these diseases to retardation and elimination. 4. The cost to the school department through decrease of average daily attendance, on which appropriations are often in part based. 5. The cost to the family for medical treatment, nurses, etc. 6. The cost to the individual through general lowered vitality or direct physical disability of one sort or another.

At Berkeley by a cross-checking method between the city health department and the school department contagious diseases are readily recognized and recorded. A contagious disease map is made of the entire city, and at a glance the focus of infection can be located. Various tables and curves are made indicating the contagious status of each school. Other tables and curves may be made, showing age, distribution of contagious diseases, mortality rate, time lost, cost of sickness to family or school, relation to weather or season, relation to ventilation in home or school, relation to vacations, and relations to any other things which may be deemed important or interesting. This paper particularly emphasizes the importance of accurately collecting data and exhibiting it as far as possible in a graphic form by means of charts and the plotting of curves.

Should There be Two Degrees in Medicine?

Dr. Helen C. Putnam, Providence, R. I.: Answers received to inquiries made on this point were as follows:

"The value of a two-degree system in medicine depends on what the degrees stand for. As a general proposition, I am in favor of having preliminary and secondary degrees in medicine, with the understanding that the secondary degrees are only to be granted after specific preparation covering a definite period, and with the further understanding that the details of such a system must be worked out only after careful deliberation." (Dr. George Blumer, Dean Yale Medical School.)

"I feel I am justified in saying that the University of Pennsylvania would distinctly favor the adoption of courses for advanced degrees for medical study—that in the pure sciences the school is now endeavoring to provide for such work in courses leading to the Ph.D. degree, and in the applied lines by special courses not intended for undergraduates for which special diplomas or certificates are given; and that any concerted effort in these lines will be received with sympathetic approbation." (Allen J. Smith, Dean Medical Department University of Pennsylvania.)

"Our faculty is just considering the question of offering an advanced degree in medicine for those of its graduates who continue to do good work after graduation. . . . To the young man who does good clinical work and who presents a thesis and passes an examination not earlier than two years after graduation, we are thinking of giving the degree of doctor of clinical medicine. To the young man who does correspondingly good work in preventive medicine we are thinking of giving the degree of doctor of public health. Of course, for scientific work the degrees of doctor of philosophy and doctor of science are open to all of our graduates, inasmuch as they are already bachelors of science or arts before they graduate. . . . The giving of these advanced degrees would be a reward for those who continue to do well and do honor to their alma mater." (V. C. Vaughan, Dean Medical Department, University of Michigan.)

"Theoretically, I should think that it would be a good thing in this country; but it seems to me that it would be impracticable to establish here on British lines. . . . If it were possible to introduce a second degree of medicine, corresponding to the degree of doctor of philosophy, such as . . . doctor of medical science, M.Sc.D., and make this something for students to work for, it would be both practical and worth while." (Charles L. Dana, New York.)

"I am greatly in favor of some advanced degree in medicine along the lines as indicated by your communication." (G. W. Crile, Cleveland.)

"I am a believer in a five-year medical course, leading to a degree of doctor of medicine, and that this fifth year should be added at the end of the present training of the best schools, as a clinical year, during which the student should busy himself with work as an intern in general surgery, internal medicine and obstetrics . . . I doubt the advisability of giving the degree of doctor of philosophy for postgraduate work in medical specialties, as has been proposed by certain educators, and I would also be opposed to creating such new titles as doctor of public health, doctor of sanitary science and doctor of hygiene." (S. W. Lambert, Dean College of Physicians and Surgeons, New York.)

"I believe having two degrees would stimulate the younger members of the profession." (W. Jarvis Barlow, Dean of the Southern California Medical Department of the California State University.)

"It is to the elimination of the unfit among the prospective medical students and to the proper training of those accepted that we should primarily direct our efforts if we are to win for the doctorate of medicine the real respect that is its due. If, through the efforts of the Council on Medical Education of the American Medical Association and the Association of American Medical Colleges, we can make the medical degree have a uniform and recognized merit, we may be able to as our legislative bodies for stamps that will readily distinguish us from our imitators and allow the public a more intelligent choice than is evidenced to-day. Nevertheless, it is reasonable to consider giving a degree for research work accomplished after the completion of a properly grounded medical education. The only proper basis for granting such degrees should be founded on high and uniform standards. Such degree, it would seem to me, should be something more distinguishing than another doctorate, and would have the same value for prospective medical teachers if we continue our present attitude toward research work as a preparation for advanced medical instruction." (Ray Lyman Wilbur, Executive Head Department of Medicine, Stanford University.)

Postgraduate Degrees in Medicine

Dr. Andrew Stewart Lobingier, Los Angeles: Before we can establish effective postgraduate courses of medical study we must entirely reconstruct our undergraduate schools of medicine. The first efforts should be directed to reducing the number of them to one-tenth of the present number in the United States. Were we to grant the bachelor degree in undergraduate course and reserve the doctorate in medicine for the completion of a course of postgraduate work leading up to the ultimate qualifications for the various specialties, it would be more consistent with the accredited value of these degrees. Students should determine early their special line of work, and after the completion of the undergraduate course with two years' general intern work in an accredited hospital, they should take at least three years' postgraduate work on the specialty of choice. During this time the student should be taught to determine his judgments on the principles which govern in medicine and surgery just as keenly and conscientiously as he enters on his technical research and clinical observations. If possible after taking his postgraduate degree, which should be a doctorate in his specialty, he should be required to spend one or two years at least as assistant to a master surgeon or other specialist before he may be licensed to practice his specialty. We are suffering from scattered energies, which eventually must be focalized into a few richly equipped and endowed centers of medical education. When this is accomplished we shall recognize and the people will accept the postgraduate degree in medicine as a mark of proficiency for the responsibilities of a special line of practice.

DISCUSSION

Dr. Charles Lyman Greene, St. Paul: I think the adoption of the British system of giving a bachelor degree is absolutely impractical in this country. We made a mistake primarily in granting the doctor's degree which we did not justify, and I think we must abide by that mistake and be satisfied now with the attempt to build up our schools in order to justify the bestowal of an M.D. degree. Postgraduate degrees will come after much has been done in the improvement of our present medical schools. The Ph.D. degree might very well be granted to those men who have done special research in laboratory work. Later we may find it possible to grant postgraduate degrees which carry the idea of special proficiency along special lines. We are suffering tremendously at this time from ready-made specialists—from men who have no proper balance.

Dr. Arthur E. Hertzler, Kansas City: What we have yet to do is to find some way of eliminating the pseudospecialist. A man may take an indefinite course of postgraduate work, become an excellent qualified practitioner along some particular line, and still not be in any sense a research worker. To become a research worker the natural gift of imagination is essential, and I believe that only to the researchers should an advanced degree be granted.

Dr. Charles D. Lockwood, Pasadena: Primarily the good general practitioner is the product most needed and to which we as a profession are most strongly committed. The course in the average medical school will not adequately develop the research worker. There should be schools for men of special scientific ability where this development may be accomplished.

STATE MEDICAL SOCIETY OF WISCONSIN

Sixty-Fifth Annual Meeting, held at Waukesha, June 7-9, 1911

The president, **Dr. Byron M. Caples**, Waukesha, in the chair

The officers elected for the ensuing year were named in The Journal, June 24, 1911, p. 1890.

Relation of Physician to Public Campaign Against Tuberculosis

Dr. Hoyt E. Dearholt, Milwaukee: The Wisconsin Antituberculosis Association has made a close study of 1,200 case histories of living and dead consumptives for the purpose of determining the factors responsible for the spread of the disease. The reports give evidence of an amazing situation concerning the lack of proper diagnosis and treatment of the disease. More serious than this, however, is the lack of precise directions to patients and friends as to simple precautions necessary to prevent family and neighborhood infection.

DISCUSSION

Dr. G. E. Seaman, Milwaukee: People are beginning to learn the fundamentals with respect to prevention and treatment of tuberculosis, and in many respects the physicians are lagging behind the people. No patient should be allowed to leave the physician's office without printed instructions as to future conduct.

Dr. T. L. Harrington, Milwaukee: We must remember that the statements of patients are often incorrect. Nevertheless, the physician seems to fail to realize his responsibility. I usually give my patients Dr. Lawrence Flick's optimistic book on tuberculosis to read.

Dr. W. E. Durr, Milwaukee: The prevention of tuberculosis is an intensely personal matter. It should come right home to all of us. Fumigation is too often carelessly and ineffectually done, if done at all. The charge of gross carelessness on the part of many physicians is too true.

Dr. G. Windesheim, Kenosha: The physician is not sufficiently compensated for his labor of diagnosis, but it is his own fault. Make your examinations conscientiously and thoroughly and increase your charges accordingly. The patient will pay them willingly. The statements of patients are not exaggerated. Not 25 per cent. of the physicians in my territory give tuberculosis patients the thorough examination, attention and care that they deserve. Failure to tell the patient his true condition is wholly without excuse in the present day when tuberculosis frequently yields so readily to proper treatment. People are no longer afraid of the disease.

Dr. C. H. Stoddard, Milwaukee: Pressure is being brought to bear by the people themselves, which will in the course of a few years change the situation. The people are becoming educated rapidly on the subject of tuberculosis, and physicians will be forced to give their patients necessary information and instruction.

Dr. George H. Fellman, Milwaukee: We should not tell our patients that they have tuberculosis until we are certain of it.

Dr. Richard C. Cabot, Boston: Dr. Dearholt's paper is an indictment against the whole profession. Practical examination should be required for registration. The presence of bacilli in the sputum is an evidence of advanced and not incipient tuberculosis. The latter must be diagnosed by physical signs and history. Printed matter is of no great value in instructing patients, requiring as they do a radical change of the patient's habits. The instruction must be personal. It often takes great moral and financial courage to tell a patient the truth, as the well-to-do leave town and the poor take to books of direction and cease their visits. Free dispensaries should be established under the charge of physicians who will devote their whole time to the early diagnosis and treatment of consumption. Such a municipal dispensary has been already established in Boston, and is doing excellent work.

The Venous Pulse and the Heart Sounds

Dr. J. A. E. Eyster, Madison: The existence of a third heart sound is not inconsistent with an absolutely normal heart. The second sound is found to follow the first in a much shorter time than occurs between the beginning of the first and second heart sound. The length of cardiac cycles tends to remain constant.

Essentials and Non-Essentials in Physical Diagnosis

Dr. Richard C. Cabot, Boston: I desire to call attention to the following important points: In one instance the accidental finding of nodes on the scalp led to the postponement of a proposed operation for splenic anemia, and the change of diagnosis to syphilis. A headache coming on at a certain hour in the morning and disappearing at a certain hour in the morning with perfect regularity, is absolutely indicative of frontal sinus disease. Tophi in the margin of the ears are proof positive of the existence of gout. A routine throat examination is essential in all physical diagnosis. A peculiar satiny feel of the skin of the arm indicates alcoholism. Feeling the pulse in both wrists at the same time may enable you to make a diagnosis of aneurysm from inequality of pulses. The stethoscope and blood-pressure machines are the two most useful instruments of precision in making physical diagnoses. In pulmonary tuberculosis the proper study of inspirations gives us an earlier means of diagnosis than the study of expirations. In using the stethoscope means should be taken of eliminating the sounds produced by the fingers slipping on the stethoscope and the stethoscope slipping on the skin. To detect râles let the patient breathe in, breathe out, then cough. The bacilli of tuberculosis when found in the sputum afford evidence of advanced pulmonary tuberculosis. Grocco's sign is valueless. Percussion is valueless in determining the size of the heart. It is a difficult and useless procedure. Palpation, inspection and blood-pressure will give the information. Never diagnose heart disease on the evidence of the murmur alone. A large percentage of children have cardiac murmurs which are without significance. In diagnosing diseases of the abdominal viscera, full and extensive history is essential. Physical signs are often entirely wanting. Palpation of the abdomen is one of the most difficult and unsatisfactory methods of diagnosis. A warm bath makes palpation easier. In gastric examination the essential question is, can the stomach empty itself. It is important to determine the size of the stomach. There is no such disease as gastroptosis. Bismuth plus *x*-ray has not proved successful in the early diagnosis of cancer or ulcer in the viscera. The guaiac test for occult blood is sure and easy. A two-fold examination of urine should be made: (a) a collection of the 24-hour amount divided into day and night portions; (b) specific gravity. These two facts show the work of the kidney, and that is all you need. The only other tests necessary are for albumin and sugar. The search for casts is unimportant. The examination of the sediment is important. The colored paper test for hemoglobin is valuable. Pale people, as a rule, are not anemic and some people with red cheeks are anemic. It is rarely necessary to make a count of the red blood-corpuscles. But it frequently is necessary to count the white corpuscles. Lumbar puncture may give you an early diagnosis of meningitis. The newer methods of cardiac diagnosis have not as yet proved very valuable. The *x*-ray is not a necessary part of routine diagnosis. The *x*-ray should be left to the expert. It is a valuable means of diagnosing syphilitic lesions through examination of the shin bones.

Ileocecal Adhesions

Dr. F. Gregory Connell, Oshkosh: Kinks in the lower ileum, and membranous pericolitis are common in cases presenting symptoms of chronic appendicitis. Removal of these conditions has been followed by permanent relief in some cases in which appendectomy was not followed by improvement. They should always be looked for while operating for chronic appendicitis. In order to do so a large incision will be necessary. They are probably not of inflammatory origin, but due to ptosis of the cecum. When present they should be removed or corrected, and an effort made to keep the cecum up and out of the pelvis. It is not to be expected that this will relieve all such cases, but from a review of the literature and personal experience, it would seem rational to suppose that, when liberal abdominal incisions and correction of these conditions are more common, our remote results after operation for chronic appendicitis may improve.

DISCUSSION

Dr. Franklin H. Martin, Chicago: The Lane kink actually exists. Among other symptoms may be noted a serious anemia. Absolutely satisfactory results follow operation to straighten out the kink. During convalescence give patients fattening diet, and when the supporting bandage is removed keep them in the Trendelenburg position.

Medical Inspection of Schools

Dr. Richard W. Jones, Wausau: Mandatory inspection of public schools is a most important matter. The system of inspection has been in vogue in Wausau for a year, and the outlook is very promising. The campaign is practically one of education.

DISCUSSION

Dr. George P. Barth, Milwaukee: Inspection of schools in Milwaukee was begun April, 1909. Since then ten physicians have been appointed as medical inspectors, and one dental inspector has been appointed. The results are gratifying. Hygienic conditions both in the school and in the home are greatly improved. Special attention is sought to be given to mental and physical defectives; to the establishment of outdoor schools; to the proper seating of children; segregating the especially backward and exceptionally brilliant pupils, and giving proper school facilities for the exceptional students. Special study is given to truancy, its cause and cure.

Dr. C. R. Bardeen, Madison: The need of medical inspection in the schools is shown in the examination of students for admission to the university. The medical inspector reports that only 25 per cent. of the young men and 6 per cent. of the young women are perfectly normal. Because of ignorance of the importance of medical inspection, the public is rather niggardly, and should be educated to the importance of being willing to pay liberally for the protection of public health, and not require this protection, as at present, to be in the nature of practically a free gift from the medical profession to the public. The University of Wisconsin will start next year a course for public health officers.

Dr. Charles S. Sheldon, Madison: The school should be a place where health is promoted, not a place, as is too often the case, where health is threatened and disease contracted. The economic waste resulting from our carelessness is enormous. There should be ultimately a state medical inspector to systematize the work and give proper instruction. Local inspectors in places of considerable size should devote their whole time to the work and should be well remunerated therefor.

Dr. John M. Beffel, Milwaukee: The time for the State to begin the medical inspection of the child is at the beginning of the child's life, and the state should not wait until the child enters school at the age of 5 or 6 years. The State controls the child so far as contagious diseases are concerned, yet only 8 per cent. of the children under 5 years of age suffer from contagious diseases. If the State could follow the child through the first year of its life, it could control the 50 per cent. death-rate of preventable diarrheal diseases, and reduce it almost to zero. Men and women are trained for every occupation except fatherhood and motherhood.

Relative Value of Diuretics

Dr. A. S. Loevenhart, Madison: Theobromin sodium salicylate, theophyllin sodium salicylate, sodium acetate and urea are all suitable for intravenous use in man, and their use presents many advantages. It is recognized, of course, that diuretics are really of use only in tiding over a crisis.

DISCUSSION

Dr. L. M. Warfield, Wauwatosa: We must remember that knowledge of the diuretic properties of drugs gained by experiments on healthy animals is by no means applicable to human beings with diseased kidneys. I have used 10 grains of urea intravenously with no ill effects. It is exceedingly soluble in water. My impression is that it has not proved to be a very valuable diuretic. Theosin sodium acetate has produced better results, and I have given it in doses as high as 5 grains. It is not very soluble in water, however. It is apparently a valuable diuretic when given intravenously.

The Present Understanding of Rheumatoid Conditions

Dr. Joel E. Goldthwait, Boston: The failure to achieve success in the treatment of chronic ailments is a reproach to the medical profession. But the time is coming when chronic as well as acute diseases can be cured. Joint manifestations are symptoms merely of disease in various parts of the body. We must find the source of the disease, then the symptoms will take care of themselves. Rheumatism is a term we use when we do not want to bother to find out what the real trouble is. We must endeavor to learn the specific cause of the symptoms of these rheumatoid conditions. And, first, there is the large class of cases resulting from not using the body right, and which are really simple strains. Another class covers true gout, which can be diagnosed to a certainty by the presence of tophi. In this manner we proceed until we have covered the real diseases grouped under the shadowy term. Pursue no treatment that is not based on etiology and pathology.

Always remember that it is not the joint that is the disease. It is merely the expression of a disease in some other part of the body. Listen patiently to the history. It will often afford a clue. Forget the word diathesis. Direct conditions are not inherited. Possible sources of infection are (1) the skin, (2) the genito-urinary tract or a local lesion therein (3) nose and throat and accessory passages, (4) the alimentary canal, which is the most serious, frequent and difficult source of infection. I had a case some time ago of a woman suffering from bronchitis and badly crippled with arthritis. She was operated on for antrum and frontal sinus conditions, whereupon her bronchitis and rheumatism promptly disappeared The bronchial and joint conditions were caused by the focus of pus in the antrum overflowing, dripping down and poisoning her bronchi and joints. I recall a case of "rheumatism" cured by removing an ulcerated tooth.

Rabies in Wisconsin and Its Control

Dr. Mazyck P. Ravenel, Madison: Rabies is becoming more prevalent throughout the United States. Wisconsin has suffered severely during the last three years. The outbreak entered from the south, apparently beginning at Beloit and worked steadily northeast, with scattering cases in the western part of the state. A large number of farm animals have been lost. Laboratory examination of dogs who have bitten people shows about 50 per cent. of them rabic. Pasteur treatment was begun by the Wisconsin State Hygienic Laboratory and State Board of Health in November, 1909. Many patients were treated with uniform success. Lack of muzzling laws makes control difficult in our state and throughout the country.

MEDICAL SOCIETY OF NEW JERSEY

One Hundred and Forty-First Annual Meeting, held at Spring Lake, June 13-15, 1911

The President, Dr. Thos. H. McKenzie, Trenton, in the Chair

The list of officers elected was given in The Journal, July 15, 1911, page 226.

The Education of a Surgeon

Dr. Joseph A. Blake, New York City: In our present school and hospital organizations there is no provision for systematic training of surgeons. The education of a young surgeon is carried out well and methodically up to the end of his intern service in a hospital. He is then left to his own resources until he gets a hospital appointment as visiting surgeon. The period between his intern service and his acquirement of a visiting position averages at least five years, the years that are the most impressionable and therefore the most valuable in the receptive sense. Even when he becomes a visiting surgeon his services are short and spasmodic and until he acquires a large private practice his experience is in no way continuous. To remedy this state of affairs it is proposed in the large hospitals having continuous services to create, as it were, a postgraduate course of six years. For this course, men would be selected from the outgoing surgical house staff of the hospital and would each serve one year as assistant resident, one year as resident, two years as assistant visiting surgeon with assignment of duties in the laboratories of surgical pathology and experimental surgery in addition to duty in the wards and operating room, and two years as assistant visiting surgeon with duties in the out-patient department as well as the wards and operating rooms. In these last two years the appointees should also be demonstrators of anatomy in a medical school. It is obvious that such a course could only be carried out to the best advantage in a university hospital. The full organization of a surgical staff of such a hospital for 100 beds should be a chief, or director of the surgical staff; a visiting surgeon, two associate visiting surgeons, all of which would hold permanent positions; and four assistant visiting and two resident surgeons constituting the rotating members of the staff, as above described. It is believed that such an arrangement would be of great benefit to the institution as well as to the young surgeons. The latter would get a splendid experience, in surgery, pathology and anatomy, and should be able to fill with credit any hospital position to which they might be called.

Two Cases of Splenectomy

Dr. John C. McCoy, Paterson: In both my cases of extirpation following traumatism of the spleen, eighteen months and seven months after operation, respectively, the general condition seems to have remained as good as it was prior to the loss of the organ. Both patients have gained in weight and are able to take part in athletic exercises. During the past three years, I have seen four cases of rupture of the spleen, two of which could be attributed to direct violence. Removal of the spleen was followed by a fatal result in one of these cases.

Chronic Gastritis of Secondary Origin, Presenting the Phenomenon of Achlorhydria Hemorrhagica Gastrica

Dr. James T. Pilcher, Brooklyn: Observations were made from examinations in a series of 4,000 patients. Of this number, 271 presented lack of free hydrochloric acid and presence of occult blood. In 156 of these patients the onset of the gastric symptoms was traceable to certain infectious diseases, circulatory disturbances, derangement of ductless glands, and various forms of abdominal operations; in 100 others, the symptoms of extra-gastric pathologic conditions were evident, and exploratory operations were done, revealing distinct involvements of the appendix in 36, of the gall-bladder in 32, of the gall-bladder and pancreas together in 16, and of the gall-bladder and appendix together in 12. Of the 100 patients with achlorhydria hemorrhagica gastrica operated on, in 24 there was a distinct spasm of the pylorus, accompanying appendicitis 18 times and gall-bladder involvement 6 times. Insufficiency of hydrochloric acid is a reflex nervous phenomenon. The conclusion that the gastric lesion is not the causative factor is supported by the fact that in 88 of the 100 abdominal explorations in which there was direct exploration and palpation of the stomach no gross change in the stomach walls could be demonstrated. Bacterial flora are a second factor in the production of this symptom. Large numbers of bacteria are always present in the fluids extracted from these stomachs. Streptococci, diplococci and colon bacilli are almost always found. The growth of these bacteria is dependent solely on the lack of the inhibiting action of the hydrochloric acid. A third factor is the presence of superficial erosions of the mucosa and round cell infiltration. The diagnosis is to be determined by the analysis of stomach contents. Free hydrochloric acid is never present; blood reaction is always present.

DISCUSSION

Dr. Thomas W. Harvey, Orange: There is no organ that may not send a reflex influence back to the stomach, causing to appear in that organ symptoms often so severe as to cause us to overlook the original disease. Usually, in studying etiology, too little attention is given to the effect of continuous disturbances of function as a cause of pathologic changes. Changes in the nervous or circulatory supply of a distant organ will have an important reflex influence on the stomach and its secretions; this may produce a train of symptoms simulating serious pathologic conditions.

Dr. Frank D. Gray, Jersey City: No one should pass over a case without knowing what a test for free hydrochloric acid and a test for occult blood will show. These tests are not beyond the capacity of the general practitioner; but if we do not feel competent to make these tests ourselves, most of us are within reach of a pathologic laboratory.

A Plea for a High Standard of Medical Education

Dr. Thomas H. McKenzie, Trenton: It is the duty of the state to protect the public from unscrupulous practitioners by enacting laws that will eliminate entirely from the practice of medicine those not qualified for such service. Qualification is determined by measurement with some standard. A medical education standard should be established. The federal government should enact a law creating a Bureau of Medical Education and Sanitation, one of whose duties should be to establish a standard for preliminary medical education. A degree from a medical school would then be a guarantee of efficiency. The over-production of ill-trained men is mainly due to the existence of commercial medical schools. Medical science can make but little progress while it depends on such mercenary institutions as its source of inspiration. A federal bureau would have the power to regulate this evil. In the absence of such a bureau, we must look to the progressive, public-spirited and well-endowed medical schools; to the state medical boards; and to whatever results may be obtained from the agitation instigated by the American Medical Association. Improvement in medical education has been rapidly accomplished since the organization of the Council on Medical Education in 1904. The Association of American Medical Colleges has discussed the standards of medical education with a view to their improvement. The result is that nearly all colleges are now requiring, in addition to the high-school course, one or more years of college work. The good offices of the New Jersey State Board have been somewhat handicapped by our defective laws regulating medical practice. The medical society has for three successive years asked in vain for relief. The legislature seems to suspect that we ask for such legislation for our own selfish ends. The mind of the general public should be disabused of such false notions. The medical profession should organize a campaign of education and seek to set the matter in the proper light.

Oration in Medicine: Advances in the Knowledge of the Circulatory System

Dr. George W. Norris, Philadelphia: Percussion, auscultation, etc., will probably never be superceded by other methods of studying the circulation, but they have been materially abetted by various procedures. Among these, the auscultating method of estimating blood-pressure, especially by a study of the five phases of Korotkow, the practice of sphygmography, the orthodiagraph, the electric cardiogram, and the plethysphygmograph are important. I would urge the primary importance of diet, hygiene, mode of life and physical methods of treatment, in contradistinction to the secondary rôle of any therapy. The practice of massage on the part of the youthful or less busy practitioner would save many a patient from the osteopath and his kin. Thanks to recent investigations, much more accurate knowledge regarding digitalis and strophanthus is available, and much more reliable preparations are to be had. The newer patented preparations of the former drug have not proved so generally superior to the ordinary preparations as to counterbalance their increased cost. The newer conceptions regarding the cardiovascular system in health and disease include the myogenic doctrine; the importance of vascular, as well as cardiac, compensation; the frequency of syphilis as an etiologic factor; and that of low-grade chronic infection as a cause of progressive endocarditis.

Advantages of the Necropsy

Dr. Harrison S. Martland, Newark: The greatest importance of the autopsy is shown in the proper signing of the death certificate. Clinicians who have followed their cases to the autopsy table all admit that a large percentage of their cases are ones of mistaken diagnoses. How amusing then is the filing of vital statistics, by the Bureau of Census. for instance, on the causes of death in the United States, since in only a small percentage is a control by autopsy made. Our clinical diagnoses are too faulty to be accepted for statistical purposes. Vital statistics concerning death would be greatly improved if all the states adopted an appendix to the death certificate, for purpose of filing the pathologic anatomic causes of death in case an autopsy is performed. The greatest scientific advantage of the autopsy is perhaps seen in the combined consideration of the anatomic lesions at autopsy with the clinical picture of the disease. In order to obtain this, constant commingling of clinician and pathologist in the wards and laboratory is necessary. The study of clinical data to formulate a diagnosis in connection with the proof of the correctness of the clinical data is the only ideal method of teaching medicine. Such courses should be required in all medical schools, as the basis of the medical training Pathology and medicine should be taught side by side, in the hospital and morgue, and not by separate didactic lectures. I believe that another advantage of the autopsy will be in the restraining of the modern idea of specialization. Autopsies frequently expose the narrow-mindedness of various specialists even the most talented of them.

Dr. Edward E. Worl, Newark: In compiling vital statistics, one sometimes comes across diagnoses that cannot be classified by any system. Official autopsies would settle the question in many cases of this kind. It seems to me, however, that in some cases of infectious disease the anatomic findings would not correspond with the essential etiologic factor. There should be a law in the state to compel an official autopsy in every case, no matter what the diagnosis of the family physician may be.

Excision of the Superior Maxilla for Sarcoma of the Antrum

Dr. Walter B. Johnson, Paterson: My patient was a woman, thirty-three years of age, with no history of cancerous disease. The injury, which occurred one year previous to operation, was followed by swelling, which persistently increased in size. It involved and filled the nostril, exfoliated the teeth, perforated the palate, entered the orbital cavity, and involved the nasal and ethmoid bones. The operation was performed in the usual manner, curetting the ethmoid. The patient was discharged in three weeks. The pathologic report was alveolar sarcoma, spindle-cell variety. At this time, fourteen months after the operation, no symptoms of recurrence of the disease are evident.

Association News

PROCEEDINGS OF THE LOS ANGELES SESSION

(Continued from July 8, page 145)

Notice on Section Transactions

Those who desire copies of the 1911 Transactions of any of the sections, but whose names are not on the permanent subscription list, should order at once, as printing has already commenced. Only enough are printed to supply what is considered the probable demand, and each year some persons order too late to be supplied. Each volume is a cloth-bound book containing the articles and discussions in that particular section. A volume is issued for each section except the Section on Stomatology. The Section on Dermatology and the Section on Genito-Urinary Diseases held no meetings at Los Angeles and the Section on Hospitals is a new section which has held no meeting. For none of these four, therefore, will there be any bound volume of Transactions for the year 1911. When ordered in advance, each book costs the subscriber $1.00, payable at time of delivery.

It is to be remembered that one may give a permanent order for Transactions; and those specified are sent, from year to year, until the order is cancelled. Address orders to the American Medical Association, 535 Dearborn Avenue, Chicago.

Minutes of Sections

The minutes of the proceedings of the various sections which held meetings at the Sixty-Second Annual Session, held at Los Angeles, June 27 to 30, 1911, are given below—except those of the Section on Stomatology, which had not been received when these pages went to press.

SECTION ON PRACTICE OF MEDICINE

Tuesday, June 27—Afternoon

The meeting was called to order at 2:15 p. m., in the Majestic Theater, by the Chairman, Dr. Allen A. Jones, Buffalo.

Dr. H. A. Giltner, U. S. N., read a paper on "Verruca Peruana or Carrion's Disease." No discussion.

Dr. C. M. Richter, San Francisco, read a paper on "The Epidemiology of Pneumonia." No discussion.

Drs. Walter Brem and F. C. Watson, Cristobal, Canal Zone, presented a paper on "Successful Treatment of a Typhoid Bacillus-Carrier by Vaccination." Discussed by Drs. Frank Billings, Percy M. Ashburn, William Litterer and Walter Brem.

Dr. F. M. Pottenger, Monrovia, Cal., read a paper on "Causation and Treatment of Fever in Tuberculosis." Discussed by Drs. Edward F. Wells, Norman Bridge, Frank Billings, Philip King Brown, C. F. Tenney and F. M. Pottenger.

Dr. Norman Bridge, Los Angeles, read a paper on "Streptothrix (Actinomycosis) of the Lungs." No discussion.

Dr. N. W. Jones, Portland, Ore., read a paper on "Hemorrhagic Erosions of the Stomach." Discussed by Drs. Robert T. Morris, J. F. Hultgen, Philip King Brown and N. W. Jones.

Dr. W. J. Butler, Chicago, read a paper on "Immuno-Diagnostics in Internal Medicine." Discussed by Drs. F. M. Pottenger and W. J. Butler.

The Chairman: I wish at this time to interrupt the proceedings for a short time to announce the Nominating Committee: On this committee, I will appoint the following: Drs. W. Jarvis Barlow, Los Angeles; Henry B. Favill, Chicago, and Alexander Lambert, New York. Because of the absence of Dr. Joseph Miller, who serves on the Executive Committee, I will appoint in his place Dr. Herbert Moffit, San Francisco.

Dr. J. F. Hultgen, Chicago, read a paper on "The Leukocytology of Typhoid and Paratyphoid Fevers." No discussion.

Wednesday, June 28—Morning

Dr. W. Jarvis Barlow, Los Angeles, read a paper on "Effects on Secondary Anemia by Hypodermic Injections." Discussed by Drs. Alexander Lambert, Bonnell, Samuel D. Swope, Dudley Fulton and W. Jarvis Barlow.

Dr. Edward F. Wells, Chicago, read a paper on "Reserve Renal Capicity in Chronic Interstitial Nephritis." Discussed by Drs. Frank Billings, Alexander Lambert, W. L. Bierring and Edward F. Wells.

Dr. Roger I. Lee, Boston, read a paper on "Pathologic Findings in Hypertension." Discussed by Drs. William Ophuls, Edward F. Wells, Frank Billings, C. F. Hoover, Charles L. Greene, W. L. Bierring, Percy M. Ashburn and Roger I. Lee.

Dr. Charles L. Greene, St. Paul, Minn., read a paper on "New Clinical Values in the Treatment of the Gastric Neuroses." Discussed by Drs. Walter B. Cannon, Frank Billings, W. J. Butler, Seale Harris and Charles L. Greene.

Dr. Alexander Lambert, New York, read a paper on "The Blood-Pressure in Pneumonia." Discussed by Drs. Dudley Fulton, Wilder Tileston, Percy M. Ashburn and Alexander Lambert.

Drs. H. D. Arnold and R. C. Larrabee, Boston, presented a paper on "The Importance of the Quantitative Regulation of Diet." Discussed by Dr. Wilder Tileston.

Drs. J. M. Anders and A. C. Morgan, Philadelphia, presented a paper on "Pleurisy and Empyema in Pneumonia." Discussed by Drs. J. N. Hall, Everett J. Brown, C. F. Hoover and A. C. Morgan.

Wednesday, June 28—Afternoon

Symposium on Syphilis.

Dr. L. S. Schmitt, San Francisco, read a paper on "Laboratory Diagnosis of Syphilis."

Dr. Frank Billings, Chicago, read a paper on "Visceral Syphilis."

Dr. Albert Keidel, Baltimore, read a paper on "Value of the Wassermann Reaction and of Salvarsan."

Dr. D. W. Montgomery, San Francisco, read a paper on "Disadvantages Incident to the Administration of Salvarsan."

Dr. W. T. Wootton, Hot Springs, Ark., read a paper on "Adequate Treatment of Syphilis."

These five papers were discussed by Drs. Howard Fox, W. J. Butler, C. F. Hoover, Harry Reeves Olliver, Harvey G. Parker, William Litterer, G. H. Aiken, John H. Graves, William W. Graves, B. H. Orndorff, Percy M. Ashburn, H. S. Plummer, L. S. Schmitt, Frank Billings, D. W. Montgomery and W. T. Wootton.

Thursday, June 29—Morning

Dr. A. J. Hodgson, Waukesha, Wis., read a paper on "Treatment of Diabetes." Discussed by Drs. Robert T. Morris, Edward F. Wells, H. B. Favill, Wernigk, A. J. Ochsner and A. J. Hodgson.

Dr. G. W. McCoy, San Francisco, read a paper on "Bubonic Plague with Special Reference to that of Ground-Squirrel Origin." Discussed by Drs. Edward F. Wells and G. W. McCoy.

Dr. H. S. Plummer, Rochester, Minn., read a paper on "Relation of the Symptomatology and Pathology to Operative Mortality in Exophthalmic Goiter." Discussed by Drs. C. H. Mayo, Martin B. Tinker and H. S. Plummer.

Dr. W. E. Musgrave, Manila, P. I., read a paper on "Treatment of Intestinal Amebiasis." Discussed by Drs. Walter Brem, Percy M. Ashburn, Louis B. Wilson and W. E. Musgrave.

Dr. J. W. Draper Maury, Rochester, Minn., read a paper on 'Experimental Work on Intestinal Auto-Intoxication." Discussed by Dr. W. T. Councilman.

Report of the Nominating Committee. Dr. Alexander Lambert made this report: Chairman, Dr. Wilder Tileston, New Haven, Conn.; Vice-Chairman, Dr. Walter L. Bierring, Des Moines, Ia.; Secretary, Dr. Roger S. Morris, Baltimore; Orator, Dr. Charles L. Greene, St. Paul, Minn.; Delegate, Dr. J. A. Capps, Chicago, and Alternate Delegate, Dr. S. W. S. Toms, Nyack, New York.

Dr. Lambert: I move that the action on this report be deferred until after the orator's address this afternoon when a larger number of members will be present. Seconded. Carried.

Drs. G. R. Satterlee and L. T. Le Wald, New York, presented a paper on 'Some Obscure Conditions of the Digestive Tract as Studied by the Roentgen Ray." No discussion.

Drs. W. T. Councilman and C. H. Dunn, Boston, presented a paper on "Myatonia Congenita (Oppenheim); Report of a Case with Autopsy." No discussion.

Thursday, June 29—Afternoon

Dr. C. F. Hoover, Cleveland, delivered the Oration in Medicine: "A Clinical Study of Disturbances in Rate and Rhythm of Respiration." Discussed by Dr. Henderson.

It was moved and seconded that the report of the Nominating Committee be adopted. Unanimously carried.

Dr. A. W. Hewlett, Ann Arbor, Mich., read a paper on "Infantilism with Disease of the Pituitary Gland." No discussion.

Dr. Dudley Fulton, Los Angeles, read a paper on "A Clinical Study of the Mobility of the Heart." No discussion.

The following papers were read at a Symposium on Poliomyelitis—a joint session with the Section on Diseases of Children.

Drs. Samuel G. Dixon, Harrisburg, Pa., and H. T. Karsner, Philadelphia, presented a paper on "Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania."

Drs. R. W. Lovett and M. W. Richardson, Boston, presented the following papers: "Recent History and Etiology of Infantile Paralysis," "Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis." and "Infantile Paralysis as Observed in Massachusetts, 1907-1910."

These papers were discussed by Dr. Philip King Brown.

SECTION ON SURGERY

Tuesday, June 27—Afternoon

The meeting was called to order by the Chairman, Dr. George W. Crile, Cleveland, who said: "It is with deep regret that I announce the death of Dr. John C. Munro, Boston. I will appoint in his place as a member of the executive committee, Dr. Charles H. Frazier, Philadelphia. I will appoint as chairman of the executive committee Dr. Charles A. Powers, Denver, to take the place of Dr. Rudolph Matas, New Orleans, who is absent."

The following papers were then presented:

Dr. George W. Crile, Cleveland, read his chairman's address: "Newer Methods for Further Increasing the Safety of Surgical Operations." No discussion.

Dr. Charles H. Frazier, Philadelphia, read a paper on "Brachial Palsy." Discussed by Dr. W. W. Grant, Denver.

Dr. Fred B. Lund, Boston, read a paper on "Advantages of the So-Called Décortication of the Lung for Old Empyemata, with Remarks on the Treatment of Empyema; Report of Cases." No discussion.

Dr. Robert C. Coffey, Portland, Ore., read a paper on "A Plea for More Direct Methods in Dealing with Gastric Ulcers." Discussed by Drs. J. W. Draper Maury, Rochester, Minn.; W. W. Skinner, Geneva, N. Y.; E. Wyllis Andrews, Chicago; Charles H. Mayo, Rochester, Minn.; A. J. Ochsner, Chicago, and Robert C. Coffey, Portland, Ore.

Wednesday, June 28—Morning

Dr. L. L. McArthur, Chicago, read a paper on "A New Technic for Rectopexy for Rectal Prolapse." Discussed by Drs. E. Wylly Andrews, Chicago, and L. L. McArthur, Chicago.

Dr. George E. Brewer, New York, delivered the Oration on Surgery: "A Review of Our Present Knowledge of Acute Renal Infections." No discussion.

Dr. E. MacDowell Stanton, Schenectady, N. Y., read a paper on "The End Results of Gall-Bladder Surgery."

Dr. B. B. Davis, Omaha, read a paper on "Factors Hostile to Success in Gall-Bladder Surgery."

These two papers were discussed by Drs. Robert T. Morris, New York; A. J. Ochsner, Chicago; J. F. Percy, Galesburg, Ill.; F. L. Hupp, Wheeling, W. Va.; E. M. Stanton, Schenectady, N. Y., and B. B. Davis, Omaha.

Dr. George G. Ross, Philadelphia, read a paper on "Subphrenic Abscess the Result of Acute Inflammation of the Vermiform Appendix."

Dr. Van Buren Knott, Sioux City, Ia., read a paper on "The Treatment of Localized Appendicular Abscess."

These two papers were discussed by Drs. Thomas W. Huntington, San Francisco; Robert T. Morris, New York; W. W. Grant, Denver; Archibald McLaren, St. Paul; A. J. Ochsner, Chicago, William Fuller, Chicago; William Tunis Reynolds, Kansas City, Mo.; Van Buren Knott, Sioux City, Ia., and George G. Ross, Philadelphia.

Dr. Charles H. Mayo, Rochester, Minn., read a paper on "Lingual, Sublingual and Other Forms of Aberrant Thyroid." No discussion.

Dr. Wallace I. Terry, San Francisco, read a paper on "The Surgical Treatment of Megacolon." Discussed by Drs. J. F. Percy, Galesburg, Ill.; Harold J. Stiles, Edinburgh, Scotland, and Wallace I. Terry, San Francisco.

Wednesday, June 28—Afternoon

Mr. Harold J. Stiles, Edinburgh, Scotland, read a paper on "The Pathology and Treatment of Tuberculosis of Long Bones." Discussion was deferred until conclusion of next paper.

Dr. E. R. Le Count, Chicago, moved that the House of Delegates be requested to elect Professor Stiles to honorary membership. Motion seconded by Dr. J. B. Murphy, Chicago. Unanimously carried by rising vote. Professor Stiles expressed his thanks for the honor.

Dr. Leonard W. Ely, Denver, read a paper on "The Three Main Rules in the Treatment of Adult Joint Tuberculosis,"

The two preceding papers were discussed by Drs. John B. Murphy, Chicago; Thomas W. Huntington, San Francisco; Harold J. Stiles, Edinburgh, Scotland, and Leonard W. Ely, Denver.

(Further discussion was deferred until after the reading of Dr. Guthrie's paper on "Unusual Joint Cases.")

Dr. Stephen H. Watts, Charlottesville, Va., read a paper on "Gonorrheal Osteoperiostitis of Long Bones." No discussion.

Drs. Dean D. Lewis and Carl B. Davis, Chicago, presented a paper on "Direct Experimental Transplantation of Tendons and Fascia." Discussed by Drs. Leonard W. Ely, Denver; Kenneth A. J. Mackenzie, Portland, Ore.; Joseph Kurtz, Los Angeles, and Dean D. Lewis, Chicago.

Drs. Fred T. Murphy and Beth Vincent, Boston, presented a paper on "An Experimental Study of the Cause of Death in Acute Intestinal Obstruction." Discussed by Drs. J. W. Draper Maury, Rochester, Minn.; Fred B. Lund, Boston; Willard Bartlett, St. Louis, and Fred T. Murphy, Boston.

Dr. Edward S. Judd, Rochester, Minn., read a paper on "A Study of 500 Cases of Prostatectomy." Discussed by Drs. Archibald MacLaren, St. Paul; Charles E. Barnett, Fort Wayne, Ind.; Granville MacGowan, Los Angeles; Charles D. Lockwood, Pasadena, Cal., and Edward S. Judd, Rochester, Minn.

Dr. James F. Mitchell, Washington, D. C., read a paper on "Sensibility of the Peritoneum and Abdominal Viscera." Discussed by Dr. W. Le Moyne Will, Los Angeles.

Thursday, June 29—Morning

Dr. Charles H. Mayo, Rochester, Minn., presented the report of the Executive Committee, nominating officers of the Section for the ensuing year, as follows: Chairman, Dr. Thomas W. Huntington, San Francisco; Vice-Chairman, Dr. George W. Guthrie, Wilkes-Barre, Pa.; Secretary, Dr. Fred T. Murphy, St. Louis; Delegate, Dr. H. A. Royster, Raleigh, N. C.; Orator, Dr. L. L. McArthur, Chicago. Motion made, seconded and unanimously carried, adopting the report and electing the nominees.

Dr. H. A. Royster moved a vote of thanks to the local committee. Motion seconded and unanimously carried.

Dr. A. F. Jonas, Omaha, read a paper on "Spinal Fractures." Discussed by Drs. H. W. Howard, Los Angeles; Stanley Stillman, San Francisco; C. P. Thomas, Los Angeles; Charles David Strong, San Bernardino, Cal.; Harvey Cushing, Baltimore, and A. F. Jonas, Omaha, Neb.

Dr. George W. Guthrie, Wilkes-Barre, Pa., read a paper on "Several Unusual Joint Cases; Their Treatment and the Results."

Discussion (including further discussion of papers by Mr. Stiles and Dr. Ely) by Drs. Harry M. Sherman, San Francisco, and S. T. Hunkin, San Francisco. Further discussion postponed until the conclusion of the reading of papers on fractures.

Dr. R. W. Corwin, Pueblo, Colo., read a paper on "Thirty Years' Experience with Fractures at Minnequa Hospital; Treatment and Results."

Dr. Robert T. Morris, New York, read a paper on "Pinning Fractures Through a Cannula with the Aid of the Fluoroscopic Screen."

Drs. Willard Bartlett and W. R. Hewitt, St. Louis, presented a paper on "Clinical and Experimental Work to Determine the Value of Lane's Plate in the Treatment of Fractures."

Dr. Edward Martin, Philadelphia, read a paper on "The Open Treatment of Fractures of the Shafts of the Long Bones." The five preceding papers were discussed by Drs. Rexwald Brown, Santa Barbara, Cal.; Herman E. Pearse, Kansas City, Mo.; Fred B. Lund, Boston; W. Le Moyne Wills, Los Angeles; William Fuller, Chicago; W. A. Mitchell, Colfax, Wash.; John Rogers, New York; Frank Warner, Columbus, Ohio, and R. W. Corwin, Pueblo, Colo.

Thomas W. Huntington, San Francisco, Chairman-Elect, was then presented to the Section and made remarks.

Dr. E. Wyllys Andrews, Chicago, read a paper on "New Mechanical Devices for Closing Wounds."

Thursday, June 29—Afternoon

Dr. John Rogers, New York, read a paper on "A Theory for the Pathologic Physiology Involved in Diseases of the Thyroid Gland and Its Therapeutic Application."

Dr. Martin B. Tinker, Ithaca, N. Y., read a paper on "Factors Influencing the Safety of Surgical Treatment for Goiter."

These two papers were discussed by Drs. A. J. Ochsner, Chicago; John Rogers, New York, and Martin B. Tinker, Ithaca, N. Y.

Dr. Stanley Stillman, San Francisco, read a paper on "Lymphangiomata of the Omentum and Omental Cysts." No discussion.

Dr. H. A. Royster, Raleigh, N. C., read a paper on "Tumors of the Mesenter." No discussion.

Dr. James E. Moore, Minneapolis, read a paper on "A Plea for Larger Incisions and More Thorough Examinations in Abdominal Surgery."

Dr. James M. Neff, Spokane, Wash., read a paper on "Surgery of the First Portion of the Subclavian Artery, with Report of a Case of Successful Ligation." Discussed by Dr. Robert C. Coffey, Portland, Ore.

Dr. Charles A. Powers, Denver, read a paper on "Woody Phlegmon of the Neck (Reclus)." Discussed by Dr. Frank Le Moyne Hupp, Wheeling, W. Va.

Dr. Cassius C. Rogers, Chicago, read a paper on "Brain Surgery." No discussion.

The Chairman, speaking for the Section and the officers, expressed "Great indebtedness for the services of Dr. William Le Moyne Wills, Dr. Ray Smith, Dr. C. W. Anderson and Dr. Edward F. Gillan, whose untiring labors have assisted us so much in the carrying out of this program." He also expressed "special appreciation of the services of your very efficient secretary, Dr. John T. Bottomly of Boston."

"Then, finally, I wish personally to express my deep appreciation of the kindly way in which you have overlooked the many shortcomings of the presiding officer."

A motion was then made, seconded and unanimously carried, closing the session of the Section on Surgery for the year.

SECTION ON OBSTETRICS AND GYNECOLOGY

Tuesday, June 27—Afternoon

The Section met in Berean Hall of the Baptist Auditorium and was called to order at 2 p. m. by the Chairman Dr. H. G. Wetherill of Denver.

Dr. Charles D. Lockwood of Pasadena read a paper on "Carcinoma of the Clitoris and Report of a Case." No discussion.

Dr. E. M. Lazard of Los Angeles read "Torsion of a Subserous Pedunculated Fibroid Complicating Pregnancy at Four and a Half Months. Operation; Recovery, with Delivery at Term." The paper was discussed by Dr. J. S. Baer of Camden, N. J.

A paper entitled "Adiposity of the Mammary Glands" by Dr. J. R. Guthrie of Dubuque, Ia., and Henry Albert of Iowa City, Ia., was read by Dr. Guthrie. No discussion.

Dr. A. E. Benjamin of Minneapolis read a paper entitled "The Exciting Causes, Means of Prevention and Early Treatment of Cancer of the Uterus." Discussion by Drs. J. S. Baer, Camden, N. J.; Arthur E. Hertzler, Kansas City, Mo.; John O. Polak, Brooklyn; Laura H. Branson, Iowa City; Charles D. Lockwood, Pasadena, Cal.; T. Mitchell Burns, Denver; James T. Reddick, Paducah, Ky.; R. C. Coffey, Portland, Ore.; Henry P. Newman, San Diego; Burke, Redlands; W. B. Dorsett, St. Louis, and A. E. Benjamin.

The Chairman appointed on the Executive Committee Drs. E. E. Montgomery, Philadelphia; Palmer Findlay, Omaha; Henry Parker Newman, San Diego, Cal.; J. H. Jacobson, Toledo, O.

Dr. Arthur E. Hertzler, Kansas City, Mo., read "Relation of Exophthalmic Goiter to Pelvic Disease" which was discussed by Dr. E. M. Lazard of Los Angeles.

Dr. T. M. Mitchell of Denver moved that a committee be appointed by the Section on Obstetrics and Gynecology on obstetric terminology, especially in reference to the anatomy, the bony pelvis, the pelvic floor, the reproductive organs and the fetal head. Seconded and carried.

Wednesday, June 28—Morning

The Chairman, Dr. Wetherill, called the Section to order at 9:30 and announced the following Committee on Obstetric Terminology: Drs. T. Mitchell Burns, Denver, Chairman; J. B. DeLee, Chicago; F. J. Taussig, St. Louis; George E. Piersol, University of Pennsylvania; J. Clifton Edgar, New York.

Dr. W. F. Braasch of Rochester, Minn., read "The Value of Pyelography," which was illustrated by lantern slides. The paper was discussed by Drs. E. E. Montgomery and H. G. Wetherill.

Dr. J. H. Jacobson and Dr. J. G. Keller of Toledo presented a paper on "Postoperative Urinary Retention and Cystitis," which was read by Dr. Jacobson.

Dr. M. L. Harris of Chicago read a paper on "Pericystitis."

These two papers were discussed by Drs. E. E. Montgomery, Philadelphia; W. R. P. Clark, San Francisco; W. B. Dorsett, St. Louis; A. E. Benjamin, Minneapolis; Jule B. Frankenheimer, San Francisco; J. H. Jacobson and M. L. Harris.

Wednesday, June 28—Afternoon

The Section was called to order at 2:20 by the Chairman.

Dr. W. B. Dorsett took the Chair and Dr. Wetherill gave the Chairman's Address entitled "Retrospection and Introspection: Our Opportunities and Obligations." No discussion.

Dr. Henry Parker Newman moved that a vote of thanks be extended to the retiring Chairman for his work and for his valuable address. Seconded and carried.

Dr. Philander A. Harris of Paterson, N. J., moved that the phase of the Chairman's Address bearing on the proposed change in the official name of the Section be referred to a committee which should report to, and if it were thought desirable, present resolutions to the House of Delegates. Seconded and carried.

Dr. Franklin H. Martin of Chicago read a paper on "Pathologic Kinks and Adhesions in the Terminal Portion of the Ileum." The paper was discussed by Drs. Dorsett, Hertzler, Louis J. Hirschmann of Detroit; C. E. Barnett, Ft. Wayne, and F. H. Martin.

Dr. Walter B. Dorsett of St. Louis contributed "Personal Observations in Treatment of One Hundred and Forty Consecutive Cases of Uterine Myoma." Discussion by Dr. Albert Goldspohn, Chicago; John Osborn Polak, Broowlyn, and W. B. Dorsett.

The Chairman introduced Mr. Harold Stiles of Edinburgh, who spoke (by invitation) on "Chloroform Toxemia." The subject was discussed by Dr. Grant of Portland and Mr. Stiles. A rising vote of appreciation of Mr. Stiles' address was given by the Section.

Dr. R. C. Coffey of Portland, Ore., read a paper on "The Surgical Treatment of Ptosis of Abdominal Organs by Hammock Operation." The paper was discussed by Drs. Benjamin, Goldspohn and Coffey.

The following Committee on the Chairman's Address was announced by Dr. Wetherill: Drs. Philander A. Harris, Paterson, N. J.; F. F. Simpson, Pittsburg, Pa.; C. Jeff Miller, New Orleans.

Thursday, June 29—Morning

The Section was called to order at 9:30 a. m. by the Chairman. The first item of business was the report of the Nominating Committee, as follows: for chairman, Dr. C. Jeff Miller, New Orleans; for Vice-Chairman, Dr. George B. Somers, San Francisco; for Secretary, Dr. F. F. Simpson, Pittsburg; for Member of House of Delegates, Dr. H. G. Wetherill, Denver. On motion, the ballot was cast and the nominees declared elected.

Dr. George B. Somers of San Francisco read a paper on "Operation of Choice in Cases of Ureterovaginal Prolapse in Elderly Women." The paper was discussed by Drs. Philander A. Harris, S. M. D. Clark of New Orleans, L. G. Bowers of Dayton, Frank P. Topping of San Francisco, and G. B. Somers.

Dr. Henry Parker Newman, San Diego, Cal., read "Special Considerations in the Surgical Treatment of the Female Pelvic Organs." The paper was discussed by Dr. White of Chicago and Dr. Newman.

Dr. L. G. Bowers of Dayton read "The Proper Operative Period and Methods of Drainage in Pelvic Infections."

Dr. Philander A. Harris, Paterson, N. J., read "The Employment in Abdominal Surgery of Two Rubber Drainage Tubes with a Single Stab Wound Exit, Instead of a Single Tube with Exit by Incision or Otherwise Wherever Drainage is Desired."

These two papers were discussed by Drs. Frank T. Andrews, L. G. Bowers and P. A. Harris.

Dr. F. F. Simpson of Pittsburg read a paper entitled "Postoperative Complications." No discussion.

Dr. John Osborn Polak of Brooklyn read "Two Years' Experience with Vaccine in Obstetric and Gynecologic Infections." Discussion by Drs. Andrews and Polak.

Dr. E. E. Montgomery read "Primary Carcinoma of the Fallopian Tube." No discussion.

Thursday, June 29—Afternoon

The Section was called to order by the Chairman at 2:15 p. m.

The report of the Committee on Chairman's Address was: "Resolved, That through the Representative of this Section we request the House of Delegates to make the following alteration in the By-Laws of the American Medical Association: Amend Book IV—Scientific Work—Chapter XII—Sections—Section I, Heading 3, to read as follows: 'Obstetrics, Gynecology and Abdominal Surgery.'" It was moved, seconded and carried that the report of the committee be adopted. [The request reached the House too late for action.]

Dr. Palmer Findlay of Omaha read a paper entiled "Prolapse of the Gravid Uterus." Discussion by Drs. Hertzler, Dorsett, Andrews and Findlay.

Dr. C. B. Ingraham read "Pernicious Vomiting of Pregnancy." Discussion by Drs. Polak of Brooklyn, Burns of Denver, Miller of New Orleans, Hassner of Utah, Darling of Boston, Andrews of Chicago, G. R. Neff of Farmington, Iowa, C. T. Palmer of Los Angeles, J. L. Lamb of Watts, Cal., and Ingraham.

Dr. Laura H. Branson of Iowa City read a paper entitled "A Study of Cholecystitis and Cholelithiasis in Their Relation to Pregnancy." Discussion by Drs. Findlay and Branson.

Dr. T. Mitchell Burns of Denver read "Cesarean Section; Indications and Technic; Report of Seventeen Cases." The paper was discussed by Drs. Polak and Burns.

The retiring Chairman expressed his appreciation of the cooperative work of the officers in the success of the meeting, and congratulated the Section on election of Drs. Miller and Simpson as Chairman and Secretary. He moved that a vote of thanks be given to Dr. H. Bert Ellis of Los Angeles and his Committee on Arrangements for their efficient cooperation in the work of the Association at large, and particularly to Dr. M. L. Moore and Carl Kurtz for their arrangements for the meeting of the Section on Obstetrics and Diseases of Women. Seconded. Carried.

SECTION ON OPHTHALMOLOGY

Tuesday, June 27—Afternoon

The Section on Ophthalmology convened in the Parish House of St. Paul's Church, Los Angeles, at 2 p. m., with the chairman, Dr. A. E. Bulson, Jr., Ft. Wayne, Ind., in the chair.

The secretary, Dr. Edgar S. Thomson, New York, introduced Dr. Bulson, who then read his Chairman's Address.

Secretary Thomson announced that as there were some suggestions and recommendations in the address, he deemed it proper that it be referred to a committee. Dr. William F. Mittendorf, New York, moved that a committee be appointed to take action on the recommendations in the chairman's address. Carried.

Dr. Adolf Alt, St. Louis, read a paper on "Healing of Iridectomy Wounds and Thoughts on Its Influence on Glaucoma." Discussed by Dr. Hiram Woods, Baltimore, and by Dr. Alt, St. Louis.

The chairman appointed the following committee on the chairman's address: Drs. William F. Mittendorf, New York; Hiram Woods, Baltimore, and Melville Black, Denver.

Dr. F. T. Rogers, Providence, R. I., read a paper on "The Significance of Non-Syphilitic Retinitis, Based on a Study of the Subsequent History of One Hundred and Eighty-Seven Cases." Discussed by Drs. W. H. Roberts, Pasadena, Cal., Melville Black, Denver; William F. Mittendorf, New York; F. B. Tiffany, Kansas City, Mo.; Hiram Woods, Baltimore, DeWitt C. Bryant, Omaha; William Zentmayer, Philadelphia, and F. T. Rogers, Providence, R. I.

Dr. Mark D. Stevenson, Akron, Ohio, read a paper on "The Treatment of Purulent Ophthalmia and Simple Means for Its Prevention in Infants." Discussed by Drs. G. C. Savage, Nashville, Tenn.; Adolf Alt, St. Louis; S. L. Ledbetter, Birmingham, Ala.; W. A. Briggs, Sacramento, Cal.; F. T. Rogers, Providence, R. I.; Samuel Z. Shope, Harrisburg, Pa.; H. W. Woodruff, Joilet, Ill.; William Zentmayer, Philadelphia; William F. Mittendorf, New York; D. W. Greene, Dayton, O.; E. S. Thomson, New York; Hiram Woods, Baltimore; F. B. Tiffany, Kansas City, Mo.; Sherman Voorhees, Elmira, N. Y.; James W. May, Kansas City, Kan.; F. Park Lewis, Buffalo; A. E. Bulson, Ft. Wayne, Ind., and Mark D. Stevenson.

Wednesday, June 28—Morning

Dr. J. A. Donovan, Butte, Mont., read a paper on "The Immediate Removal of Traumatic Cataracts." Discussed by Drs. Edward Jackson, Denver; Oscar Dodd, Chicago; W. R. Johnson, Spokane, Wash.; John E. Weeks, New York; W. E. Lambert, New York; E. S. Thomson, New York, and J. A. Donovan.

The committee appointed Tuesday afternoon to report on the Chairman's Address reported as follows:

REPORT OF COMMITTEE ON CHAIRMAN'S ADDRESS

Your committee appointed to report on the Chairman's Address respectfully submit the following: We endorse all the recommendations of the Chairman pertaining to the program. We think that young men who are doing original work should be encouraged to present the results of their work to the Section, and as a means to that end we would suggest that the officers of the Section learn who these men are through trusted members of the Section in the different localities.

We heartily endorse the recommendation for the creation of postgraduate courses in our medical schools, requiring one full year of work, both clinical and didactic, leading to the degree of doctor of ophthalmology.

The presence of a distinguished foreign guest is always desirable, but is to be encouraged when the conditions are favorable. Such invitations should not be indiscriminately distributed.

We recommend that the Knapp Testimonial Fund be encouraged by widespread contributions. The design for the medal as shown is approved.

On motion of Dr. Edward Jackson of Denver the report was adopted as read.

The Chairman, in the absence of the members of the regular Executive Committee, appointed three ex-chairmen of the Section as follows: Dr. G. C. Savage, Nashville; Dr. Edward Jackson, Denver, and Dr. John E. Weeks, New York. The Chairman instructed the members of the Executive Committee that a vice-chairman was to be selected and also an alternate delegate in addition to the other officers of the Section.

Dr. D. W. Greene, Dayton, Ohio, read a paper on "The Medical Treatment of the Patient Before and After Cataract Extraction." Discussed by Dr. William F. Mittendorf, New York; F. T. Rogers, Providence, R. I.; G. C. Savage, Nashville, Tenn.; W. H. Woodruff, Joilet, Ill.; F. P. Calhoun, Atlanta, Ga., and D. W. Greene.

Dr. Vard H. Hulen, Houston, Texas, read a paper on "Vacuum Fixation of the Lens and Flap Suture in the Extraction of Cataract in Its Capsule." Discussed by Drs. G. C. Savage, Nashville; D. W. Greene, Dayton; George E. Bellows, Kansas City; John E. Weeks, New York; Mark D. Stevenson, Akron, Ohio; Melville Black, Denver; James W. May, Kansas City, Kan.; Edward Jackson, Denver; Frederick Stauffer, Salt Lake City; William F. Mittendorf, New York, and Vard H. Hulen.

Dr. F. Park Lewis, Buffalo, read a paper on "Intra-Ocular Neoplasms, with Report of Five Cases." Discussed by Drs. G. C. Savage, Nashville; William F. Mittendorf, New York; Edward Jackson, Denver; Adolf Alt, St. Louis; Hiram Woods, Baltimore; J. A. Donovan, Butte; W. H. Roberts, Pasadena; William Zentmayer, Philadelphia; Carl S. G. Nagel, San Francisco; Thomas J. McCoy, Los Angeles; Archibald A. Macleish, Los Angeles; DeWitt C. Bryant, Omaha; A. E. Bulson, Jr., Ft. Wayne; John E. Weeks, New York; E. S. Thomson, New York, and F. Park Lewis.

Wednesday, June 28—Afternoon

Dr. Harvey Cushing, Baltimore, read a paper on "Distortion of the Visual Fields Observed in a Series of 200 Cases of Brain Tumor." Discussed by Drs. Sherman Voorhees, Elmira, N. Y.; Hiram Woods, Baltimore; Walter S. Franklin, San Francisco; John E. Weeks, New York; Arthur C. Thorpe, Los Angeles and Harvey Cushing.

Dr. Sherman Voorhees, Elmira, N. Y., read a paper on "Report of Nine Cases of Brain Tumor, with Remarks." Discussed by Drs. A. L. Macleish, Los Angeles, Harvey Cushing, Baltimore, and Sherman Voorhees.

Dr. Edward Jackson, Denver, read a paper on "The Optometry Question." At the conclusion of his paper, he read and moved the adoption of resolutions which were unanimously adopted and referred to the House of Delegates [and were later approved by that body, as appears in the minutes of the House of Delegates, The Journal, July 8, 1911, p. 141].

In the absence of Dr. John C. Bossidy, Boston, Chairman of the Section Committee on Optometry, the Secretary was instructed to read the report of that committee, as follows:

REPORT OF THE COMMITTEE ON OPTOMETRY

The Committee on Optometry, appointed by the Section on Ophthalmology of the American Medical Association, report that they prepared a history of optometry and optometry schools, and of the working of optometry laws; that such matter was published in the *Bulletin of the American Medical Association*, Nov. 15, 1910, and was distributed in various states where optometry legislation was sought during the current year.

Bills to legalize the practice of optometry were introduced in sixteen states. Oklahoma and New Hampshire passed such bills, as the medical profession did not arise in active opposition. In all other states (notably in Texas, Missouri, South Carolina, Alabama, Illinois, Ohio, Colorado, Pennsylvania, New Jersey, Connecticut) the opticians met active opposition and failed in their efforts.

In 1912, legislatures will convene in Georgia, Mississippi, Kentucky, South Carolina, Louisiana, Virginia, New Jersey, Massachusetts and Maryland. If the medical profession intends to oppose the further extension of such legislation, an early and active campaign should be instituted.

John C. Bossidy, M.D.
James Thorington, M.D.
Committee on Optometry.

The report was accepted.

Dr. Jackson's paper and resolutions were discussed by Drs. W. E. Lambert, New York; Samuel Voorhees, Elmira, N. Y.; W. H. Roberts, Pasadena; F. Park Lewis, Buffalo; J. A. Donovan, Butte; Melville Black, Denver; M. W. Ward, Woodland, Cal.; H. S. Miles, Bridgeport, Conn; Hiram Woods, Baltimore; S. L. Ledbetter, Birmingham, Ala.; J. H. McLeod, Santa Rosa, Cal., and Edward Jackson, Denver.

Drs. Oscar Dodd and Francis A. Lane, Chicago, presented a paper on "Tuberculous Cyclitis, Following Non-Perforating Injury to the Eye." Discussed by Drs. B. F. Church, Redlands; John E. Weeks, New York; J. A. Donovan, Butte, and Oscar Dodd.

Thursday, June 29—Morning

The following instruments and appliances were exhibited and described:

Dr. J. N. Risley, Philadelphia, exhibited an electric headlight for diagnostic purposes. The principal advantage in the light was that it was placed parallel with the eyes without any reflection.

Dr. Risley also exhibited a modification of the Wurdemann transilluminator, with different points in addition to the ocular illumination. It was simply an extension of the dark rod which permitted its being carried intranasally and allowed of complete transillumination in any direction.

Dr. F. B. Tiffany, Kansas City, exhibited an iridotomy instrument. "The instrument of Noyes wabbles when one attempts to make it cut; not only that, but it cuts with the lower blade and in making the cut in the iris you may strike the cornea. The improved instrument has an alligator blade, cutting on the upper side, with a firm hold. The iris is stabbed with the lower blade and the cutting is done with the upper with no danger of injuring the cornea. It is on the same plan as the Hartmann instrument for the nose and ear."

Dr. W. H. Roberts, Pasadena, exhibited a writing board invented by a patient which may be used by the blind or by any one in the dark. The board has a guide for the hand, so arranged that the line across the pad can be followed without watching the paper.

Dr. H. W. Woodruff, Joliet, Ill., exhibited two instruments useful in performing the tucking operation. One instrument was for the purpose of inserting the sutures and was similar to an aneurysm needle but on a smaller scale. They were made right and left. The other instrument was for measuring the amount of deviation in the eye and comparing it with the amount of tucking to be made. There was a graduated arc on the reverse side of the instrument graduated in millimeters, and a little catch similar to the stops on an ophthalmoscope.

Dr. Melville Black, Denver, read a paper on "The Venous Pulse and Blanching of the Retinal Vessels Induced by Making Pressure on the Eye-Ball an Index to the General Blood-Pressure." Discussed by Drs. H. S. Miles, Bridgeport, Conn.; Edward Jackson, Denver, and Melville Black.

Dr. Hiram Woods, Baltimore, read a paper on "Subhyaloid and Vitreous Hemorrhages." Discussed by Drs. W. H. Roberts, Pasadena; Adolf Alt, St. Louis; Melville Black, Denver; Edward Jackson, Denver; William F. Mittendorf, New York; Carl S. G. Nagel, San Francisco; H. W. Woodruff, Joliet, Ill.; C. D. Wescott, Chicago; F. T. Rogers, Providence; Marcus C. Findley, Grant's Pass, Ore.; John E. Weeks, New York; A. E. Bulson, Jr., Ft. Wayne; William Zentmayer, Philadelphia; E. S. Thomson, New York; William Mittendorf, New York, and Hiram Woods.

No member of the Committee on Collective Investigation Concerning the Ocular Muscles being present a report was not made, and on motion the committee was continued and the report carried over for another year.

Dr. G. C. Savage, Nashville: "Mr. Chairman, I do not wish to speak against the motion, but simply rise to a question of personal privilege. It is not my disposition to take advantage of any man or situation. It was suspected when this report was made that the battle royal would be fought out on the Pacific Coast. I am willing to give the boys another chance. But I want to say that it was possible that this report would be presented and as I couldn't take more than five minutes' time in the discussion I made a little publication which has already gone into the hands of many of you. If the writer of that letter is alive one year hence he will be prepared to defend everything he has said."

The motion carried and the committee was continued.

Dr. D. W. Greene, Dayton, explained that no members of the committee to report on the Smith-Indian cataract operation, of which he was chairman, except himself and Dr. Edward Jackson were present, and they were not ready to report. He therefore moved that the committee be continued for another year and that the chair appoint five additional members of the committee, from among men who had been in India and seen the Smith operation. He named men who had visited India. The Chairman insisted that the new members of the committee must be members of the Section. Dr. G. C. Savage therefore offered a substitute for Dr. Greene's motion to the effect that the committee be continued and that the members be authorized to add five to their number from the active members of the Section. The substitute motion was accepted and adopted by the Section.

Dr. H. W. Woodruff, Joliet, Ill., read a paper on "Shortening of an Ocular Muscle by Tucking." Discussed by Drs. G. C. Savage, Nashville; F. B. Tiffany, Kansas City, Mo.; Vard H. Hulen, Houston, Texas; Edward Jackson, Denver; James W. May, Kansas City, Kan.; C. D. Wescott, Chicago; William Zentmayer, Philadelphia; Oscar Dodd, Chicago; E. W. Alexander, San Francisco; Robert W. Miller, Los Angeles, and H. W. Woodruff.

Dr. G. C. Savage, Nashville, read a paper on "The Ocular Conjugate and Fusion Brain Centers; Only Two Axes of Ocular Rotations, and Only Two Planes of Reference." Discussed by Drs. Melville Black, Denver; Hiram Woods, Baltimore, and G. C. Savage.

Thursday, June 29—Afternoon

The Executive Committee recommended the following officers for the ensuing year: Chairman, Dr. Adolf Alt, St. Louis; Vice-Chairman, D. F. T. Rogers, Providence, R. I.; Secretary, Dr. Edgar S. Thomson, New York; Delegate, Dr. Hiram Woods, Baltimore, and Alternate, Dr. John A. Donovan, Butte, Montana.

On motion the report was received and unanimously approved by the Section.

Dr. F. Phinizy Calhoun, Atlanta, Ga., read a paper on "Plastic Surgery of the Eyelids, Using the Wolffe Graft." Discussed by Drs. John E. Weeks, New York; F. B. Tiffany, Kansas City, Mo.; William Zentmayer, Philadelphia; W. E. Lambert, New York, and F. P. Calhoun.

Dr. William Zentmayer, Philadelphia, read a paper on "Changes Occurring in the Refraction of Corrected Ametropic Eyes." Discussed by Drs. W. E. Lambert, New York; C. D. Westcott, Chicago; G. C. Savage, Nashville; F. T. Rogers, Providence, R. I.; Mark D. Stevenson, Akron, Ohio.; Hiram Woods, Baltimore; Albert E. Bulson, Jr., Ft. Wayne, Ind., and William Zentmayer.

Drs. Cassius D. Westcott and John B. Ellis, Chicago, presented a paper on "Refraction Changes in Diabetes." Discussed by Drs. William Zentmayer and C. D. Westcott.

Dr. S. L. Ledbetter, Birmingham, Ala., read a paper on "The Psychologic Aspect of Refraction." Discussed by Drs. G. C. Savage, Nashville; William Mittendorf, New York; C. D. Wescott, Chicago; Mark D. Stevenson, Akron, Ohio; Edgar S. Thomson, New York; W. E. Lambert, New York, and S. L. Ledbetter.

The Chairman, Dr. Bulson, expressed his appreciation of the manner in which he had been supported and treated by the Section throughout his eight years of service, first as Secretary and then as Chairman of the Section, and also expressed his appreciation and that of the Section for the arrangements and the entertainment at the present meeting extended by the members and the profession of Los Angeles, California and the Pacific Coast.

On motion of Dr. G. C. Savage a formal vote of thanks was extended to the profession of Los Angeles and California and the Pacific Coast for their efforts in making the meeting a success. He also included in his motion the thanks of the Section to Dr. Bulson for his eight years of service to the Section in the interest of ophthalmology.

On motion of Dr. G. C. Savage the names of the members of the Section who had died during the previous year were read. Tribute was paid to Dr. A. W. Calhoun of Atlanta by Dr. G. C. Savage. Dr. C. J. Kipp was spoken of by Dr. William F. Mittendorf; Dr. L. Connor of Detroit by Dr. A. E. Bulson, Jr.; Dr. A. R. Baker of Cleveland by Dr. Mark D. Stevenson; Dr. Herman Knapp, New York, by Dr. John E. Weeks; Dr. C. A. Oliver of Philadelphia by Dr. William Zentmayer; Dr. C. S. Bull of New York by Dr. Edgar S. Thomson, and Dr. Henry Gradle of Chicago by Dr. C. D. Wescott.

SECTION ON LARYNGOLOGY AND OTOLOGY

Tuesday, June 27—Afternoon

The Chairman, Dr. Dunbar Roy, Atlanta, Ga., called the meeting to order at 2:15 p. m., in the Parish House of St. Paul's Church.

The Chairman announced that Dr. Shambaugh, the Secretary of the Section, was sick at home with typhoid fever. "This is a great disappointment, for Dr. Shambaugh's spirit lends enthusiasm to a meeting. Dr. Shambaugh being absent, I have taken the privilege of appointing Dr. B. R. Shurly of Detroit, Secretary for this session."

Dr. Dunbar Roy, Atlanta, Ga., delivered the Chairman's Address.

Dr. J. F. Barnhill, Indianapolis, addressed the chair as follows: "We have with us Dr. Hugo Frey of Vienna, Austria, who is well known to many of you. I move that the privileges of this floor be extended to Dr. Frey during the session." Seconded. Carried unanimously. Dr. Barnhill: "I move that our secretary pro tem. be instructed to send a lettergram to our worthy secretary, who is sick at home with typhoid fever and unable to be present. Such action would be a privilege and pleasure to us all." Seconded and unanimously passed.

Dr. E. S. Bullock, Silver City, N. Mex., read a paper on "Observations on Tuberculosis in the Southwest."

The Chairman appointed the following Executive Committee: Drs. J. F. Barnhill, Indianapolis; J. H. Bryan, San Francisco, and H. Hastings, Los Angeles. Dr. W. H. Roberts, of Pasadena, Cal., was appointed representative to the House of Delegates.

Dr. Bullock's paper was discussed by Drs. A. H. Andrews, B. R. Carpenter, T. B. Wright, G. B. Webb, B. R. Shurly, A. H. Schermann and E. S. Bullock.

Dr. E. C. Sewall, San Francisco, read a paper on "Histologic Examination of the Faucial Tonsils with Reference to Tuberculosis." Discussed by Dr. Emerson.

Wednesday, June 28—Morning

Demonstration of instruments by Dr. Perry Schoonmaker, New York. "A Newly Modified and Improved Bronchoscope and Its Use in Diagnosis and Treatment of Morbid and Pathological Conditions of the Respiratory and Gustatory Tract." Discussed by Dr. Henry Horn, San Francisco.

Presentation of instrument by Dr. Julius Szymanski, Chicago. "Additional Help Toward Removal of the Tonsils."

Presentation of instrument by Dr. Cullen F. Welty, San Francisco.

Presentation of instrument by Dr. Eugene R. Carpenter, El Paso, Tex. "Tonsil Knife and Dissector." Discussed by Dr. Mark Stevenson and Dr. Emerson.

Presentation of instrument by Dr. Perry Schoonmaker, New York, "Universal Douche Syringe."

Dr. Hugo Frey, Vienna, Austria, read a paper on "Salvarsan Treatment in Its Relation to the Ear." Discussed by Drs. B. R. Shurly, John Adams, P. Schoonmaker, S. Voorhees, Lyle and Frey.

The following invitation was read: "The Eye and Ear Section of the County Medical Society requests your presence at lunch on Wednesday and Thursday, at the California and University clubs." This was accepted by the Section with appreciation.

Dr. B. R. Shurly, Detroit, read a paper entitled: "A Discussion of the Various Pathologic Conditions Involving the Frontal Sinus."

Dr. Henry Horn, San Francisco, read a paper on "Some Lessons Drawn from a Series of Twenty-Eight Cases of Operation on the Sinuses."

The papers of the symposium were discussed by Drs. E. C. Sewall, H. B. Graham, C. F. Welty, S. Voorhees, J. F. Barnhill, W. R. Murray, Frank L. Dennis, B. D. Lustig, J. R. Fletcher, W. E. Briggs, B. R. Shurly and Henry Horn.

Dr. J. R. Fletcher, Chicago, read a paper on "The Recognition of a Serous Labyrinthitis." Discussed by Drs. H. Frey, A. H. Andrews, C. F. Welty, W. P. Eagleton, H. B. Graham and J. R. Fletcher.

Wednesday, June 28—Afternoon

The report of the committee with reference to the deaf child was read by the secretary. The Chairman explained that this committee has been reporting to the Section from year to year what it has been able to accomplish, especially along educational lines. This syllabus has been sent out, hoping that the faculties may be guided by it and that the students may receive some instruction in reference to the care of the deaf child.

It was moved that the report be accepted and that the committee be continued. The motion was seconded with the suggestion that the committee be allowed to add new members, if they see fit. This suggestion was accepted, and the motion passed unanimously.

Some large photographs of microscopic sections were presented by Dr. Carpenter, along the line of Dr. Frey's address.

Dr. Mark D. Stevenson, Akron, O., read a paper on "A Nasal Rubber Tampon."

Symposium on the "Relations of the Nasal Accessory Sinuses and Diseases of the Eye."

Dr. W. E. Sauer, St. Louis, read a paper on "The Anatomic Conditions Which Have a Bearing On the Relation Between the Diseases of the Eye and the Diseases of the Accessory Sinuses."

Dr. A. H. Andrews, Chicago, read a paper on "Eye Complications Arising From Diseases of the Nasal Accessory Sinuses."

Dr. J. H. Bryan, Washington, D. C., read a paper on "Operative Treatment of Suppurative Sinus Diseases Producing Orbital Complications."

The papers of the symposium were discussed by Drs. C. F. Welty, P. Schoonmaker, G. J. Lund, Emerson, A. L. Kelsey, Andrews and Bryan.

Dr. Sherman Voorhees, Elmira, N. Y., read a paper on "Report of Primary Infection of Bulb Sinus and Jugular in a Woman of 56 Years." Discussed by Drs. J. F. Barnhill, W. E. Saner, P. Schoonmaker, M. D. Stevenson, W. P. Eagleton and S. Voorhees.

Thursday, June 29—Morning

Presentation of instruments by Dr. E. C. Sewall, San Francisco.

The Executive Committee reported the following nominations: Chairman, Dr. George E. Shambaugh, Chicago; Vice-Chairman, Dr. F. P. Emerson, Boston, and Secretary, Dr. Burt Russel Shurly, Detroit.

On separate motions, these officers were declared unanimously elected. Cries for speech elicited the following remarks:

Vice-Chairman Emerson: Gentlemen: "I certainly appreciate the honor, and I will try to do my best during the coming year. I thank you very much."

Secretary Shurly: "I have a very difficult task before me, I am sure, to keep up the reputation and standards of this Section. Dr. Shambaugh has so thoroughly organized and so carefully prepared the work of this Section from year to year, that I feel he will be a very great help in directing me in my new office. We shall endeavor to make it just as interesting and valuable as possible, and try to keep the standards as high as they have been, so that this may continue to be one of the best sections, and the best gathering for the development and study of our specialty in any country in the world."

Dr. Cullen F. Welty, San Francisco, read a paper on "Improved Technic of the Thiersch Graft Following the Radical Ear Operation. Discussed by Drs. H. Frey, H. B. Graham, H. Horn, J. F. Barnhill, M. W. Fredrick, F. Stauffer, E. C. Sewall, and C. F. Welty.

Dr. H. B. Graham, San Francisco, read a paper on "The Diagnosis of Retro-Labyrinth Affections." Discussed by Drs. H. Frey, C. F. Welty and Graham.

Symposium on the "Relations Between Middle-Ear Diseases and Conditions in the Nose and Throat."

Dr. James J. Pattee, Pueblo. Colo., read a paper on "The Influence of Climate on Middle-Ear Diseases and Their Predisposing Causes."

Dr. William R. Murray, Minneapolis, read a paper on "How Far May Conditions in the Nose and Throat be Responsible for Middle-Ear Diseases?"

Dr. J. F. Barnhill, Indianapolis, read a paper on "What Improvement Can Rationally be Expected from Treatment Applied to the Nose and Throat in Cases of Middle-Ear Deafness?"

The papers of the symposium were discussed by Drs. F. P. Emerson, E. L. Jones, A. L. Kelsey, F. Stauffer, Murray and J. F. Barnhill.

Dr. F. P. Emerson, Boston: "The success of these meetings is due largely to two factors. One is the excellent executive work of the officers in getting up the program. The other is the excellent work of the local men. I know you will all join with me in a vote of thanks to the local men, for their cordial and hospitable treatment of us while here." The motion was seconded and unanimously passed by a rising vote.

Dr. J. F. Barnhill, Indianapolis: "The Executive Committee, after consultation with many of the members of the Section, wish to nominate Dr. Hugo Frey, for presentation to the House of Delegates, for election as an honorary member of the American Medical Association." (Applause.) The nomination was unanimously concurred in by the Section. [The nomination failed to come before the House, however.]

Following his nomination for honorary membership, Dr. Hugo Frey of Vienna, Austria, said: "This is such an honor as I could scarcely have expected. I have appreciated the honor and pleasure of being here. As president of the Austrian Otologic Society, I take the pleasure of bringing to the Chairman and the Executive Committee and all the members the best regards of our officers and members, and to invite you, as soon and as often as you can, to visit us and to take part in our proceedings. And I hope to give you as good a welcome as we can, but we could not extend to you better hospitality than I have enjoyed here. I thank you very much."

SECTION ON DISEASES OF CHILDREN

Tuesday, June 27—Afternoon

The meeting was called to order at 2:20 p. m. by the Chairman, Dr. S. M. Hamill, Philadelphia.

In the absence of Dr. E. E. Graham, Philadelphia, member of the Executive Committee, the Chairman appointed Dr. W. W. Butterworth to fill the vacancy.

Dr. S. M. Hamill, Philadelphia, read the Chairman's Address on "The Opportunities of the Pediatrist in the Prevention of Death and Diseases in Early Life."

Dr. Richard R. Smith, Grand Rapids, Mich., read a paper on "A Study of Children in Reference to Enteroptosis." Discussed by Drs. W. J. Butler, Chicago, and I. A. Abt, Chicago.

On motion, Dr. Frank Allin, of Chicago, was granted permission to read a paper not on the program.

Dr. Thomas S. Southworth, New York, read a paper on "The Institutional Care of Young Infants." Discussed by Drs. Gustavus Eliot, New Haven; J. W. Cokenower, Des Doines; Langley Porter, San Francisco; I. A. Abt, Chicago; W. W. Butterworth, New Orleans; T. C. McCleave, Berkeley; R. B. Tubbs, Council Bluffs; Jessie M. McGavin, Portland; W. V. C. Francis, Los Angeles, and T. S. Southworth.

Dr. Frank Allin, Chicago, read a paper on "The Baby Tents in Chicago." Discussed by Drs. J. P. Sedgwick, Minneapolis; May Michaels, Chicago, and Frank Allin.

Wednesday, June 28—Morning

Dr. I. A. Abt, Chicago, read a paper on "The Influence of Summer Heat on the Production of Gastro-Intestinal Diseases of Infants." Discussed by Drs. John W. Foss, Phoenix, Ariz.; C. L. Magee, Los Angeles; M. A. Weems, Columbia, Tex.; W. V. C. Francis, Los Angeles; Frank P. Gengenbach, Denver; Frances M. Allen, San Diego; W. W. Butterworth, New Orleans; L. T. Royster, Norfolk, Va., and I. A. Abt.

Dr. W. W. Butterworth, New Orleans, read a paper on "A Statistical Investigation Relative to the Influence of Various Methods of Infant-Feeding on the Morbidity and Mortality of Infants, Occurring in New Orleans, from August 1, 1909, to July 31, 1910."

Dr. F. C. Neff, Kansas City, Mo., read a paper on "Recent Experiences in the Artificial Feeding on 100 Infants During the First Three Months of Life."

These two papers were discussed by Drs. Thomas S. Southworth, New York; J. R. McLaren, Oakland; M. Dranga, San Diego; Langley Porter, San Francisco; J. P. Sedgwick, Minneapolis; R. B. Tubbs, Council Bluffs; A. L. Tilton, Kingman, Ariz.; L. R. DeBuys, New Orleans; I. A. Abt, Chicago; L. T. Royster, Norfolk; W. V. C. Francis, Los Angeles; C. L. Magee, Los Angeles; W. W. Butterworth and F. C. Neff.

Drs. J. P. Sedwick and F. W. Schultz, Minneapolis, read a paper on "Relationship of Gastric to Pancreatic Fat Digestion in Infants." Discussed by Dr. S. M. Hamill.

Wednesday, June 28—Afternoon

Dr. Philip King Brown, San Francisco, read a paper on "The Neurotic Basis of Juvenile Delinquency, Based on Some Special Cases of the San Francisco Juvenile Court." Discussed by Drs. John A. Colliver, Los Angeles; L. T. Royster, Norfolk, Va.; F. R. Branham, San Diego, Cal.; D. S. Hanson, Ohio, and P. K. Brown.

Dr. Langley Porter, San Francisco, read a paper on "A Consideration of Obstructions at the Pylorus Occurring in Infants." Discussed by Drs. W. W. Butterworth, New Orleans, and L. Porter.

Dr. L. Porter read a paper written by Dr. E. C. Fleischner, San Francisco, on "The Relation of Meat Ingestion to Indicanuria in Childhood." Discussed by Dr. J. P. Sedgwick, Minneapolis, and Dr. Porter.

As Dr. Butterworth desired to be relieved from duty on the Executive Committee, the Chairman appointed Dr. Frank P. Gengenbach, Denver, to fill the vacancy.

The Section was invited to be present at an autopsy in a case of congenital atresia of the common bile duct.

Thursday, June 29—Morning

Dr. J. W. Cokenower, Des Moines, Ia., read a paper on "Rachitis in Its Early Stages." Discussed by Dr. Elizabeth Follansbee, Los Angeles, and Dr. Cokenower.

The Executive Committee presented the following nominations as a majority report: Chairman, Dr. I. A. Abt, Chicago; Vice-Chairman, Dr. L. T. Royster, Norfolk, Va.; Secretary, Dr. J. P. Sedgwick, Minneapolis, and Delegate, Dr. William Hollopeter, Philadelphia. Moved by Dr. Southworth, and seconded, that the Secretary be empowered to cast the ballot of the Section for these officers.

It was moved and seconded that the minority be allowed to present a report. Motion was lost.

The motion of Dr. Southworth was voted on and carried.

Dr. William J. Butler, Chicago, read a paper on "Report on Brain Cases in Children." Discussed by Dr. C. C. Rogers, Chicago, and Dr. Butler.

The Section adjourned at 10:15 to meet with the Section on Practice of Medicine in the afternoon. [For papers read, see the minutes of the latter Section given on a preceding page.]

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Tuesday, June 27, Afternoon

The Chairman, Dr. Lawrence Litchfield, Pittsburg, called the meeting to order at 2:30 p. m., in Walker Hall.

Dr. Litchfield delivered his address on "Some Considerations on the Treatment of the Arithritides." No discussion.

The Chairman stated that the Secretary of the Section, Mr. M. I. Wilbert, Washington, D. C., would not be present during the meeting and he appointed Dr. A. C. Crawford, Stanford University, Cal., to act as Secretary.

Dr. Crawford then read the report of the Secretary, also an application for pharmaceutical membership by Professor J. A. Koch, of Pittsburg.

The application was approved by the Section and referred to the House of Delegates for action.

A motion was then made by Dr. A. C. Crawford, and carried, according the privileges of the floor to the delegate from the American Pharmaceutical Association, Prof. Albert Schneider, San Francisco, as well as to members of the pharmaceutical and medical professions, not members of the Section, present during the sessions.

Professor Albert Schneider, San Francisco, delivered the address of the Delegation from the American Pharmaceutical Association.

On motions, the paper of Dr. Fussell and the Report of the Committee on the United States Pharmacopeia were ordered read before the discussion on the communication from the American Pharmaceutical Association.

Dr. M. H. Fussell, Philadelphia, in the absence of the Chairman of the Committee, Dr. Reid Hunt, Washington, D. C., who was in attendance on the House of Delegates, read the Report of the Committee on the United States Pharmacopeia.

In the absence of Dr. David L. Edsall, Philadelphia, the Chairman appointed Dr. F. E. Stewart, Philadelphia, a member of the Executive Committee.

Dr. M. H. Fussell, Philadelphia, read a paper entitled, "Some of the Dangers of Certain Ethical Proprietary Preparations to both Physicians and Public."

Dr. Reid Hunt, Washington, D. C., called attention to a circular which had been sent by the Committee on Useful Remedies of the Council on Pharmacy and Chemistry to teachers of pharmacology, therapeutics, etc., in medical colleges and to members of state medical examining boards. The circular asked for aid in compiling a list of important medicaments.

Dr. F. E. Stewart, Philadelphia, made a motion that the Chairman appoint a committee to consider the recommendations offered in the address of Professor Schneider, to be laid before the House of Delegates for action. Carried. The Chairman appointed as the committee to act on this, Drs. M. H. Fussell, Philadelphia; Reid Hunt, Washington, D. C., and F. E. Stewart, Philadelphia.

The reports and the paper were discussed by Drs. Oliver T. Osborne, New Haven, Conn.; Theodore G. Davis, Los Angeles; F. E. Stewart, Philadelphia; Reid Hunt, Washington, D. C.; Joseph M. King, Los Angeles; Mr. Lightheart, Sacramento, Cal., and Dr. M. H. Fussell, Philadelphia.

Dr. F. E. Stewart presented resolutions on trademarks and on radio-active waters, which were approved by the Section on Pharmacology and Therapeutics and later by the House of Delegates. [See The Journal, July 8, page 137.]

Dr. A. C. Crawford, Stanford University, Cal., read a paper on "Pressor Principle of Our Eastern Mistletoe." Discussed by Dr. Reid Hunt, Washington, D. C., and Dr. Crawford.

Dr. L. G. Visscher, Los Angeles, read a paper on "The Treatment of Chronic Hypertension." Discussed by Drs. Joseph M. King, Los Angeles; L. Duncan Bulkley, New York; William B. Snow, New York, and Dr. Visscher.

Wednesday, June 28, Morning

The Chairman appointed Dr. R. L. Wilbur, San Francisco, Acting Secretary.

Drs. H. D. Arnold and Ralph C. Larrabee, Boston, presented a paper on "The Purin Content of Common Articles of Food."

Drs. A. C. Reed and George B. Wallace, New York, presented a paper on "Uric Acid and Purin Metabolism."

These papers were discussed by Drs. Theodore G. Davis, Los Angeles; L. Duncan Bulkley, New York; Lawrence Litchfield, Pittsburg, and H. B. Arnold.

Dr. F. E. Stewart, Philadelphia, presented the report of the Committee appointed to consider the recommendations in the Address of Delegation from American Pharmaceutical Association. This was approved and referred to the House of Delegates [which approved it. See The Journal, July 8].

Dr. Reid Hunt, Washington, D. C., read a paper on "Experiments on the Relation of Thyroid to Diet." Discussed by Dr. Theodore G. Davis, Los Angeles.

SYMPOSIUM ON HOOKWORM DISEASE

Dr. Reid Hunt, Washington, D. C., read the paper prepared by Dr. W. H. Schultz, Washington, D. C., on "Relative Efficiency, as Compared with Thymol, of Certain Proposed Remedies for Hookworm Disease."

Dr. E. E. Endicott, Jackson, Cal., read a paper on "Hookworm Infection in the Deep Gold Mines of California."

Dr. Herbert Gunn, San Francisco, read a paper on "Hookworm Disease."

These papers were discussed by Drs. T. G. Davis, Los Angeles; Herbert Gunn, San Francisco; John W. Colbert, Albuquerque, N. Mex.; H. R. Olliver, San Francisco; J. H. Rosenkrans, Hoboken, N. J.; Reid Hunt, Washington, D. C., and E. E. Endicott, Jackson, Cal.

Wednesday, June 28, Afternoon

Dr. Emile Schmoll, San Francisco, read a paper on "The Relative Value of Physical and Functional Signs in the Management of Failing Circulation."

Dr. A. W. Hewlett, Ann Arbor, Mich., read a paper on "The Relation of Cardiac Irregularities to Treatment."

Dr. W. W. Kerr, San Francisco, read a paper on "Some Factors in the Treatment of Myocardial Lesions"

Dr. R. L. Wilbur, in the absence of the author, Dr. Worth Hale, Washington, D. C., read a paper on "The Effect of the Digestive Secretions on the Activity of Digitalis and Allied Drugs."

Dr. R. L. Wilbur, San Francisco, read a paper on "Some Relations of the Nervous Mechanism of the Heart to Drug Effects as Indicated by Experiments on the Terrapin."

These papers were discussed by Drs. W. B. Snow, New York; Emile Schmoll; Boardman Reed, Alhambra, Cal.; A. W. Hewlett, Ann Arbor, Mich., and Ray L. Wilbur, San Francisco.

Dr. Theodore G. Davis, Los Angeles, gave a demonstration of a new method of isolating hematin and bile acids from the urine and of the application of Torquay's test.

Thursday, June 29—Morning

The Chairman, Dr. Lawrence Litchfield, Pittsburg, appointed Dr. F. M. Pottenger, Monrovia, Cal., Acting Secretary.

Dr. M. H. Fussell, Philadelphia, on behalf of the Nominating Committee nominated the following as the officers of the Section for the coming year: Chairman, Dr. Torald Sollmann, Chicago; Vice-Chairman, R. L. Wilbur, San Francisco; Secretary, Mr. M. I. Wilbert, Washington, D. C., and Delegate, Dr. Reid Hunt, Washington, D. C.

On motion duly seconded and carried the Secretary was instructed to cast a ballot for the nominees, which was done and the officers declared elected.

Dr. J. O. Hirschfelder, San Francisco, read a paper on "The Use of Salvarsan."

Drs. Howard Fox and William B. Trimble, New York, presented a paper on "Further Experience with Salvarsan at the New York Skin and Cancer Hospital."

Dr. Ray W. Matson, Portland, Ore., read a paper on "The Influence of Salvarsan and Mercury on the Wassermann Reaction."

These papers were discussed by Drs. D. W. Montgomery, San Francisco; H. R. Olliver, San Francisco; M. H. Fussell, Philadelphia; L. Duncan Bulkley, New York; W. P. Murray, Caliente, Nevada; J. O. Hirschfelder, San Francisco; Howard Fox, New York, and Ray W. Matson, Portland, Ore.

Dr. Alexander Lambert, New York, read a paper on "The Use of the Different Salicylates in Rheumatism." No discussion.

Dr. Max Rothschild, San Francisco, read a paper on "The Treatment of Hemoptysis in Pulmonary Tuberculosis."

Dr. W. Jarvis Barlow, Los Angeles, read a paper on "Climate in the Treatment of Pulmonary Tuberculosis."

Dr. E. S. Bullock, Silver City, N. Mex., read a paper on "The Hypodermic Use of Citrate of Iron in Secondary Anemias."

These papers were discussed by Drs. George H. Evans, San Francisco; Dr. W. C. Voorsanger, San Francisco; John W. Foss, N. Mex.; C. A. Reinemund, El Paso, Tex.; Max Rothschild, and W. Jarvis Barlow.

Thursday, June 29—Afternoon

Dr. Gerald B. Webb and G. Burton Gilbert, Colorado Springs, Colo., presented a paper on "Specific Tissue Inoculation of Vaccines." Discussed by Drs. D. W. Montgomery, San Francisco, and G. B. Webb.

Dr. F. M. Pottenger, Monrovia, Cal., read a paper on "Difficulties Encountered in the Therapeutic Use of Tuberculin." Discussed by Drs. George H. Evans, San Francisco; Walter Brem, Cristobal, Canal Zone; Ritter, Chicago; Edward von Adelung, Oakland, Cal.; W. C. Voorsanger, San Francisco; Charles O. Probst, Columbus, O.; George A. Hare, Fresno, Cal.; Max Rothschild, San Francisco; J. S. Trewella, Los Angeles; J. E. Pottenger, Monrovia, Cal.; M. P. Ravenel, Madison, Wis.; R. A. Peers, Colfax, Cal.; Gerald Webb, Colorado Springs, Colo.; F. E. Stewart, Philadelphia, and F. M. Pottenger.

Dr. Charles A. Shepard, Needles, Cal., read a paper on "The Production of Immunity in Tuberculosis by Intravenous Injection of Tuberculin." Discussed by Drs. Max Rothschild, San Francisco; F. M. Pottenger, Monrovia, Cal.; Edward von Adelung, Oakland, Cal.; Gerald B. Webb, Colorado Springs, Colo., and C. A. Shepard.

Dr. L. Duncan Bulkley, New York, read a paper on "Report on One Hundred and Thirty Cases of Psoriasis in Private Practice on a Strictly Vegetarian Diet." Discussed by Drs. D. W. Montgomery, San Francisco; David Paulson, Hinsdale, Ill.; J. S. Trewella, Los Angeles; Lawrence Litchfield, Pittsburg, and L. D. Bulkley.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Tuesday, June 27—Afternoon

The meeting was called to order by the Chairman, Dr. Yandell Henderson, New Haven, Conn.

Drs. W. B. Cannon, Boston, and H. Gideon Wells, Chicago, were appointed a Committee on Nominations for officers for the coming year.

The Chairman stated that a number of applications for associate membership in the Association had been secured by officers of the Section. The Secretary read the names, and it was moved and carried that they be presented by the Delegate of the Section to the House of Delegates for election.

The Chairman, Dr. Yandell Henderson, read his address, entitled: "Clinical Physiology—An Opportunity and a Duty." Discussed by Drs. W. H. Cannon, Boston, and William H. Welch, Baltimore.

Drs. Cannon and Washman presented a paper on "The Nature of Hunger." No discussion.

A paper entitled: "The Relation of Specific Precipitation to the Reaction of Fixation," by Dr. Frederick R. Gay, Berkeley, Cal., was presented by Dr. G. Y. Rush, of the same place. Discussed by Dr. H. G. Wells, Chicago.

Dr. H. Gideon Wells, Chicago, read a paper on "Studies on Specificity." Discussed by Dr. Yandell Henderson, New Haven, Conn.

With the formal consent of the Section, Dr. W. T. Councilman, Boston, described a case of tuberculosis in an aneurysm. Discussed by Drs. W. H. Welch, Baltimore, and H. G. Wells, Chicago.

Dr. Jessie B. Hudson, Iowa, read a paper on "Bacteriology of the Ear." Discussed by Drs. W. H. Welch and Y. Henderson.

Wednesday, June 28—Morning

Dr. Halden Jones, Los Angeles, read a paper on "Photogenic Bacteria." Discussed by Dr. Yandell Henderson, New Haven, Conn.

Dr. Leonard W. Ely, Denver, read a paper on "Observations on the Pathology of Joint Tuberculosis, with Lantern Slide Demonstration." No discussion.

Dr. J. F. Hultgen, Chicago, read a paper on "The Splenic Anemias." No discussion.

Dr. J. G. Van Zwaluwenburg, Ann Arbor, Mich., read a paper on "Heart Block." Discussed by Drs. A. W. Hewlett, Michigan, and Yandell Henderson, Connecticut.

Dr. W. D. Gatch, Baltimore, read a paper on "The Use of Rebreathing in the Administration of Anesthetics and as a Therapeutic Measure." Discussed by Dr. Yandell Henderson, Connecticut.

Dr. Gerald B. Webb, Colorado Springs, read a paper on "Immunity in Tuberculosis. Its Production in Monkeys and Children." Discussed by Drs. E. S. Bullock, New Mexico; J. F. Hultgen, Chicago; Roy E. Thomas, Arizona; E. R. Le Count, Chicago; M. P. Ravenel, Wisconsin; L. B. Wilson, Minnesota, and G. B. Webb.

Dr. E. R. Le Count, Chicago, read a paper on "Bone Hyperplasia and Tumor of Bone." No discussion.

Wednesday, June 28—Afternoon

A paper on "The Pathogenesis of Balantidium Coli," by Dr. Fred B. Bowman, Manila, was presented by Dr. W. E. Musgrave, Manila. No discussion.

Dr. W. Ophuls, San Francisco, read a paper on "Subacute and Chronic Nephritis as Found in 1,000 Unselected Post-Mortem Examinations." Discussed by Drs. Leo Loeb, St. Louis, and W. Ophuls.

Dr. Samuel T. Darling, Ancon Hospital, read a paper on "Verruca Peruana." No discussion.

Dr. Glanville Y. Rusk, Berkley, Cal., read a paper on "Report of a Case of Diffuse Cerebral Sclerosis Occurring in Infancy." No discussion.

Drs. Howard T. Karsner and J. H. Austin, Philadelphia, presented a paper on "A Study of Experimental Bland Infarction." No discussion.

Dr. L. B. Stookey, Los Angeles, read a paper on "Some Urinary Findings in Eclampsia." Discussed by Dr. H. G. Wells, Chicago.

Dr. R. L. Thompson, St. Louis, read a paper on "The Influence of the Thyroid Gland on the Healing of Fractures." No discussion.

Dr. W. Warner Watkins, Phoenix, Ariz., read a paper on "The White Cells in Tuberculosis." Discussed by Drs. G. B. Webb, Colorado; Y. Henderson, Connecticut; J. T. Hultgen, Chicago, and F. M. Pottenger, California.

Thursday, June 29—Morning

The first order of business was the election of officers for the ensuing year. The Chairman called for the report of the Nominating Committee and the following officers were unanimously elected: Chairman, Dr. Leo Loeb, St. Louis; Vice-Chairman, Dr. William Ophuls, San Francisco; Secretary, Dr. A. W. Hewlett, Ann Arbor, Mich.; Delegate, Dr. E. R. Le Count, Chicago; Alternate, Dr. Yandell Henderson, New Haven, Conn.; Executive Committee, Drs. W. P. Rosenau, H. G. Wells and Yandell Henderson.

SECTION ON NERVOUS AND MENTAL DISEASES

Tuesday, June 27—Afternoon

The meeting was called to order by Dr. William A. Jones, of Minneapolis, Chairman.

Dr. H. G. Brainerd, of Los Angeles, invited the members of the Section to a Spanish dinner to be given at Casa Verdugo at 6:30 p. m. of this date.

In the absence of the permanent secretary, the chairman appointed Dr. Andrew William Hoisholt temporary secretary during the Section's work.

Dr. H. G. Brainerd, of Los Angeles, took the chair while the chairman read a clinical paper on "Resection of the Posterior Routes of the Spinal Cord." The paper was discussed by Drs. Harold N. Moyer, Chicago; W. W. Graves, St. Louis; Abrams, San Francisco, and E. D. Fisher, New York.

At the request of Dr. T. D. Crothers, who was obliged to leave the meeting, his paper on "Some Distinct Neuropsychoses Common to All Cases of Inebriety and Alcoholism" was read by title, which the chairman announced was in accordance with the By-Laws.

Dr. Charles Lewis Allen, Los Angeles, read a paper on "Arthritic Muscular Atrophy, Clinical and Experimental," which was not discussed.

A paper on "Resuscitation After Prolonged Artificial Respiration During Operations for Cerebellar Tumor," was read by Dr. Harvey Cushing, Baltimore. This paper was discussed by Drs. Fisher of New York and Graves of St. Louis.

Dr. Harold N. Moyer, of Chicago, made a summary of his paper entitled "A Hitherto Undescribed Symptom in Paralysis Agitans," which was discussed by Drs. J. H. McBride, Pasadena; Graves, St. Louis; Fisher, New York, and Moyer.

Dr. E. D. Fisher read a paper on "Differential Points in Tabes and General Paresis," which was discussed by Drs. Woodson, St. Joseph, Mo.; Moline, Denver; Hoisholt, Moody and Fisher.

On acount of the absence of the Executive Committee, the chair appointed Dr. Ross Moore, Los Angeles, Dr. Harold N. Moyer, Chicago, and Dr. Edward D. Fisher, New York.

Wednesday, June 28—Morning

Dr. G. Y. Rusk, Berkeley, Cal., read a paper on "Blastomycosis." Discussed by Dr. Moyer and Dr. Graves.

Dr. Henry Herbert presented a patient suffering with hyperhidrosis universalis. Dr. Herbert stated the history and symptoms, and the patient was examined. Discussed by Drs. Fisher, Oettinger and Moline, of Denver; Murphy, of Kansas City, and Herbert.

Dr. W. W. Graves, St. Louis, read a paper on "The Recognition of Syphilis," which was discussed by Drs. Burnett and Robinson, of Kansas City, and Dr. Graves.

Dr. Ross Moore, Los Angeles, read a paper on "The Recognition of the Pre-Neurasthenic and Pre-Insane Condition in the Young with Reference to Prevention," which was discussed by Drs. T. J. Orbison, Los Angeles; Robinson, Kansas City; Allen, Los Angeles; Woodson, St. Joseph, Mo.; Dorsey, Sonoma County, Cal.; Crosby, Oakland; Louise Patterson, Vineland, N. J.; Oettinger, Denver; Gundry, Baltimore, and Ross Moore.

Dr. Thomas J. Orbison, Los Angeles, read a paper on "The Training Camp Idea in the Treatment of Neurasthenia and Allied Functional Nervous Diseases." This was discussed by Drs. Woodson, Gundry, Case and Orbison.

The Chairman appointed the following as a Nominating Committee: Dr. H. G. Brainerd, Los Angeles; Dr. S. G. Burnett, Kansas City, and Dr. W. E. Dold, New York.

Wednesday, June 28—Afternoon

A paper on "The Diagnosis and Prognosis of the Unfit" was read by Dr. Louise Patterson, Vineland, N. J., which was discussed by Drs. Harold N. Moyer, Chicago; John W. Robertson, Livermore, Cal.; E. W. Moores, Boston, and A. W. Hoisholt, Stockton, Cal.

The next paper on the program was the substitute paper by Dr. Robert Perry Smith, Washington, "Multiple Neuritis, with Paralysis of the Hypoglossal Nerve."

Dr. A. W. Hoisholt, Stockton, Cal., read his paper on "Korsakow's Psychosis and the Amnestic Symptom-Complex, with a Report of Three Cases."

These two papers were discussed by Dr. David S. Booth, St. Louis, and Dr. S. Grover Burnett, Kansas City.

Dr. Daniel Crosby, Fruitvale, Cal., read the next paper on "The Problem of State Care of Drug and Alcohol Habitues."

A paper was read by Dr. George E. Pettey on "Chronic Alcoholism: What Can and What Cannot be Accomplished by Treatment."

These two papers were discussed by Drs. S. Grover Burnett, Kansas City; A. W. Hoisholt, H. G. Brainerd, Los Angeles; Ross Moore, Los Angeles; G. H. Moody, San Antonio, Tex., and Robertson, Livermore, Cal.

The report of the nominating committee was read and adopted as follows: For the next chairman, Dr. Edward D. Fisher, New York City; vice-chairman, Dr. G. H. Moody, San Antonio, Tex.; delegate, Dr. W. A. Jones, Minneapolis. The secretary holds over for three years.

Dr. Pettey then made a motion that the attention of the House of Delegates be called to the matter of passing a resolution or taking some action in regard to the labeling of alcoholic and opium drugs. The motion was seconded and carried.

After a short speech of thanks by the Chairman the section adjourned.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

Tuesday, June 27—Afternoon

Dr. Norman Bridge, Los Angeles, called the meeting to order, and, in the absence of Dr. W. A. Evans, Chicago, Chairman, was elected Chairman on motion of Dr. Oscar Dowling, Shreveport, La. By motion of Dr. Dowling, also, and in absence of Dr. C. Hampson Jones, Baltimore, Secretary, Miss Agnes Morris, New Orleans, was elected Secretary.

In absence of Dr. W. A. Evans, Chicago, Chairman Bridge read the former's Chairman's Address and Oration on State Medicine.

Dr. T. R. Crowder gave abstract of paper in manuscript prepared by himself, Dr. J. A. Denny and Dr. C. A. Schroyer, all of Chicago, entitled "Ventilation of Cars." Discussed by Dr. J. G. Holmes, Alamogordo, N. Mex.; Dr. Liston H. Montgomery, Chicago, and Dr. T. R. Crowder, Chicago.

Dr. F. Park Lewis, Buffalo, N. Y., delivered an address on "Prevention of Ophthalma Neonatorum." Discussed by Drs. G. T. Schwartz, Providence, R. I.; F. Park Lewis, Buffalo, N. Y., and H. M. Bracken, St. Paul. In accordance with a suggestion in the paper that a committee be appointed for the formulation of a standard law for the prevention of ophthalmia neonatorum to be recommended for adoption by the House of Delegates, and in accordance with a motion, Chairman Bridge appointed Dr. G. T. Schwartz, Providence, R. I., chairman, with request to select two other members of this Section as the committee.

Dr. H. M. Bracken, St. Paul, read a paper on "Control of Small-Pox in Rural Districts and in Cities of a Hundred Thousand Population or less." Discussed by Drs. E. Stuver, Fort Collins, Colo.; J. N. Hurty, Indianapolis, and H. M. Bracken, St. Paul, Minn.

On motion by Dr. H. M. Bracken, St. Paul, duly seconded and carried, the Chairman appointed a Nominating Committee of three to report at 9 a. m., June 29, 1911, namely, Drs. J. N. Hurty, Indianapolis; Oscar Dowling, Shreveport, La., and W. C. Gorgas.

On motion of Dr. Liston H. Montgomery, Chicago, the Section decided to refer to the House of Delegates, with favorable recommendation, a resolution providing a new clause in the Principles of Medical Ethics which was presented by Dr. H. M. Bracken, St. Paul. [The House did not act on the suggestion. The wording proposed was printed in The Journal, July 8, 1911, page 141.] Dr. M. P. Ravenel, Madison, Wis., read the report of the Committee on Standard Methods of Procedure for the Control and Prevention of Tuberculosis, by himself and Dr. John R. Moore, of the Bureau of Animal Industry in Washington. An amendment was proposed by Dr. H. M. Bracken, St. Paul, Minn., that the qualifying word "guarded" be inserted in said report before the word "indemnity," and was carried; and, thus amended, the report, on motion of Dr. Ravenel, was ordered referred, with favorable recommendation, to the House of Delegates.

Dr. J. N. Hurty, Indianapolis, read the report of the Committee on State Methods of Public Education in Hygiene, prepared by himelf and Dr. W. F. Snow, Sacramento, Cal., and Dr. Oscar Dowling, Shreveport, La. This report was discussed by Drs. W. F. Snow, Sacramento, Cal.; Frances M. Greene, Cambridge, Mass.; William C. Woodward, Washington, D. C.; Oscar Dowling, Shreveport, La., and George A. Hare, Fresno, Cal

Wednesday, June 28—Morning

At the Chairman's request, the stenographer read a paper on "Control of Venereal Disease by a Municipality," by Dr. Guy L. Kiefer, Detroit, and Dr. George M. Kober, Washington, D. C.

Dr. George L. Eton, San Francisco, read a paper on "Prophylaxis of Venereal Disease in Large Cities."

Dr. Frances M. Greene, Cambridge, Mass., read a paper on "The Reportability of Syphilis and Gonorrhea."

These three papers on venereal diseases were discussed by Drs. Herbert Gunn, San Francisco; Frances M. Greene, Cambridge, Mass.; W. F. Snow, Sacramento, Cal.; E. Stuver, Fort Collins, Colo., and S. A. Knopf, New York.

The Chairman, in view of the importance of the matter appointed Drs. L. M. Powers, Los Angeles; Frances M. Greene, Cambridge, Mass., and William F. Snow, Sacramento, Cal., as a committee to consider the three papers just read and to formulate a resolution on venereal diseases and report it for presentation to the House of Delegates.

Dr. D. W. Graham, Chicago, read a paper on "Disinfectants," by Drs. W. E. Post and H. K. Nicoll, Chicago. Discussed by Drs. F. O. Tonney, Philadelphia, and D. W. Graham, Chicago. On motion of Dr. Graham, duly seconded, the paper was referred to the Council on Pharmacy and Chemistry, with a view to the appointment of a commission on standardization of disinfectants.

Dr. C. C. Browning, Monrovia, Cal., read a paper on "Houses for Working Men;" by Drs. C. C. Browning, Monrovia; G. H. Kress, Los Angeles, and C. B. Ball, Chicago. No discussion.

Dr. W. C. Woodward, Washington, D. C., read a paper on "Methods for Controlling Diphtheria," by Drs. C. Hampson Jones, Baltimore; M. L. Price, Baltimore, and W. C. Woodward, Washington, D. C. He then read his comments showing points wherein he differed from the majority of the committee. Discussed by Dr. L. M. Powers, Los Angeles.

The Chairman read a paper on "Pasteurization of Milk." by Drs. P. G. Heinemann and E. O. Jordan, Chicago. Discussed by Drs. L. M. Powers, Los Angeles and W. C. Woodward, Washington, D. C.

Wednesday, June 28—Afternoon

Dr. Norman Bridge, Los Angeles, read a paper on "Typhoid Fever," by Drs. L. L. Lumsden and W. C. Rucker, Washington, D. C., and A. W. Freeman, Richmond, Va. Discussed by Drs. Norman Bridge, Los Angeles, and Rupert Blue, San Francisco.

Dr. Rupert Blue, San Francisco, read a paper on "Methods for Control of Plague."

In connection with said paper Chairman Bridge read a report of the committee, composed of Drs. Rupert Blue, San Francisco; W. F. Snow, Sacramento, Cal., and Elmer E. Heg, Seattle, Wash.

These two papers were discussed by Drs. George E. Abbott, Pasadena, Cal.; J. W. Kerr, Washington, D. C.; Elmer E. Heg, Seattle, and N. K. Foster, Oakland, Cal.

The Chairman read the report of the committee, on the three papers on venereal disease. The report was referred to the House of Delegates. [The text of the report was published July 8.]

The Section voted unanimously to send, as proposed by Chairman Bridge, to Dr. W. A. Evans at Ann Arbor, Mich., the following dispatch: "The members of the Section on Preventive Medicine and Public Health of the American Medical Association now in session here send you their joy and congratulations on your elevation to the degree of doctor of public health and would felicitate also the university on its recognition of your merits and your work."

Dr. E. S. Godfrey, Phoenix, Ariz., read a paper on "Laws and Methods for Control of Tuberculosis in a Resort State," prepared by Drs. E. S. Godfrey, Phoenix, Ariz., and T. Y. Hull, San Antonio, Tex. Discussed by Drs. Henry B. Stehman, Pasadena, Cal.; Norman Bridge, Los Angeles, and G. H. Sumner.

Chairman Bridge read a paper on "Controlling Hydrophobia in the Human Subject," by Dr. A. M. Stimson, Washington, D. C. Discussed by Drs. Norman Bridge, Los Angeles, and Calvin S. White, Oregon.

Thursday, June 29, Morning

The Chairman, declaring the Executive Committee short one member, appointed Dr. Elmer E. Heg, Seattle.

Dr. J. N. Hurty, Indianapolis, Chairman of Committee on Nominations, read a report making the following recommendations: For Chairman, Surgeon Rupert Blue, San Francisco; Vice-Chairman, Dr. Rosalie Slaughter Morton, New York; Secretary, Dr. C. Hampson Jones, Baltimore. On motion of Dr.

Liston H. Montgomery, Chicago, this report was unanimously adopted.

Dr. George L. Leslie, Los Angeles, read a paper on "Physical Examination of School Children." This paper was discussed by Drs. Norman Bridge, Los Angeles, and Liston H. Montgomery, Chicago.

Dr. E. C. Beach, Los Angeles, read his and Dr. E. B. Hoag's (Pasadena, Cal.) joint paper as a constituent of that falling under the title: "Physical Examination of School Children."

On motion of Dr. George L. Leslie, seconded by Dr. E. C. Beach, both of Los Angeles, Dr. W. A. Evans, Chicago, and Dr. R. L. Wilbur, Executive Head of the Medical Department of Stanford University, were made a committee of two to confer with a committee of the National Educational Association meeting in San Francisco, commencing July 8, to formulate and make effective the proposition for educational hygiene and medical inspection of schools.

Dr. F. O. Tonney, Chicago, read a paper on "Throat Culture Methods."

Dr. Oscar Dowling, Shreveport, La., introduced a statement which he desired sent to the House of Delegates, recommending that definite instruction be given to the public in the importance of a pure milk supply and the necessity for effective supervision to obtain the same; that the score card of the official daily instructors' association be adopted as the standard in the scoring of dairies; that the tuberculin test be required, and that legislation be urged to make effective the provisions named above. On motion, this was ordered referred to the House of Delegates.

Dr. Harley E. MacDonald, Los Angeles, delivered an address on "Blood-Pressure and Its Bearing on Public Health." Discussed by Drs. Liston H. Montgomery, Chicago, Norman Bridge and Harley E. MacDonald, both of Los Angeles.

Dr. Rosalie Slaughter Morton, New York, read a paper on "Woman's Place in the Public Health Movement." Discussed by Dr. William H. Welch, Baltimore; F. Park Lewis, Buffalo, N. Y.; Drs. Frances M. Greene, Cambridge, Mass.; Liston H. Montgomery, Chicago; Gage Day, Kingston, N. Y.; Rosalie S. Morton, and Norman Bridge, Los Angeles.

Dr. William H. Welch, Baltimore, presented a letter from Dr. Richard P. Strong, head of the Biologic Division of the U. S. Government Laboratories in Manila, in reference to Dr. Strong's work in collaboration with representatives from other governments in the matter of the investigation and control of the plague in Manchuria; Dr. Welch then presented a paper by Dr. Strong and the latter's assistant, Dr. Teague, on "Methods of Infection in Pneumococcic Plague."

The Chairman called attention of the Committee on Nominations to their omission to nominate a representative from the Section to the House of Delegates, and requested that nomination be supplied at the afternoon session.

Dr. Rosalie Slaughter Morton, New York, presented a resolution to refer her paper to the Council on Medical Education. Dr. William H. Welch, Baltimore, seconded the resolution, which was adopted.

Thursday, June 29, Afternoon

The Chairman read the following telegram from Dr. W. A. Evans, Chicago, in response to the Section's telegram addressed to him at Ann Arbor, Mich., congratulating him on reception of his degree as Doctor of Public Health. "Thanks for your courtesy. Thanks for your hard work for the Section."

At the Chairman's request, the stenographer read a paper on "Legal Principles of Police Power," by Dr. W. A. Evans, Chicago, whereupon the Chairman briefly adverted to minority reports: one from Dr. Hemenway, and another from Judge Harry Olson of Chicago, which papers he stated he had in his possession.

The Chairman gave extracts from a paper on "Purification of Sewage," by Mr. Rudolph Hering, New York.

The Chairman summarized a paper on "Ventilation of Schoolrooms," by the Chicago Commission of Ventilation: Dr. Edson, Dr. Tonney, Mr. Lewis and others.

The Chairman presented a nomination from Committee on Nominations for representative to the House of Delegates, namely, Dr. W. A. Evans, Chicago, which nomination, on motion of Dr. Liston H. Montgomery, Chicago, was accepted, and the Secretary instructed to cast the ballot of the Section for the nominee.

The Chairman called attention to the failure of the Committee on Nominations to present an Alternate Delegate; Dr. Frank B. Wynn, Indianapolis, nominated Dr. L. M. Powers, Health Officer, Los Angeles. The Chairman declared, "It is moved, then, that the Section instruct the Secretary to cast the unanimous ballot of the Section for Dr. L. M. Powers for Alternate Member of the House of Delegates."

Dr. Liston H. Montgomery, Chicago, inquired if the Committee on Nominations should not bring in a nomination for the Oration on State Medicine, and at the instance of the Chairman, nominated Dr. Rupert Blue, Section Chairman-Elect, for said oration, which nomination was duly seconded and carried.

The Chairman then presented to the Section its future Chairman and Orator on State Medicine, "Dr. Rupert Blue, of San Francisco, but particularly of the United States of America." who made an appropriate response.

Mr. William Mulholland, Chief Engineer of the Water Bureau of Los Angeles, delivered an address on "The Water Supply of the City of Los Angeles, Present and Future," which was discussed by Dr. Norman Bridge, Los Angeles.

Dr. Frank B. Wynn, Indianapolis, read a paper on "Public Exhibits for Permanent Installation," which was discussed by Drs. A. J. Read, Battle Creek, Mich.; E. Stuver, Ft. Collins, Colo., and S. A. Knopf, New York.

Dr. G. H. Sumner, of the Iowa State Board of Health, moved that the report of the Committee on Throat Cultures be referred to the Council on Health and Public Instruction, and that as the work is as yet incomplete, the committee be continued and authorized to conduct further investigation during the ensuing year. Carried.

Dr. Frank B. Wynn, Indianapolis, and Dr. F. E. Abbott, Los Angeles, then discussed the former's paper mentioned before in this report.

The Chairman gave an abstract of a paper on "Control of Drinking-Water," by Dr. Walter Forrest Dutton, Carnegie, Pa.

At the request of Chairman-Elect Blue, who had been called to the Chair, the stenographer read extracts from a paper on "Advisability of Government Medical Control of the Hygienic Factors of the Waters of the Great Lakes," by Dr. G. E. Fell, Buffalo, N. Y. Discussed by Dr. Liston H. Montgomery, Chicago.

Chairman Blue read extracts from a paper on "Infantile Paralysis: Methods for Its Control," by Drs. W. H. Frost, Washington, D. C., and S. G. Dixon, Harrisburg, Pa. Discussed by Dr. G. H. Sumner.

At the request of Chairman Blue, the stenographer read extracts from a paper on "Control of Contagion Through Doctors and Nurses," by Drs. Heman Spalding, J. D. Rawlings and H. Cohen, Chicago.

On motion of Dr. L. M. Powers, Los Angeles, for adjournment, Chairman Blue declared the Section adjourned *sine die.*

THE REGISTRATION AT LOS ANGELES

List of Members who Registered at the Los Angeles Session, June, 1911

The total registration at the Los Angeles session was 2,153.

In addition to the names of members given below, a few others registered whose names are not given. These have not yet completed their membership, some having been subscribers only who sought membership without making the formal application or fulfilling the other requirements of the Constitution and By-Laws.

Below are given two summaries, one by sections and one by states.

REGISTRATION BY SECTIONS

Practice of Medicine	622
Surgery	594
Obstetrics and Gynecology	180
Ophthalmology	127
Laryngology, Otology and Rhinology	101
Diseases of Children	82
Pharmacology and Therapeutics	31
Pathology and Physiology	39
Stomatology	8
Nervous and Mental Diseases	98
Dermatology	27
Preventive Medicine and Public Health	112
Genito-Urinary Diseases	18
Hospitals (new section, just created by House of Delegates)	0
Registered without specifying any one Section	85

REGISTRATION BY STATES

Alabama	6	Indiana	63
Arizona	34	Iowa	55
Arkansas	11	Kansas	35
California	997	Kentucky	20
Colorado	48	Louisiana	21
Connecticut	8	Maine	1
District of Columbia	21	Maryland	18
Florida	3	Massachusetts	26
Georgia	4	Michigan	25
Idaho	4	Minnesota	45
Illinois	162	Mississippi	5

Missouri	4
Montana	10
Nebraska	30
Nevada	12
New Hampshire	3
New Jersey	19
New Mexico	14
New York	74
North Carolina	4
North Dakota	4
Ohio	60
Oklahoma	11
Oregon	22
Pennsylvania	67
Rhode Island	4
South Carolina	3
South Dakota	9
Tennessee	12
Texas	48
Utah	24
Vermont	2
Virginia	7
Washington	22
West Virginia	10
Wisconsin	31
Wyoming	1
Hawaiian Islands	1
Canal Zone	1
Porto Rico	1
Manila	1
Mexico	1

Surgery

Abbott, Frank F., National City, Cal.
Abbott, Geo. K., Loma Linda, Cal.
Adams, J. C., Superior, Wis.
Adams, Lemuel P., Oakland, Cal.
Adler, Sr., Lewis H., Philadelphia.
Ainsworth, F. K., San Francisco.
Alden, Eliot, Los Angeles.
Alderson, M. E., Russellville, Ky.
Alderson, S. P., Russellville, Ky.
Allaben, John E., Rockford, Ill.
Allen, Alfred G., Deadwood, S. Dak.
Andrews, E. Wyllys, Chicago.
Allen, S. H., Salt Lake City, Utah.
Anderson, Chas. W., Los Angeles.
Anderson, J. Howard, Marytown, W. Va.
Andrews, Howard, Hollywood, Cal.
Anton, Francis L., Los Angeles.
Appel, Theodore B., Lancaster, Pa.
Bacon, D. N., Ontario, Cal.
Bacon, John E., Miami, Ariz.
Baird, Alvin W., Portland, Ore.
Baldwin, Sam'l C., Salt Lake City, Utah.
Ball, C. D., Santa Ana, Cal.
Ball, W. A., Wanette, Okla.
Ballard, W. R., Bay City, Mich.
Barbat, J. Henry, San Francisco.
Barkley, A. H., Lexington, Ky.
Barnett, Chas. E., Ft. Wayne, Ind.
Barr, H. A., Beaumont, Tex.
Bartlett, Willard, St. Louis.
Bartero, H. P., Los Angeles.
Batchelor, Wm. A., Milwaukee, Wis.
Beckett, W. W., Los Angeles.
Becton, Joe, Greenville, Tex.
Beebe, J. L., Anaheim, Cal.
Beede, S. C., David City, Neb.
Bell, H. D., Oakland, Cal.
Berry, Andrew J., Los Angeles.
Bevan, Arthur Dean, Chicago.
Biggs, M. D., Bowling Green, Mo.
Blanchar, W. O., Grand Rapids, Wis.
Bottomley, John T., Boston
Boulter, J. H., Detroit.
Bowen, A. B., Maquoketa, Iowa.
Bowers, Chas. E., Wichita, Kan.
Bowles, Frank H., Oakland, Cal.
Bowman, L. D., Jamestown, N. Y.
Boyes, Joseph H., Hebron, Neb.
Bradley, W. J., Cedar Rapids, Ia.
Branch, J. S., Elizabeth, La.
Brewer, George E., New York.
Bruin, M. R., Strasburg, Va.
Bristow, A. T., Brooklyn.
Broughton, G. A., Los Angeles.
Brown, David C., Danbury, Conn.
Brown, Harry L., Washington, D. C.
Brown, Ira E., Kelvin, Ariz.
Brown, N. J., Tehachapi, Cal.
Brown, Rexwald, Santa Barbara, Cal.
Brown, W. L., El Paso, Tex.
Bryant, Ernest O., Los Angeles.
Buchanan, R. E., Independence, Iowa.
Buck, S. C., Grinnell, Iowa.
Burke, Alex. W., Bos Obispo, C. Z.
Burks, Floyd L. R., Fresno, Cal.
Burke, W. B., Redlands, Cal.
Burlew, J. M., Santa Ana, Cal.
Burlingame, D. E., Elgin, Ill.
Buteau, S. H., Oakland, Cal.
Byington, F. S., Los Angeles.
Byrne, John I., St. Joseph, Mo.
Cabot, Hugh, Boston.
Cahill, L. L., Springer, N. Mex.
Caldwell, J. A., Salisbury, N. C.
Campbell, G. E., Pasadena, Cal.
Cantrell, C. H., Greenville, Tex.
Carpenter, Estella, Yerington, Nev.
Carpenter, H. L., Goldroad, Ariz.
Carrington, P. M., Port Townsend, Wash.
Carter, Martin G., San Leandco, Cal.
Carter, W. E., Los Angeles.
Cather, E. J., Loring, La.
Caven, C. L., San Diego, Cal.
Caylor, Chas. E., Penville, Ind.
Chaffin, R. C., Los Angeles.
Champion, J. A., Colton, Cal.
Christenson, C. R., Starbuck, Minn.
Christie, R. J., Quincy, Ill.
Clapper, Wm. L., St. Louis.
Clark, Vernon G., San Diego, Cal
Clark, W. A., San Leandro, Cal.
Clemons, E. Jay, Aberdeen, S. Dak.
Coblentz, L. B., Santa Maria, Cal.
Cochran, Guy, Los Angeles, Cal.
Coffey, R. C., Portland, Ore.
Coffey, Walter B., San Francisco.
Colbert, John W., Albuquerque, N. Mex.
Coleman, J. E., Canton, Ill.
Collins, Clifford U., Peoria, Ill.
Collins, F. K., Philadelphia.
Colloran, J. Edgar, Los Angeles.
Compton, Geo. W., San Diego, Cal.
Conner, Milton C., Middletown, N. Y.
Connolly, T. W., San Francisco.
Conwell, Wm., Neligh, Neb.
Cook, E. J., Los Angeles.
Cook, George J., Indianapolis.
Cook, L. H., Bluffton, Ind.
Cooke, A. B., Nashville, Tenn.
Cooney, H. C., Princeton, Minn.
Cooper, O. O., Hinton, W. Va.
Corwin, R. W., Pueblo, Colo.
Cottrell, E. L., Scotia, Cal.
Craig, Alex. R., Chicago.
Craig, R. W., Phoenix, Ariz.
Craig, William H., Upland, Cal.
Crile, George W., Cleveland.
Criley, C. Holmes, Los Angeles.
Critchlow, Jno. F., Salt Lake City.
Crowder, Thomas R., Chicago.
Crowley, D. D., Oakland, Cal.
Culvertson, N. W., Massillon, O.
Cunningham, John G., Spokane, Wash.
Cushing, Harvey, Baltimore.
Dameron, J. D., Stockton, Cal.
Darrah, Rufus E., Newport, R. I.
Daugherty, Charles A., South Bend, Ind.
Davis, B. B., Omaha, Neb.
Davis, Carl B., Chicago.
Davis, George William, Lincoln, Cal.
Dawley, Charles G., Los Angeles.
Day, Floyd M., Eugene, Ore.
De Garmo, W. B., New York.
Dillon, Edward T., Los Angeles.
Doane, Bert L., Nel Norte, Colo.
Dorr, E. E., Des Moines, Iowa.
Doty, George E., New York.
Duncan, James A., Toledo, Ohio.
Duncan, Rex D., Los Angeles.
Dundas, Robert C., Los Angeles.
Duringer, W. A., Fort Worth, Tex.
Eberhard, E. L., So. Whitley, Ind.
Ehrmann, Fred J. E., Chicago.
Eichler, Alfred, San Francisco.
Ellis, E. F., Fayetteville, Ark.
Ely, Leonard W., Denver.
Enos, M. M., Oakland, Cal.
Evans, C. W., Modesto, Cal.
Fairchild, David S., Clinton, Ia.
Fairchild, Fred R., Woodland, Cal.
Farls, C. M., Sacramento, Cal.
Fortling, Jno. R., Marine Ill.
Ferbert, John C., Los Angeles.
Ferguson, Robert Henry, East Orange, N. J.
Ferry, F. C., Los Angeles.
Fielding, George A., Sawtelle, Cal.
Finley, Theodore G., Los Angeles.
Fiske, Harold A., Pasadena, Cal.
Fitzgerald, W. W., Stockton, Cal.
Fitzgibbon, Henry M., Omaha, Neb.
Flaherty, Frederick, Syracuse, N. Y.
Floyd, J. C. M., Steubenville, O.
Foster, John, New Castle, Pa.
Frazier, C. H., Philadelphia.
Freeman, J. W., Lead, S. Dak.
Freeman, W. F., Los Angeles.
French, J. Rollin, Los Angeles.
Fuller, Hulbert, Los Angeles.
Fuller, William, Chicago.
Funkhouser, Robert M., St. Louis.
Gammon, C. P., Tacoma, Wash.
Garcelon, Frank, Pomona, Cal.
Garrett, Edward H., Los Angeles.
Gatch, Willis D., Baltimore.
Gates, Howard B., Los Angeles.
Gibbon, L. L., Lowry, Minn.
Giesen, Charles G., Superior, Wis.
Gillespie, T. W., Peoria, Ill.
Grimstead, W. F., Cairo, Ill.
Goldman, Max, Kansas City, Mo.
Gordon, Howard S., Santa Ana, Cal.
Graber, C. Lee, Cleveland.
Graham, David W., Chicago.
Graham, F., Lisbon, Ohio.
Grant, William W., Denver.
Graves, John H., San Francisco.
Gray, Isabel S., St. Louis.
Gray, Samuel Thomas, Albia, Ia.
Green, G. W., Chicago.
Grove, Jno. L., Newton, Kan.
Guiteras, Ramon, New York.
Gundry, F. J., Bakersfield, Cal.
Guthrie, George W., Wilkes-Barre, Pa.
Haase, Charles, Elmira, N. Y.
Hahn, B., Seattle, Wash.
Haines, W. D., Cincinnati.
Haire, Robert D., Clinton, Mo.
Hall, A. L., Fulton, N. Y.
Hall, Giles S., Los Angeles.
Hamilton, Jo, Oakland, Cal.
Hamlin, Oliver D., Oakland, Cal.
Hand, William C., Hartley, Iowa.
Haning, H. C., Dayton, Ohio.
Harbert, Ellis, Stockton, Cal.
Harding, George F., Salt Lake City.
Harris, Charles H., Ft. Worth, Texas.
Harris, Junius B., Sacramento, Cal.
Harris, M. L., Chicago.
Harry, Charles Rees, Stockton, Cal.
Hartford, P. C., East Palestine, Ohio.
Hartman, Frank T., Waterloo, Ia.
Hartwell, John B., Boston.
Hawley, Donly C., Burlington, Vt.
Hearne, J. C., San Diego, Cal.
Helms, John S., Tampa, Fla.
Henderson, E. E., Chicago.
Hendricks, Harry H., Dallas, Tex.
Henry, Edwin C., Omaha, Neb.
Herrington, Howard, San Francisco.
Hess, H. A., San Francisco.
Hessert, William, Chicago.
Higgs, A. A., Boise, Idaho.
Hill, Corwin T., Akron, Ohio.
Hirschman, Louis J., Detroit.
Hitchcock, William W., Los Angeles.
Holcomb, Arthur L., Compton, Cal.
Holmes, Raynor E., Canon City, Colo.
Holmquist, W. S., Ely, Nev.
Hood, J. J., Cicero, Ill.
Horton, Warren N., Los Angeles.
Hosmer, S. J., Salt Lake City.
Howard, Henry W., Los Angeles.
Howard, Joseph Louis, San Francisco.
Howe, William, Shingle House, Pa.
Huggins, W. L., Los Angeles.
Hunkin, S. T., San Francisco.
Hunt, F. N., Blue Earth, Minn.
Huntington, T. W., San Francisco.
Hupp, Frank LeMoyne, Wheeling, W. Va.
Hutchinson, Clarence, Pensacola, Fla.
Ickes, Edgar M., Fremont, Ohio.
Jacobs, Harry A., Indianapolis.
Jacobs, S. Nicholas, San Francisco.
Jelks, Jno. L., Memphis, Tenn.
Jennings, George D., Corina, Cal.
Jesse, J. W., Santa Rosa, Cal.
Jolly, W. J., Oklahoma, Okla.
Jonas, A. F., Omaha, Neb.
Johnson, Carl, Montrose, Colo.
Johnson, Levi D., Whittier, Cal.
Johnson, T. B., Frederick, Md.
Johnston, Herbert A., Anaheim, Cal.
Jones, W. Harriman, Long Beach, Cal.
Judd, E. S., Rochester, Minn.
Kaull, L. P., Los Angeles.
Keidel, Albert, Baltimore.
Kelleher, Thomas F., Des Moines, Iowa.
Kelly, Elmer E., Pomona, Cal.
Kendall, Oscar J., San Diego, Cal.
Kennedy, R. D., Globe, Ariz.
Kenney, Jno. W., San Antonio, Texas.
Kenyon, C. G., San Francisco.
Kenyon, Frank P., Pomona, Cal.
Kerr, Archibald A., Salt Lake City.
Ketcherside, J. A., Yuma, Ariz.
Key, J. Walter, Taft, Cal.
Keckland, W. A., Fort Collins, Colo.
Kidder, Frank W. K., Los Angeles.
Kinnew, Lyell C., Los Angeles.
Kirby, Leonidas, Harrison, Ark.
Kirkpatrick, John L., Los Angeles.
Kistler, H. D., Butte, Mont.
Klein, W. C., Los Angeles.
Kleimboehl, Julius Walter, Random Lake, Wis.
Knapp, Harry B., Ensenada, P. R.
Knorp, Francis F., San Francisco.
Knott, Van Buren, Sioux City, Ia.
Kugeler, Henry B. A., San Francisco.
Ladd, Fred. H., St. Joseph, Mo.
Larimore, Frank Carter, Mt. Vernon, Ohio.
Larzalere, J. V., Escondido, Cal.
Lauzer, Edward S., Rock Springs, Wyo.
Le Conte, Robert G., Philadelphia.
Legge, Robert T., McCloud, Cal.
Lenz, J. Alvin, Chicago.
Levison, Charles G., San Francisco.
Lewis, Dean D., Chicago.
Lewis, William M., Los Angeles.
Libby, George W., Spokane, Wash.
Littig, Lawrence W., Davenport, Iowa.
Livingston, W. R., Oxnard, Cal.
Lockwood, Charles D., Pasadena, Cal.
Lobingier, Andrew Stewart, Los Angeles.
Lohse, John Louis, Oakland, Cal.
Long, Alfred Dow, San Diego, Cal.
Long, Francis A., Madison, Neb.
Loomis, Mellville, L., Los Angeles.
Loper, Asbury N., Dinuba, Cal.
Lord, John Prentiss, Omaha, Neb.
Loughridge, J., Lincoln, Kan.
Lower, William E., Cleveland.
Lowman, J. B., Johnstown, Pa.
Lund, Fred B., Boston.
Lynn, Bascom, San Angelo, Tex.
MacCoy, William E., Pasadena, Cal.
MacDonald, Joseph, Jr., East Orange, N. J.
MacGowan, Granville, Los Angeles.
Mackenzie, Kenneth A. J., Portland, Oregon.
Mackenzie, Wilbur W., Spokane, Wash.
MacLafferty, B. N., Aberdeen, Wash.
MacLaren, Archibald, St. Paul.
Maclay, A. I., Delavan, Ill.
Maginn, E. F., Butte, Mont.
Mahoney, Stephen A., Holyoke, Mass.
Manson, P., Fresno, Cal.
Markley, P. L., Rockford, Ill.
Markolf, Harry Foster, Pasadena, Cal.
Martelle, Henry A., Hartford, Conn.
Martin, Edward, Philadelphia.
Martin, H. R., Riverside, Cal.
Martin, Joseph D., New Orleans.
Mason, Franklin, M. D., Rossville, Ill.
Mathews, Joseph M., Louisville, Ky.
Mattison, Eugene G., Pasadena, Cal.
Mattison, Fitch C. E., Pasadena, Cal.
Mattison, S. J., Pasadena, Cal.
Maury, J. W. Draper, Rochester, Minn.
Maxmeller, Harry G., Los Angeles.
Mayo, C. H., Rochester, Minn.
McAdory, Robert J., Los Angeles.
McArthur, Lewis L., Chicago.
McArthur, W. T., Los Angeles.
McCall, H. B., Kansas City, Mo.
McCarty, Isaac A., Los Angeles.
McChord, R. C., Lebanon, Ky.
McClellan, Ben R., Xenia, Ohio.
McCoy, Alva D. S., Pasadena, Cal.

McCullough, G. T., Missoula, Mont.
McDonald, William B., New Augusta, Ind.
McHugh, Thomas, Rialto, Cal.
McKinnie, L. H., Colorado Springs, Colo.
McKnight, Everett J., Hartford, Conn.
McLaren, Jay L., Oakland, Cal.
McNab, Thomas R., Los Angeles.
McNaught, F. H., Denver.
McRae, Floyd W., Atlanta, Ga.
McReynolds, Robert P., Los Angeles.
McVety, Albert F., Toledo, Ohio.
Meacher, Byron C., Portage, Wis.
Mendenhall, T. E., Beaverdale, Pa.
Middleton, George W., Salt Lake City.
Miller, Austin, Porterville, Cal.
Miller, S. M., Peoria, Ill.
Miller, S. R., Knoxville, Tenn.
Milton, Joseph L., Oakland, Cal.
Mintener, John W., Minneapolis.
Misenheimer, C. A., Charlotte, N. C.
Mitchell, A. R., Lincoln, Neb.
Mitchell, James F., Washington, D. C.
Mitchell, P. S., Iola, Kan.
Moe, Anton J., Heron Lake, Minn.
Moore, Edward C., Los Angeles.
Moore, James E., Minneapolis.
Morris, Robert T., New York.
Morrison, N. H., Los Angeles.
Morss, Clarence R., Colcraine, Minn.
Morton, A. W., San Francisco.
Morton, Lewis B., Los Angeles.
Murphy, Fred T., Boston.
Murphy, J. D., Chicago.
Murray, Dwight H., Syracuse, N. Y.
Murray, Olga, Los Angeles.
Murray, T. J., Butte, Mont.
Myers, Mark C., Sacramento, Cal.
Myers, Thomas Chalmers, Los Angeles.
Naffziger, Howard C., San Francisco.
Nathanson, Joseph L., Chadwick, Ill.
Neff, James M., Spokane, Wash.
Nelson, Thomas J., Los Angeles.
Newcomb, Arthur T., Pasadena, Cal.
Newcomb, Ralph H., Pasadena, Cal.
Nichols, Charles B., Los Angeles.
Nicholson, C. M., St. Louis.
Norwood, E. E., Kingston, N. Y.
N[illegible] George D., Williamsport, Pa.
Oates, T. K., Martinsburg, W. Va.
Oatman, Homer C., San Diego, Cal.
Ochsner, A. J., Chicago.
O'Neal, Robert McWilliam, San Francisco.
O'Neill, Bernard J., Jr., San Diego, Cal.
O'Reilly, Archer, St. Louis.
Osgood, C. F., Ogden, Utah.
Owens, Frederick Francis, Cherry Creek, Nev.
Pahl, P. C. H., Los Angeles.
Parker, A. S., Needles, Cal.
Parker, P. J., San Diego, Cal.
Parrish, J. C., Vandalia, Mo.
Patton, W. T., New Orleans.
Pearse, Herman E., Kansas City, Mo.
Peironnet, F. M., Wilmington, Cal.
Pelton, A. L., Elgin, Ill.
Pennington, J. R., Chicago.
Percy, J. F., Galesburg, Ill.
Perkins, J. M., Denver.
Petersen, J. R., Willmar, Minn.
Peterson, Anders, Los Angeles.
Phelan, Claude C., Ferndale, Cal.
Phelan, J. R., Oklahoma, Okla.
Phillips, Percy T., Santa Cruz, Cal.
Pickard, J. E., Reno, Nev.
Pickels, W. H., El Paso, Texas.
Pidcock, J. W., Ogden, Utah.
Pierce, C. W., Los Angeles.
Plummer, Charles G., Salt Lake City.
Porter, Elmer R., Omaha, Neb.
Powell, Alvin, Oakland, Cal.
Powell, David, Marysville, Cal.
Powers, Charles A., Denver.
Powers, J. C., Hampton, Iowa.
Priestley, S. Floyd, Stockton, Cal.
Preston, James L., Los Angeles.
Quain, E. P., Bismarck, N. Dak.
Raley, Franklin H., Salt Lake City.
Rand, D. H., Portland, Ore.
Rand, Howard F., St. Helena Sanitarium, Cal.
Reardon, F. D., Bowling Green, Ky.
Reber, W. W., Lehighton, Pa.
Reed, Horace, Oklahoma City.
Rees, R. B., Bakersfield, Cal.
Reynolds, Harry B., Palo Alto, Cal.
Reynolds, W. G., Kansas City, Mo.
Rich, Ezra C., Ogden, Utah.
Richardson, W. W., Los Angeles.
Rickey, A. W., Port Costa, Cal.
Rietz, Paul C., Evansville, Ind.
Rinkenberger, F. W., Tacoma, Wash.
Roberts, Harold H., Maywood, Ill
Roberts, John B., Philadelphia.
Robertson, H. M., Santa Ana, Cal.
Robison, M. A., Reno, Nev.
Rogers, Cassius C., Chicago.
Rogers, John, New York.
Root, R. R., Corona, Cal.
Rose, Francis M., Faribault, Minn.
Rosenberger, H. I., Whittier, Cal.
Rosenkrans, James H., Hoboken, N. J.
Ross, George G., Philadelphia
Ross, R. O., Fresno, Cal.
Rothganger, George, San Francisco.
Royster, Hubert A., Raleigh, N. C.
Russ, Witten Booth, San Antonio, Texas.
Ryan, Walter, Springfield, Ill.
Sadler, William S., Chicago.
St. Clair, Raymond, Reno, Nev.
Sample, C. H., Saginaw, Mich.
Sarles, Wilbur T., Sparta, Wis.
Savage, Philip Monroe, Chino, Cal.
Savre, L., Osage, Iowa.
Sawyer, Alfred D., Fort Fairfield, Maine.
Schmauss, L. F., Alexandria, Ind.
Scott, A. C., Temple, Texas.
Scott, W. S., Chillicothe, Ohio.
Seeher, C. W., Los Angeles.
Seifert, George W., San Jose, Cal.
Sellery, A. C., Long Beach, Cal.
Sewall, Charles Albert, Los Angeles.
Seymour, James H., Los Angeles.
Shannon, J. M., Oakland, Cal.
Shattuck, Hobart P., Tucson, Ariz.
Shaw, Lawrence M., Osceola, Neb.
Sheffield, Homer H., Caliente, (U. C. Co.), Nev.
Shell, W. T., Corsicana, Texas.
Shere, Oscar M., Denver.
Sherk, Howard, Pasadena, Cal.
Sherman, Harry M., San Francisco.
Sherrard, E. E., Los Angeles.
Shine, Francis E., Bisbee, Ariz.
Shong, D. C., San Bernardino, Cal.
Shurtleff, Fred C., Los Angeles.
Siggins, J. B., Oil City, Pa.
Skinner, Charles N., Port Jervis, N. Y.
Skinner, W. W., Geneva, N. Y.
Sleicher, J. M., Chehalis, Wash.
Smith, A. J., Leavenworth, Kan.
Smith, Ethan H., San Francisco.
Smith, E. O., Cincinnati.
Smith, Franklin Buchanan, Frederick, Md.
Smith, Rea, Los Angeles.
Smith, Thomas Hardy, Pomona, Cal.
Snyder, George S., San Francisco.
Sommer, George N. J., Trenton, N. J.
Soule, C. E., Beardstown, Ill.
Southworth, Henry E., Los Angeles.
Southworth, Harry T., Prescott, Ariz.
Spalding, Alfred E., Lucerne, Minn.
Speer, Grant Gould, Los Angeles.
Speer, N. C., Osawatomie, Kan.
Spencer, Floyd H., St. Joseph, Mo.
Sprague, H. B., Salt Lake City.
Stadfield, C. G., Los Angeles.
Stanton, E. MacD., Schenectady, N. Y.
Steddom, Francis W., Los Angeles.
Steine, David W., Lima, Ohio.
Steinwand, O. W., Selma, Cal.
Stevens, B. F., El Paso, Texas.
Stevens, George M., Los Angeles.
Stinchfield, Herbert C., Los Angeles.
Still, J. J., Los Angeles.
Stillman, Stanley, San Francisco.
Stoddard, T. A., Santa Barbara, Cal.
Stover, W. M., San Luis Obispo, Cal.
Stratton, Robert T., Oakland, Cal.
Stout, D. P., Vicksburg, Miss.
Stremmel, S. C., Macomb, Ill.
Swartz, Thomas Benton, Chicago.
Swedenburg, Francis G., Ashland, Oregon.
Swenson, Carl G., Chicago.
Swift, Edward, Los Angeles.
Swindt, Joseph K., Pomona, Cal.
Swope, Samuel D., Deming, N. Mex.
Sullivan, John Francis, San Francisco.
Sutton, H. T., Zanesville, Ohio.
Tait, T. Dudley, San Francisco.
Taylor, A. Miles, San Francisco.
Taylor, Fred W., Provo, Utah.
Taylor, Raymond G., Los Angeles.
Terry, Wallace Irving, San Francisco.
Thomas, Charles P., Los Angeles.
Thompson, Claude A., Muskogee, Okla.
Thompson, Elmer H., Burbank, Cal.
Thompson, Frederick Henry, Fitchburg, Mass.
Thompson, W. Otis, Dodge City, Kan.
Thornburgh, Major Robert M., Medical Corps U. S. Army.
Thorpe, A. C., Los Angeles.
Tinker, Martin B., Ithaca, N. Y.
Tipton, William R., East Las Vegas, N. Mex.
Townsend, Wisner R., New York.
Townsend, V. Roy, Long Beach, Cal.
Trewhella, James S., Rivera, Cal.
Trueheart, M., Sterling, Kan.
Tuckerman, J. E., Cleveland.
Tyroler, A., Los Angeles.
Vance, A. J., Harrison, Ark.
Vander Veer, Edgar A., Albany, N. Y.
van Kaathoven, J. J. A., Los Angeles.
Van Vranken, Gilbert, Passaic, N. J.
Van Werden, W., Des Moines, Ia.
Varner, G. W., Evansville, Ind
Vaughan, Roger T., Chiccago.
Voorhees, H. M., Los Angeles.
Wagner, Charles Brentano, Chicago.
Walker, Alonzo B., Canton, Ohio.
Walker, Wade H., Wichita Falls, Texas.
Walthall, T. J., San Antonio, Texas.
Warmer, C. A., Ontario, Cal.
Watson, Samuel H., Blairstown, Iowa.
Watts, Stephen H., Charlottesville, Va.
Wayland, Charles Aprenia, San Jose, Cal.
Welsh, H. G., Hutchinson, Kan.
Werner, Richard F., Eau Claire, Wis.
White, H. O., Chicago.
Whiteside, John R., Kingman, Ariz.
Whitman, C. H., Los Angeles.
Wiggins, J. L., East St. Louis, Ill.
Wilde, Kate, Los Angeles.
Wiley, Edwin H., Aermosillo, Sonora, Mexico.
Wilboit, J. C., Manhattan, Kan.
Williams, Clara, Berkeley, Cal.
Williams, Edith Hammond, San Francisco.
Williams, Fred H., Selma, Cal
Williams, T. J., Hiteman, Iowa
Williams, T. M., Palo Alto, Cal.
Wills, William Le Moyne, Los Angeles.
Wilson, A. P., Los Angeles.
Winslow, Randolph, Baltimore.
Wiser, F. C., Denver.
Wishard, William N., Indianapolis.
Witherbee, O. O., Los Angeles
Wood, John H., Hubbard, Texas.
Wood, J. W., Long Beach, Cal.
Wood, W. C., Decatur, Ill.
Woods, E. F., Janesville, Wis.
Woodward, W. M., McKeesport, Pa.
Worthington, George B., San Diego, Cal.
Wright, A. L., Carroll, Iowa.
Wright, C. A., Los Angeles, Cal.
Yacoubi, H. B., Pasadena, Cal.
Yerxa, Charles W., Los Angeles.
Yocom, James R., Tacoma, Wash.
Yocum, M. G., Mentone, Ind.
Zerfing, Charles E., Los Angeles.
Zimmermann, A. F., Los Angeles.
Zobel, Alfred J., San Francisco.
Zwaluwenburg, C. Van, Riverside, Cal.

Obstetrics and Diseases of Women

Abbott, Geo. E., Pasadena, Cal.
Alexander, A. F., Paterson, N. J.
Amason, L. P., Wichita Falls, Texas.
Anderson, Winslow, San Francisco.
Andrews, Frank T., Chicago.
Apjohn, Henri, Yuma, Ariz.
Arthur, Mattie L., Omaha, Neb.
Bacon, Charles E., Los Angeles.
Baer, J. S., Camden, N. J.
Barnhart, William, Los Angeles.
Barnes, Samuel S. P., Massillon, Ohio.
Barney, N. Eugenia, Sterling, Col.
Benjamin, Arthur E., Minneapolis.
Bland, P. Brooks, Philadelphia.
Bowers, L. G., Dayton, Ohio.
Braasch, W. F., Rochester, Minn.
Brannwarth, Emma L., Muscatine, Iowa.
Branso, Laura H., Iowa City, Iowa.
Bresee, Paul, Los Angeles.
Brickell, J. B., Americus, Kan.
Brimhall, Silas J., Los Angeles.
Broadrup, George L., Cumberland, Md.
Brown, J. Colville, Los Angeles.
Bryson, Charles W., Los Angeles.
Bullard, Rose T., Los Angeles,
Burns, T. Mitchell, Denver.
Butz, R. E., York, Pa.
Cahe, E. M., Los Angeles.
Campbell, Harry M., Parkersburg, W. Va.
Carpenter, Frank B., San Francisco.
Cartwright, Margaret Green, Albuquerque, N. Mex.
Clark, J. A., Chicago.
Clark, S. M. D., New Orleans.
Clarke, William T., Los Angeles.
Clarkson, W. H., Manhattan, Kan.
Clegg, Joseph T., Siloam Springs, Ark.
Coates, Benjamin O., Pasadena, Cal.
Coffey, Titian, Los Angeles.
Cosgrave, Millicent, San Francisco.
Cowles, J. E., Los Angeles.
Creamer, Michael S., Los Angeles.
Crise, David, Escondido, Cal.
Cunningham, Martha E., Garnett, Kan.
Darling, Charles B., Boston.
Denison, John M., Crooksville, O.
Dennis, Mary E., Los Angeles.
Dorsett, Walter B., St. Louis.
Downs, Alfred J., Los Angeles.
Doyle, O. B., Fresno, Cal.
Dugdale, R. B., South Bend, Ind.
Dunsmoor, John M., Los Angeles.
Dunsmoor, Nannie C., Los Angeles.
Durrie, Anna B., La Fayette, Ind.
Dwire, Francis Belmont, Gardena, Cal.
Edelman, D. W., Los Angeles.
Edwards, Thomas C., Salinas, Cal.
Ellis, William Clyde, Phoenix, Ariz.
Ewer, Edward N., Oakland, Cal.
Fairchild, F. D., Los Angeles.
Feeley, Matilda A., San Francisco.
Findley, Palmer, Omaha, Neb.
French, Charles E., San Francisco.
Fuller, D. E., Hastings, Mich.
Gatchell, Ella Frances, Chico, Cal.
Gates, L. M., Scranton, Pa.
Gibb, W. Travis, New York.
Gibbons, Henry Walter, San Francisco.

Gibbs, Roy S., San Bernardino, Cal.
Goldspohn, Albert, Chicago.
Greer, Bertha Allen, Lamoni, Ia.
Guinn, J. H., Arkansas City, Kan.
Gutline, Alice B., Denver
Guthrie, James R, Dubuqque, Ia.
Hablutzel, C. E., San Jose, Cal.
Haley, James Farrar, Midland, Texas.
Hornibrook, E., Cherokee, Iowa.
Harter, Isaac F., Stronghurst, Ill.
Harvey, C. W., Anaheim, Cal.
Hayes, Nellie S., Los Angeles.
Heisz, Emily J., Chicago.
Hertzler, Arthur E., Kansas City, Mo.
Herzog, George K., San Francisco.
Hobbs, Alice L., Indianapolis.
Hoffmann, Charles von, San Francisco.
Holleran, James F., Los Angeles.
Hollister, J. C., South Pasadena, Cal.
Hoyt, D. C., Chicago.
Hromadka, A. B., Sawtelle, Cal.
Ide, Charles Edward, Redlands, Cal.
Ingraham, Clarence B., Denver.
Irwin, John R., Charlotte, N. C.
Jacobson, Julius H., Toledo, Ohio.
Jewell, Robert T., Los Angeles.
Johnson, H. L. E., Washington, D. C.
Johnson, Walter Sydney, Los Angeles.
Johnston, J. Ambrose, Cincinnati.
Kjaerbge, C. P , Fresno, Cal
Kurtz, Carl, Los Angeles.
Lamb, J. L., Los Angeles.
Larrabee, F. W., Alton, Ill.
Lazard, Edmond M., Los Angeles.
Lieth, H. O. von der, San Francisco.
Lewis, W. E., Seaside, Ore.
Lewis, Will J., Santa Ynez, Cal.
Lindley, Walter, Los Angeles.
Lockwood, E. H., Bayard, Iowa.
Loomis, E. E., Janesville, Wis.
Lorney, Robert N., Prescott, Ariz.
MacEvitt, John Cowell, Brooklyn.
Magee, Chester Lea, Los Angeles.
March, E. J., Canton, Ohio.
Marshall, Clara, Philadelphia.
Martin, Franklin H., Chicago.
Mayne, William Hawthorne, Los Angeles.
McNeile, Lyle G., Los Angeles.
Melvin, J. Tracy, Porterville, Cal.
Miller, C. Jeff., New Orleans.
Miller, S. M., Knoxville, Tenn.
Miller, William E., Columbus, Ill.
Montgomery, E. E., Philadelphia.
Moore, M. L., Los Angeles.
Moore, James S., Portland, Ore.
Morris, Margaret M., Los Angeles.
Morrison, N. D., San Mateo, Cal.
Mortensen, Wm. S., Palms, Cal.
Munter, Leo, San Francisco.
Murray, Janet, Schenectady, N. Y.
Neff, G. R., Farmington, Iowa.
Newman, Henry P., San Diego, Cal.
Newman, W. H., Long Beach, Cal.
Newton, John C., San Francisco.
Norton, Frank L., Los Angeles.
Orella, F. R., San Francisco.
Perry, Samuel W., New Castle, Pa.
Peters, Lulu H., Los Angeles.
Polak, John Osborn, Brooklyn.
Reddick, James T., Paducah, Ky.
Rice, Ed E., Shawnee, Okla.
Richmond, J. M., El Paso, Texas.
Richmond, W. W., Clinton, Ky.
Rogers, Thomas L., Long Beach, Cal.
Ross, Moses H., Los Angeles.
Rothenberg, Samuel, Cincinnati.
Sadler, Lena K., Chicago.
Scholl, Albert John, Los Angeles.
Scull, William B., Philadelphia.
Sexton, J. C., Rushville, Ind.
Shulean, Nellie S., Cambridge, Minn.
Winegar-Simpson, Abbie, Long Beach, Cal.
Simpson, F. F., Pittsburg.
Skeel, Donald W., Los Angeles.
Skinner, Cynthia A., Los Angeles.
Slater, Catherine B., Aurora, Ill.
Smith, Richard R., Grand Rapids, Mich.
Somers, George Burbank, San Francisco.
South, Lillian H., Bowling Green, Ky.
Speaker, W. T , Manson, Iowa.
Spiller, William H., New York.
Stark, Bertha Wagner, San Francisco.
Steele, H. L., Pittsburg, Kan.
Stillians, Daniel C., Redlands, Cal.
Swahlen, Percy H., St. Louis.
Tebbetts, Hiram B., Los Angeles.
Teel, A. W., Kahoka, Mo.
Thompson, Charles E., Dunsmuir, Cal.
Tompkins, Christopher, Richmond, Va.
Trueman, J. E., San Jose, Cal.
Van Voorhees, G. T., San Pedro, Cal.
Vowinckel, F. W., San Francisco.
Waiss, A. S., San Francisco.
Walker, Edwin, Evansville, Ind.
Weber, A. L., Cucumonga, Cal.
Welsh, Prudence M., Long Beach, Cal.
Wetherill, Horace G., Denver.
Wheat, A. F., Manchester, N. H.
Willits, Emma K., San Francisco.
Wilson, Carl G. W., Palo Alto, Cal.
Greene-Wilson, Dora, Kansas City, Mo.
Wilson, J. Miller, Pasadena, Cal.
Wolferman, A. Gertrude, Indianapolis.

Genito-Urinary Diseases

Baker, Andrew J., Grand Island, Neb.
Campbell, R. R., Chicago.
Curatts, Carl E., Oakland, Cal.
Dillingham, F. S., Los Angeles.
Evans, George B., Dayton, Ohio.
Freeman, Wiley H., Lockney, Texas.
Handly, James W., Nashville, Tenn.
Howard, L. V., Denver.
Jorgenson, H. C., Salt Lake City.
Laubersheimer, George A., Los Angeles.
Mackay, A. E., Portland, Oregon.
Norton, C. Worth, Los Angeles.
Rigdon, R. L., San Francisco, Cal.
Rosenkranz, Herbert Augustus, Los Angeles.
Roth, Leon Joseph, Los Angeles.
Sutherland, J. Lue, Grand Island, Neb.
Williams, Ralph, Los Angeles.
Wieg, John, Allegheny, Pa.

Practice of Medicine

Abrahm, Henry, San Francisco.
Adams, A. W., Bellevue, Mich.
Adams, Charles B., Los Angeles.
Adams, S. C., Huntsville, Mo.
Adelung, Edward von, Oakland, Cal.
Aitkens, H. B., Le Sueur Center, Minn.
Alcorn, Archibald J., Chicago.
Alderman, Mason C., Sedalia, Mo.
Algie, Robert, Linn, Kan.
Allan, J. T. M., Los Angeles.
Allen, Addie B., Los Angeles.
Allen, H. W., San Francisco.
Allen, Silas Gilbert, Clarkson, Neb.
Allen, Will L., National City, Cal.
Alvarez, Walter Clement, San Francisco.
Anderson, N., Chicago.
Anderson, William Edward, Farmville, Va.
Andrews, H. J., Hollywood, Cal.
Andrews, J. W., Mankato, Minn.
Armstrong, J. M., Alhambra, Cal.
Armstrong, Veturia C., Los Angeles.
Arnold, Charles Saxon, Oakland, Cal.
Arnold, Horace D., Boston.
Ash, Rachel L., San Francisco.
Ashburn, P. M., San Francisco.
Atkinson, Charles E., Los Angeles.
Austin, M. O., San Francisco.
Austin, R. E., San Diego, Cal
Austin, S. A., Los Angeles.
Avey, John L., Redlands, Cal.
Babcock, W. D., Los Angeles
Bailey, F. A., Hillsboro, Ore.
Bailey, H. T., Courtland, Ariz.
Baird, James Gordon, Riverside, Cal.
Bakewell, Benjamin, Santa Barbara, Cal.
Balsley, J. A., Santa Monica, Cal.
Barham, Frank F., Los Angeles.
Barlow, W. Jarvis, Los Angeles.
Barnes, Henry E. W., Santa Ana, Cal.
Bartram, W. C., Newburgh, N. Y.
Battelle, E. L., Los Angeles.
Baumgaertner, Otto C., Rockport, Ind.
Bay, Samuel G., Quaker City, O.
Beach, Everette, Los Angeles.
Beckley, Chester C., Lancaster, Mass.
Bemisderfer, J. R., Monee, Ill.
Bender, F. P, Caro, Mich.
Bennett, Charles L., Los Angeles.
Betten, H. J., Garneill, Mont.
Beyer, H., Oceano, Cal.
Bierring, Walter L., Des Moines, Iowa.
Biggar, Henry R., Glen, N. Y.
Biggs, E. L., Hot Springs, Ark.
Billings, Frank, Chicago.
Blackstone, Thomas, Circleville, Ohio.
Blanchard, M. E., Marseilles, Ill.
Blanchard, Robert B., Jamestown, N. Y.
Bodenstab, William H., Bismarck, N. Dak.
Bond, L. L., Denison, Iowa.
Booth, John R., Seattle, Wash.
Bowcock, C. M . Springfield, Ill.
Bowerman, Albert C., El Monte, Cal.
Bowers, H. C., Scircleville, Ind.
Bowman, William B., Los Angeles.
Boyd, Walter M., Los Angeles.
Boyers, James S., Decatur, Ind.
Brem, Walter, Cristobal, C. Z.
Bridges, J. R., Kahoka, Mo.
Briggs, Eldorado C., Wilmington, Ohio.
Briggs, Solon, Pasadena, Cal.
Brittin, A. L., Athens, Ill.
Bromley, Frederick W., Palmyra, Wis.
Broome, Joseph R., New York.
Brown, Albert E., Conde, S. Dak.
Brown, Charlotte, Los Angeles.
Brown, Everett J., Decatur, Ill.
Brown, H. C., San Jose, Cal.
Brown, Philip King, San Francisco.
Brown, R. W., Bay City, Mich.
Brummall, J. D., Salisbury, Mo.
Bryan, Tony L., Evansville, Ind.
Bryant, Allen L., Glendale, Cal.
Bullard, Charles T., Los Angeles.
Bullard, William B., Los Angeles.
Bullen, F. W., Hibbing, Minn.
Bullock, N. H., San Jose, Cal.
Burch, E. Lee, Raymond, Cal.
Burke, Edward W., Highland, Cal.
Burgess, J. A. W., Iowa Falls, Iowa.
Burnham, Clark J., Berkeley, Cal.
Burnham, F. R., San Diego, Cal.
Burnett, A. L., Silverton, Colo.
Bush, J. H., Sterling Colo.
Byall, H. M., Montpelier, Ohio.
Campbell, Donald, Butte, Mont.
Cannon, G. S., Fornfelt, Mo.
Carey, J. W., Whitesboro, Texas.
Carson, J. K., Los Angeles.
Carson, L. O., New Augusta, Ind.
Carter, J. M. G., Los Angeles.
Carter, Marion D., Los Angeles.
Carver, C. R., Sterling City, Tex.
Cessna, F. Lee, Louisville, Ky.
Chapin, Clifford S., Great Barrington, Mass.
Chapline, F. L., Orange, Cal.
Chapman, William H., Corona, Cal.
Chase, Raymond E., Glendale, Cal.
Chase, William S., Akron, Ohio.
Choate, Joseph Lynn, Los Angeles.
Clark, John I., Santa Ana, Cal.
Clark, W. R. P., San Francisco.
Clausius, M. F., Siletz, Ore.
Clow, G. B. N., Oakland, Cal.
Clune, W. M., Darwin, Texas.
Coble, T. J., Shelbyville, Tenn.
Colburn, John R., Los Angeles.
Comstock, Daniel Delos, Glendale, Cal.
Condit, Joseph D., Pasadena, Cal.
Conner, Ada Scott, San Jose, Cal.
Connor, W. E., Cumby, Texas.
Cooke, T. Bates, Laconia, N. H.
Cooly, Abbott, L., Chicopee, Mass.
Coppedge, W. E., Alturas, Cal.
Corey, Martha Dunn, La Jolla, Cal.
Cornwall, Edward E., Brooklyn.
Cotter, P. G., Los Angeles.
Cottle, Cassius C., Los Angeles.
Cowan, James Rea, Los Angeles.
Crawford, Alexander, Mount Vernon, Iowa.
Criley, B. H., Dallas Center, Ia.
Crocker, M. M., Lordsburg, N. M.
Cummings, R. S., Long Beach. Cal.
Cunnane, T. E., Ventura, Cal.
Cunningham, R. L., Los Angeles.
Curtiss, F. Homer, Denver.
Cutler, Elbridge G., Boston.
Cutter, James Bird, Los Angeles.
Daniel, Sam G., Marshall, Ark.
Dawson, John L., Charleston, S. C.
Dearborn, Luther Gould, Jr., Derry, N. H.
Deering, Walter E., Los Angeles.
De Hass, Thomas W., Indianapolis.
DeLap, R. H., Richland Center, Wis.
Derrick, Joseph S., Los Angeles.
Devitt, Thomas G., Los Angeles.
Dickinson, George S., Erie, Pa.
Dillon, I. H., Auburn, Neb.
Doig, Robert L., San Diego, Cal.
Donnell, T. C., Long Beach, Cal.
Dougherty, P. S., Los Angeles.
Dresser, Ralph O., Paso Robles, Cal.
Dryer, John L., Santa Ana, Cal.
Duchein, C. F., Baton Rouge, La.
Duffield, William, Los Angeles.
Duncan, J. B., Bedford, Ind.
Durgin, F. L., Winnebago, Minn.
Earing, Edwin W., Los Angeles.
Eastman, Henry A., Jamestown, N. Y.
Ebright, George E., San Francisco.
Eddy, George S., Los Angeles.
Elliott, Arthur R., Chicago.
Ellis, Melvin, Los Angeles.
Emmal, Frank S., San Francisco.
Evans, C. W., Los Angeles.
Evans, George H., San Francisco.
Eversole, H. O., Los Angeles.
Fasig, Harry B., Los Angeles.
Fassett, Charles Wood, St. Joseph, Mo.
Favill, Henry B., Chicago.
Fawcett, C. E., Stewartville, Minn.
Fay, Albert S., Schenectady, N. Y.
Fellows, Alfred, Los Angeles.
Fick, Edward P., Seattle, Wash.
Fields, J. D., Austin, Texas.
Fish, Charles W., Los Angeles.
Fisher, Eugene M., Roswell, N. Mex.
Fleming, James W., Brooklyn.
Fly, Edward M., National City, Cal.
Forbes, Harvey J., Pasadena, Cal.
Forline, Henry H., Tustin, Cal.
Forsythe, Hugh, Baltimore.
Fox, A. L., Danville, Ill.
Fox, J. A., Hinton, W. Va.
Fox, Willard Henry, Los Angeles.
Foxworthy, Frank W., Indianapolis.
Franing, E. C., Galesburg, Ill
Frankenheimmer, Jule B., San Francisco.
Franklin, J. H., Guadalupe, Cal.
Frary, Burdett S., Los Angeles.
Fretz, Alfred E., Sellersville, Pa.
Frick, Donald J., Los Angeles.
Frick, Euclid B., Lieut.-Col., U. S. A., Presidio of San Francisco.
Fry, P. B., Benicia, Cal.
Fuller, G. E., Monson, Mass.
Fuller, John A., Las Vegas, Nev.
Fulton, Dudley, Los Angeles.
Furst, O. J., Peabody, Kan.
Gammell, H. W., Madison, Minn.
Garber, J. B., Dunkirk, Ind.
Gardner, George Albert, Chicago.
Gardner, M. N., Greenleaf, Kan.
Gary, I. Clark, Chicago.
Gerhard, Samuel P., Philadelphia.
Gerson, T. Percival, Los Angeles.
Gildersleeve, J R., Richmond, Va.
Gillespie, George Y., Duck Hill, Miss.
Gillespie, J. F., Greencastle, Ind.
Gilmore, Amelia Weed, Auburn, N. Y.
Giltner, H. A., U. S. S. *Glacier*, D. C.

Girdlestone, C. W., Riverside, Cal.
Godfrey, E. L. B., South Pasadena, Cal.
Godin, Arthur F., Los Angeles.
Goff, H. Neville, San Diego, Cal.
Taylor-Goodman, C. W., Albuquerque, N. Mex.
Goodman, Minerva, Stockton, Cal.
Goodwin, Edward J., St. Louis.
Gore, D. C., Marshall, Mo.
Graham, James W., Lompoc, Cal.
Gray, Etta, Los Angeles.
Gregory, Idris Briggs, Ontario, Cal.
Greene, Charles Lyman, St. Paul.
Greene, E. B., Chicago.
Greenwood, Hugh A., Ancon, C. Z.
Gunn, Herbert, San Francisco.
Gwaltney, Sylvester, Los Angeles.
Hagedorn, Jesse Lee, Los Angeles.
Hagedorn, Mary E., Pasadena, Cal.
Ha[illegible], E. N., Bowling Green, Ky.
Hall, J. N., Denver.
Hamilton, James K., Alameda, Cal.
Hamilton, N. H., Santa Monica, Cal.
Hamman, Amos F., Long Beach, Cal.
Hanbridge, W. B, Ogdensburg, N. Y.
Haney, J. T., Tuscumbia, Ala.
Hansen, Carl A., Argyle, Wis.
Hare, Charles B., San Jose, Cal.
Harris, Eva L., Oakland, Cal.
Harris, Seale, Mobile, Ala.
Harris, Thomas W., Eugene, Ore.
Harrison, George W., Denver.
Hartzell, W. H., Allentown, Pa.
Hasencamp, Oscar, Toledo, Ohio.
Hasler, Walter T., Lehi, Utah.
Hay, Emil O., Los Angeles, Cal.
Haynes, John R., Los Angeles.
Hazelett, I. W., San Bernardino, Cal.
Heaton, Charles Austen, McCutchenville, Ohio.
Henderson, Edward, Pomona, Cal.
Hennemuth, J. L., Waterford, Cal.
Herbert, Henry, Los Angeles.
Hewlett, Albion Walter, Ann Arbor, Mich.
Hildreth, H., Delano, Cal.
Hill, Walter B., Long Beach, Cal.
Hindman, S I., Inglewood, Cal.
Hines, B. M., Uvalde, Tex.
Hinman, C. J., Los Angeles.
Hodgson, A. J., Waukesha, Wis.
Holben, B. E., Mt. Auburn, Ill.
Holbrook, R. W., Perkins, Okla.
Holder, R. E., Columbus, Ind.
Holliday, D. A., Fairmount, Ind.
Holmes, J. G., Alamogordo, N. Mex.
Holmes, T. B., Oakland, Cal.
Hoover, C. F., Cleveland, Ohio.
Horel, F. R., Arcata, Cal.
Horn, W. L., Boulder, Colo.
Hornor, Dayton H., Alpaugh, Cal.
Horrell, C. B., Galesburg, Ill.
Howard, W. N., Cape Girardeau, Mo.
Holtgen, J. F., Chicago.
Hunter, Geo. G., Los Angeles.
Hunter, Henry C., Milford, Utah.
Huntoon, H. A., Los Angeles.
Hurst, S. T., Greenview, Ill.
Hutcheson, W. R., Greencastle, Ind.
Hutchinson, Randall, Los Angeles.
Hutton, W. S., Fornfelt, Mo.
Hyslop, F. R., Whitewater, Wis.
Inman, M. M., Artesia, N. Mex.
Ireys, James T., Lakeside, Cal.
Irwin, W. H., Oakland, Cal.
Jackson, Craven, Los Angeles.
Jackson, J. A., Hollywood, Cal.
Jacobs, Louis C., San Francisco.
Jacobson, August, Chicago.
Janes, John E., Pasadena, Cal.
Jaques, W. K., Chicago.
Jenks, Clarence A., Los Angeles.
Jennison, John E., San Diego, Cal.
De Jernett, W. B., Commerce, Tex.
Johnson, J. H., Los Angeles.
Johnson, Milbank, Los Angeles.
Johnson, W. C., Thurman, Iowa.
Johnston, E. J., So. Pasadena, Cal.
Johnston, J. H., Dutch Flat, Cal.
Jones, Allen A., Buffalo.
Jones, N. W., Portland, Ore.
Jones, W. F., San Rafael, Cal.
Jung, Franz A. R., Washington, D. C.
Kaess, Andrew J., Fargo, N. Dak.
Kerber, H. C., Chicago.
Ketcherside, E. B., Yuma, Ariz.
Keyn, Will S., Los Angeles.
King, Chas. L., Pasadena, Cal.
King, Jno. C., Banning, Cal.
King, Jos. M., Los Angeles.
Kitson, Frank S., North Manchester, Ind.
Kleinhans, M. A., Milwaukee, Wis.
Koons, H. Haynes, Los Angeles.
Kremer, John, Grand Rapids, Mich.
Kremers, Henry, Holland, Mich.
Krum, A. G., Erie, Pa.
Lambert, Alexander, New York.
Lardau, D. R., Chicago.
Lang, J. H., Centertown, Mo.
Langan, J. C., Clinton, Iowa.
Lawrence, G. H., Galesville, Wis.
Laws, James W., Lincoln, N. Mex.
Lawson, Thos. J., Long Pine, Neb.
Lee, Jas. R., Columbus, Ky.
Lee, Roger I., Boston, Mass.
Le Fevre, J. P., Venice, Cal.
Levengood, H. Wilson, Ocean Park, Cal.
Lierle, Geo. A., Quincy, Ill.
Linde, Herman, Cyrus, Minn.
Lindsay, John C., Chicago.
Linnell, B. M., Chicago.
Lissner, Henry H., Los Angeles.
Livingston, G. M., Manistique, Mich.
Logan, Hugh, The Dalles, Ore.
Lorini, Raffaele, Coronado, Cal.
Luton, Geo. R., Los Alamos, Cal.
Lux, Fred W., San Francisco.
MacKenzie, David H., Millbrook, N. Y.
Mackey, J. G., San Fernando, Cal.
Manasco, Titus, Townley, Ala.
Manion, P. H., Charlotte, Iowa.
Marcy, Jr., Alex., Riverton, N. J.
Marsden, T. H., Fennimore, Wis.
Martin, Albert R., Chicago.
Marvel, Philip, Atlantic City, N. J.
Mather, H. H., Chicago.
Maxwell, Allison, Indianapolis, Ind.
Mays, Arthur H., Sansalito, Cal.
McAllester, Alex., Camden, N. J.
McArthur, J. H., Portland, Ore.
McCarthy, S. L., Altoona, Pa.
McClelland, J. L., Los Banos, Cal.
McComb, C. F., Duluth, Minn.
McDaniel, John L., Gardena, Cal.
McElroy, J. B., Memphis, Tenn.
McGarry, J. A., Los Angeles.
McGeary, Wm. J., Sharpsburg, Pa.
McMillan, Edwin H., Pasadena, Cal.
McMillin, V. H., Waller, Tex.
McMurtrey, C. T., Kidder, Mo.
McNeill, W. T., Valley Mills, Tex.
McQuiston, Caroline, Pasadena, Cal.
Mehler, F. C., New London, Iowa.
Middlekamp, M. S., Pueblo, Colo.
Miller, Ansel I., Brattleboro, Vt.
Miller, Chas. H., San Leandro, Cal.
Miller, Dewitt C. R., Mason and Dixon, Pa.
Miller, E. D., Logansport, Ind.
Miller, Ulysses G., Los Angeles.
Millspaugh, W. P., Los Angeles.
Mitchell, W. A., Colfax, Wash.
Mix, Chas. L., Chicago.
Mix, Pernice A., Exeter, Cal.
Moeur, B. B., Temple, Ariz.
Moersat, Hugh S., Oregon City, Ore.
Moffitt, Herbert C., San Francisco.
Moore, Albertus A., New York.
Moore, Albert W., Los Angeles.
Moore, Edwin W., Franklin, Pa.
Morgan, Arthur C., Philadelphia.
Morgan, D. A., Nilewood, Ill.
Morgan, E. E., Fort Wayne, Ind.
Morris, Frank, Columbus Grove, Ohio.
Morrison, Sidney K., Reno, Nev.
Morton, Thos. F. H., Salt Lake, Utah.
Moseby, Gayle G., Redlands, Cal.
Moss, Robt. E., Riverside, Cal.
Moyer, S. R., Monroe, Wis.
Munson, S. E., Springfield, Ill.
Murphy, Franklin E., Kansas City, Mo.
Murray, D. P., Dunkirk, Ind.
Murray, H. Wallace, Pasadena, Cal.
Musgrave, Wm. E., Manila, P. I.
Nadeau, Hubert, Los Angeles.
Neff, Robt. L., Joplin, Mo.
Nelson, C. S., Springfield, Ill.
Newmark, Philip, Los Angeles.
Newth, C. H., Philomath, Ore.
Nice, Downing D., Los Angeles.
Nichols, Henry L., Sacramento, Cal.
Nittler, A. N., Davenport, Cal.
North, L. G., Tecumseh, Mich.
Nulton, Ida M., Livonia, Mo.
O'Reilly, Thos. W., Los Angeles.
Otis, L. J., Artesia, Cal.
Outlaw, John S., Los Angeles.
Page, Clarence W., Berkeley, Cal.
Paine, John C., South Pasadena, Cal.
Pallette, Edward M., Los Angeles.
Palmer, Adelbert L., Logansport, Ind.
Palmer, Edwin O., Los Angeles.
Palmer, Ralph F., Mesa, Ariz.
Parker, Wm., Mount Sterling, Ill.
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Paulson, David, Hinsdale, Ill.
Pawlish, Andrew S., Kansas City, Kan.
Payton, Wm. B., Riverside, Cal.
Peck, Geo. Wm., Sawtelle, Cal.
Peck, Allen, Oxnard, Cal.
Peelle, Frank A., Wilmington, O.
Percival, F. R., Los Angeles.
Peterman, A. L., Parker, S. Dak.
Philp, W. S., Los Angeles.
Pickel, E. B., Medford, Ore.
Pietrowicz, Stephen R., Chicago.
Pinniger, S. E. D., Tracy, Cal.
Platt, Jos. S., Port Huron, Mich.
Plummer, H. S., Rochester, Minn.
Pomeroy, Geo. T., Oakland, Cal.
Porter, David R., Kansas City, Mo.
Porter, H. L., Seneca, Mo.
Pottenger, Francis, M., Monrovia, Cal.
Powell, Chas. F., Dayton, Ohio.
Price, Auten, St. Paul, Minn.
Putnam, Harrison A., Inglewood, Cal.
Putney, James, Charleston, W. Va.
Quint, Sumner J., Los Angeles.
Raeder, O. J., St. Louis.
Ragland, Dallas C., Los Angeles.
Ranchous, Walter E. M., Columbus, Ohio.
Reed, J. D., Covina, Cal.
Rehfeldt, Chas. S., St. Louis.
Reinemund, C. A., El Paso, Tex.
Remington, Lewis D., Monrovia, Cal.
Revelle, C. A., New Florence, Mo.
Rice, Chas., Smithland, Iowa.
Richards, Chas. M., San Jose, Cal.
Richards, Lloyd H., Gila Bend, Ariz.
Richards, Raymond G., Saint David's, Ill.
Richter, C. M., San Francisco.
Richter, Louise May, Los Angeles.
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Robbins, G. E., Chillicothe, Ohio.
Roberts, Thos. E., Oak Park, Chicago.
Robinson, Elwood, Rossville, Ind.
Roblee, W. W., Riverside, Cal.
Rooney, H. M., Los Angeles.
Rosenberg, F. J., Lexington, Neb.
Ross, Chas. C., Clarion, Pa.
Rothenburg, Jacob C., Springfield, Minn.
Rothschild, Max, San Francisco.
Royer, D. F., Orange, Cal.
Ruble, Wells A., Loma Linda, Cal.
Rumbaugh, D. W., Chicago, Ohio.
Sabichi, Geo. C., Bakersfield, Cal.
Sanborn, C. A., Redlands, Cal.
Sanderson, A. J., Berkley, Cal.
Sapp, Clinton E., South Omaha, Neb.
Satterlee, Geo. R., New York.
Schermann, Albert H., Flagstaff, Ariz.
Schmitt, L. S., San Francisco.
Schottler, G. J., Dexter, Minn.
Schulz, F. M., Wauwatosa, Wis.
Schwuchow, Walter B., Los Angeles.
Scott, Alfred J., Los Angeles.
Scott, Florence, Belvedere, Cal.
Scroggs, Gus. A., Los Angeles.
Scabolt, Gertrude C., Los Angeles.
Seaman, E. D., Los Angeles.
Selling, Nathalie, San Francisco.
Shattuck, G. S., Los Angeles.
Sheafe, E. A., Ottumwa, Iowa.
Sheets, Vaughn L., Chicago.
Sheldon, Daniel W., Perris, Cal.
Sheldon, Chas. S., Madison, Wis.
Sheldon, Stuart H., Portland, Ore.
Shelley, Jacob F., Elmdale, Kan.
Shelton, R. O., San Diego, Cal.
Shepard, Chas. A., Needles, Cal.
Sheppard, Christopher, Ontario, Cal.
Sherer, Wm. W., Los Angeles.
Sherman, B. H., Dexter, Iowa.
Shields, Fred B., Victoria, Tex.
Shiels, J. Wilson, San Francisco.
Silcox, J. Evart D., Rio, Ill.
Sisler, G. W., Water Valley, Miss.
Smalley, C. A., Los Angeles, Cal.
Smiley, T. B., Mt. Vernon, S. Dak.
Smith, C. J., Pendleton, Ore.
Smith, Dudley, Oakland, Cal.
Smith, E. Franklin, New York.
Smith, Harvey, Los Angeles.
Smith, Robert D., Yerington, Nev.
Smith, S. F., Bakersfield, Cal.
Southwick, F. A., Stevens Point, Wis.
Speicher, A. F., Los Angeles.
Speirs, G. O., Ellinwood, Kan.
Spencer, J. F., Gardena, Cal.
Spicer, O. W., Colorado Springs, Colo.
Spruance, Henry R., Wilmington, Del.
Squier, Angelo O., Springfield, Mass.
Stallings, F. L., Lindsay, Cal.
Starbuck, A. B., Dallas, Ore.
Stedman, Thos. L., New York.
Steed, Pinckney M., Deming, N. Mex.
Stehman, Henry B., Pasadena, Cal.
Stephens, Philip, Caliente, Nev.
Stewart, W. Blair, Atlantic City, N. J.
Stickney, V. H., Dickinson, N. Dak.
Stockwell, G. N., Ventura, Cal.
Stoltenberg, W. P., Kinsley, Kan.
Stone, Henry H., Phoenix, Ariz.
Strickler, Stephen L., Boggstown, Ind.
Sunde, P. Harold, Los Angeles.
Sutherland, Robert T., Oakland, Cal.
Swearingen, A. W., La Jolla, Cal.
Swearingen, S. P., Pasadena, Cal.
Sweet, Earl, Los Angeles, Cal.
Swoboda, Louis, Omaha, Neb.
Sylvester, Florence M., Oakland, Cal.
Taltavall, Wm. A., Redlands, Cal.
Taubles, G. H., San Francisco, Cal.
Taylor, A. G., Grand Junction, Colo.
Taylor, Lewis C., Springfield, Ill.
Thayer, L. H., Buckeye, Ariz.
Tholen, Emil F., Glendale, Cal.
Thomas, David O., Minneapolis, Minn.
Thomas, Frank W., Claremont, Cal.
Thomas, Roy E., Phoenix, Ariz.
Thompson, Chas. W., Meadville, Pa.
Thompson, Thos. L., Indianapolis, Ind.
Thompson, Wesley, Huntington Park, Cal.
Thomson, J. A., Onawa, Iowa.
Thornburg, M. W., Redfield, Iowa.
Thornton, Andrew J., San Diego, Cal.
Thornton, David D., Los Angeles.
Thornton, Wm. H., Buffalo.
Tice, Frederick, Chicago.
Tileston, Wilder, New Haven, Conn.
Tilton, A. L., Kingman, Ariz.
Tolson, F. R., Lafayette, La.
Tompkins, W. W., Charleston, W. Va.
Topping, Frank P., San Francisco.
Trew, Niel C., Los Angeles.
Trimmer, E. Luther, Los Angeles.
Trueblood, Chas., Monte Vista, Colo.
Trueworthy, J. W., Los Angeles.
Twitchell, Edward W., Sacramento, Cal.
Tyler, B. D., Guthrie, Ky.
Tyler, Hoell, Redlands, Cal.
Urmston, Wm. B., El Paso, Tex.
Utley, Jay H., Los Angeles.
Vadakin, J. H., Bethany, Ill.
Valle, C. C., San Diego, Cal.
Van Meter, S. Y., Los Angeles.
Veazey, W. M., Avilla, Ind.
Van Zwaluwenburg, Jas. G., Ann Arbor, Mich.
Violet, J. C., Chicago.
Visscher, Louis G., Los Angeles.
Voorsanger, Wm. C., San Francisco.
Waggoner, E. L., Los Angeles.
Wagner, L. H., Cleveland, Ohio.
Wallace, Agnes McKie, Prescott, Ariz.
Walrath, Geo. B., Los Angeles.
Warden, Carl C., Los Angeles.
Warner, H. M., Hempstead, N. Y.
Warren, G. A., Black Rock, Ark.
Waterhouse, A. H., Koloa Kauai, H. I.
Waterman, C. O., Long Beach, Cal.
Weaver, Benj. F., Visalia, Cal.

Webster, I. D., San Diego, Cal.
von Wedelstaedt, Bismarck, Chicago.
Weems, Marcus, A., Columbia, Tex.
Weid, Francis A., Pasadena, Cal.
Welch, H. E., Youngstown, Ohio.
Welch, J. Franklin, Salisbury, Mo.
Wellman, W. D., Jamestown, N. Y.
Wells, Edward F., Chicago.
Wells, Samuel J., Pleasanton, Cal.
Wells, W. B., Riverside, Cal.
Wenzlick, Wm., Los Angeles.
Wernigk, R., Los Angeles.
West, Pearl Caleb, Bickleton, Wash.
Wheeler, Frank D., Detroit.
White, J. Francis, Auburn, Cal.
White, Percival G., Los Angeles.
White, Toler R., Valentine, Ariz.
Whitelock, Thos. S., San Diego, Cal.
Whitlock, R. G., Los Angeles.
Wilbur, Roy L., San Francisco.
Wiegand, Wm. E., Baltimore, Md.
Wilkins, David R., Pocahontas, Ill.
Wilkinson, Wm. W., Phoenix, Ariz.
Williams, A. O., Ottumwa, Iowa.
Williams, C. C., Pasadena, Cal.
Williams, E. K., Arkadelphia, Ark.
Williams, Wm., Pittsburg, Kan.
Wilson, Witt C., Ironton, Ohio.
Wilson, Dunning S., Louisville, Ky.
Wilson, H. P., Whittier, Cal.
Wilson, Thos. J., Pomona, Cal.
Winters, Walter P., San Diego, Cal.
Wolfsen, L. H., Merced, Cal.
Wood, Clifford H., Glendora, Cal.
Wootton, Wm. T., Hot Springs, Ark.
Worley, H. F., Oakland, Cal.
Wright, Emily, Rock Island, Ill.
Wright, Thompson B., Pasadena, Cal.
Wylder, M. K., Albuquerque, N. Mex.
Yates, H. N., Pacific Grove, Cal.
Yates, W. N., Fayetteville, Ark.
Zeigler, Willis T., Canton, Ill.
Zelinsky, Frank, Los Angeles.
Zinninger, Geo. F., Canton, Ohio.
Zook, A. J., Adair, Iowa.

Preventive Medicine and Public Health

Aiken, Geo. H., Fresno, Cal.
Ames, Howard E., San Francisco.
Angwin, W. A., U. S. S. California, U. S. Navy.
Aud, C. Z., Cecilian, Ky.
Avery, Ralph W., Oxnard, Cal.
Bancroft, Irving R., Los Angeles.
Barnes, Carl L., Chicago.
Barnes, Henry J., Boston.
Beatty, T. B., Salt Lake, Utah.
Bennett, Laura B., Los Angeles.
Betts, Abbie J. Mace-, Sierra Madre, Cal.
Blue, Rupert, San Francisco.
Bracken, H. M., Minneapolis, Minn.
Bridge, Norman, Los Angeles, Cal.
Brockway, Porter B., Toledo, O.
Brooks, S. D., Los Angeles.
Browning, Chas. C., South Pasadena, Cal.
Calder, Jas. S., Los Angeles, Cal.
Calvin, Warren D., Ft. Wayne, Ind.
Carey, Victor F., New Orleans, La.
Clarke, Louise Harvey, Riverside, Cal.
Coffman, Frank R., Denver, Colo.
Coon, J. W., Wales, Wis.
Crumbine, S. J., Topeka, Kan.
Crumpton, H. John, Piedmont, Cal.
Dannenbaum, Sidney Ray, San Francisco.
Davis, Wm. H., Denver, Colo.
Day, Mary Gage, Kingston-on-Hudson, New York.
Decker, Chas. W., Los Angeles.
Dierking, A. W., Oolitic, Ind.
Dowling, Oscar, Shreveport, La.
Durfee, R. B., Los Angeles, Cal.
Eaton, Geo. L., San Francisco.
Edwards, Samuel G., Los Angeles.
Evans, Wm. A., Chicago.
Farmer, W. C., San Antonio, Tex.
Foster, N. K., Oakland, Cal.
Fulton, John S., Washington, D. C.
Gillett, O. R., Colorado Springs, Colo.
Godfrey, Jr., Edward S., Phoenix, Ariz.
Gorgas, W. C., Ancon, C. Z.
Green, Frederick R., Chicago.
Green, Frances M., Cambridge, Mass.
Griffin, Chas. F., San Francisco.
Griffith, Thos. R., Riverside, Cal.
Grubbs, Major Robt. B., Washington, D. C.
Guest, James W., Louisville, Ky.
Hare, George A., Fresno, Cal.
Heg, Elmer E., Seattle, Wash.
Henely, E., Nora Springs, Iowa.
Heuel, Emil, New York.
Holden, G. Walter, Denver, Colo.
Hughes, H. F., Phoenix, Ariz.
Hull, Theo. Y., San Antonio, Tex.
Hurty, J. N., Indianapolis, Ind.
Hyde, George E., Rexburg, Ida.
Kean, Lt.-Col. J. R., Washington, D. C.
Kerr, J. W., Washington, D. C.
Knox, S. Adolphus, New York.
Lynch, Charles, Washington, D. C.
Mahr, J. C., Muskogee, Okla.
Mallery, John H., La Mesa, Cal.
Marton, George, Los Angeles.
McCormack, J. N., Bowling Green, Ky.
McCoy, Geo. W., San Francisco.
Montgomery, Liston H., Chicago.
Morton, Rosalie Slaughter, New York.
Norton, Oliver D., San Pedro, Cal
Olmsted, R. C., Pasadena, Cal.
Orme, Henry L., Los Angeles.
Palmer, Chas. T., Los Angeles.
Parker, W. H., Ocean Park, Cal.
Parkinson, Jas. H., Sacramento, Cal.
Parks, J. A., San Diego, Cal.
Paroni, Romilda, Berkeley, Cal.
Paul, Samuel G., Salt Lake, Utah.
Peers, Robert A., Colfax, Cal.
Probst, C. C., Columbus, Ohio.
Rafferty, Ogden, Oxnard, Cal.
Rainey, Geo. S., Salem, Ill.
Ravenel, Mazyck P., Madison, Wis.
Rea, Robert W., Plattsburg, Mo.
Read, Albert J., Battle Creek, Mich.
Reinhardt, G. F., Berkeley, Cal.
Rice, Newton J., Pomona, Cal.
Rich, Edward Y., Marietta, Pa.
Richardson, Mark W., Boston.
Ross, John W., U. S. Navy.
Rossiter, F. M., North Yakima, Wash.
Rush, G. B., Lathrop, Mo.
Sawyer, Wilbur A., Berkeley, Cal.
Schweitzer, Ada Estelle, Indianapolis, Ind.
Seymour, Eleanor, Los Angeles.
Sleeper, Karl R., Riverside, Cal.
Snow, Wm. F., Sacramento, Cal.
Stanton, Samuel C., Chicago.
Stuver, E., Fort Collins, Colo.
Sumner, Guilford H., Des Moines, Iowa.
Swadener, Edward L., Keshena, Wis.
Swarts, Gardner T., Providence, R. I.
Tate, C. Francis S., Los Angeles.
Taylor, Holman, Ft. Worth, Tex.
Tonney, F. O., Chicago.
Tucker, Geo. E., Riverside, Cal.
Tuttle, Thos. D., Helena, Mont.
Ward, R. H., Troy, N. Y.
Warner, Frank, Columbus, Ohio.
Wehrly, John, Santa Ana, Cal.
White, Calvin, Portland, Ore.
Woodward, Wm. C., Washington, D. C.
Wynn, Frank B., Indianapolis, Ind.
Young, J. W., Grenada, Miss.

Stomatology

Cave, Daniel, Los Angeles.
Chappel, H. G., Oakland, Cal.
Fulsom, Harry A., Los Angeles.
Jordon, M. Evangeline, Los Angeles.
Marshall, John S., Berkeley, Cal.
Viney, Alvin W., Pasadena, Cal.
Wherry, Styles W., Ogden, Utah.
Wooley, E. W., Winona, Minn.

Dermatology

Davidson, Anstruther, Los Angeles.
Dickey, R. W., Massillon, Ohio.
Emerson, Henry K., Los Angeles.
Evans, J. G., New Hartford, Ia.
Fox, Howard, New York.
Gnichtel, A. L., New York.
Hart, Lasher, Los Angeles, Cal.
Haygood, A. G., Downey, Cal.
Hellwig, John W., Omaha, Neb.
Herrmann, A. J., Los Angeles.
Higbee, Annie, Clovis, Cal.
Keck, Fred. C., San Francisco.
Ketcham, Jane Merrill, Indianapolis, Ind.
Le Fevre, Walter I., Cleveland, O.
Lowell, Chas. H., Los Angeles.
Malaby, Z. T., Pasadena, Cal.
Palmer, Franklin S., Seattle, Wash.
Parker, Harvey G., Portland, Ore.
Potthoff, E. W., Oak Park, Ill.
Purdy, Chas. H., Jersey City.
Pusey, W. A., Chicago.
Rich, R. G., David City, Neb.
Reiche, Cecilia, Los Angeles.
Sherwell, Samuel, Brooklyn, N. Y.
Snyder, C. C., Salt Lake, Utah.
Soiland, Albert, Los Angeles.
Stoddard, Chas. S., Santa Barbara, Cal.

Ophthalmology

Alexander, Edgar W., San Francisco, Cal.
Alt, Adolf, St. Louis, Mo.
Anderson, Helen O., Los Angeles.
Anderson, W. B., Brownwood, Tex.
Bedell, Arthur J., Albany, N. Y.
Billows, G. E., Kansas City, Mo.
Bird, U. S., Tampa, Fla.
Bixby, E. M., Pomona, Cal.
Black, Melville, Denver, Colo.
Boeck, L. Wardell, Boise, Ida.
Bradbury, R. M., San Luis Obispo, Cal.
Breath, Walter P., Galveston, Tex.
Brobst, C. H., Peoria, Ill.
Bullard, Frank D., Los Angeles, Cal.
Bulson, Jr., Albert E., Ft. Wayne, Ind.
Bumgarner, G. M., Bakersfield, Cal.
Burleson, John H., San Antonio, Tex.
Bryant, D. C., Omaha, Neb.
Calhoun, F. Phinizy, Atlanta, Ga.
Cameron, Howard McD., Sacramento, Cal.
Card, Egerton F., Oakland, Cal.
Carpenter, E. R., El Paso, Tex.
Carroll, James J., Baltimore.
Chamberlin, J. W., St. Paul, Minn.
Church, Benj. F., Redlands, Cal.
Cloud, M. Morgan, Los Angeles.
Cochrane, Wm. J., Lake City, Minn.
Collins, Homer, Duluth, Minn.
Conklin, Herbert R., Tecumseh, Mich.
Corr, John T., Kenosha, Wis.
Crume, J. J., Amarillo, Tex.
Davisson, A. W., Corpus Christi, Tex.
Dobson, Geo. H., Santa Ana, Cal.
Dodd, Oscar, Chicago.
Donovan, Jno. A., Butte, Mont.
Dorsey, J. G., Wichita, Kan.
Dudley, W. H., Los Angeles, Cal.
Duncan, A. M., Los Angeles, Cal.
Ellis, H. Bert, Los Angeles.
Fairchild, Chester H., Woodland, Cal.
Findley, M. C., Grant's Pass, Ore.
Franklin, Walter S., San Francisco.
Gosney, C. W., Kansas City, Mo.
Graham, Richard W., Los Angeles.
Gray, J. B., El Paso, Tex.
Graves, W. H., Pittsburg, Kan.
Greene, D. W., Dayton, Ohio.
Gsell, J. F., Wichita, Kan.
Hall, Alfred M., Chicago.
Hamlin, Francis A., Bakersfield, Cal.
Harris, Ross A., Los Angeles.
Hulen, Vard H., Houston, Tex.
Jackson, Edward, Denver, Colo.
Johnston, Wilson, Spokane, Wash.
Jones, Emmett L., Cumberland, Md.
Jordan, P. A., San Jose, Cal.
Kenney, W. L., St. Joseph, Mo.
Kiefer, Hugo A., Los Angeles.
Kirk, A. W., San Francisco.
Lambert, Walter E., New York.
Ledbetter, S. L., Birmingham, Ala.
Lewis, F. Park, Buffalo.
Lewis, J. Perry, San Diego, Cal.
Libby, Arthur A., Los Angeles.
Liverman, J. R., San Bernardino, Cal.
McLaughlin, Wm. E., Los Angeles.
Macleish, Archibald L., Los Angeles.
Magee, R. S., Topeka, Kan.
March, Clara A., Buffalo.
Mans, Leon Wallace, Los Angeles.
Martin, Ancil, Phoenix, Ariz.
Maser, G. W., Parsons, Kan.
May, Jas. W., Kansas City, Kan.
McBeath, Harry F., Milwaukee, Wis.
McCoy, Thomas J., Los Angeles.
McDavitt, Thos., St. Paul, Minn.
McGavren, H. S., San Francisco.
McIntire, Charles, Easton, Pa.
McLeod, Jas. H., Santa Rosa, Cal.
Miles, Henry S., Bridgeport, Conn.
Miller, Frank W., Los Angeles.
Miller, Robt. W., Los Angeles.
Mittendorf, Wm. F., New York.
Moore, C. C., Philadelphia.
Nagel, C. S. G., San Francisco.
Newton, J. C., Exira, Iowa.
Osterling, H. E., Wheeling, W. Va.
Pendleton, F. M., Quincy, Ill.
Pitts, Barton, St. Joseph, Mo.
Plath, O. E., Phoenix, Ariz.
Plumb, J. N., York, Neb.
Powell, Barton J., Stockton, Cal.
Reed, Jas. R., Pasadena, Cal.
Reynolds, Ralph W., Pasadena, Cal.
Risley, J. Norman, Philadelphia.
Rogers, A. C., Los Angeles.
Rogers, F. T., Providence, R. I.
Roberts, W. H., Pasadena, Cal.
Rudgers, Denton W., Yankton, S. Dak.
Savage, G. C., Nashville, Tenn.
Schramm, George V., Salt Lake City, Utah.
Shaul, Jas. Wm., Santa Ana, Cal.
Shoemaker, J. F., St. Louis, Mo.
Shope, Samuel Z., Harrisburg, Pa.
Stauffer, Fred, Salt Lake, Utah.
Steinfeld, A. L., Toledo, Ohio.
Stevenson, Mark D., Akron, Ohio.
Stilwill, Hiram R., Denver, Colo.
Stork, H. H., El Paso, Tex.
Sullivan, M., Adrian, Minn.
Thomas, Jerome B., Santa Cruz, Cal.
Thomson, Edgar S., New York.
Thorne, J. P., Janesville, Wis.
Thorpe, Lewis A., Los Angeles.
Tiffany, Flavel B., Kansas City, Mo.
Toms, S. W. S., Nyack, N. Y.
Trowbridge, D. H., Fresno, Cal.
Walker, B. F., Stockton, Cal.
Walker, J. R., Fresno, Cal.
Ward, M. Wylie, Woodland, Cal.
Weeks, John E., New York.
Wescott, Cassius D., Chicago.
Wherry, J. W., Los Gatos, Cal.
Woodruff, Harry W., Joliet, Ill.
Woods, Hiram, Baltimore.
Workman, R. A., Woodward, Okla.
Zentmayer, Wm., Philadelphia.

Laryngology and Otology

Adams, John E., Oakland, Cal.
Anderson, E. B., Chattanooga, Tenn.
Andrews, A. H., Chicago.
Andrews, B. F., Chicago.
Barnhill, John F., Indianapolis, Ind.
Berkheimer, Geo. C., Windber, Pa.
Blodgett, T. D., Tulare, Cal.
Brewer, Edw. P., Norwich, Conn.
Briggs, Wm. E., Sacramento, Cal.
Brown, J. Mackenzie, Los Angeles.
Bryan, Joseph H., Washington, D. C.
Bullock, Earl S., Silver City, N. Mex.
Burke, Chas. L., Kansas City, Mo.
Burkelman, Arnold, Los Angeles.
Cave, Thos. R., Manhattan, Kan.
Clevenger, Wm. F., Indianapolis, Ind.
Cook, John W., Pendleton, Ind.

Corwin, Theodore W., Newark, N. J.
Cox, W. C., Everett, Wash.
Cunningham, Henry M., Marquette, Mich.
Davies, Bertram C., Monrovia, Cal.
Davis, Sheldon F., Pomona, Cal.
Deane, Louis C., San Francisco.
Dennis, F. L., Colorado Springs, Colo.
Dilworth, Wm. D., Pasadena, Cal.
Eagleton, Wells P., Newark, N. J.
Emerson, Francis P., Boston.
Fleming, E. W., Los Angeles.
Fletcher, John R., Chicago.
Fredrich, Marcus W., San Francisco.
Gofferel, C. C., Wymore, Neb.
Graham, Harrington B., San Francisco.
Hastings, Hill, Los Angeles.
Hastings, Seman W., Los Angeles.
Hastreeter, Rolland F., Los Angeles.
Heffner, Oliver C., Pottstown, Pa.
Horn, Henry, San Francisco.
Hosmer, James E., Ashland, Ore.
Hull, Leonard C., Hollister, Cal.
Huntoon, A. F., Los Angeles.
Kelsey, Arthur L., Los Angeles.
Kistner, Frank B., Portland, Ore.
Kneedler, G. C., Pittsburg.
Knotts, Roy R., Yuma, Ariz.
Kress, George H., Los Angeles.
Lucchetti, Victor F., San Francisco.
Lund, Geo. J., Los Angeles.
Lyle, W. C., Augusta, Ga.
MacDonald, Everett A., Redlands, Cal.
Magee, A. Claude, San Diego, Cal.
Malsbary, Geo. E., Los Angeles.
McCoy, Geo. W., Los Angeles.
McNaught, Harvard Y., Los Angeles.
Meinhardt, Maximilian, Chicago.
Mitchell, George W., Baltimore.
Molgaard, Jens, San Francisco.
Montgomery, C. H., Los Angeles.
Murphy, C. W., Los Angeles.
Murphy, W. W., Los Angeles.
Murray, W. P., Caliente, Nev.
Murray, Wm. R., Minneapolis, Minn.
Musser, Francis R., Oakland, Cal.
Oldham, John, Los Angeles.
Oldham, J. C., Wichita, Kan
Oren, S. A., Lewistown, Ill.
Otto, C. J., Allentown, Pa.
Owen, F. S., Omaha, Neb.
Pattee, James J., Pueblo, Colo.
Pound, John C., Baltimore.
Pounds, T. C., San Diego, Cal.
Pratt, F. J., Minneapolis, Minn.
Pratt, John A., Aurora, Ill.
Pyfer, Howard F., Norristown, Pa.
Robinson, Wm. K., Los Angeles.
Rogers, F. L., Long Beach, Cal.
Roy, Dunbar, Atlanta, Ga.
Sauer, W. E., St. Louis, Mo.
Schell, Walker, Terre Haute, Ind.
Schoonmaker, Perry, New York.
Selfridge, Grant, San Francisco.
Sewall, Edw. C., San Francisco.
Shallcross, W. G., Pittsburg, Pa.
Sheckle, Charles, Los Angeles.
Shore, F. E. V., Des Moines, Ia.
Shurly, Burt R., Detroit.
Smith, A. S. J., San Jose, Cal.
Smith, Beverly W., Franklin, La.
Smith, F. Conger, New York.
Spohn, George W., Elkhart, Ind.
Stephenson, C. C., Los Angeles.
Sweet, Robt. B., Long Beach, Cal.
Szymanski, Julius, Chicago.
Taylor, Chas. E., San Francisco.
Tefft, Jr., Benj. F., Anthony, R. I.
Vanderhoof, Don A., Rockford, Ill.
Voorhees, Sherman, Elmira, N. Y.
Walker, A. W., Riverside, Cal.
Warfield, Clarence, San Antonio, Tex.
Welty, Cullen F., San Francisco.
Williams, Thomas A., Pasadena, Cal.
Zuill, W. L., Pasadena, Cal.

Pathology and Physiology

Black, Stanley P., Pasadena, Cal.
Breed, Lorena M., Pomona, Cal.
Cannon, Walter B., Boston.
Councilman, W. T., Boston.
Darling, S. T., Canal Zone.
Dunlap, W. O., Sedalia, Mo.
Foster, Harry E., Oakland, Cal.
Hall, Frank J., Kansas City, Mo.
Henderson, Yandell, New Haven, Conn.
Houghton, E. M., Detroit.
Hudson, Jessie B., Iowa City, Ia.
Johnstone, O. P., Reno, Nev.
Jones, A. Halden, Los Angeles.
Karsner, Howard T., Philadelphia.
Leonard, Ethel, Los Angeles.
Leary, Timothy, Boston.
Le Count, E. R., Chicago.
Litterer, Wm., Nashville, Tenn.
Loeb, Leo, St. Louis.
McClintock, John T., Iowa City, Iowa.
McDonald, Hugh J., Butte, Mont.
Mills, Harlan P., St. Joseph, Mo.
Oliver, Harry R., San Francisco.
Ophuls, William, San Francisco.
Orndoff, B. H., Chicago.
Pottenger, Jos. E., Monrovia, Cal.
Rusk, G. V., Berkeley, Cal.
Sidebotham, Harold, Santa Barbara, Cal.
Tebbitt, Robt. L., Los Angeles.
Thieme, Derk. A., Los Angeles.
Thompson, H. A., San Diego, Cal.
Thompson, Ralph L., St. Louis.
Wagner, Andrew F., Pasadena, Cal.
Ward, Henry B., Urbana, Ill.
Watkins, W. Warner, Phoenix, Ariz.
Welch, Wm. H., Baltimore.
Wells, H. Gideon, Chicago.
Wicherski, Otto G., San Francisco, Cal.
Wilson, L. B., Rochester, Minn.

Diseases of Children

Abt, Isaac A., Chicago.
Acker, Geo. N., Washington, D. C.
Alexander, Wm. G., Evanston, Ill.
Allgood, J. E., Liberty, S. C.
Allen, Frances M., San Diego, Cal.
Allen, Frank W., Chicago.
Andrews, Leila E., Oklahoma City, Okla.
Bledsoe, Martha J., Chickasha, Okla.
Blair, B. H., Lebanon, Ohio.
Bogert, Frank V., Schenectady, N. Y.
Butler, W. J., Chicago.
Butterworth, W. W., New Orleans, La.
Chancellor, Philip S., Pasadena, Cal.
Clark, Jennie B., Chicago.
Cokenower, Jas. W., Des Moines, Iowa.
Colliver, John A., Los Angeles.
Cotton, Alfred C., Chicago.
DeBuys, L. R., New Orleans, La.
Dodsworth, Robt. M., Azusa, Cal.
Dornbush, Bertha E., Pittsburg, Pa.
Dranga, Muriel, San Diego, Cal.
Eager, Katharine L., Salt Lake City, Utah.
Eakin, Byron W., Carlisle, W. Va.
Earle, C. A., Des Plaines, Ill.
Follansbee, Elizabeth A., Los Angeles.
Foss, John W., Phoenix, Ariz
Francis, W. V. C., Los Angeles.
Gates, Sterling J., Franklin, La.
Gengenbach, F. P., Denver, Colo.
Graves, Robert E., Chicago.
Hamill, S. McC, Philadelphia, Pa.
Hanson, D. S., Cleveland, Ohio.
Hare, Jessie D., Fresno, Cal.
Hesser, George T., Folsom, Cal.
Hines, Edgar A., Seneca, S. C.
Holmes, Arthur D., Detroit.
Hollopeter, Wm. C., Philadelphia.
Hopkins, Caroline B., Chicago.
Horstmann, Elsa H., Los Angeles.
Iglick, Samuel, Orland, Cal.
Johnson, P. V. K., Los Angeles.
Johnstone, Mary M. S., Chicago.
Jones, R. P., Clinton, La.
Lischner, Hyman, San Diego, Cal.
Litsinger, Geo. H., Riley, Kan.
Lowman, C. L., Los Angeles.
Martin, Marshall L., Los Angeles.
Maurits, Reuben, Grand Rapids, Mich.
McCleave, T. C., Berkeley, Cal.
McGavin, Jessie M., Portland, Ore.

McNeil, H. G., Los Angeles.
McVea, Chas., Baton Rouge, La.
Michael, May, Chicago.
Miller, Chas. F., Los Angeles.
Mohun, C. C., San Francisco.
Moulton, D. H., Chico, Cal.
Neff, Frank C., Kansas City, Mo.
O'Connor, H. Kathleen, Omaha, Neb.
Powell, C. S., Benson, Ariz.
Powell, Nettie B., Marion, Ind.
Porter, Langley, San Francisco.
Putnam, Catherine E., St. Paul, Minn.
Richter, Arthur J., Chicago.
Royster, L. T., Norfolk, Va.
Rulison, L. B., Watervliet, N. Y.
Ryan, Granville N., Des Moines, Iowa.
Scott, Jr., Alfred J., Los Angeles.
Sedgwick, J. P., Minneapolis, Minn.
Siebe, Elizabeth B., San Francisco.
Simonds, Paul E., Los Angeles.
Southworth, Thos. S., New York.
Strang, Walter W., New York.
Sundin, P. O., Los Angeles.
Tate, Louis N., Brimfield, Ill.
Tenney, C. F., Toledo, Ohio.
Thomas, F. P., Hopkinsville, Ky.
Tubbs, R. B., Council Bluffs, Ia.
Vernon, S. Geraldine, Madison, Wis.
Violett, Chas. C., Garden Grove, Cal.
Woolery, Perry, Heltonville, Ind.
Wright, Louisa V., Camas, Wash.
Yost, Francis O., Los Angeles.

Pharmacology and Therapeutics

Abbott, W C., Ravenswood, Ill.
Bulkley, L. Duncan, New York.
Calvin, Jessie Carrithers, Fort Wayne, Ind.
Clare, Montrose W., Eureka Springs, Ark.
Cook, C. W., Los Angeles, Cal.
Crabtree, Hezediah T., Salinas, Cal.
Davis, Theodore G., Los Angeles, Cal.
Eliot, Gustavus, New Haven, Conn.
Endicott, E. E., Jackson, Cal.
Flinn, John W., Prescott, Ariz.
French, J. M., Milford, Mass.
Fussell, M. Howard, Philadelphia.
Hirschfelder, J. O., San Francisco, Cal.
Holland, James W., Philadelphia.
Hunt, Reid, Washington, D. C.
Jones, Philip M., San Francisco.
Kerr, Wm. W., San Francisco.
Kruell, Fred. J., Los Angeles.
Litchfield, Lawrence, Pittsburg.
McCormack, Arthur T., Bowling Green, Ky.
Osborne, Oliver T., New Haven, Conn.
Pope, Saxton T., Watsonville, Cal.
Porter, Sidney D., Louisiana, La.
Reed, Boardman, Alhambra, Cal.
Schafer, Augustus F., Bakersfield, Cal.
Schmoll, Emile, San Francisco, Cal.
Simmons, George H., Chicago.
Snow, Wm. B., New York.
Sommerkamp, R. F., Philadelphia.
Stewart, Francis E., Philadelphia.
Wheatley Frank G., North Abington, Mass.

Nervous and Mental Diseases

Applegate, C. F., Mt. Pleasant, Iowa.
Avey, Oliver H., Payette, Ida.
Allen, Chas. L., Los Angeles.
Bernig, Robt. E., San Francisco.
Birtch, Fayette W., San Francisco.
Bishop, T. W., Los Angeles, Cal.
Booth, David S., St. Louis, Mo.
Boyd, J. P., Santa Ana, Cal.
Bradburn, B. P., Lincoln, Ill.
Brainerd, H. G., Los Angeles.
Burnett, S. Grover, Kansas City, Mo.
Byrd, W. G., Isola, Miss.
Caples, Byron M., Waukesha, Wis.
Case, Calvin L., Oakland, Cal.
Clark, Wm. S., Los Angeles.
Coburn, E. S., Plumstead Ville, Pa.
Colwell, N. P., Chicago
Corey, Francis E., Alhambra, Cal.
Craig, N. S., Jennings, La.
Crosby, Daniel, Oakland, Cal.
Cross, William W., Fresno, Cal.
Crothers, T. D., Hartford, Conn.
Dawson, William J. G., Eldridge (Sonoma Co.), Cal.
Deacon, George, Pasadena, Cal.
Dold, William Elliott, New York.
Duncan, Charles G., Socorro, N. M.
English, W. F., Saginaw, Mich.
Ewing, W. Brown, Salt Lake City.
Eyman, Henry C., Massillon, O.
Fackler, L. H., York, Pa.
Field, A. G., Des Moines, Iowa.
Fisher, James T., Los Angeles.
Franklin, Charles M., Baltimore.
Fundenberg, Geo. B., Pasadena, Cal.
Gordon, Frank H., Los Angeles.
Graves, William W., St. Louis.
Grinnell, Fordyce, Pasadena, Cal.
Gundry, Richard F., Catonsville, Md.
Hanlon, E. W., Los Angeles.
Harmon, F. W., Cincinnati.
Hazen, Charles M., Bon Air, Va.
Hedgpeth, W. R., Paso Robles, Cal.
Henschel, Louis K., Greystone Park, N. J.
Hoisholt, A. W., Stockton, Cal.
Howard, Burt F., Alta, Cal.
Howard, Edward, San Diego, Cal.
Jackson, Josephine A., Pasadena, Cal.
Jones, H. L. Jackson, Tenn.
Jones, William Alexander, Minneapolis.
Kaufman, Albert S., New Kensington, Pa.
Kearney, Elizabeth F., Los Angeles.
Keep, Frederica A., Los Angeles.
Kistler, S. L., Los Angeles.
Langdon, Samuel W. R., Stockton, Cal.
Lazaro, A., Washington, Pa.
Lewis, Joseph M., Cleveland.
Lilley, W. E., Merced, Cal.
Macfarlane, R. F., Astoria, N. Y. City.
Marner, G. P., Marion, Kan.
McCafferty, Emil L., Mt. Vernon, Ala.
McCann, Daniel B., Los Angeles.
McBride, Jas. H., Pasadena, Cal.
McClenahan, H. C., San Francisco.
McNamara, T. M., Bakersfield, Cal.
Moleen, George A., Denver.
Moody, G. H., San Antonio, Tex.
Moore, Ross, Los Angeles.
Moyer, Harold N., Chicago.
Nelson, J. A, Wayne, Okla.
Oettinger, Bernard, Denver.
Orbison, Thomas J., Los Angeles.
Parsegan, J. H, San Francisco.
Patterson, Louise, Vineland, N. J.
Pettey, George E., Memphis, Tenn.
Podstata, V. H., Chicago.
Pratt, A. H., Oakland, Cal.
Ritter, John, Chicago.
Robertson, John W., Livermore, Cal.
Robinson, G. Wilse, Kansas City, Mo.
Scanland, John M., Warm Springs, Mont.
Schmitz, John, Los Angeles.
Shank, G. A., Huntington Beach, Cal.
Sharpe, Anne McFarland, Jacksonville, Ill.
Sheppard, W. W., Chicago.
Sights, H. P., Paducah, Ky.
Smith, Robert Percy, Seattle, Wash.
Smith, Stephen, Los Angeles.
Smyth, Margaret Hamilton, Stockton, Cal.
Talboy, William R., Newcastle, Neb.
Taylor, Thomas F., Tuskegee, Ala.
Teubner, Charles, Oxnard, Cal.
Thompson, G. W., Winamac, Ind.
Voldeng, M. N., Cherokee, Iowa.
Wickett, W. Harold, Fullerton, Cal.
Wickland, Carl A., Chicago.
Willson, S. C., Anderson, Ind.
Woodson, C. R., St. Joseph, Mo.
Work, Hubert, Pueblo, Colo.

Miscellaneous

The following failed to indicate preference for any section, or marked more than one on the registration card.

Alvarez, Luis F., Los Angeles.
Armstrong, Maurice M., Los Angeles.
Baer, Adolf B., San Francisco.
Bagg, Charles P., Surgeon, U. S. N., Los Angeles.
Barnes, S. M., Santa Ana, Cal.
Barr, W. T., Fresno, Cal.
Bicknell, F. T., Los Angeles.
Bonynge, Charles W., Los Angeles.
Brophy, Truman W., Chicago.
Brown, Archibald R., San Dimas, Cal.
Brown, F. Earl, Los Angeles.
Brown, George V. I., Milwaukee, Wis.
Brown, N. N., Bakersfield, Cal.
Buckley, Emma, San Francisco.
Byron, R. L., Los Angeles.
Clark, Jonas, San Jose, Cal.
Clark, William D., San Francisco.
Coulter, Herbert M., South Pasadena, Cal.
Cox, H. M., San Luis Obispo, Cal.
Deichmiller, Conrad, Los Angeles.
Dickson, C. S., Riverside, Cal.
Dodge, William, Los Angeles.
Dwight, Henry L., New Bedford, Mass.
Eshleman, L. H., Marion, Ind.
Evans, J. H., Highland, Cal.
Fisher, Edward D., New York.
Forline, Hamilton, Redlands, Cal.
Harris, Philander A., Paterson, N. J.
Hilliard, Carlos G., Redlands, Cal.
Hoffman, L. H., San Francisco.
Hornsby, John A., Chicago.
Howe, R. C., Colton, Cal.
Hulbert, Robert G., San Diego, Cal.
Hull, Frank E., Los Angeles.
Hutchinson, George A., Los Angeles.
Jenkins, J. E., Los Angeles.
Jenkins, J. F. T., Los Angeles.
Kiger, W. H., Los Angeles.
Knott, John M., Sioux City, Ia.
Kurtz, Joseph, Los Angeles.
Lafferty, Edward E., Bogalusa, La.
Lorenz, John W., Evansville, Ind.
Matson, Ray W., Portland, Ore.
McConnell, George G., Chicago.
Medlock, J. R., Santa Ana, Cal.
Minney, J. E., Los Angeles.
Mitchell, Henry, Asbury Park, N. J.
Molony, Martin, San Francisco.
Molony, William R., Los Angeles.
Montgomery, D. W., San Francisco.
Morrow, Howard, San Francisco.
Newcomb, W. K, Champaign, Ill.
Nichols, William V., Oceanside, Cal.
Nixon, Anne W., Pasadena, Cal.
Nutting, Floyd, Los Angeles.
Oakley, H. W., Porterville, Cal.
Parker, Ida B., Orange, Cal.
Pascoe, Elma R., Los Angeles.
Perry, W. F., Los Angeles.
Pinard, P. H. A., Jefferson, S. D.
Pinkston, A. R. W., Ft. Meade, S. Dak
Powers, L. M., Los Angeles.
Prentice, George L., Garden Grove, Cal.
Rossman, C. G., Hudson, N. Y.
Sample, John T., Baltimore.
Smith, A. M., Oakland, Cal.
Smith, Frederick J., San Diego, Cal.
Spitler, S. W., Wellington, Kan.
Stafford, O. R., Los Angeles.
Stivers, Charles Gaskill, Los Angeles.
Surryhne, B. F., Modesto, Cal.
Tape, G. W., Hot Lake, Ore.
Thackeray, W. T., Chicago.
Thompson, David, Denver.
Topham, Bertram E., Los Angeles.
Totman, D. M., Syracuse, N. Y.
Tower, A. M., Lodi, Cal.
Tracy, Frank M., San Marcos, Cal.
Ward, Henry B., Urbana, Ill.
Warner, Eugene R., Denver.
Webb, Gerald B., Colorado Springs, Colo.
Weber, Louis, Los Angeles.
White, C. M., Visalia, Cal.
Yale, A. E. W., Pigeon, Mich.
Young, G. B., Chicago.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE MEDICAL PROFESSION IN GERMANY

The United States Consul-General at Dresden has reported in the *Daily Consular and Trades Reports* an article in the *Deutsche Medizinische Wochenschrift*, giving a statistical review of the medical profession for 1910. According to this weekly, there are at present practicing in Germany 32,449 physicians or 5.01 doctors for every 10,000 of population, an increase of 480 over 1909. As the number of medical students has risen from 9,239 in 1909 to 11,125 in 1910, a still further increase in the number of physicians may be anticipated. The actual increase in practitioners is largely in the cities. Berlin has 12.32 physicians per 10,000; Wiesbaden, 22.6; Munich, 16.6, and Stuttgart, 9.7. The number of female doctors has risen from 55 in 1908 and 69 in 1909 to 102 in 1910, while the number of female medical students has increased from 371 to 512.

"A MAN WITH A MESSAGE"

The following editorial from a recent number of the *Houston* (Tex.) *Chronicle* indicates the effect produced on the community by Dr. McCormack's recent address in that city:

> There have been no addresses delivered in Houston, in the judgment of the *Chronicle*, which were more needed and which contained more sound, sensible advice and instruction than those delivered by Dr. J. N. McCormack, organizer of the American Medical Association.
>
> His address—or rather his plain, practical talk—at the Young Men's Christian Association Sunday evening—strong by reason of its marvelous clearness and simplicity—was such a message as needs to be told to youth and young and old-manhood alike. Dr. McCormack could make the same talk before any woman's society or any social club or high school without giving offense to any right-thinking man or woman.
>
> He makes two statements that deserve to be driven into the minds and consciences of all the people. One was that the idea that we can keep our children pure by keeping them ignorant is wholly false; and the other was that, while all men recognize the profound importance and the necessity of purity in women, the idea is widespread that the same standard of continence and purity in men is at once unimportant and impossible. This contention he justly denounced as false and vicious.
>
> He dealt with the question as one which relates more to the future than to the present. He spoke in recognition of the divine declaration that "I will visit the sins of the father upon the children, even unto the third and fourth generation," and asserted that the truth of that deliverance made from Sinai was proved every day in the experience of reputable physicians. The evils of immorality were made manifest in defective children, in diseases transmitted, in blindness and impure blood, and, speaking as a surgeon of long experience, he said that the alarming proportion of 60 per cent. of the surgical operations on women were made necessary by and could be traced to impurity on the part of men.
>
> There is no question in which the whole body of society is as much interested as it is in the health of the people, and, as Dr. McCormack said, it is not the large, visible, easily reached enemies of health which are most to be dreaded, but the apparently insignificant ones, such as mosquitoes, flies and fleas. The three young physicians who gave up their lives to prove that the mosquito was the agency which transmitted yellow fever lie unhonored in unmarked graves because we build monuments to those who destroy human life, not to those who save it; yet these men made clear that which stamped out one of the scourges of humanity.
>
> Flies are the chief agency for spreading the germs of typhoid fever, and the bubonic plague, which carries terror to the hearts of men, is spread by fleas, and the fleas are carried from place to place by rats.
>
> The medical association of the United States is conferring incalculable benefit on the whole people by making possible such a work as Dr. McCormack is doing.
>
> It would be worth a million dollars to Houston if the dangers he points out could be appreciated by all her people, and the lessons he teaches and the instructions he gives were followed by them. The world has slept long, but is awakening now, and the campaign for higher morals and better health will never halt.

A NEW TUBERCULOSIS DIRECTORY

The National Association for the Study and Prevention of Tuberculosis has issued a new edition[1] of the "Tuberculosis Directory," which shows that over 600 cities and towns of the United States and about 100 in Canada are at present making active efforts for the suppression of consumption, and that on April 1, 1911 there were nearly 1,500 different agencies at work for the reduction of tuberculosis, an increase of nearly 700 per cent. in the last seven years. The directory gives 421 tuberculosis sanatoriums, hospitals and day camps, 511 associations and committees for the prevention of tuberculosis, 342 special dispensaries, 68 open-air schools, 98 hospitals for the insane and penitentiaries which make special provision for tuberculous inmates. The book also contains a summary of the antituberculosis legislation in every state as well as the municipal ordinances of about 250 cities. This book therefore contains a complete synopsis of the entire antituberculosis movement and shows graphically the phenomenal growth of this campaign in the last seven years. In 1905, when the first directory was issued, there were only 183 organizations and institutions for the care and treatment of tuberculosis in the entire United States. In the second edition, published in 1908, there were 649 listed, while the total number of tuberculosis institutions and antituberculosis organizations at present is 1,440.

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[1] Cloth, 331 pages, price 50 cents, 105 East Twenty-Second Street, New York.

Medical Education and State Boards of Registration

COMING MEETINGS

California: San Francisco, August 1. Sec., Dr. Charles L. Tisdale, 929 Butler Building.

Nebraska: Lincoln, August 9. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

The University of Michigan Establishes a Course in Public Health

The Department of Medicine and Surgery of the University of Michigan has provided for and will inaugurate next year courses leading to the degrees of master of science (in public health) and of doctor of public health. Candidates must possess the two degrees of bachelor of arts and doctor of medicine.

For the degree of master of science in public health the course of instruction will cover one academic year. For the degree of doctor of public health the course will extend through two years. Research work will be required for the doctor's degree.

The subjects in which instruction will be given will be as follows:

FIRST SEMESTER	Hours Weekly
Advanced bacteriology and parasitology	10
Practical hygiene (meat, milk and water)	5
Physical education	5
Sanitary engineering (plumbing, draining)	2
Building, sanitation	1
Hydraulic work (water supplies)	2
Autopsy technic	2
Special pathology of infectious diseases	5
Social and vital statistics	1
Sanitary legislation	2

SECOND SEMESTER	Hours Weekly
Practical hygiene (foods, clothing, personal hygiene, prophylaxis, quarantine, isolation, disinfection, disposal of dead, etc.)	10
Physical education (theory and application of physical training, practical anthropometry)	5
Sanitary engineering (garbage and waste disposal, sewage)	10
Pathology of occupational diseases	1
Serum and vaccine therapy	5

Preliminary Educational Requirements in Louisiana

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, writes that on and after October 18, 1911, applicants for license to practice medicine in Louisiana must furnish satisfactory evidence of possessing qualifications such as are obtained by a student finishing and graduating from a four-year high school, with educational units showing fourteen units, with the following distributions:

Required: (a) English, 3 units (grammar, rhetoric, literature, each 1 unit); (b) mathematics, 3 units (algebra, 1½ units; plane geometry, 1 unit; solid geometry, ½ unit); (c) history, 2 units, selected from history of England and America, 1 unit; history of United States, 1 unit; general history, 1 unit; Greek and Roman history, 1 unit; (d) language, Latin, 2 units (grammar and composition, 1 unit; four books of Caesar or its equivalent, 1 unit).

Elective: French, 1 or 2 units; German, 1 or 2 units; Spanish, 1 or 2 units; physics, 1 or 2 units; chemistry, 1 or 2 units; botany, ½ or 1 unit; zoology, ½ or 1 unit; physiography, 1 unit; physiology, 1 unit; freehand drawing, 1 unit; mechanical drawing, ½ unit; manual training, ½ to 2 units. Among these, fourteen (14) units must be satisfied.

A unit represents the work done in a high school in one full session of not less than thirty-six weeks, with five recitations of forty minutes each per week.

The board will accept the following as satisfying the above qualifications:

a. A diploma from a reputable university or college granting the degree of A.B., B.S., or an equivalent degree.

b. A certificate of admission by examination to entrance in a standard university, viz., one requiring a high school diploma with the above fourteen units.

c. A diploma from a high school, academy or normal school, the curriculum of which may satisfy by certification the fourteen specified units.

d. A medical student's certificate issued by certification or after examination by any state board of medical examiners having a standard for certification based on a high school diploma with the fourteen required units.

As some states require the certificates from other state boards of medical examiners to be issued or certified by state officials in education not connected with the university with which the medical school or department is identified, the Louisiana State Board of Medical Examiners has established the following rule:

Students beginning the study of medicine in the State of Louisiana will be furnished, on application, with medical students' certificates on (a) a certificate showing a credit of fourteen units from a recognized high school and on graduation from the same; (b) on examination before the superintendent of education of the State of Louisiana or of the City of New Orleans. Such certificates, to become valid, must be approved by the secretary of the State Board of Medical Examiners of Louisiana.

Book Notices

A Pocket-Book of Treatment. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Leather. Price, $1.70 net. Pp. 348. New York: Longmans, Green & Co.

In this manual the author has aimed at securing brevity without the sacrifice of clearness. For this reason he has assembled in the first part of the book a description of the various methods of treatment to which the reader is referred under the individual diseases. In this section there are some valuable hints and reflections that ought to serve as food for thought by the reader. We commend special attention to the section on "Treatment by New Remedies" in which the genesis of nostrums from the recommendations of standard books on therapeutics is graphically described. The author says, "The young practitioner purrs when he is told he is up to date. When he becomes more experienced he will have discovered that it is safer to be, say, six months behind the times. In fact, the up-to-date physician may be defined as a man who experiments on his patients."

Under "Treatment by Hypnosis and Suggestion," it is interesting to note that the effects of homeopathic treatment and of many operations are referred to suggestion. Good directions are given for preparation for operations and after-treatment; it seems, however, as if it might have been better to refer the reader to his surgical text-books rather than to attempt to cover this subject in less than three pages.

The second part of the manual is mainly a collection of formulas; the names of diseases and syndromes are arranged alphabetically after the manner of other therapeutic indexes.

Diseases of the Anus, Rectum and Sigmoid. For the Use of Students and General Practitioners. By Samuel T. Earle, M.D., Professor Emeritus of Diseases of the Rectum in the Baltimore Medical College. Cloth. Price, $5 net. Pp. 476, with 152 illustrations. Philadelphia: J. B. Lippincott Co., 1911.

One takes up this work with pleasant anticipations only to lay it down with a feeling of keen disappointment. Instead of a record of ripe experience of one of the Nestors among specialists in rectal diseases in this country, it turns out to be mainly a collection of extracts—one of them eight pages long—none too skilfully welded together.

After preliminary sections devoted to anatomy, physiology and examination, respectively, the various affections are discussed. The description of colostomy and extirpation of the rectum being separated by a chapter on tumors, and wounds and foreign bodies bringing up the rear. It strikes us that a more orderly arrangement would be preferable. In fact the whole work shows evidence of undue haste in its preparation. Chapters are included on "Affections of the Coccyx" and on "Congenital Dilatation of the Colon," though the connection of these with the field of work is not at first apparent. The latter condition does not involve the rectum; it causes constipation, to be sure, but several other conditions would also merit consideration on this account.

The work is marred by a totally unnecessary number of misprints (Henock, Shaffer, Schaeffer, Diffenbach, Diffienbach, *Pfleger's Archives,* coactor, lesions tertiaries, rectitis proliferante, etc.). The Journal is quoted as the American Medical Journal. Even the author's fellow specialists do not escape, the author of one work on this subject being alluded to as Goodsaull and another as Matthews.

While the print is good, the illustrations in several instances leave much to be desired for clearness. Altogether we regret to give it as our opinion that the present work cannot be looked on as making any material contribution to the subject of proctology.

Hospital Management. A Handbook for Hospital Trustees, Superintendents, Training-School Principals, Physicians, and All Who Are Actively Engaged in Promoting Hospital Work. Edited by Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse." Cloth. Price, $3 net. Pp. 488, with 154 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This book represents the collaboration of twenty-one authors, including the editor, and covers every phase of hospital construction and equipment, with detailed information concerning every department and feature of hospital work and management.

Each of the authors, physicians for the most part, but including nurses, engineers, pharmacists, architects and superintendents of hospitals, is experienced in the feature about which he or she writes. With the vastly increasing number of hospitals being established in the smaller cities and towns of the country, there is a demand for the information which this book attempts to give. It is profusely illustrated. The feature of open-air treatment is not neglected, and outdoor hospitals are described and pictured and their equipment and management also set forth.

Courtship Under Contract. The Science of Selection. A Tale of Woman's Emancipation. By James Henry Lovell Eager. Cloth. Price, $1.20 net. Pp. 440. New York: The Health-Culture Co., 1911.

In this story the author, a physician, attempts to teach the desirability of more careful selection of a life partner from a eugenic standpoint, on account of the supposed beneficial influence it would have on the future of the human race. The heroine and the hero attempt the somewhat radical experiment of living in one household without entering on marriage relations for a probationary period of six months under certain conditions of publicity and chaperonage.

Medicolegal

Liability for Attempting to Obtain Money by False Pretenses in Wilful Misrepresentation of Existence of Disease

(*People vs. Arberry* (*Cal.*), *114 Pac. R. 411*)

The Court of Appeal, First District, California, affirms here a judgment convicting the defendant of the crime of an attempt to obtain money by false pretenses; and the Supreme Court of California denies a rehearing. The Court of Appeal says that there was evidence to the effect that one Muscio, a young man about 21 years of age, had read in a San Francisco paper the advertisement of "Dr. Taylor & Co.," which stated the ability and skill of the doctors in charge, and their undertaking specially to cure all diseases of men and youths. He went to San Francisco and, with the advertisement in his hands, called on "Dr. Taylor & Co.," and asked to see Dr. Taylor. The defendant appeared and stated that he was Dr. Taylor, and at all times thereafter was addressed by Muscio as Dr. Taylor. Muscio was taken into a consultation room and examined by the defendant, who by manipulation of the prostate gland, obtained therefrom a milky fluid—an easy thing for a physician to do—which he showed to Muscio, and without any examination of it, microscopic or otherwise, informed him that it was pus from an abscess of the prostate gland, and demanded of Muscio $300 to cure him. Muscio having only $10 with him, the defendant took that, and agreed that for $200 more he would cure him. At the defendant's suggestion and dictation, Muscio wrote to an aunt a letter as follows: "Dear Aunt—I am sick and won't be home until the latter part of the week, and I need $200. Please send it to me at once to this address." This letter was written on the letter-head of "Dr. Taylor & Co." Then, after the defendant got that money, "Dr. Taylor & Co." wrote to the aunt that they had discovered a serious complication and would advise her to come to San Francisco and see them, and, when she did so, the defendant stated that Muscio had a valvular disease of the heart, that he might drop dead at any moment, but that he, defendant, could cure him, and would do so for $200, although it was worth $300. An examination made on Muscio by three physicians showed not only that he had never had an abscess of the prostate gland, but that his heart was normal, and that he had no valvular trouble of that organ.

The amended information charged the defendant with a felony, namely, an attempt to obtain money by false pretenses, by falsely representing and pretending that said Muscio had an affection of the heart of a serious nature, that is, had valvular disease of the heart, which was represented to the said aunt to be of such a nature that it endangered the life of the said Muscio, who was apt to drop dead at any time, and which affection or disease of the heart was of such a nature that the same required immediate medical attention, for which medical attention the sum of $200 was demanded. There was no error in overruling a demurrer to the amended information. It stated facts sufficient to constitute a public offense. The statement that the defendant was suffering from a valvular disease of the heart was a statement of a fact. It was not given as an opinion, but it was a statement voluntarily made by the defendant to a person from the country, ignorant of medicine and diseases, and who had the right to rely on a physician's honor and integrity. Nor did it lie in the mouth of the defendant to say that the aunt had no money, so that it would have been impossible for him to accomplish the contemplated crime. It was sufficient that the means was apparently adapted to the end in view, although circumstances independent of the will of the defendant left the crime uncommitted.

The profession of medicine is an honorable and useful one, and the skilful, careful, honest physician who devotes his time—often his days and nights—to the relief of suffering humanity is a blessing to the community in which he resides. But while this is true, there is probably no profession or calling which affords greater opportunity for the dishonest quack to thrive and become wealthy off the ignorance and stupidity of his patients. There is little danger of an honorable, upright physician being held to criminal account for a mistaken diagnosis; but where a dishonest physician has made a wilfully false statement as to a mortal disease, solely with the view of obtaining money from the victim, the law should deal severely with such physician. The court does not mean to even intimate by what has been said that the law will hold a physician liable criminally for a statement honestly but mistakenly made as to his professional judgment in regard to a disease. But the fact that one is a licensed physician will not be allowed as a cloak to shield him from all responsibility for statements wilfully made, with the sordid view of obtaining the money of the unwary.

The letters sent to the aunt, signed in typewriting "Dr. Taylor & Co.," were properly admitted in evidence. The evidence sufficiently connected the defendant with them and with the demands and statements therein made.

Neither did the court commit error in allowing evidence as to the prior statement that Muscio had an abscess of the prostate gland, and the fact that the defendant received $200 to cure that. The transaction was with the same parties, from the same "Dr. Taylor & Co.," the defendant in each case representing himself to be Dr. Taylor, and each transaction was with the aunt of Muscio. It was admitted, not for the purpose of showing another and distinct crime, but to show the intent of the defendant in making the representations to the aunt that Muscio had valvular disease of the heart, and the question as to whether or not his statement was made with the intent of procuring money and in violation of the law.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Experimental Medicine, New York

July

1 *Strongyloides Infections in Man and Animals in Canal Zone. S. T. Darling, Ancon, C. Z.
2 Toxic Action of Certain Normal Serums and Its Relation to Anaphylaxis. H. Zinsser, California.
3 *Immunity and Anaphylaxis. R. M. Pearce, H. T. Karsner and A. B. Eisenbrey, Philadelphia.
4 *Calcium and Iron Incrustation and Other Lesions of the Elastic Tissue of the Spleen and Liver. T. P. Sprunt, Baltimore.
5 *Serum Treatment of Influenzal Meningitis. M. Wollstein, New York.
6 Formation of Precipitates After Intravenous Injection of Salvarsan. D. R. Joseph, New York.

1. **Strongyloides Infections.**—From a study of strongyloides infections in man and animals, it has been determined by Darling in confirmation of the view of Grassi, Calmette and others, that they are not causative factors in the production of diarrhea. The mother worm, however, burrows into the mucosa and deposits her ova there. Certain tissue reactions take place and are evidenced by the cellular proliferation in those portions of the intestines occupied by the nematodes. Portals of entry for various microorganisms are made by the female mother worm and her larvæ in the small intestine, and, while no case of general bacterial infection has been proved to have arisen in this way, Darling regards its occurrence as possible and highly probable.

3. **Immunity and Anaphylaxis.**—The sera of rabbits injected repeatedly with the nucleoproteins, globulins and albumins of the liver and kidney of the dog gave no evidence *in vitro* or *in vivo* experiments of organ affinity. The precipitin test offered no proof of the specificity of these sera for the proteins employed as antigens. The anaphylaxis reaction applied to the same proteins indicate a slight relative organ affinity but no specificity as far as the respective protein fractions are concerned. The relative organ affinity resides, the authors believe, rather in the globulin and albumin fractions than in the nucleoprotein fraction. Dog serum used both as a sensitizing and an intoxicating agent gives rise to very active cross reactions with organ proteins, thus failing to support the theory of organ or of protein specificity. These results do not support the view put forward that nucleoproteins play an important part in the course of production of cytotoxic immune sera.

4. **Calcium and Iron Incrustation of Liver.**—The lesion described by Sprunt consists of a selective impregnation of the elastic tissue in the splenic trabecula and vessels with the phosphates, and perhaps other salts, of calcium and iron. There is a further chemical change in the elastic fibers which may be expressed by the term "elacin." Degenerated and, especially, calcified elastic tissue, even more than calcification in general, seems to possess an affinity for iron salts. The iron incrustations occur principally in congested or hemorrhagic tissues. The etiologic agent in this case is obscure. The only other example of this lesion in the spleen was in a case of Banti's disease. Many features of this case suggested a primary splenomegaly, but the evidence in its favor was not conclusive. Calcified elastic fibers, without the iron and elacin reactions, were also present in the liver, which was the seat of a recent apparently biliary or infectious cirrhosis. The elastic tissue of other organs showed nothing remarkable except in the skin, in which the fibers were undergoing the usual senile changes.

5. **Serum Treatment of Influenzal Meningitis.**—The injection of virulent cultures of *B. influenzæ* into the subdural space of several species of lower monkeys was followed by the development of an acute inflammation of the meninges, corresponding in clinical, bacteriologic and pathologic effects with influenzal cerebrospinal meningitis in human beings. Wollstein found that by repeated injection, over a period of many months, of living virulent cultures of *B. influenzæ* into the goat, an immune serum possessing moderate agglutinating and high opsonic power may be produced, which is capable, when injected into the subdural space, of arresting the progress of an experimental influenzal meningitis, and of bringing about recovery in monkeys thus affected. In view of the highly fatal character of influenzal meningitis in human beings, the employment of an immune serum by subdural injection is recommended. Undoubtedly it will be necessary to apply the serum early and by repeated injections, by means of lumbar puncture, to secure beneficial results. The early application will, in turn, be dependent on prompt bacteriologic diagnosis, which can be made, as a rule, by the immediate microscopic examination of the cerebrospinal fluid without the employment of cultural methods.

Vermont Medical Monthly, Burlington

June

7 Present Treatment of Pulmonary Tuberculosis. W. C. Klotz, New York.
8 The Thyroid. C. A. Pease.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

June

9 Therapeutic Value of Sodium Cacodylate. S. L. Dawes, Albany.
10 *Successful Treatment of Tetanus. H. Beates and B. A. Thomas, Philadelphia.
11 "The Fasting Cure" Answered. A. Bassler, New York.
12 *Some Observations on Vaccine Therapy. E. W. Nagle, Boston.
13 *Uses of Nickel Sulphate in Medicine. L. Kolipinski, Washington, D. C.

10. **Treatment of Tetanus.**—The essential features in the history of this case from the therapeutic standpoint were: first, the onset of the disease four days prior to treatment (and three weeks after vaccination), affording ample time for the development of the tetanic toxins, and, second, the indefinite period of incubation, which may have been twenty-one days, on the supposition that the patient was infected at the time of vaccinia, although the more plausible and truer solution is probably that the tetanus bacillus gained access to the vaccination wound subsequently by virtue of inadequate after-treatment, and the patient's environment in and about a stable. The history and physical condition of the patient when first seen and treated were not such as to warrant a hopeful prognosis. The authors determined on a definite line of treatment, namely: antitetanic serum as the sheet anchor, and either magnesium sulphate or chlorbutanol (chloretone), or both, as symptomatic measures for the relief of spasticity, muscular spasms or convulsive seizures. A noteworthy fact relative to the intraspinal injections, six times of magnesium sulphate, and three times of antitetanic serum, was that on no occasion did there occur a flow of cerebrospinal fluid from the aspirating needle prior to the instillation of either the magnesium sulphate or the antitoxin. The following are emphasized as the important indications: 1. The destruction at the focus of origin of the tetanus bacilli. 2. The neutralization of the tetanolysin in the tissues. 3. The neutralization of the tetanospasmin in the cord itself. The special symptoms, such as sleeplessness, the spasms themselves, etc., were treated by the administration of suitable remedies meeting the indications, with marked amelioration of suffering.

12. Abstracted in The Journal, June 3, 1911, p. 1676.

13. **Uses of Nickel Sulphate in Medicine.**—This comparatively unknown therapeutic agent Kolipinski has used successfully in a number of conditions. The dose of nickel sulphate (the salt usually used) is 1 grain, after meals or food, three or four times a day. One-half grain will often achieve good therapeutic action, but the larger dose is surer and as well borne. Two to five grains or more are so prone to cause severe nausea and vomiting that these quantities must be considered too large for practical use. The forms of administration are pill, tablet and solution. Nickel and cobalt, though closely related chemically and physically and similar in toxic action, are widely different as germicides, and, as medicinal agents, nickel is active and variedly useful, while cobalt is apparently inert. Nickel sulphate was found to be potent as a germ-destroyer and has an antibactericidal power,

It was applied by Kolipinski in several of the commoner parasitic skin diseases with success. Arrest of evolution and healing of the lesions resulted when it was applied in aqueous solution, in a strength of 1 to 2 per cent. It can be used as a wet compress, or mopped or brushed on the skin and allowed to dry there. It was found by Kolipinski to cure impetigo contagiosa, pityriasis versicolor or chromophytosis, trichophytosis corporis or ringworm of the body, and that other more obstinate form of eruption to treat, eczema marginatum. Alopecia areata showed a faint growth of very fine new hair at the end of a week, and at the end of six weeks normal scalp and hair covering. In acne vulgaris, Kolipinski says, it is a good remedy applied locally several times a day, and where the subject is young and pale, as is commonly the case in this disease, it may also at the same time be given internally. Other diseases reported on by Kolipinski are chorea, motor disturbance with spasm and incoordination much unlike chorea and chronic neuralgia of the face, tic douloureux, migraine of whatever form, chronic enteritis, epilepsy, emotional and psychic weakness, neurasthenia, etc. Kolipinski is very enthusiastic over the medicinal virtues of nickel, basing his enthusiasm on personal observation as well as on the experiences of others.

Ophthalmic Record, Chicago

June

14 Directions for Muscle Exercises. A. Duane, New York City.
15 Double Cross-Cylinder. J. N. Rhoads, Philadelphia.
16 Double Perforation of the Eyeball by Foreign Bodies, with Recovery of Perfect Vision. H. Freidenwald, Baltimore.
17 Influence of Salvarsan on the Eye. W. H. Crisp, Denver.

Southern California Practitioner, Los Angeles

June

18 Pellagra. G. Dock, St. Louis.
19 *Sterilized Spinal Fluid Subcutaneously Reinjected for Tubercular Meningitis. H. H. Lissner, Los Angeles.
20 *Pelvic Findings in the Female Insane, with Results Following Treatment. E. A. Hall, Long Beach, Cal.
21 History of Medicine—Hippocratean Period. B. Smith, Los Angeles.

19. **Sterilized Spinal Fluid in Tubercular Meningitis.**—One of the interesting features of Lissner's case was the amount of cerebrospinal fluid withdrawn. Fifty-five c.c. were withdrawn at one time and 45 c.c. twelve hours later, making a total of 100 c.c. Eighty c.c. were obtained from two punctures within an hour, and on several other occasions two punctures were done within twenty-four hours, without any evidence of untoward effects from the puncture, *per se*. The guide to the amount of fluid withdrawn was the condition of the patient, the effect on the symptoms and the rapidity of the flow. The fluid was caught in sterile tubes and the quantity measured from time to time. In this case 387 c.c. were removed in all. Lumbar puncture was performed twelve times. Five c.c. of this fluid were sterilized and reinjected, but so late in the course of the disease that no observation of its effect on the process could be noted. In considering the cytodiagnosis in this case, it was interesting to note that in the first specimen obtained and examined, the lymphocytes (small) predominated. At the second examination the lymphocytes still predominated, but the type had changed from the small lymphocytes to the mononuclear type of leukocyte.

20. **Pelvic Findings in Female Insane.**—Hall does not regard insanity as an obstacle to the performance of operations on women.

American Journal of Urology, New York

June

22 Summary of Results from Use of Vaccines and the Sera of Gonococci and Other Pyogenic Organisms in Urology. R. F. O'Neil, Boston.
23 Salvarsan in Syphilis. C. S. Stern, Hartford, Conn.

Archives of Pediatrics, New York

June

24 *Hereditary Syphilis and Wassermann Reaction. M. S. Reuben, New York.
25 Study of Non-Diphtheritic Exudates. S. S. Woody and J. A. Kolmer, Philadelphia.
26 Care of the Exceptional Child. E. B. McCready, Pittsburg.
27 *Premiums for Nursing Mothers and Milk Depots for Infants. C. Herrman, New York.
28 Case Showing Symptoms of Intracranial Pressure with Recovery. H. Lowenburg, Philadelphia.
29 *Delirium Tremens in a Boy of Twelve. C. F. Lewis, Austin, Minn.

24. **Hereditary Syphilis and Wassermann Reaction.**—Reuben holds that there is only one mode of transmission of syphilis from mother to child possible, and that is by way of the placenta. Whether a healthy non-diseased placenta can transmit spirochetes is an open question. Sufficient evidence is at hand to prove that in a majority of cases of syphilitic infants pathologic findings are noted, such as the syphilitic virus is known to produce. Spirochetes are usually found in abundance in the fetal portion of the placenta, and almost always in the cord, but are seldom found in the maternal portion of the placenta. From these facts one may make the following deductions: (1) If an infant is syphilitic its father may or may not have syphilis. (2) If an infant is syphilitic its mother invariably has syphilis. (3) The most usual mode of transmission of syphilis to infants is by way of the placenta.

Of 123 mothers whose blood was examined within a short time of birth of syphilitic infants, 110 (90 per cent.) gave a positive Wassermann reaction. Of 125 mothers, who at no time had any syphilitic symptoms and who at no time received any treatment, 82 (71 per cent.) gave a positive Wassermann reaction. Of twenty-five mothers (Knopfelmacher) who had symptoms, and some of whom had received specific treatment, eighteen (72 per cent.) gave a positive Wassermann reaction. Mothers who give birth to syphilitic children react to the Wassermann test in the same way and to the same per cent., as do those who have acquired syphilis in an early latent stage. One may, therefore, conclude, says Reuben, that mothers who give birth to syphilitic children are themselves syphilitic, whether they have any symptoms or not, and react to the Wassermann test as do those who have acquired syphilis in an early latent stage. Of 123 cases collected, in which the mother's blood was examined within a short time (less than one year) of birth of last syphilitic infant, 110 (90 per cent.) gave a positive Wassermann reaction. Many small collections of cases included in the 123 cases, reported by various investigators, gave a 100 per cent. positive reaction. If the mother's blood is not examined from three to five years of the birth of last syphilitic child only 50 per cent. of these mothers give a positive Wassermann reaction. Of 123 mothers who gave a positive Wassermann reaction, 110 of the infants (90 per cent.) gave a positive Wassermann reaction. Reuben says that the fact that thirteen of these infants did not give a positive Wassermann reaction does not mean that they have not syphilis. A certain per cent. of syphilitics with active lesions do not give a positive reaction, so that absence of a positive Wassermann reaction in these thirteen cases may be explained on that ground.

The great majority of infants of syphilitic mothers are themselves syphilitic. It may be possible that a syphilitic mother (i. e., with latent syphilis) may give birth to a healthy infant, but such a mother never gives birth to children who are immune to syphilis and healthy at the same time. As a corollary of the above, a luetic mother may give birth to luetic (great majority) or to healthy children, but to none that are immune. Infants suffering from hereditary syphilis almost invariably give a positive Wassermann reaction. Of 300 cases examined 298 gave a positive Wassermann reaction. In cases of hereditary syphilis, before any symptoms manifest themselves, the Wassermann reaction may be negative; later, with advent of symptoms, positive. Infants born of syphilitic mothers give a positive Wassermann reaction, though they have no signs nor symptoms of any syphilitic infection. Of forty-four children suffering from late hereditary syphilis, twenty-six gave a positive reaction and eighteen negative Wassermann reaction. When treatment is commenced as soon as the diagnosis is made, 75 per cent. of the cases give a negative Wassermann reaction within one month. When treatment is delayed for six months only 33 per cent. of negative reactions will be obtained. Of thirty-two women in whom syphilis was suspected and whose blood was examined for the Wassermann reaction, twenty-eight (87 per cent.) gave a positive reaction.

The most usual time for these women to abort is after the fourth month, at a time when the placenta is fully developed. This lends further proof to probable infection of the fetus by way of the placenta at this time. At the onset of the disease its virulence is not as great (i. e., first three months) as it is at a later date; it then remains stationary (four to six years), and after a number of years begins to decline. Only 20 per cent. of mothers give a positive Wassermann reaction after birth of first infant; 100 per cent. after birth of fourth, fifth, sixth and seventh infant, and 80 per cent. after eighth infant. Of 904 children born to syphilitic mothers, 768 died within one year. To twenty-three syphilitic mothers 153 children were born; of these, 153 died within one year. An analysis of all the pregnancies of eighty syphilitic mothers shows the following: Number of conceptions, 464; abortions, 115; stillbirths, twenty; premature births, thirty-five; luetic at full term, 133; apparently healthy, eighty-seven; died within one week, seventy-five. It is seen, therefore, that on the average a syphilitic woman conceives about six times, but seldom has more than two and three-quarters living children, unless the number of pregnancies is more than six. Only 28 per cent. of all conceptions of syphilitic mothers result in full term syphilitic infants, and 85 per cent. of these die within one year, so that only 5 per cent. of all conceptions of syphlitic mothers result in syphilitic infants which survive the first year. Adding the 18 per cent. of the apparently healthy nfants born to syphilitic mothers to the 5 per cent. of syphlitic infants which survive the first year, there is a total of 23 per cent. of all infants, which, born to syphilitic mothers, urvive the first year. Seventy-seven per cent. of all conceptions of syphilitic mothers result in death of the infants within one year of birth. As syphilis causes death of the nfants before birth in 50 per cent. of all pregnancies of syphilitic women, 3 to 4 per cent. would more correctly express the per cent. of syphilis as a cause of infant mortality than 1.2 per cent. The blood of every wet-nurse should be examined for the Wassermann reaction. If it is positive she has syphilis and should not be employed; if it is negative the blood of her infant should be tested; if it is positive the mother (wet-nurse) has syphilis, even though her own reacion is negative.

27. **Milk Depots for Infants.**—It is pointed out by Herrman hat premiums to nursing mothers are unnecessary. The esults do not justify the expenditure. The money can be used to better advantage in the employment of visiting urses. Depots which simply distribute milk are of little or o value. Depots which, in addition to the distribution of ilk, are under medical supervision, but have no adequate orps of visiting nurses, are of limited value. It is not necesary to distribute modified milk at the depots. From 75 to 80 er cent. of these mothers can nurse their infants for five or ore months if properly advised and encouraged from the tart. Most of the remainder can buy a quart of bottled ilk, and the few who are unable can be much more economally provided with pure milk by other methods. The modication is taught the mother by the visiting nurse. The mphasis should be placed on the importance of breasteding, not on the distribution of cow's milk of good quality.

29. **Delirium Tremens.**—In Lewis' case the intoxication sulted from the ingestion of a cup of cider.

Military Surgeon, Washington, D. C.

June

30 *Medicine, the Benefactor of Mankind. William H. Taft, President U. S. A.
31 A Ready Means of Increasing Marching Capacity. W. W. Reno, U. S. Army.
32 A Psychopathic Malingerer. H. Butts, U. S. Navy.
33 A Recruit Depot Point of View. P. C. Field, U. S. Army.
34 Syphilis; Statistics from Hospital Practice. H. W. Jones, U. S. Army.
35 An Instance of Moro Surgery. W. R. Eastman, U. S. Army.
36 Disposal of the Excrement of Troops While on the March or in Bivouacs of Short Duration. I. W. Brewer, U. S. Army.
37 Filariasis at Fort Hancock, N. J. H. A. Knox, U. S. Army.

30. Abstracted in The Journal, May 13, 1911, p. 1399.

Archives of Internal Medicine, Chicago

June

8 *Calcification and Ossification. H. G. Wells, Chicago.
9 *Intra-Abdominal Pressures. H. Emerson, New York.
0 *Effects on Blood-Pressure of Intravenous Injections of Extracts of Various Anatomic Components of Hypophysis. D. Lewis, J. L. Miller and S. A. Matthews, Chicago.
1 *Value of Trophic Bone Changes in Diagnosis of Leprosy. A. B. Herrick and T. W. Earhart, Canal Zone.
2 *Experimental Study of Causes Which Produce Growth of Mammary Gland. R. T. Frank and A. Unger, New York.

38. **Calcification and Ossification.**—Wells summarizes his understanding of the essentials of calcification and ossification as follows: Calcium is carried in the blood in amounts not far from the saturation point, held in solution by the colloids and the carbon dioxid, and existing probably in the form of an unstable double salt of calcium bicarbonate and dicalcium phosphate. In normal ossification, and in most instances of pathologic calcification, the deposition is probably initiated by a process of colloidal absorption causing a concentration of this double salt in the hyaline matrix which is to be calcified, and which has a strong affinity for calcium salts. Reduction in the amount of carbon dioxid in such areas, or some unknown agency, causes a precipitation of calcium salts in this colloid matrix, and permits of further infiltration of dissolved calcium salts whenever the concentration of CO_2 in the fluids may be greater (Hofmeister). There seem to be no essential differences between the processes involved in normal ossification and in most instances of pathologic calcification; any area of calcification may be changed to true bone in the course of time. Calcium salts seem to exert a specific influence on connective tissue cells, causing them to form bone; without this stimulus they cannot form bone, at least not readily and normally.

Exceptional cases of calcification occur in which other processes are involved than in ossification. One of these, "metastatic calcification," occurs whenever from any cause the proportion of calcium present in the blood is so great that it requires the effect of both the colloids and of the CO_2 in maximum concentration to keep it in solution; then the calcium salts are deposited in those points in the body where the CO_2 content of the fluids is least. Another exception is seen whenever there is a considerable splitting of fats, the new-formed fatty acids in some cases combining with calcium to form calcium soaps. These calcium soaps are ordinarily absorbed, but exceptionally, when in large amounts, e. g., calcifying lipoma, etc., the fatty acid radicals may be replaced by P_2O_5 and CO_2. There is no satisfactory evidence, however, that this is a common, much less a usual method of calcification, and there is much evidence that it is not. Calcium deposition seems to depend, alike in normal and in most pathologic conditions, rather on physico-chemical processes than on chemical reactions.

39. **Intra-Abdominal Pressure.**—Emerson regards it as normal in the animals tested to exhibit a pressure within the free abdominal cavity which is above atmospheric pressure. This true positive intra-abdominal pressure is seen to fluctuate with the respiratory excursion of the thorax and diaphragm. This pressure is seen to depend on the contraction of the diaphragm and the tone or the active contraction of the abdominal wall muscles, including the pelvic floor, acting from relatively fixed points of the thorax, pelvis and vertebral column. Whatever diminishes or abolishes the tone of the diaphragm and abdominal muscles, causes a fall in the positive abdominal pressure. If at the same time the thoracic expansion is active, there will be a fall of abdominal pressure below atmospheric pressure. If at any time the tone or activity of the diaphragm and abdominal muscles is increased, whether the thoracic expansion is diminished or normal, the abdominal pressure will rise above its usual positive points. The tone or contractility of the abdominal muscles must persist or the pressure will fall to atmospheric or below. Distention of the abdomen by fluid or gas raises abdominal pressure The pressure recorded at any point in the abdominal cavity. is equivalent to the pressure at the same moment at any other point in the cavity. The normal moderate positive pressure is better for absorption of fluid from the peritoneal space than atmospheric pressure, and *a fortiori*, a pressure below this, or than a pressure much above atmospheric pressure. Pressure much above the normal intra-abdominal pressure causes a fall in general arterial blood-pressure, due apparently to diminished venous inflow through the inferior cava, and a resultant diminution of systolic output from the left ventricle.

40. **Effect of Hypophysis Extracts on Blood-Pressure.**—The authors found that extracts of the pars intermedia, when injected intravenously, cause a decided rise in blood-pressure.

The extract does not need to come in contact with the pars nervosa to become active. Extracts of the pars nervosa also give a pressor effect. The primary rise is followed by a fall, which is succeeded by a rise associated with a marked slowing of the pulse. Extracts of the anterior lobe give a primary fall, which is followed in the majority of instances by a secondary rise in pressure above the level existing at the beginning of the experiment. These results confirm Hamburger's findings. The pressor substance is confined to that part of the anterior lobe bounding the cleft which contains groups of cells belonging to the pars intermedia. Ehrmann's test, elicited by Franchini with extracts of the anterior lobe, is explained in the same way. The contents of a cyst of the pars intermedia gave a decided pressor effect. A depressor substance soluble in alcohol, is found in the anterior lobe, the pars intermedia and the pars nervosa. It is not probable that two structures differing so much histologically as the pars intermedia and the pars nervosa would secrete a substance having the same effect on blood-pressure. The authors believe that the pressor substance is secreted by the pars intermedia and that it then passes into the pars nervosa. Whether it passes by way of the blood or the hyaline bodies they cannot say. The latter, however, do not form a striking feature in the histology of the ox hypophysis. The authors have never been able to obtain any pressor effect from extracts of the hypophyseal stalk. If the hyaline bodies pass through this and represent the pressor substance we believe that we should be able to elicit a pressor reaction with extracts of the stalk. In the ox, at least, there is a distinct break in the paths of secretion between the pars nervosa and the ventricular cavity.

41. **Value of Trophic Bone Changes in Diagnosis of Leprosy.**—The pathologic changes in the bones in leprosy occur in three different ways: 1. The true trophic disturbance due to the altered innervation, in which there takes place a simple atrophy or gradual absorption of the bone. 2. An osteomyelitis or periostitis caused by the lepra bacillus. 3. A necrosis or inflammation of either of the above arising from secondary involvement by pyogenic organisms. These processes occur mainly in the fingers and toes and lead to a loss of the digits, from which this form of the disease gets its name of lepra mutilans. Herrick and Earhart maintain that these trophic bone lesions, while not absolutely pathognomonic of the disease, are very characteristic of it. Any condition which might present a similar bone lesion could be differentiated readily by the previous history of injury or disease taken in connection with the examination of the case. Of all the trophic lesions of leprosy these are the most characteristic, and while not occurring in all cases they are found in the majority and very often sufficiently early to be of great aid in the diagnosis. It is in the anesthetic form of leprosy especially that these two forms of bone changes—the progressive distal atrophy and the concentric atrophy—furnish an additional diagnostic sign and one very characteristic of the disease.

42. **Causes of Growth of Mammary Gland.**—Frank and Unger regard the breast changes of pregnancy merely as an exaggeration of the cyclical changes of the sexual cycle, similar to the uterine changes, which occur at regular intervals, in preparation for the function of reproduction. Intra-uterine, prepuberty and puberty growth of the breasts is directly dependent on ovarian function. A cyclical change in the virgin breast occurs under the influence of the ovary. Castration does not cause rapid regression of the cyclical breast hyperplasia. No proof has been offered to show that the fetus or placenta directly produces growth of the breast in pregnancy. Evidence points to the fact that the persistent corpus luteum of pregnancy may produce this breast growth. The factors which favor or cause the persistence of the corpus luteum are unknown. Certain evidence (increase of the breast produced by hydrated mole with fetus, chorioepithelioma) makes it unlikely that the fetus is at any time the controlling factor. Nature's process is more complicated than the simple chemical stimulus assumed by Starling. As yet hyperplasia of the breasts has not been experimentally produced except by parabiosis, which does not explain the stimulus. Possibly the influence of other glands of internal secretion complicates the problem. Milk secretion is no index of quantitative increase in breast tissue. Under physiologic conditions milk secretion sets in when the ovarian influence is removed—in the new-born after birth; in the puerpera as the corpus luteum of pregnancy regresses; sometimes postoperatively after castration in the virgin (if the breast has been activated by the corpus luteum of menstruation).

Medical Fortnightly, St. Louis

June 10

43 Remarks on Movable Kidney. W. T. Elam, St. Joseph, Mo.
44 Syphilis Versus Accident and Life Insurance. S. G. Burnett, Kansas City.

June 26

45 Cardiac Murmurs and Their Clinical Significance. L. J. Moorman, Oklahoma City, Okla.
46 Open Air Treatment. D. L. Field, Jeffersonville, Ind.
47 In the Twilight. C. E. Warren, North Easton, Mass.
48 The Kiss of Death. G. H. Bogart, Terre Haute, Ind.
49 Treatment of Shock. W. F. Waugh, Chicago.

Boston Medical and Surgical Journal

June 29

50 *Suprapubic Intra-Urethral Enucleation of Prostate. J. B. Squier, New York City.
51 *Value of the Guinea-Pig Test in Genito-Urinary Tuberculosis. J. D. Barney.
52 Forbidding Case of Cancer Involving Tongue, Tonsil and Pharynx Permanently Cured by Radical Excision. M. H. Richardson.
53 *Diabetes Mellitus Treated by Feeding of Calves' Pancreas. W. N. Cowles, Ayer, Mass.

July 6

54 *Use of Coley Toxins in Treatment of Sarcoma. R. M. Green, Boston.
55 Malignant Lymphocytoma of Mediastinum. O. S. Waugh, Montreal.
56 *Does Appendectomy Always Relieve Symptoms? C. L. Scudder and H. W. Goodall.
57 Interpretation of Laboratory Findings. J. W. Fisher, Middletown, Conn.
58 Spina Bifida. B. B. Cates.

50. **Suprapubic Intra-Urethral Enucleation of Prostate.**—The method of enucleation of the prostate which Squier refers to is said materially to aid in reducing the length of time of operation. The details of the method are: Do not seek the most prominent lobe of the prostate and commence enucleating by boring through the bladder mucous membrane at this point, but insert the finger into the internal meatus and break through the roof of the prostatic urethra. Access is at once given to the line of cleavage between the lateral lobes just beneath the anterior commissure. The enucleation is then begun by working the finger upward and forward, freeing the apex of the prostate from its capsule in the region of the triangular ligament. A sweep of the finger frees it in front and on one side, then in like manner on the other, and the prostate is turned into the bladder, with its apex pointing upward, when a little separation from the capsule posteriorly completes its removal. Carried out in this way, with a little care, Squier says, there is practically no danger of injury to the rectum, and the enucleation is rapid and complete. The resulting wound in the bladder is on a higher level than if the bladder mucous membrane had been incised over the most prominent prostatic lobe, and during the subsequent drainage of the bladder is less liable to be constantly bathed in urine The prostate having been removed from the bladder, a double drainage tube, whose total caliber is about No. 32 F., is inserted into the bladder wound and sutured at its upper angle by a chromic gut stitch, allowing the drainage tube to project into the bladder three-quarters of an inch. The lower angle o the bladder incision is accurately closed up to the tube with chromic gut sutures. The abdominal wall is closed with three or four figure-of-eight silkworm gut sutures, one loop of the stitch approximating the fascial plane and the other loop the skin. As soon as the drainage tube has been sutured into position, hot saline irrigation of the bladder is commenced and continued during the remainder of the operation through thi double tube. By the time the abdominal wound has been sutured all active hemorrhage will be practically checked Squiers claims that prostatectomy carried out in this manne can be completed in five or six minutes, and the patient nee

completely under the anesthetic but two or three. By the ne the dressing is applied he is usually well out of the fluence of the anesthetic.

51. **Guinea-Pig Test in Genito-Urinary Tuberculosis.**—The tal number of guinea-pigs inoculated in the Massachusetts neral Hospital during a period of two years was 252. The st was positive in sixty-seven cases, proved in fifty-eight ses, unproved in nine cases. The test was negative in 158 ses, proved in 139 cases, unproved in forty-six cases. Total .mber of tests proved, 197 cases. Test negative, pathologic port or autopsy positive, two cases; percentage of error in inea-pig test, 1.01. Test positive, no tuberculosis of urinary ıct, one. The author regards the guinea-pig test for tuberlosis, when carefully done, as by far the most delicate and variably accurate diagnostic weapon at our disposal and at a negative test is of indisputable value.

53. **Diabetes Mellitus Treated by Feeding of Calves' Pan-eas.**—Fortunately, the patient in this instance was fond of re and raw meat and ate from one to six uncooked pan-eases daily, averaging over three. He cut them into pieces out the size of an oyster and bolted the pieces whole. He gan at once to improve, his appetite returned, his strength creased and he gained in flesh. His diet was not much stricted, nothing but sugar was forbidden. In a few days was out of bed, in two weeks he was out of doors and eighed 164 pounds, which was a great gain from his lowest eight. Two weeks later he weighed 180 pounds, a gain of pounds in fourteen days. The thirst was lessened. The ine had fallen to 2 to 3 quarts in twenty-four hours; ecific gravity, 1028 to 1030. It was never found sugar-free. s health continued to improve, he became strong and ruddy d said that he had never felt better. He continued to eat ncreas and felt well enough to engage in active business.

Early in March, 1897, he ate some stale pancreas, vomited, came disgusted with it and never ate another. Soon after, business venture proved a failure and the diabetic symp-ms gradually returned, so that in June, 1897, he had lost ich of his gain in flesh and strength; urine 7 to 8 quarts; ecific gravity, 1035 to 1038. About July 1 he developed an ormous carbuncle of the neck and upper part of the back d died July 11, 1897.

An autopsy showed the thoracic and abdominal organs, cept the pancreas, normal in gross appearance. The pan-eas was represented by a fibrous cord about one-fourth the e of the normal gland. Unfortunately, post-mortem changes de it impossible to discover anything about the minute inges in the specimen. Cowles has tried the same treat-nt in several other cases of diabetes without benefit, but other patient has been able to eat such a quantity of raw ncreas or continue eating it as long.

54. **Use of Coley Toxins in Sarcoma.**—In the series reported Green there were twenty cases; thirteen cases occurred in les, seven in females. The average age of the males was years, of the females 32. The series presents a wide ersity in location and type of tumor. The right side of the ly was involved eleven times, the left nine—figures which d to show the symmetrical distribution of sarcoma rather n its alleged predominence on the right. In seven cases the nor was of the round-cell type, in three spindle-cell, in the naining ten of varying types or not stated. In four cases thigh was involved, in three the upper jaw, in two the vical lymph-nodes; the remainder were scattering. From study of these cases the following conclusions are drawn Green: The use of Coley toxins alone in the treatment of coma is warrantable only in obviously inoperable cases l then as a last resort. As an adjunct to surgery in the atment of sarcoma, or as a prophylactic against recurrence, use of Coley toxins is advisable, though by no means of initely established value.

56. **Appendectomy.**—There were 640 cases of appendectomy the series here reported; 178, or 28.8 per cent., of the tienst were females; 462, or 72.2 per cent., males. The ole number of hernias following appendectomy was sixty-. or 10 per cent. Twenty-three, or 35.4 per cent., in nales and forty-two, or 64.6 per cent., in males. The whole number of drained cases was 309, or 48.2 per cent. The whole number of undrained cases was 331, or 51.8 per cent. Fifty-two patients, or 17 per cent. of the 309 drained cases, had hernia in the cicatrix of operation; sixteen were females and thirty-six were males. Thirteen patients, or 3.9 per cent. of the 331 undrained cases, had hernia in the cicatrix of operation. Seven were females and six were males. The number of patients who reported from one to five years after operation was sixty-one. The number reporting from five to fifteen years after operation was 560. The number reporting from fifteen to twenty-two years was eighteen. Condition reported as good, very good, excellent, well, perfectly well, O. K., etc., 606 patients, or 94.6 per cent. Of these 606 patients, ninety-five reported health better than before operation. Condition reported as poor after operation, twenty-six, or 4.6 per cent. Condition reported as poor health before and after operation, eight. In these reports were mentioned two right inguinal hernias, one double inguinal hernia and one case with both inguinal rings enlarged and with impulse on cough. There were four cases of phlebitis following operation. There were nine cases reported as nervous after operation.

From the analysis Scudder and Goodall believe certain important facts appear. The drained cases are more likely to have a hernia in the cicatrix following operation. The undrained cases are less likely to have a hernia in the cicatrix following operation. It may be concluded in general, then, he says, that in this series of appendectomies the operation benefited the patient, that comparatively few unnecessary operations were done and that there were no distressing sequelæ.

Virginia Medical Semi-Monthly, Richmond

June 9

59 *Preventive Medicine—What It Has Done and What It Can Do If the State Recognizes Its Obligations to the Public. J. A. White, Richmond.
60 Surgical Aspects of Typhoid. G. T. Vaughan, Washington, D. C.
61 Medical Aspects of Exophthalmic Goiter. A. L. Tynes, Staunton.
62 Venesection—Its Uses and Abuses. C. B. Conklin, Washington, D. C.
63 Conservatism in Ovarian Operations. H. S. MacLean, Richmond.
64 Relation of the Tonsil to Systemic Diseases. G. O. Sharrett, Cumberland, Md.
65 Hemoglobinuric Fever. W. B. Barham, Newsoms.

59. Abstracted in The Journal, April 8, 1911, p. 1063.

Lancet-Clinic, Cincinnati

July 1

66 *Tuberculosis of Bovine Origin in Children, and Its Prevention. William H. Peters, Cincinnati.
67 Tuberculosis. S. B. Helbert, Cincinnati.
68 Some Phases of Acute Appendicitis. H. J. Whitacre, Cincinnati.

66. **Tuberculosis of Bovine Origin in Children.**—Peters thinks that the greatest value of certified milk to a community is its educational feature, teaching the people to appreciate a clean milk supply and then they demand a better general supply. It gives them a basis for comparison. It promotes a feeling of security in the physician, enabling him to prescribe a clinical milk, pure and of known content, rather than tolerate an unwholesome raw milk or pasteurized dirty milk. As an institution of the profession, certified milk stands out preeminently. Professional control, backed up by public opinion and professional spirit, are the fundamentals for every clean milk supply.

Medical Record, New York

July 1

69 Medical Aspects of Modern Life Insurance. F. L. Hoffman, Newark, N. J.
70 *Mechanism of Presystolic Murmur. T. S. Hart, New York City.
71 *Radical Frontal Sinus Operations. J. E. MacKenty and G. H. Cocks, New York City.
72 Fatality of Text-Book Hydrotherapy. S. Baruch, New York City.
73 *Treatment of Pulmonary Tuberculosis Based on Assumption that the Dietetic Cause of the Disease Is Lime Starvation. J. F. Russell, New York City.
74 Technic of Urethral Examinations. W. S. Reynolds, New York City.

July 8

75 *Decapsulation of Kidney in Treatment of Chronic Bright's Disease. J. Tyson, Philadelphia.
76 Proper Attitude of Corporation to Its Injured Employees. J. F. Culp, Harrisburg, Pa.
77 Drink Habit, with Special Reference to Office Treatment. C. A. Rosenwasser, New York City.
78 Clinical Observations in Some Cases of Prostatic Obstruction. J. Pedersen, New York City.
79 Treatment of Neuritis with Hot-Air Douche. L. Stieglitz, New York City.
80 *Case of Ovulation Without Menstruation. M. J. Siegelstein, New York City.

70. **Mechanism of Presystolic Murmur.**—Hart believes, from a careful study of four cases of presystolic murmurs, that in certain cases the short crescendo murmur preceding the first sound of the heart in mitral stenosis is not due to auricular activity. The four cases described presented well marked clinical signs of mitral stenosis. There was at no time an absence of the presystolic thrill and murmur in any of the cases. The graphic records showed the ventricular form of venous pulse and an entire absence of evidence of gross auricular contraction.

71. **Radical Frontal Sinus Operations.**—The authors regard Knapp's operation as the type of operation best adapted to the cure of sinus disease with the least external deformity.

73. **Treatment of Pulmonary Tuberculosis.**—It is pointed out by Russell that the highest per cent. of apparent cures in all patients treated at sanatoria is 34, the lowest 5.07, while at the Thompson Street Dispensary the per cent. is 55.3. The sanatorium showing the highest per cent. of apparent cures in all cases is the New Mexico Cottage Sanatorium, where the average cost per patient for nine month's treatment is said by the physicians-in-chief to be nearly $1,000. Russell claims that all ambulant cases should be treated in dispensaries and the work of sanatoria restricted to the care of advanced cases with continuous fever or complications which necessitate rest.

75. **Treatment of Chronic Bright's Disease.**—Tyson presents the histories of four cases in which decapsulation of the kidneys was done for the cure of Bright's disease, with excellent results as far as the improvement of health and the ability to work was concerned. In none of them did the albumin entirely disappear.

80. **Ovulation Without Menstruation.**—Siegelstein's patient was a primigravida, a well developed and husky girl of the blonde type, 20 years of age, not anemic. All her measurements were normal and she was delivered of a normal child the same day. She had only menstruated once at the age of 17, for about three days, not profusely, but with cramp-like pains in the abdomen and back. Since that time she has never menstruated nor has she had any molimina during the expected period and she did not realize that she was pregnant even after the fourth month, when her abdomen was already slowly enlarging.

Chicago Medical Recorder

June

81 Social Service Work in Hospitals. R. C. Cabot, Boston.

Journal of South Carolina Medical Association, Charleston

June

82 Typhoid Fever: Alkaline Treatment. Thirty-Five Consecutive Cases. W. T. Lander.
83 Septicemia. W. B. Sparkman.

New York Medical Journal

July 1

84 *Case of Pseudochylous Ascites. F. P. Henry, Philadelphia.
85 Operation of Choice in Carcinoma of Rectum. J. A. Blake, New York City.
86 Primary Cholecystectomy vs. Cholecystotomy. H. Lilienthal, New York City.
87 *Perforating Duodenal Ulcer with Report of Cases. J. A. Lichty, Pittsburg.
88 *Alcohol Injection in Trifacial Neuralgia. F. C. Keller, New York City.
89 Metastatic Growths of Central Nervous System. B. Sachs, New York City.
90 Clothing and Regulation of Body Temperature. H. F. Wolf, New York City.
91 Comparative Study of Case of Paresis and of Tabes Dorsalis After Administration of Salvarsan. A. L. Wolbarst, New York City.
92 Academy of Medicine in Paris. F. Dowling, Cincinnati.
93 Prolongation of Heart Life. W. F. Waugh, Chicago.

84. **Pseudochylous Ascites.**—The ascitic fluid in Henry's case contained serum-albumin, serum-globulin and a small amount of mucin. Very little fat was present. Lecithin was present in notable amount and in association with globulin caused the opacity of the fluid. Traces of sugar, probably a dextrose, were noted. The ash contained in a total of 0.7892 gram per 100 c.c., 0.5823 gram of chlorid (calculated as sodium chlorid); phosphates and sulphates.

As determined by the analysis, therefore, the fluid belongs to the class of "pseudochylous fluids."

87. Abstracted in The Journal, Oct. 29, 1910, p. 1580.

88. **Alcohol Injection in Trifacial Neuralgia.**—A successful injection, or series of injections, says Keller, is followed by relief for about the same length of time as that following a first resection of a peripheral nerve. Reinjection for recurrence gives a longer period of relief than repeated resection. In cases in which it might be deemed advisable to do a resection of the Gasserian ganglion, or the Frazier operation, the injection would no doubt be a valuable preliminary treatment to put the patient in better condition for the radical operation.

Journal of Ophthalmology and Oto-Laryngology, Chicago

June

94 Acquired Ametropia. H. B. Gratiot, Dubuque, Iowa.
95 Anatomic and Physiologic Relation Between the Eye and Nose A. H. Andrews, Chicago.

Louisville Monthly Journal of Medicine and Surgery

June

96 Surgical Aspect of Malignant Disease. H. H. Grant, Louisville.

American Medicine, New York

June

97 Analytical and Statistical Study of Bowel Diseases in Infanc and Childhood. S. G. Gant, New York City.
98 Present Status of Cranial Surgery. E. Sachs, New York City
99 Bronchoscope, Esophagoscope and Gastroscope in Diagnosi and Treatment. P. Schoonmaker, New York City.
100 Treatment of Puerperal Eclampsia. G. L. Brodhead, New York City.
101 Indications for Abdominal Cesarean Section, Technic of Operation. R. McPherson, New York City.
102 Treatment of Abortion. B. H. Wells, New York City.
103 Treatment of Atrophic Rhinitis. S. Goldstein, New York City
104 Extrauterine Pregnancy, with Report of Cases Operated O Before Primary Rupture. N. G. Bozeman, New York City.

Laryngoscope, St. Louis

June

105 Medico-Educational Problem of Deaf Child. G. Hudso Makuen, Philadelphia.
106 Removal of Scissor-Blade from Ear Three Years and Thre Months After Its Introduction. O. J. Stein, Chicago.
107 Serous Labyrinthitis and Extra-Dural Abscess; Operation Recovery. E. T. Senseney, St. Louis.
108 Fetid Necrosis Following the Simple Mastoid Operation. I Friedenwald, Baltimore.
109 Case of Lymphosarcoma of Pharynx, with Unusual Lyn phatic Involvement. O. J. Stein, Chicago.
110 Severer Types of Tonsillar Infection. D. S. Dougherty, Ne York City.
111 Some Indications and Contra-Indications for Removal Faucial Tonsils. J. B. Greene, Asheville, N. C.
112 Septic Infections of the Mouth and Throat. M. D. Lede mann, New York City.
113 Report of Over 400 Ear, Nose and Throat Patients Treat at the University Hospital in Manila. H. Winsor, Phil delphia.
114 Treatment of Ozena by Submucous Injection of Paraffin In Nasal Septum; Review of Other Methods. H. Kahn, Ch cago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinic lectures, single case reports and trials of new drugs and artifici foods are omitted unless of exceptional general interest.

Lancet, London

June 24

1 Significance of Pus in the Anterior Chamber. J. H. Parso
2 Salvarsan in Mercury and Syphilis. H. C. French.
3 *The Wassermann Reaction in Relation to Cancer. A. Foerst
4 Case of Appendicitis Illustrating the Necessity of Early Op ation. D. D. Malpas and Ph. de Lostalot.
5 Chloretone in Sea-Sickness. D. A. Welsh.
6 Hydatid of the Uterus. A. E. Giles.
7 Infantile Paralysis in Girl Aged Five Years. F. Hernama Johnson.
8 National Insurance Bill and Preventive Medicine. H. Richards.
9 Sir Charles Bell and Functions of the Fifth Nerve. A. Waller.
10 Motoring Notes. C. T. W. Hirsch.

3. **Wasserman Reaction and Cancer.**—The assumption th the serum of a patient affected with cancer might be alter in a manner similar to that which we must admit for syphi-

serum is held to be rational by Foerster. He points out it from the clinical point of view the similarity of some ions, such as some ulcerations of the palate and of the igue, and the frequent history of syphilis in cases of gual cancer would justify such an investigation. A reliable odiagnosis of cancer would be of the utmost value for the ferentiation of abdominal ailment. Following these ideas, undertook: (1) To test a series of cancer cases by means the Wassermann reaction in order to find out how often philis could be traced; (2) to prepare an extract from rely cancerous material to determine its dosage, and then test a series of normal, cancerous and syphilitic serums h this extract. The technic used was the one practiced and ight by Wassermann. The cases of lingual syphilis examd comprised practically all types: mucous plaques, glossitis, coplakia and ulcers. Every one gave a positive reaction. eatment had practically no influence on the reaction. The e of infection lies between two and forty years back, ording to the patient. For the preparation of an extract m cancerous material several points were observed. First, was ascertained, as far as possible, that the patient who lded the material never had syphilis. Second, the growth l to be in good condition and of sufficient size. Third, no mal tissue of the organ from which the growth was taken s to be present in the material to be used for the preparan of the "cancer extract." Thus most of the material avail e had to be rejected. An aqueous extract was made in the ne way as the aqueous antigen extract of Wassermann is pared. Another extract was made with 95 per cent. alcohol l was incubated at 60 C. for several hours. These extracts re then tested and their dosage was determined. The ults with the alcoholic extract were so unsatisfactory that was cast away.

he further experiments were made with the aqueous ract only, 0.2 c.c. and 0.25 c.c. It was tested with syphic, cancerous and normal serums, only inactivated serums ng used. Purposely. some old serums were also tried. eated tests were made with several serums on different s and under slightly modified conditions. The results ained with the cancer extract are very much the same as se obtained with the standard antigen. Not only was the ction negative with a serum derived from a patient cted with rectal carcinoma, but every cancer case gave a ative reaction with the cancer extract. Neither the site the tumor nor its histopathologic character had any influe on the test. Only syphilitic serums were positive; but e, again, the cancer extract is inferior.

oerster concludes from these experiments that as an active logic factor syphilis plays a small rôle in cancer, if any at Epithelioma of the tongue is far more frequently preed by syphilis than any other form of cancer. The right place lingual cancer among the parasyphilitic lesions, next tabes and general paralysis, must be questioned. It is pose to prepare an antigen extract for the Wassermann tion from purely cancerous material. A serodiagnosis of cer on the lines of the Wassermann reaction is at present possible.

Practitioner, London

June

*Right-Sided Abdominal Pain in Women. J. Bland-Sutton.
Current Theories Regarding Arteriosclerosis. J. Cowan.
Review of Treatment by Salvarsan. A. Manuel and H. W. Bayly.
*Complications of Ulcer of the Stomach and Their Treatment. R. P. Rowlands.
Traumatic Neuroses and Psychoses. F. S. Palmer.
Termination in Diabetes Mellitus and Glycosuria. R. T. Williamson.
*Combined Cardiac and Pyloric Stenosis. T. G. Moorhead.
Recent Work in Thoracic Surgery. H. Upcott.
*A Case of "Cyanosis Enterogenous." T. A. Matthews.
Hints on Refraction. P. A. Harry.
*An Ocean Sanatorium. A. V. Elder.

l. **Right-Sided Abdominal Pain in Women.**—For several rs it has been Bland-Sutton's custom in dealing with perent right-sided abdominal pain, in which it is impossible r careful clinical examination to decide which organ is at t, and in which the patient's condition is such as to justify ative interference, to carry out the following plan: After the usual preparations he makes a fairly free incision in the line of the right linea semilunaris and systematically examines the organs on the right side of the abdomen. This incision allows him to examine the pelvic organs including the ureters, the cecum, vermiform appendix, kidney, gall-bladder and ducts, the pancreas, duodenum, pylorus and liver. It also has the advantage of admitting the surgeon to deal with conditions requiring surgical treatment in almost any of the organs mentioned, and it is by no means uncommon to find two diseased conditions coexisting and either or both of them may be dealt with through the same incision. It has occasionally happened that in some patients nothing has been seen to account for the pain, and, in a few, unexpected pathologic conditions have been found. Occasionally an operation has revealed the presence of serious and painful disease in young women who had been treated as hysterical by their parents and by the medical attendant. Bland-Sutton says that years ago he came to the conclusion that no young women should be labeled hysterical simply because our crude methods of clinical investigation failed to indicate the cause of the painful sensations.

14. **Gastric Ulcer.**—Rowlands' opinion is that cancer of the stomach often starts in a simple chronic ulcer. He says that a careful study of the history of patients with gastric carcinoma strongly supports this view. The history of indigestion or of ulceration for some years is common in these cases. A man gave a history of indigestion of about two years' duration. While under treatment by lavage and dieting he lost 28 pounds in a fortnight and became very anemic from chronic hemorrhage. At the operation it was difficult to be certain whether a large ulcer in the pyloric region was innocent or malignant but a suspicious nodulation was noticed on the peritoneal surface at one side of the ulcer. The greater part of the stomach was therefore removed. Microscopic sections taken from several parts of the edge of the ulcer showed simple inflammatory change, but at one point undoubted carcinoma was seen. The man is now well and able to earn his living, about fifteen months after the operation. It is interesting to note that the small cardiac remainder of his stomach has enlarged to a great extent, as shown by a recent bismuth and Roentgen-ray examination. Since the operation the man has become much stouter than he has been for years. In another case a man had had the classical symptoms of gastric ulcer for three years. At the end of this time pyloric obstruction called for operation. Pylorectomy was performed. To the naked eye the ulcer was a typical simple ulcer, and most of the sections taken showed innocent disease, but those from one edge showed carcinoma. The carefully observed course of the disease in these patients, among others, clearly points to the recent supervention of malignant disease. Rowlands says that this is a powerful argument for more careful and prolonged medical treatment of acute ulcer as soon as it is diagnosed and especially for the earlier surgical treatment of chronic ulcer which has resisted medical treatment.

17. **Combined Cardiac and Pyloric Stenosis.**—The patient in Moorhead's case, aged 29, complained of extreme distention of the abdomen and of vomiting blood. The abdominal swelling had set in six weeks previously and the vomiting a few days before admission. There was no history of previous illness of any sort. The diagnosis arrived at after complete examination was that of peptic ulcer at the pylorus, the abdominal enlargement being due to flatulent intestinal distention. Suitable treatment was prescribed and everything was apparently going well, all pain, vomiting and flatulence having completely subsided, until the tenth day after admission, when there was sudden development of severe abdominal pain, and Moorhead concluded that perforation had occurred. The abdomen was opened and a large ragged perforation, situated in the anterior wall of the pylorus was found, with stomach contents widely diffused throughout the abdomen. After the ulcer had been sewed up it was found that the pylorus was practically completely occluded and in consequence a posterior gastro-enterostomy was performed. At the operation the stomach was found to be but little, if at all, dilated. An uninterrupted recovery was made and the patient left the hospital quite well a month later. Prior to her leaving a test-

meal was given and a stomach-tube was passed without difficulty for the purpose of removing the meal. The analysis showed nothing abnormal. Five months later Moorhead again saw the patient. She was now complaining of difficulty in swallowing and of vomiting back her food almost immediately after she had taken it. The passage of an esophageal bougie demonstrated the presence of a stricture of the esophagus 15 inches from the teeth and an examination of the food which she regurgitated showed the absence of gastric ferments and of hydrochloric acid. The existence of an esophageal stricture was further confirmed by the administration of a bismuth meal. The stricture was regarded as secondary to a peptic ulcer at the cardiac end of the esophagus. A valvular gastrostomy was made; the patient developed septic pneumonia and died five days later. The septic condition was almost entirely limited to the lower lobe of the left lung —a fact that suggests that infection took place by direct extension from the dilated esophagus.

19. **A Case of "Cyanosis Enterogenous."**—In addition to the fact that no abnormality could be detected in the chest in Matthews' case, the character of the cyanosis was quite unlike that caused by disease of heart or lungs. Neither was the color like that caused by Addison's disease nor cachexia, although the general appearance was anemic. The blood, when examined, showed no deficiency in amount of hemoglobin nor in the number of corpuscles, but the spectroscope proved that methemoglobin was present and further that this abnormal product was intracorpuscular. The patient had been taking two of the drugs which can cause methemoglobinemia, viz., potassium chlorate and acetphenetidin; but the possibility of the first named being to blame in this case was disproved by the observation that the pigment was inside the corpuscles themselves, while the steady uniformity of the color during the earlier months practically puts out the secret taking of acetphenetidin. The relationship of the cyanosis to the digestive organs was emphasized by the variations in color so regularly seen during the latter third of the illness, when cyanosis deepened with the increased flow of blood to the abdominal viscera after a meal and lessened when blood had been forced out of the abdomen by the violent muscular efforts of retching. Treatment was based on this observation and the patient recovered.

21. **An Ocean Sanatorium.**—After several years' experience afloat in large steamers providing a varied field of practice, Elder has come to the conclusion that the highest beneficial results possible are not obtained under the facilities existing for the sending of patients to undergo the sea-cure. The main reason for this is to be found in the general incompatibility of the patients' surroundings—in other words, absence of the accommodation and everything implied by that term requisite for invalids. He pleads for a vessel entirely devoted to the care of the sick. In other words, a floating hospital and convalescent institution combined, differing only from similar therapeutic institutions on land in the peripatetic nature of its location.

Medical Press and Circular, London

June 21

22 Bulbar Paralysis. F. S. Palmer.
23 Experiences with Salvarsan. A. Blayney and P. Dempsey.
24 Lesions of the Vermiform Appendix and the Female Pelvic Organs. D. Duff.
25 Strangulated Inguinal Hernia. T. R. MacDonald.

Clinical Journal, London

June 21

26 *Rational Treatment of Some Common Symptoms in Infancy. E. Pritchard.
27 Surgical Treatment of Tumors of the Breast. A. Edmunds.
28 Life Histories of Fifty Patients with Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.

26. **Treatment of Symptoms in Infancy.**—Because the stock cough mixture is given indifferently in the early stages of congestion before there is any mucous secretion, in the second stage when the secretion is free, and in the third stage when the secretion has become mucopurulent, Pritchard employs three mixtures adapted to the pathologic indications of the three successive stages mentioned. The formulas of these three mixtures are as follows:

No. 1

	Gm. or c.c.		
℞ Potassii citratis		2	gr. iij
Ammonii iodidi		066	gr. j
Vini ipecacuanhæ		13	♏ij
Tincturæ camphoræ compositæ		2	♏iij
Syrupi aurantii		6	♏x
Aquam ad	4		ʒj

No. 2

℞ Ammonii carbonatis		066	♏j
Oxymellis scillæ		33	♏v
Vini ipecacuanhæ		13	♏ij
Syrupi tolutani		4	♏vi
Aquam ad	4		ʒj

No. 3

℞ Ammonii carbonatis		066	gr. i
Terebeni		13	♏ij
Syrupi tolutani		33	♏v
Pulveris acaciæ		13	gr. ii
Aquam ad	4		ʒj

The formula for the mixture he employs in whooping-cough is as follows:

	Gm. or c.c.		
℞ Potassii nitratis		06	gr. j
Ammonii bromidi		13	gr. ij
Ammonii iodidi		06	gr. j
Ammonii carbonatis		03	gr. ½
Tinctura belladonnæ		13	♏ij
Vini ipecacuanhæ		06	♏j
Aquam chloroformi ad	4		ʒj

As the case progresses he freely increases the tincture o belladonna and the ammonium bromidi.

Indian Medical Gazette, Calcutta

May

29 Hemateikona: Significance of Blood Picture in Disease. A W. Robertson.
30 Diphtheria in India. C. J. Fox.
31 Leukoderma in Burma. L. G. Fink.
32 Dilatation of Anus as Means of Resuscitation in Chlorofor Anesthesia, with Suggestion for Its Use in Drowning. W D. Keyworth.
33 Peculiar Pigmentary Condition. A. C. Munro.
34 *Leprosy, Its Bacteriology and Treatment. T. S. B. William

34. **Leprosy.**—Williams produced two types of organis which are at first glance widely different: (1) A diphtheroi non-acid-fast organism, which is really a streptothrix. In fairly typical culture of this organism one sees a few aci fast bacilli, similar non-acid-fast dotted bacilli and larg bacilli; filaments with terminal clubs, etc., in fact, th so-called involution forms of a diphtheroid organism an (2) an acid-fast streptothrix, generally similar to tha obtained by Rost and Deycke. Williams says that to t observer unaccustomed to the vagaries of the streptothric these two types of organism grown by him seem so absolute distinct, as not to be worth consideration as the same. one time he could not transfer the non-acid-fast form into t acid-fast form at will. However, by using pure culture amebas he was able to show the effects of symbiosis. In very short time he was able to demonstrate where a no acid-fast diphtheroid bacillus culture was added to pu amebas, that, at the end of about forty-eight hours, t amebas were full of bacilli, which had become acid-fast. Th it was demonstrated that the non-acid-fast organism, which Williams' opinion was descended from acid-fast lepra bacil could regain its acid fastness in association with a living ce It was further noticed that the association with the ameb had a distinct influence on the bacilli outside the cells. Ma of those outside had become entirely acid-fast, and in othe the dots had become acid-fast. Another strong piece of e dence connecting up the non-acid-fast diptheroid organis with the final acid-fast form, was the evidence provided by cultures (two to three months old) of the non-acid-f organism. Here it was found that the dotted bacilli tended die out, while the so-called involution forms, which are reality only broken-off portions of streptothrix, had beco more prominent and in many cases distinctly acid-fast. T acid-fast streptothrix is Gram-positive. In the diphther bacillus phase it is only the involution forms which are def itely Gram-positive. The dotted bacilli appear to vary. will be seen then that Williams' claim is to have grown non-acid-fast organism first and to have converted it into

acid-fast organism. A vaccine prepared from the streptothrix has been used in fifteen cases with very gratifying results, although Williams refuses to consider the patients cured.

Dublin Journal of Medical Science

June

35 *Etiology and Treatment of Diabetes Mellitus. W. M. Crofton.
36 Modus Operandi of Vaccine Treatment. G. A. Stephenson.

35. **Diabetes Mellitus.**—Crofton does not think it possible in the majority of cases to cure diabetes, because when the patient comes under treatment the cells producing the essential substances are so far damaged that they cannot be restored, but he does think it possible to prevent, at any rate in many cases, the disease getting worse, and by means of giving the affected substance to enable the patient to live an ordinary life on an ordinary diet. It seems the patients who can recover completely are young people whose glycolytic mechanism can be restored if tided over the acute phase, just as acute nephritis can be completely recovered from.

Annales des Maladies des Org. Génito-Urinaires, Paris

May 15, XXIX, No. 10, pp. 865-960

37 Spontaneous Recovery in Acute Pyelitis. E. Chambard.
38 *Access to the Kidney. (Procédé rapide pour aborder le rein.) F. Cathelin.
39 Case of Cystic Ureteritis. D. Angier and C. Lepoutre.
40 Transvesical Prostatectomy on Patient Cystostomized for Nine Years. M. Patel and G. Cotte.

38. **Access to the Kidney.**—Cathelin utilizes the two weak points in the abdominal wall in the lumbar region, the triangle of Petit and Grynfelt's irregular quadrilateral gap in the muscular wall which are easily palpated by the yielding of the wall. Grynfelt's gap is bounded in front by the posterior border of the internal oblique muscle, behind by the external border of the iliocostalis, above by the twelfth rib in front and behind by the inferior border of the inferior serratus posticus. The floor of the opening is formed by the thin aponeurotic membrane of the fascia transversalis. This gap in the muscuar wall is just over or below the inferior pole of the kidney and thus permits ready access to it. Another point in Cathelin's technic is that he clamps the vessels just as they enter the kidney, not above. He has not had a mishap in his ifty-nine operations on the kidney in the last eighteen months, all the patients promptly recovering. Petit's triangle s in the first layer of the muscles of the back, but Grynfelt's rregular gap is in the deep layer. The article is illustrated.

Archives des Maladies du Cœur, Etc., Paris

June, IV, No. 6, pp. 337-416

41 Pulsation in the Pulmonary Veins with Mitral Insufficiency. (Pouls veineux du poumon dans les lésions mitrales.) G. Buicliu and D. Danielopolu.
42 The Atrioventricular Bundle. (Le faisceau atrio-ventriculaire dans le cœur humain.) G. H. Monrad-Krohn.
43 The Blood-Plate Count in Health and Disease. (Etude clinique et expérimentale sur les variations numériques des globulins.) M. Aynaud.

Archives de Médecine des Enfants, Paris

June, XIV, No. 6, pp. 401-480

44 *Hepatization of the Lung in Young Children. (L'hépatisation lobaire dans la première enfance.) A. d'Espine and Mallet.
45 Curable Forms of Acute Tuberculosis in Children. E. C. Aviragnet and L. Tixier. Commenced in No. 5.
46 *Resistance to Muscular Fatigue of Children Under Two and One-Half Years. A. Lesage and H. Collin.
47 *Atypical Measles. (Cas anormaux de rougeole.) G. Baldini.

44. **Pneumonia in Children.**—Mallet and d'Espine report four ases of wandering pneumonia in children between 5 and 7, he focus of pneumonia shifting around during the week the isease lasted. In three other cases the children were between months and 2 years old and bronchopneumonia was accomanied by lobar fibrinous pneumonia followed by a follicular nteritis, the latter proving fatal. In two other similar cases he intestinal phase failed to develop and the infants recovred. The exceptional gravity of lobar hepatization in infants probably due to generalization of the pneumococcus infecon, with complications on the part of the kidneys or ntestines.

46. **Infants' Resistance to Muscular Fatigue.**—Lesage and ollin state that they found it possible to have children under ½ years hold their arms extended above their heads for a ng time without any signs of fatigue. If the arms are raised and held in this position the child continues to hold them thus alone while its attention is diverted. Some of the children held their arms up thus spontaneously for five, twelve and even for thirty minutes without any sign of weariness or discomfort. They seem to forget all about their arms. Adults, idiots and imbeciles lack this resistance to fatigue and Lesage and Collin theorize to explain it in infants as due to the phase of the evolution of the nervous system at this age.

47. **Atypical Measles.**—In one of the five severe and atypical cases reported the measles was of a hemorrhagic form. In another case the measles seemed to be mild, but the temperature ran up to 41.3 C. (106.34 F.). In another case the measles developed during an attack of pneumonia, but the child recovered; a sister of this child contracted the measles which came on with epistaxis, a purpuric eruption and fever above 40 C. (104 F.) but ran a mild course.

Bulletin de l'Académie de Médecine, Paris

May 30, LXXV, No. 22, pp. 625-640

48 Dragging Down and Twisting of the Larynx as Sign of Aneurysm of the Arch of the Aorta. (Abaissement, déviation et latéro-torsion du larynx comme signe d'anévrisme de la crosse aortique.) E. Boinet.

June 6, No. 23, pp. 641-654

49 Progress of Hygiene in West Africa Under French Rule. Wurtz.

Presse Médicale, Paris

June 14, XIX, No. 47, pp. 493-500

50 Cysts and Cancer of the Nipple. (Kystes cliniquement uniques et cancer de la mamelle.) P. Reclus.
51 Technic of Interpretation of Sphygmomanometer Findings. (Les conditions essentielles des observations sphygmomanométriques.) A. Martinet.

Semaine Médicale, Paris

June 21, XXXI, No. 25, pp. 289-300

52 Present Conception of Sugar Destruction in the Body. (Etat actuel de la question de la glycolyse.) R. Lépine.

Archiv für Gynaekologie, Berlin

XCIV, No. 1, pp. 1-262. Last indexed May 20, p. 1516

53 Vessels in Uterus During Pregnancy. (Die Gestationsveränderungen der Uterusgefässe.) O. Büttner.
54 *The Phenomena of Pregnancy. (Ueber Gestationserscheinungen.) F. A. Kehrer.
55 Bacteriology and Histology of Febrile Myoma of the Uterus. A. Sitzenfrey.
56 *Microscopic Retrospective Diagnosis of a Pregnancy. (Diagnose der abgelaufenen Schwangerschaft.) G. Schickele.
57 Rights of the Unborn Child. (Wandlungen in der Bewertung des ungeborenen Kindes.) H. Goeckel.
58 *Puerperal and Postoperative Thrombosis and Embolism. H. V. Klein.

54. **Phenomena of Pregnancy.**—Kehrer discusses in particular the internal secretion of the ovaries and its influence on the uterus, etc., showing that the phenomena of pregnancy may be classed as the purely fetal and the purely maternal, the latter in the double form of the chemical action of the ovarian hormone and the chemical action of the products of the fetal metabolism.

56. **Microscopic Retrospective Diagnosis of Pregnancy.**—Schickele gives the microscopic findings in six typical cases of a dubious history as to a preceding pregnancy. In several of the cases the discovery of chorionic villi confirmed the diagnosis, but the finding of hyaline vessels with ectoderm cells seems to be specific of a preceding pregnancy, according to his experience. In some cases there was nothing to suggest that the woman had ever been pregnant, but investigation of the history always confirmed the assumption on this basis. Even after all the other tissues revealing a pregnancy have disappeared, the hyaline structure of the vessel walls and the ectodermal cells in them are sufficient to sustain the assumption of a pregnancy, he says, and it is superfluous to continue the search for chorionic villi.

58. **Puerperal and Postoperative Thrombosis and Embolism.**—Klein's monograph fills 146 pages and, besides an extensive review of the various theories and views on the subject, it presents the lessons learned from ten years' experience at the university clinic at Vienna in charge of Wertheim. There was thrombosis in seventy-six of the 34,951 maternity cases during this period, over 40 per cent. being in the normal thirty-one cases and over 59 per cent. in the forty-five pathologic cases. There were seventy cases of postoperative thrombosis during the period, among 5,851 gynecologic operations, 56 per cent.

consecutive to a laparotomy. In a third of all the postoperative thrombosis cases, the operation had been for removal of a uterine myoma. He accepts that thrombosis may be anticipated in 33 per cent. of all the myoma cases, especially when they are removed by the abdominal route. The details of the cases are summarized for comparison, and attention is called to the fact that postoperative thrombosis has dropped from 2 to 0.5 per cent. since the women are allowed to leave the bed early. Very mild postoperative embolism developed in two of the women allowed to get up early, while three fatal cases were observed among the women not allowed to get up until after the routine period. Analyzing the total fifteen cases of postoperative fatal pulmonary embolism, Klein thinks that there is a possibility that immediate exposure of the pulmonary artery according to Trendelenburg's suggestion might have saved the women in the few cases in which death did not occur for twenty to thirty minutes after the onset of the serious symptoms; one of the women in this group was an unusually robust young woman. At the same time, he remarks, the women having just passed through a major operation, their resisting powers are at an exceptionally low ebb. The tincture of iodin sterilization of the skin is an aid to rapid preparation for the operation, and in such cases there is nothing to lose and everything to gain. In conclusion he tabulates the statistics from various clinics to show the frequency and percentage of puerperal and postoperative thrombosis and embolism. In another table Klein lists their proportional frequency with his various major operations. Among 560 operations done under spinal anesthesia there were ten cases of thrombosis with one fatal embolism, but in a corresponding series of operations, under general anesthesia, there were likewise ten cases of thrombosis, but there were four cases of fatal embolism. These figures are in favor of spinal anesthesia, which avoids the injurious action of the general anesthetic on the heart. It has been Klein's experience that the elderly bear the spinal anesthesia exceptionally well. Operations requiring an hour and twenty minutes under spinal anesthesia in women between 60 and 70 without any evil by-effects were by no means uncommon. Raising the pelvis probably induces a certain predisposition to thrombosis, as also too tight dressings and meteorism. The Mahler pulse, that is, increased pulse-rate with normal temperature was observed in two patients; at the onset of the thrombosis in one case and as a premonitory symptom in the other, the pulse running up in a series of peaks and keeping from the eighth to the twenty-sixth day after the operation at about 116; the first signs of thrombosis became evident about the fifteenth day. In some other cases the pulse-rate did not correspond with the temperature. An important sign of incipient thrombosis is the larger diameter of the leg on the threatened side, especially when the left leg is even a little thicker through than the right. In prophylaxis the patient must be encouraged to move about and breathe deep. Ten or fifteen deep respirations every hour strengthen the lungs exhausted by the anesthetic. Systematic movements of the legs, bending them at knee and hip-joint and keeping up the heart with heart tonics are also important in prevention. Klein does not regard infection as a necessary preliminary to thrombosis, although it is unmistakably a favoring factor; in seven cases infection of the wound was evidently responsible. In 20 per cent. of all the cases of thrombosis there was fatty degeneration of the myocardium as also in 28 per cent. of all the cases of puerperal thrombosis. The age has nothing to do with this as some of the younger patients presented this degeneration of the myocardium. Klein regards this fact as testifying to the connection between the general anesthesia and the fatty degeneration on one hand and the operation on the other.

Archiv für Kinderheilkunde, Stuttgart

LV. Nos. 5-6, pp. 321-483. Last indexed April 29, p. 1300

59 Case of Transposition of the Aorta and Pulmonary Artery. (Ueber Transposition der grossen Schlagadern des Herzens.) Z. v. Bokay.
60 *Treatment of Phlegmonous Diphtheria. N. R. Blumenau.
61 *Disadvantages of Institutional Care for Infants. (Funfjährige Erfahrungen im Kinderasyl.) J. Cassel.
62 Echinococcus Disease of the Lungs. W. G. Archangelsky.
63 Epidemie of Measles Plus Diphtheria. (Mitteilungen über eine Masern- und Diphtherie-Epidemie.) P. Auerbach.

60. **Phlegmonous Diphtheria.**—Blumenau states that 265 patients with phlegmonous diphtheria were admitted to the Children's Hospital at St. Petersburg, 1895-1908, and sixty-seven died during the first day. The majority of the children were about 5 years old; the mortality decreases with the age, from 100 to 16.6 per cent. Early vomiting is an unfavorable sign, generally being followed by paralysis of the heart. Nephritis was observed in nearly all the cases from the first, but it proved mild. Under serotherapy the throat cleared by the beginning of the second week, but the heart symptoms generally developed at this time. The whole syndrome indicates a specific, extremely toxic form of diphtheria; and antitoxin should be given freely and in a way to surround the enemy most rapidly and effectually, he says, that is, by the intravenous route. The various factors involved in the syndrome are discussed and the literature reviewed.

61. **Disadvantages of Institutional Care of Infants.**—A number of points are emphasized in this review of five years of medical supervision of a foundlings' asylum. Attention is called to the lack of exercise of infants in an institution. They do not get the chance to move their limbs, sit up, creep, etc., as in the home, and they lack the mental stimulus of the home environment. The institutional life is monotonous and the infants are quiet and sober. The infants eat at regular periods and do not develop the appetite of children in the home, so that it is much harder to accustom them to a mixed diet. On the whole, Cassel declares, an institutional life for young children is a prison life. The result is a "hospitalism," and he insists that an institution should be regarded only as a temporary makeshift.

Archiv für Verdauungs-Krankheiten, Berlin

June, XVII, No. 3, pp. 241-394

64 *Retention of Stomach Contents with Unimpaired Motor Functioning. (Ueber die diagnostische Bedeutung alimentärer Restproben bei ungestörter Magen-Motilität.) L. Bamberger.
65 *Determination of Urobilinogen and Urobilin and Their Clinical Importance. (Nachweis des Urobilinogens und des Urobilins und die klinische Bedeutung dieser Körper.) E. Münzer and F. Bloch.
66 *Ultimate History of Ninety-One Patients with Gastric Achylia. (Ueber Achylia gastrica und ihre Beziehung zur Motilität; sowie über das Schicksal von 91 Achylikern.) H. Ley.
67 *Technic and Clinical Importance of Proctosigmoidoscopy. (Rektoromanoskopie.) L. v. Aldor.
68 Gastric Ulcer in Japan. G. Yukawa.

64. **Retention of Food with Unimpaired Gastric Motility.**—Bamberger found 4 or 5 c.c. of relics of food in the fasting stomach in 36 per cent. of seventy-five persons examined, that is, traces of food visible to the naked eye, when the motor functioning of the stomach seemed to be normal. This retention was never found, however, in persons known to be absolutely healthy. There was always something wrong in the stomach or elsewhere; the gastric mucosa was uneven from cicatricial changes, or there was hypersecretion or some gallstone trouble. Macroretention, as Bamberger calls it, is therefore only conditionally reliable as a sign of gastric ulcer or cancer; it may occur even with affections outside of the stomach. Microscopic retention was evident in 62.5 per cent. of the healthy persons examined and in 60 per cent. of the patients with cholelithiasis but free from stomach trouble. The findings confirm the assumed connection between hypersecretion and gastric ulcer. Over 20 c.c. of gastric juice was a frequent finding in the fasting stomach in the ulcer cases.

65. **Urobilin in the Urine.**—Münzer and Bloch tabulate the findings with various tests for determination of the bile pigments in the urine as applied to five persons with various blood diseases, six with gastric or intestinal affections and eleven with gall-stones or jaundice or both. The results show that urobilin is not eliminated as such but as urobilinogen and urobilin is formed out of this as the urine stands exposed to the daylight. It occurs only in traces in health; larger proportions seem to be encountered only with more or less derangement of the liver cells. Urobilinogen may be totally absent in the urine in case of total obstruction of the bile ducts and in mild liver affections accompanied by much jaundice, although bile pigment may pass into the urine. By using the alcohol-ether extract technic, it is possible to dispense wit

the preliminary removal of indol and skatol with ligroin, otherwise necessary to prevent error. Münzer and Bloch found Ehrlich's benzaldehyd reaction the best technic for detection of urobilinogen in fresh urine.

66. **Gastric Achylia.**—Ley's experience conflicts with Einhorn's assertion that the secretion of mucus is necessarily defective in simple achylia. Ley reports the results of tests on twelve achylic patients and five controls given a test oatmeal porridge meal, and six achylics and five controls given 25 c.c. of scraps of meat in suspension in 250 gm. fluid. In a further series of tests sixteen achylics and four controls were examined afterward with the Roentgen-rays. The results of the tests all tend to disprove the assumption that the motor functioning of the stomach is augmented in case of gastric achylia. The achylia generally persists unchanged throughout life. The evidence further disproves the assumption that achylia may lead to pernicious anemia; the reverse sequence is more liable to be the case. Ley's experience with 300 cases of gastric achylia, including ninety-one cases traced to date, does not indicate any special predisposition to gastric ulcer or cancer in persons with achylia. The disturbances from the achylia had existed for six months or more in all the cases, and there was a suspicion of cancer in fourteen, confirmed by the outcome in the majority, but these patients were all in the cancer age. Of the ninety-one achylics whose history was traced, 28.5 per cent. have succumbed since to various causes, the majority being over the age of 50 and of the hard working classes. Over 50 per cent. of the surviving sixty-five seem to be free from disturbances on account of their achylia when they pay attention to their diet, some having no disturbances, even without dieting. Four have diarrhea and fourteen constipation; twenty-two of the patients have increased in weight during the six years since they were under treatment. Only one was between the ages of 15 and 20, two between 20 and 25, seven between 25 and 30, and seventy-three were between 30 and 60. All but 23 per cent. complained of loss of appetite; 42 per cent. had constipation and 15 per cent. diarrhea; anemia was encountered in only three of the ninety-one patients; hypermotility was evident in forty-five, and atony in sixteen. In forty-six cases the preceding diagnosis had been chronic gastritis.

67. **Proctoscopy.**—The technic for direct visual inspection of the rectum and sigmoid flexure has been improved by von Aldor, he claims. His graduated tube is in three parts which permits the flexure to be examined after the rectum has been inspected without the necessity for introducing the obturator again or changing the tube. A further advantage is that the distance between the inspecting eye and the lesion is merely the distance from the anus to the lesion as all superfluous length of the tube is avoided by this arrangement of the tube in three segments. Von Aldor says that the American device to secure this advantage is complicated and expensive. He emphasizes anew the fact that lesions in the lower segment of the bowel may develop and exist for a long time without appreciable subjective disturbance. The recurring slight hemorrhages are usually what brings the patient first to the physician for relief from the supposed hemorrhoids. The important point which von Aldor specially emphasizes is that malignant disease in the lower rectum generally develops in connection with hemorrhoids. The bleeding piles mislead both patient and physician to neglect further examination of the region above. Von Aldor also emphasizes the fact that chronic proctitis in most cases is of a hemorrhagic nature and accompanied by hemorrhoids. Hemorrhage is comparatively rare with what he calls proliferating proctitis (Strauss calls it "grey irritation pyramids" or "hemorrhoidal teeth"). The greatest triumphs of rectosigmoidoscopy are in the early detection of incipient cancer at the sigmoid flexure, and von Aldor reports a case of the kind in which a man of 43 consulted him on account of constipation which had gradually become more severe during the last two years. A few years before he had had bleeding hemorrhoids and he had lost over 10 pounds in weight during the last few months. Nothing pathologic was found anywhere until the proctoscope revealed carcinomatous changes at the sigmoid flexure. There were adhesions to the bladder and appendix, and a pararectal abscess. An operation attacking the lesion from above and below, resecting 45 cm. of intestine, restored the patient to apparently complete health and he has gained nearly 40 pounds in weight during the five months since. Extreme constipation in an adult male should always compel proctoscopy.

Berliner klinische Wochenschrift

June 12, XLVIII, No. 24, pp. 1069-1112

69 Anaphylatoxin. F. Neufeld and H. Dold.
70 *Pulmonary Tuberculosis in the Aged. (Die tuberkulöse Lungenphthise alter Leute.) C. Hart.
71 Two Cases of Atrophy of One Lung. A. Döblin and Biernath.
72 *Differential Diagnosis Between Pleurisy without Effusion and Intercostal Neuralgia. E. Schepelmann.
73 *Symptomatology of Pleurisy. A. Sternberg.
74 Graphic Registration of Respiration Sounds. (Aufzeichnung der Atmungsgeräusche.) H. Gerhartz.
75 Comparison of the Electrocardiograms Obtained by the Filament Galvanometer and the Oscillograph. T. Groedel and Meyer-Lierheim.
76 The Adrenals in Atrophic Cirrhosis of the Liver. (Die feine Struktur der Nebennieren des Menschen bei der Laennec'schen Cirrhose.) M. Dominici.
77 Salvarsan and Hyperideal. P. Ehrlich.

70. **Pulmonary Tuberculosis in the Elderly.**—Hart comments on the scant attention paid to this subject, and yet the clinical aspect of tuberculosis in the elderly is of a special type. Besides its chronic character and the tendency to heal, it is distinguished by the slight tendency to dissemination, owing to various local causes. He discusses them in detail, emphasizing that the prospects of healing of a tuberculous apical focus are best in the elderly.

72. **Differential Diagnosis of Intercostal Neuralgia and Pleurisy Without Effusion.**—Schepelmann says that when the trunk is bent over to the side the seat of the pain, the pain increases in case of intercostal neuralgia, while with pleurisy the pain increases when the trunk is bent over to the sound side. He explains the mechanism of this but warns that sometimes both the pleura and the nerve are inflamed in which case nothing is to be learned from this sign. Muscular disturbances may be differentiated by the painfulness of any and all movements of the trunk and arms and possibly by the tenderness of the muscles involved, the frequent change in the localization of pain and the improvement under application of the induced electric current.

73. **Muscular Symptom of Pleurisy.**—Sternberg has noticed for years that persons with pleurisy without effusion complain of pains in the muscles on the affected side. A certain group of muscles become painful with every acute attack or exacerbation, and the degree of painfulness increases and declines with the intensity of the pleuritic process. If the patient crosses his arms far enough to place the palms on the opposite shoulders, this flattens out the intrascapular space, and the patient experiences pain when the examiner's thumbs are pressed in on the rhomboideus muscle on the side affected. The trapezius, pectoralis and the infraspinatus may also be involved. There is no pain when a fold of the skin is squeezed; the typical painfulness is probably the result of a toxic myositis from the same toxic agent which is causing the inflammatory process in the pleura. Sternberg thinks that this explanation throws light also on Pottenger's symptom, the rigidity of the muscles over the disease focus, and on the atrophy of the muscles with a unilateral tuberculous process The causal connection between this atrophy and preceding attacks of pleurisy with myositic changes is shown by the fact that the atrophy affects always the same group of muscles which give the pain reaction in pleurisy. Sternberg's extensive experience indicates that this reaction has considerable diagnostic importance, both for the existence and the progress or retrogression of inflammatory processes in the pleura.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 20, XLI, No. 18, pp. 625-656

78 Typhoid Epidemic in Poorhouse. (Zur Epidemiologie und retrospektiven Blutdiagnostik des Typhus abdominalis.) A. Schüpbach.
79 Pupil Disturbances. (Verschiedene Pupillenstörungen.) A. Vogt.

Deutsche medizinische Wochenschrift, Berlin

June 15, XXXVII, No. 24, pp. 1105-1152

80 *Serodiagnosis of Epidemic Poliomyelitis. E. Müller.
81 *Immobilization in Treatment of Epidemic Poliomyelitis. (Behandlung der frischen Kinderlähmung durch Ruhigstellung.) E. Mayer.
82 *Thrombosis of Femoral Veins After Intestinal Catarrh. H. Strauss.
83 *Determination of Uric Acid in the Blood. (Methode zum Nachweis und zur quantitativen Bestimmung von Harnsäure in relativ kleinen Blutmengen.) A. Kowarsky.
84 *Peritonitis from Perforation of Gall-Bladder. R. Bertelsmann.
85 Internal Urethrotomy. F. Hübotter.
86 Streptococcus Responsible for Most Cases of Chronic Urethritis. A. v. Wahl.
87 Two Cases of Herpes Zoster in Connection with Kidney Disease. A. Rosenbaum.
88 Prophylaxis and Treatment of Decubitus. A. Zweig.

80. **Serodiagnosis of Epidemic Poliomyelitis.**—Müller does not think that the method which he has found successful has much importance for the clinic as it requires inoculation of monkeys, but it promises to throw light on a number of scientific questions, such as whether there are germ-carriers for this disease as for typhoid, and whether the seroreaction would be positive in the apparently healthy persons in the environment of the sick, also whether the disease affects children exclusively only because adults have acquired immunity to it. The method will also prove useful to differentiate dubious sporadic cases. The antibodies giving the reaction persist for years and decades after the infection.

81. **Treatment of Paralysis After Poliomyelitis.**—Mayer reports two cases in which treatment was applied on the principle of absolute repose for the muscles to prevent development of paralysis, similar to the treatment of spondylitic paralysis. The results were extremely satisfactory in his cases and he urges the application of the principle on a broader scale.

82. **Femoral Thrombosis After Intestinal Catarrh.**—Strauss reports three cases of thrombosis on one side with severe colitis. The left femoral vein was affected in each case and no other reason for the development of the thrombosis, except the bowel trouble, could be discovered. His experiences confirm those reported by Riedel, summarized in The Journal, July 8, page 170.

83. **Determination of Uric Acid in the Blood.**—Kowarsky has modified the murexid test for uric acid, so that it can be applied for determining the amount of uric acid in even so small an amount as 10 c.c. of blood. The uric acid is precipitated by ammonium chlorid, concentrated by centrifuging and then crystallized out by treating the sediment with a few drops of concentrated hydrochloric acid. In gout there is from 0.2 to 0.6 gm. in 10 c.c. of blood, and it is easily identified by the murexid test applied to the crystals. The simple technic differentiated gout without trouble in the twelve clinical cases in which the method has been applied to date, while none of the controls gave a positive reaction. On addition of 0.2 mg. uric acid to normal blood the findings were identical with those in persons with pronounced tophi. (For the murexid test the substance is treated with nitric acid, evaporated and moistened with ammonia water. Uric acid gives then a purple color as murexid is formed.)

84. **Peritonitis from Perforation of the Gall-Bladder.**—Bertelsmann reports three cases of this kind which he has encountered during the last two years, all the patients recovering. His experience confirms the great difference in the outcome between the cases in which perforation occurs in the course of gangrenous inflammation and those resulting merely from erosion from a calculus. Two of the cases were the most severe peritonitis which he has ever known to have a favorable termination. Bertelsmann ascribes this outcome to the careful rinsing out of the region with salt solution and subcutaneous infusion of 2 liters and intravenous of 4 liters of the salt solution in the course of two hours, the last 2 liters containing a little epinephrin. The collapse he ascribes to the bleeding away into the peripheral vascular system, especially into the splanchnicus domain. The apparently quite moribund patient, the radial pulse gone, respiration arrested, revived slowly as soon as 250 c.c. of the solution with the epinephrin had been infused and by the end of the infusion the pulse was full and strong and the patient had recovered consciousness. The condition had been so serious, the collapse so severe, that Bertelsmann almost wished that the family would refuse the operation which he makes it a principle always to insist on no matter how desperate the condition. The patient was soon restored to health. In another case the gall-bladder was so packed with 420 stones that there was no room for the bile and the perforation did not cause much disturbance. Bertelsmann's cases teach the necessity for thorough cleansing out of all the bile that has found its way into the abdominal cavity and, further, that the peritoneal collapse which this is liable to induce can be successfully combated by copious saline infusion before and during the operation.

Deutsche Zeitschrift für Chirurgie, Leipsic

May, CIX, Nos. 5-6, pp. 425-626

89 *Surgery and Pathology of the Diaphragm. H. Gross.
90 Experimental Research on Tuberculosis of the Thyroid. Y. Shimodaira.
91 Operability of Hypophysis Tumors. E. Bode.
92 Subcutaneous Fat Tissue Necrosis. (Zur Kenntnis der subkutanen Fettgewebsnekrose.) M. Heyde.
93 Partial Rupture of the Bladder. (Inkomplete Harnblasenruptur.) M. Cohn.
94 *Carbon Dioxid Snow in Treatment of Angiomas and Nevi. (Anatomische und klinische Beiträge zur Behandlung der Angiome und Naevi mittels Kohlensäureschnee.) A. Salomon.
95 Experimental Production of Gastric Ulcers by Injury of Nerves. (Ueber die experimentelle Erzeugung von Magengeschwüren durch Nervenläsionen.) K. Kawamura.
96 Two Loops in Incarcerated Hernia. (Weiterer Beitrag zu der Frage der "zwei Darmschlingen im eingeklemmten Bruch.") C. Lauenstein.
97 *Injection of Emulsion of Periosteum in Treatment of Pseudoarthrosis. J. Sasaki.
98 Conservative Operations on the Kidneys. J. Fabricius.

89. **Surgery of the Diaphragm.**—Gross has had occasion to operate on the diaphragm in two cases of circumscribed tuberculosis of its muscular portion and in a case of sarcoma involving the diaphragm, lung, pericardium and spleen and requiring the most extensive resection of the diaphragm on record. The patient, a rural letter-carrier, 30 years old, was soon dismissed from the hospital in good condition. He died nine years later from cachexia and paralysis but whether due to recurrence or metastasis is not known. The extensive gap in the diaphragm was easily sutured but the diaphragm did not resume its excursions as long as the man was under observation. Evidently there was a reflex paralysis, and the repose thus induced favored the healing. Excision of the tuberculous focus in the two other cases proved a simple matter and the outcome has been a permanent cure.

94. **Treatment of Angiomas and Nevi with Carbon-Dioxid Snow.**—This communication from Bier's clinic at Berlin reports the application of Pusey's method in 250 cases of angioma or nevus. The permanent cure was confirmed by later examination in ninety-three cases. Salomon states that nothing can compare with the action of the carbon-dioxid snow except the effect of radium, the *x*-rays and the mercury quartz lamp but the dioxid treatment is far simpler and less expensive than either of the others. It acts by destroying the skin and upper layers of the subcutaneous angioma tissue, leaving the layer of epithelium intact. The method consequently is applicable only to simple, superficial angiomas, diffuse red pigmented nevi and brown nevi and teleangiectasia. It is not adapted for plexiform angiomas and cavernomas. For the latter, injections of alcohol according to Schwalbe have proved effectual in his experience; if this method is too slow, secondary excision is bloodless and free from danger. If the cavernoma extends into the cutis, the carbon-dioxid snow may be combined with the alcohol injections.

97. **Treatment of Pseudarthrosis with Injections of Emulsion of Periosteum.**—Sasaki declares that the results of his experimental research in this line justify the application of the method in the clinic. He advises taking the periosteum from the patient for the purpose, from the tibia, for instance. If this is not practicable, the periosteum from an amputated limb might be used or from fresh cadavers. The periosteum from infantile bones should be given the preference. The method is applicable, Sasaki says, when callus formation is delayed, for pseudarthrosis, in plastic operations, especially on the nose and jaw, and for all operations to close defects in bones.

Medizinische Klinik, Berlin

June 11, VII, No. 24, pp. 913-954

99 *Tuberculosis and the Nervous System. Voss.
100 Special Diets in Hospitals. (Die Küchenfrage in Kliniken und Krankenhäusern.) A. Schmidt.
101 Traumatic Neurosis and Atrophy of the Bones. (Traumatische Neurose und Sudecksche Knochenatrophie.) E. Bibergeil.
102 Carbohydrate Courses in Diabetes. M. Klotz.
103 Importance of Psychotherapy in Spa Practice. (Bedeutung der Psychotherapie in der balneologischen Praxis mit bes. Berücksichtigung der psychopathisch-anämischen Zustände in der Pubertät.) J. Krone.
104 Determination of Acidity of Gastric Juice. L. Michaelis and H. Davidsohn.
105 Causes of Irregular Action of Drugs. Especially in Tablet Form. E. Seel and A. Friederich. Commenced in No. 23.
106 Behavior of the Scaphoid Bone of the Tarsus as the Hand Is Flexed. (Verhalten des Navikulare bei Flexonsbewegungen der Hand.) H. Virchow.

99. **The Nervous System in Tuberculosis.**—Voss remarks that while there is no typical tuberculous psychosis yet the criminal responsibility of consumptives may often be regarded as attenuated. Mircoli declares that the tuberculous in general should be regarded from the standpoint of attenuated responsibility, and Fishberg has called attention particularly to the cases in which tuberculous individuals, despairing of recovery, lose all regard for the conventionalities and give free vent to their envy and rage. The psychic condition in tuberculosis, Voss continues, is responsible for the vogue of certain remedies: the suggestive power of the new and the waning faculty of judgment combine to delude the patients into false estimation of the efficacy of new remedies. The pains with incipient caries of the upper spine may lead to the mistaken assumption of a pure occipital neuralgia. Caries of the ribs induces intercostal neuralgia; tuberculous hip-joint disease also induces a typical pain radiating down toward the knee on the inner surface of the thigh. Wohlauer has recently pointed out that scoliotic sciatica may be the first symptom of lumbar spondylitis. Investigation of the entire spine is extremely important in all cases when a young patient tires readily and has neuralgiform pains in the back with exaggeration of the tendon reflexes and variable hyperesthesias. A search should be made for signs of multiple sclerosis, changes in the fundus of the eye, nystagmus, vertigo, etc. Paralysis of the recurrent nerve from compression by tuberculous bronchial glands is not infrequent, and Voss has seen paralysis of the posterior thoracic nerve follow removal of tuberculous glands extending down into the supraclavicular fossa. With a tubercle in the brain the prognosis is rendered graver by the frequent multiplicity of the lesions as in a case described in which a tumor in the right motor region was diagnosed and removed with apparent recovery, but the patient died nine months later from tubercles elsewhere in the brain. Voss discusses further tuberculous neuritis and the increased irritability of the heat centers as explaining the fluctuations in the temperature. Claude insists that epileptics are peculiarly resistant to tuberculosis, but Voss has had no opportunity to study this question.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 2, pp. 169-342. Last indexed June 3, p. 1695

107 *Acute Dilatation of the Stomach. (Akute Magenerweiterung.) H. Kuru. (Bemerkung zum Aufsatze von Haruzo Kuru.) B. Naunyn.
108 *Postoperative Complications on the Part of the Lungs. N. Spassokukotzky.
109 *Appendicitis and Pregnancy. (Appendicitis und Gravidität.) H. H. Schmid.
110 *Injury of the Heart from Orthopedic Corset. (Ueber Schädigungen des Herzens durch dauerndes Tragen fester Stützkorsetts.) O. Brosamlen.

107. **Acute Dilatation of the Stomach.**—Kuru´ gives the details of four cases from his own experience and of eleven of which reports have been published in Japan by other surgeons. In the total fifteen cases the acute dilatation developed without a preceding operation or anesthesia in five, once following contusion of the stomach and in the others from excess in eating during convalescence from typhoid or in the course of protracted suppuration or in phthisis. Two of these patients died while four died of the ten patients whose acute dilatation followed an operation under general anesthesia, laparotomy, nephrotomy or castration. The dilatation, he remarks, may result from direct injury of the stomach or by reflex action from some remote irritation, or by injury of the nerves (combined with severe heart disturbances), either from autointoxication or from exhaustion of the chromaffine substance of the adrenals which seems to be necessary for regulating the action of the stomach and heart. The dilatation may result further from obstruction of the gastro-intestinal tract either by tamponing in the vicinity of the pylorus, kinking of the intestine, valvular occlusion of the cardia or arteriomesenteric occlusion. No case of the latter kind has yet been reported in Japan. The total mortality in these Japanese cases was 40 per cent., and 50 per cent. among the laparotomy cases. Eleven of the patients were men. In all the cases washing out the stomach was the main reliance. When the trouble is due to abnormal fermentations or overloading, this has a direct curative action, and even when the trouble is of other origin, it has a very useful palliative effect, except immediately after an operation on the stomach itself, in which case faradization is preferable. Tomita applied it in his case of this kind with success. Kuru did not realize much benefit from changing the position of his patients, although he admits that this would certainly put an end to the vicious circle in cases of genuine arteriomesenteric occlusion. In conclusion he suggests that injections of epinephrin and physostigmin and saline infusion might be tried; epinephrin is especially indicated when there is reason to assume that the severe symptoms are the result of acute exhaustion of the adrenal cortex.

Naunyn comments on the scant attention paid to his statements years ago in regard to the relation between fermentation in the stomach and acute insufficiency of this organ. Minkowski and Ehret have since presented evidence to sustain the importance of fermentations in the etiology of acute dilatation of the stomach and the value of lavage of the stomach in combating it.

108. **Postoperative Complications on the Part of the Lungs.**—Spassokukotzky concludes from analysis of the cases at the St. Petersburg gynecologic institute in charge of Professor Zeidler, that postoperative complications on the part of the lungs are only rarely of embolic origin. When this is actually the case the symptoms and course are unmistakably characteristic. By far the large majority of postoperative complications are due to a variety of causes, especially the closeness of the air in the rooms where the patients are convalescing, the abnormal physiologic conditions for the lungs during the first few days after laparotomies, the patients avoiding normal breathing as this makes the wound hurt, and last but not least the chronic irritation of the upper air passages from tobacco. The effect of the general anesthetic is not such a predominant factor in the development of postoperative pulmonary complications as has hitherto been assumed. Even when the convalescent is in a room with apparently ample ventilation, it must not be forgotten that the air is contaminated from the crowded ward and corridor near by and that the visits of professors and students exhaust the air. The connection between the contamination of the air and the development of the pulmonary postoperative complications is evident further in the prevalence of these complications during the months when the windows and doors are kept closed. The proportion of carbon dioxid in the rooms was found to be from 2 to 2.5 per 1,000, more than double Pettenkofer's limit for respirable air. The conclusions of the article are encouraging, as the factors incriminated are avoidable to a certain extent.

109. **Appendicitis and Pregnancy.**—Schmid has been able to collect from the literature 458 cases of appendicitis during a pregnancy to which he adds twenty-eight unpublished cases from von Eiselsberg's clinic at Vienna. In over half the cases the pregnancy was the first or second and the appendicitis generally occurred during the third to the sixth month; in sixty-two cases it did not develop until during the puerperium. Only 308 of the women were given operative treatment. The mortality in the total 486 cases was shockingly high as Schmid shows in his tables; every effort should be made to improve the prognosis by early differentiation and an early operation. The general practitioner, he declares, must make a special study of the clinical aspect of appendicitis developing during a pregnancy or childbed so as to recognize it in time and have the woman transferred to an institution where she can be under constant supervision. Schmid's statistics indicate that

1 out of every 1,000 pregnant women has appendicitis, and that 2.5 per cent. of all the women with appendicitis are pregnant. The fact of the pregnancy does not seem to favor the development of an appendicitis for the first time, but it favors recurrences of appendicitis. The mild forms of appendicitis run their course about the same in and outside of a pregnancy, but severe cases are influenced in a most injurious manner by an abortion or normal delivery. The pregnancy is generally interrupted by the participation of the peritoneum in the appendicitic process if the focus is not excised at once. The relics of the appendicitis are liable further to interfere with normal involution of the uterus and induce adhesions with resulting sterility or habitual abortions or extra-uterine pregnancies or leave a tendency to uncontrollable vomiting. Interruption of the pregnancy as the sole means to influence the appendicitis is useless and directly harmful. When appendectomy has been done shortly before normal delivery, to protect the young cicatricial tissue it is better to deliver the child by Cesarean section. If the peritoneum is much involved in the appendicitis or abortion is impending, after appendectomy and walling off the abdominal cavity, it may be wise to empty the uterus and not drain until after this has been done. Brief summaries of the entire series of 476 cases are appended, especially to show the occasional difficulty in differentiating appendicitis when it is masked by the conditions of the pregnancy or puerperium.

110. **Injury of Heart from Orthopedic Corsets.**—Brosamlen has been examining twenty-five patients after they had been wearing leather supporting corsets for several months for some affection of the spine. Seventeen of the patients had been carefully examined before applying the orthopedic corset. He found unmistakable evidence of direct injury of the heart at the second examination in twelve of the seventeen, either in the form of an accentuated second pulmonary sound and bulging pulsation or of enlargement of the area of cardiac dulness. The patients giving negative findings had worn the support for less than a year, and probably would have developed the heart disturbances in time. The patients were mostly young girls with weak musculature, and the stiff orthopedic corset had hindered the normal excursions of the lungs in respiration. The importance of normal functioning of the lungs for the normal circulation through the heart is confirmed anew by the experiences in these cases. They show further that anything tending to impede the physiologic excursions of the lungs is liable to have a directly injurious action on the heart and circulation in the region. In the cases in which the corset was not worn constantly or was laid aside for certain hours daily, the injury was comparatively slight or no injury was apparent. When a supporting corset has to be worn constantly it should be cut out in such a way as to leave the lungs free to expand, and persons with weak muscles should not wear any stiff orthopedic corset unless absolutely necessary.

Monatsschrift für Kinderheilkunde, Leipsic

May, X, No. 2, pp. 55-130

111 Curds in Infants' Stools in Connection with Raw Milk Feeding. (Kaseinklumpen im Kinderstuhl im Zusammenhang mit Rohmilchernährung. 1.) J. Ibrahim.
112 *Psychopathic Origin of Impulse to Run Away from Home. (Wandertrieb psychopathischer Knaben und Mädchen.) W. Schlieps.

112. **The Impulse to Run Away from Home.**—Schlieps remarks that little attention has been paid to the study of children who without any motive run away from home, and yet the instinct to do this proceeds from a pathologic basis, just as in adults. Heilbronner found fourteen children between 8 and 15 among the fifty-seven cases of *fugues*, poriomania or *Wandertrieb* on record. Signs of degeneracy were evident in all these cases. Schlieps agrees with Schultze that even when there is some apparent motive for the leaving home, the impulse to do so is largely if not entirely pathologic. The impulse may accompany the most diverse psychopathic conditions, although it is most frequent among degenerates and imbeciles. The child displays sometimes great ingenuity and cunning in getting away, but once free he is liable to push on aimlessly and he takes with him usually only foolish things, with no provision for food. Schlieps describes three cases from his recent experience, two in girls of 11 and 15. Heilbronner calls it the result of "dysphoria," the restless mood coming on more early each time and the resistance to it becoming weaker and weaker until there is a habitual tendency to vagabondage. Whipping the children to keep them from running away only increases the tendency. The main point in treatment is to enlighten the parents as to the true nature of their child's tendency to run away and to eradicate it before it becomes a habit. The habit once installed, institutional measures may be necessary to break it up and save the still normal mental faculties.

Münchener medizinische Wochenschrift

June 13, LVIII, No. 24, pp. 1281-1336

113 *Ovarian Hormone as Cause of Growth of Myomas. L. Seitz.
114 Influencing of Skin Reactions to Bacterial Toxins. F. Rolly.
115 Predigested Albumin Foods. (Ueber die Ernährung mit tief abgebauten Eiweisspräparaten.) F. Frank and A. Schittenhelm.
116 *Epinephrin to Induce Anemia for Radiotherapy. (Adrenalinanämisierung als Hautschutz in der Röntgentherapie.) K. Reicher and E. Lenz.
117 *Diagnosis of Pleurisy in Children. (Zur praktischen Diagnostik der Kinderpleuritis.) F. Hamburger.
118 *Diagnosis of Tumor in the Hypophysis. (Zur Kenntnis der Geschwülste der Hypophysengegend.) R. Kümmell.
119 Postpartum Hemorrhage. F. Heimann.
120 Diagnosis of Small-Pox. (Zur Pockendiagnose.) E. Paschen.
121 *Proctoclysis. (Bemerkungen zum rektalen Dauereinlauf.) W. Brünings.
122 Therapeutic Diathermia. A. E. Stein.
123 Salvarsan in the Hands of the General Practitioner. K. v. Stokar.
124 Repeated Suprasymphyseal Cesarean Section. (Zur Kasuistik des wiederholten suprasymphysären Kaiserschnittes.) K. Mayer and K. Hartmann.
125 Alcoholism in Munich. E. Wittermann.
126 Technic for Determination of Salvarsan. P. Beisele.

113. **Influence of Internal Secretion of the Ovary on Growth of Myomas.**—Seitz comments on the significance of the facts that myomas retrogress after castration and exposure of the ovaries to the Roentgen rays and during the menopause, and that myomas never develop until after the ovaries have reached maturity. All the evidence to date seems to show that the internal secretion of the ovaries influences the growth of uterine myomas. Tumors in the ovaries do not show this dependence on ovarian functioning; they are encountered at all ages.

116. **Anemia from Epinephrin in Roentgen-Ray Work.**—Reicher and Lenz state that it is possible by expelling the blood from the region with epinephrin, nearly to double the dosage of the rays without injury. This technic is especially adapted for subcutaneous cancers. They inject the epinephrin solution at several points over the area to be exposed and follow with the exposure at once. The exposure can be repeated the second and third days, and again after a pause of fourteen or eighteen days.

117. **Diagnosis of Pleurisy in Children.**—Hamburger has found that dulness over the entire side of the thorax is never encountered in children except in pleurisy, but exploratory puncture may be needed in dubious cases. The auscultation findings alone may be misleading, but differentiation of a purulent pleuritis is extremely important for treatment in time. The most frequent source of error is that the accumulation of fluid is taken for infiltration of the lung.

118. **Hypophysis Tumors.**—In two of the four cases which Kümmel has encountered, there was no change in the pulse-rate and no choked disk, but other signs of pressure on the brain were confirmed in one case by discovery at necropsy of a hypophysis tumor as large as a plum. A year or two after the first symptoms of trouble bitemporal hemianopsia was evident, a sign that the lesion affected not only the chiasm but undecussated parts of the optic nerve. There was no abnormal growth in these cases but the third patient, a man of 23, had the face of a man of 45, while the body was that of a boy of 14. The fourth patient was an obese girl of 14 with glycosuria and a myxedematous aspect and disturbances in vision and menstruation but no hemianopsia. Bitemporal hemianopsia, especially for colors, seems to be one of the most reliable signs of a hypophysis tumor as it was pronounced in three of the four cases reported.

121. **Coffee in Proctoclysis.**—Brünings urges the occasional substitution of coffee for the usual saline solution in proctoclysis, relating his personal experiences after operative treat-

ment of an intestinal affection. His thirst was intense and only partially relieved by continuous droplet proctoclysis with salt solution, and he had considerable nausea. The second day he begged to have a cup of coffee take the place of the salt solution, which was done, the coffee being sweetened and diluted to one-half the usual strength. This gave great relief and stimulation, and another cup of coffee was used in the same way, except unsweetened, in the afternoon. The benefit of the stimulating coffee was pronounced each time, and he advises this as a routine measure. The rectum absorbs hypotonic solutions with greater avidity and he does not think isotonicity is necessary in the fluids introduced to relieve the thirst after general anesthesia. There is no necessity, he states, to heat the fluid as the droplets get warm enough by the time they reach the rectum.

Wiener klinische Wochenschrift

June 15, XXIV, No. 24, pp. 851-890

127 *Localization of the Heart Sounds. (Lokalisation der Herztöne.) M. Heitler.
128 *Exacerbation of Tuberculosis in Origin of Phthisis. F. Hamburger.
129 Modifications of the Wassermann Test. (Nachprüfung der nach Angabe Müllers und Landsteiners modifizierten Methodik der Wassermannschen Reaktion mit nicht inaktiviertem Serum.) E. Epstein and S. Deutsch.
130 Alimentary Glycosuria and Epinephrin Glycosuria; Glycosuria in Pregnancy and Diabetes. M. Reichenstein.

127. **Localization of the Heart Sounds.**—Heitler states that several blunders in the diagnosis of valvular disease convinced him that the localization of the heart sounds as taught by the text-books is not always correct. He thus diagnosed a case of contracted kidney with functional mitral insufficiency as an organic mitral insufficiency with consecutive nephritis, and a case of arteriosclerosis with weak systolic murmur at the apex as mitral insufficiency. He has made a special study of this localization in 153 patients with various heart and kidney troubles and 120 normal persons, paying particular attention to influencing the action of the heart by reflex means. He found that brief mechanical irritation of distant regions increased the heart action while it reduced the heart action when long continued. Gentle stroking of the skin over the liver, for instance, augments the heart action. But considerable pressure over the liver region has an opposite effect, the sound of the left ventricle and aorta become weaker and deeper, the sounds of the right ventricle and pulmonary artery become stronger and usually higher; the energy of the left ventricle is reduced, the energy of the right ventricle augmented. This liver-heart reflex is useful to discriminate between mitral and tricuspid murmurs and it also determines the originating point of the sounds made by the right and left heart, as he explains in detail. In two cases this reflex explained the reduplication of the second sound. In a case of mitral stenosis there was reduplication of the second sound at the base; by pressure on the liver region the first element of the reduplication became more pronounced, the second element became weaker or disappeared entirely. This suggested that the double sound was not two stronger elements of the diastolic mitral murmur—as mitral murmurs grow weaker on pressure of the liver region——but rather that the first element of the double sound had its origin at the pulmonary, the second at the aorta.

128. **Phthisis and Exacerbation of Tuberculosis.**—Hamburger presents arguments to prove that bacilli may slumber in a tuberculous focus until the resisting powers are lowered from any cause or the bacilli acquire special virulence; then the focus flares up anew and pulmonary phthisis becomes installed. He is convinced that nearly everyone becomes infected with tuberculosis during childhood and that the primary focus induces a certain immunity. Foci from reinfection run a mild course and heal except possibly in the apices where the focus may persist in a latent form for years.

Zentralblatt für Chirurgie, Leipsic

June 10, XXXVIII, No. 23, pp. 792-824

131 Iodin Sterilization of Skin. (Jodtinkur bei Bauchoperationen.) P. Sick and A. Hofmann.
132 Pain Induced at McBurney's Point by Indirect Means. (Die Grundlage und der Wert des Rovsing'schen Schmerzphänomens zur Diagnose der Appendicitis.) T. Hausmann.

June 17, No. 24, pp. 825-856

133 Operative Treatment of Varicocele. A. Narath.
134 Thymol for Rapid Sterilization of the Skin. (Schnelldesinfektion des Operationsfeldes mit Thymolspiritus.) König and A. Hoffmann.

Zentralblatt für Gynäkologie, Leipsic

June 17, XXXV, No. 24, pp. 857-888

135 Puerperal Self-Infection. (Ueber den Begriff der Selbstinfektion.) H. Fehling.
136 Ovariotomy During Pregnancy. (Zur Kasuistik der Ovariotomie während der Schwangerschaft.) S. Rosenfeld.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 8, XXXII, No. 69, pp. 731-738

137 *The Negative Wassermann Reaction in Pellagra. M V. Carletti.

June 11, No. 70, pp. 739-754

138 *Case of Kidney Tuberculosis Plus Nephrolithiasis. G. Ferrarini.

June 13, No. 71, pp. 755-762

139 *Non-Gonorrheal Stricture of Urethra. (Dei restringimenti uretrali non blenorragici.) F. Cuturi.

137. **The Wassermann Reaction in Pellagra.**—Carletti was unable to obtain a positive reaction in any of the twenty pellagrins to whom the test was applied according to Wassermann's original technic. Repeating the test later, using lecithin for the antigen, according to Bass' technic, he obtained a positive reaction in one case, all the others being constantly negative. These negative findings are an argument against the assumption that pellagra is due to the action of a protozoon and thus they speak against Sambon's theory of the transmission of the disease by a sand-fly. One of Sambon's premises for this theory is the close analogy between pellagra and certain other diseases for which protozoa are responsible.

138. **Kidney Tuberculosis Plus Calculi.**—Ferrarini's patient was a man of 36 whose father died from cancer of the stomach and a brother from pulmonary tuberculosis while a sister had gout. He had passed through appendicitis eight years before since which the urine had occasionally been turbid, but the general health remained good until a few months ago when he began to grow pale and thin and finally developed a fever and tumefaction in the left kidney. The kidney was found to be the seat of two distinct morbid processes, nephrolithiasis with suppuration and tuberculosis. The latter seemed to have been primary, but a calculus in time became wedged into the outlet into the ureter; perforation followed with infiltration of urine around the ureter and also a purulent pyelonephritis, explaining the train of symptoms observed. The calculi and pus were removed and after an interval of ten days to allow the patient to recuperate, the kidney was removed and the patient has been in the best of health during the two years since.

139. **Non-Gonorrheal Stricture of the Urethra.**—Cuturi remarks that a syphilitic stricture is generally close to the meatus, being the relics of a syphilitic ulcer which is usually located close to the meatus. In one of the five typical cases reported in detail there was nothing to explain the stricture until the patient confessed that he had intentionally irritated the urethra at one time to escape compulsory military service. He accomplished it by introducing matches into the meatus, the phosphorus inducing a purulent secretion; when this had healed he repeated the procedure several times. The resulting stricture did not require to be cut until twenty years afterward. With a syphilitic stricture, it is necessary to follow the urethrotomy with dilatation as otherwise the stricture is liable to grow up again. In spastic constriction a fine sound can be passed without force, while an organic stricture arrests it completely. Tuberculous stenosis is liable to recur constantly from infiltration of the walls.

Policlinico, Rome

June 11, XVIII, No. 24, pp. 745-776

140 Fracture of Upper End of Tibia. P. Sabella.
141 Febrile Syphilis. G. Nistico.

June 18, No. 25, pp. 777-808

142 Experimental Tuberculosis of the Vagina. I. Scalone.

Riforma Medica, Naples

June 12, XXVII, No. 24, pp. 645-672

143 Disease of the Stomach. (Gastropatie dinamiche ed organiche. XVIII.) G. Rummo.
144 Melanotic Tumors. C. Licini.
145 Case of Blue Disease. (Caso di morbo ceruleo, stenosi ed insufficenza del l'arteria polmonare e pervieta del foro di Botallo.) U. Gasperini. Commenced in No. 23

Ugeskrift for Læger, Copenhagen

May 25, LXXIII, No. 21, pp. 751-790

146 *The Alleged Uric-Acid Diathesis. (Urinsyrediatesen.) E. Faber.

June 1, No. 22, pp. 791-822

147 Connection Between Vestibular Apparatus and Cerebellum. R. Barany.

148 Vibratory Massage in Rhinology and Laryngology N. R. Blegvad.

146. **Uric Acid Diathesis.**—Faber ridicules the theory of the uric acid diathesis, saying that the whole apparently harmonious and imposing structure when considered closer is seen to be based on premises which are either highly improbable or unproved. The physiologic bases are hollow or have long since crumbled away; the most important connections are missing and the steeple on the building—the treatment—rests for the most part on the empty air. Faber reviews the pathogenesis, the clinical experiences and symptomatology of the various affections which are grouped as manifestations of the uric acid diathesis, and shows how they all have one common causal factor which bridges the gaps between them all, and which does not need the assumption of any diathesis to explain the true inwardness of the various affections. This one common factor is immoderation in eating. The conditions leading to overeating and drinking being usually the same for the members of a family, it is no wonder that the assumed "uric acid diathesis" affects all the members of the family, thus explaining its familial and inheritable character. The injury from overeating is felt most severely in different organs in different individuals. This explains the "mysterious" alternation of affections in the different members of the family, as for instance Charcot's classical example of a family in which the father had diabetes with obesity and of his five sons, three had gout, one diabetes, obesity and a joint disease, one obesity, and a daughter and granddaughter gout and obesity. The anomaly in the nuclein metabolism which is found in true uric acid arthritis—the low endogenous elimination of uric acid with the periodic increase and the increased elimination of exogenous uric acid—is not encountered in the other affections which are included in the alleged uric acid diathesis. This conception often stands in the way of rational management of the case. With kidney calculi, for instance, alkalines are indicated while they are useless or do harm in uric acid arthritis. In the arthritis a prurin-free diet is often indicated, but this is an absolute blunder in the chronic anemia and debility of chronic polyarthritis or for asthenic patients with myalgia and neuralgia. The assumption of the uric acid diathesis often blinds the eyes of the physician to the necessity of seeking a psychic cause for disturbances, which may be the only key to proper treatment. On the other hand it is easier to incriminate the uric acid than to convince a patient that he is eating too much, but a radical cure or material improvement is possible only after a suitable anti-obesity or weaning course of dieting.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Der Harn sowie die Uebrigen Ausscheidungen und Körperflüssigkeiten von Mensch und Tier. Ihre Untersuchung und Zusammensetzung in normalem und pathologischem Zustande. Ein Handbuch für Aerzte, Chemiker und Pharmazeuten Sowie zum Gebrauche an Landwirtschaftlichen Versuchsstationen. Herausgegeben von Carl Neuberg, Universitätsprofessor und Abteilungsvorsteher am Tierphysiologischen Institut der Königl. Landwirtschaftlichen Hochschule Berlin. Parts 1 and 2. Paper. Price, 58 marks. Pp. 1823, with illustrations. Berlin: Julius Springer. 1911.

The Surgery of the Diseases of the Appendix Vermiformis and Their Complications. By William Henry Battle, F.R.C.S., Surgeon and Joint Lecturer on Surgery to St. Thomas' Hospital, and Edred M. Corner, M.A., M.B., M.C., F.R.C.S., Surgeon in Charge of Out-Patients and the Surgical Isolation Wards to St. Thomas' Hospital. Second Edition. Cloth. Price, $3 net. Pp. 291, with 100 illustrations. New York: William Wood & Co., 1911.

Die Syphilis im Lichte der modernen Forschung mit besonderer Berücksichtigung ihres Einflusses auf Geburtshülfe und Gynäkologie. Von Dr. Franz Weber, Assistent an der Kgl. Univ.-Frauenklinik und Privatdozent für Geburtshülfe und Gynäkologie an der Universität in Munchen. Paper. Price, 4 marks. Pp. 128. Berlin: S. Karger, 1911.

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THE VISCOSITY OF THE BLOOD

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When a fluid traverses a straight tube of sufficient length the individual molecular constituents arrange themselves eventually parallel to the long axis of the tube. Moreover, the cylinder of fluid does not move forward as one unit, but in such a manner that the central portion attains the greatest speed of flow, while the more external layers show a decreasing velocity from within outward. Thus, the layer of fluid which is in contact with the vessel-wall will show no movement whatever, provided that it moistens the wall.

It must be clear, therefore, that the individual particles composing a fluid must rub on one another. Elements in neighboring layers move at different speeds and while some molecules are separated from one another, new contacts are constantly formed. The movement of the fluid is therefore accompanied by an internal, or molecular friction.

If different fluids of the same temperature are forced through a narrow tube under a constant pressure, the quantities collected within a definite period of time will vary greatly. For example, if distilled water and blood are employed, the water will show the greatest ease of flow, while the blood will escape very much less freely. Similar variations in the volume of flow will be exhibited by any particular fluid, if it is subjected to different temperatures. The flow will be the ampler, the higher the temperature. In the case of distilled water and blood the cause for this phenomenon seems to lie close at hand. As the blood contains by far the greater number of formed elements, its internal friction must be very much greater than that of water. Although a structural peculiarity of this kind would readily explain the difference in the outflow, it would account solely for the quantitative peculiarities of the fluid. In accordance with this view, therefore, that fluid which contains the smallest amount of solids would escape most readily from a capillary tube, and would, therefore, be hindered least by the internal friction. All factors being equal, this purely mechanical explanation holds true in a large number of cases.

It is to be remembered, however, that marked differences in the outflow may also be obtained under certain conditions with fluids of practically the same composition, and differences may be obtained, besides, with the same fluid by exposing it to different temperatures. Many examples are at hand which tend to prove that variations in the volume of flow may also occur when the constituents of the fluid have not been altered numerically. It must be granted, therefore, that the internal friction which determines the outflow, is also dependent in a measure on definite qualitative changes of the particles forming the fluid.

The individual molecules may have suffered chemical or physical changes, increasing their volume or rendering them more adherent to one another. Clearly these changes need not be confined to the surface-layers of the various elements, but may involve the entire mass. Besides causing phenomena of agglutination, a certain agent might also alter the volume of the elements or might even transform the cellular elements into many-sided and sharp-cornered bodies or fragments. Furthermore, these qualitative changes need not be confined to the solids, but may also involve the molecules of water. It seems quite probable that changes in the size and in the internal arrangement of the latter may result with equal ease. Thus, it seems certain that variations in the flow of fluids through a capillary tube may also be caused solely by peculiarities in the character of their constituents—quite aside from any numerical difference.

If the relative amounts of water and solids are taken into account, a fluid is described as "thick" or "thin" (concentrated or dilute) and, if its peculiarity of flow, or better, its consistency, is in question, it is said to be "sticky" or "not sticky." The latter quality of a fluid is spoken of as its viscosity. It is dependent on the force with which the molecular constituents adhere to one another, and bears a direct relationship to the hydrostatic pressure which must be brought to bear in order to separate them. Correctly speaking, therefore, the term "viscosity" should be restricted to that type of internal friction which is caused by the qualitative peculiarities of the molecular components, but such a concise view cannot be taken at all times. For example, if the volume of flow of certain liquids is determined, the differences obtained are ascribed to differences in their "stickiness," while, at the same time, we include among these causative agents also mere changes in the number of the component particles. The exact cause, whether purely quantitative or qualitative, is not readily ascertainable at all times.

It must be evident from the foregoing that the viscosity plays an important part in determining the hydrostatic force necessary to drive a fluid through a system of tubes. In seeking an expression for this peculiarity of a fluid, we are obliged to make reference to the law of Poiseuille,[1] which permits us to determine the outflow quantity of fluids from any capillary tube in accordance with the following formula:

$$Q = \frac{d^4 \quad h}{l}$$

Q, the quantity collected, is directly proportional to the fourth power of the diameter of the tube, and to the height of the pressure, and indirectly proportional to the length of the tube.

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[1] Poiseuille: Ann. de Chim. et de phys. Par., 1843, Series 3, p. 7.

Having in this way established Q for a certain liquid, it is a simple matter to calculate the quantity K, which escapes under the pressure 1, from a tube with the diameter 1 and the length 1, as follows:

$$Q : \frac{d^4 \qquad h}{l} = K : \frac{1^4 \qquad 1}{1}$$

$$K = \frac{Q\,l}{d^4 \qquad h}$$

The value K represents the coefficient K for the fluid examined. Using K as a factor, we obtain:

$$Q = K\,\frac{d^4 \qquad h}{l}$$

Having ascertained the quantity of fluid which escapes from a definite tube under a definite pressure, the coefficient K may be employed for the calculation of the quantity of liquid which would escape from any other tube under any other pressure. The viscosity of the fluid would be inversely proportional to the coefficient K.

Attempts to make use of the law of Poiseuille in determining the viscosity of the blood were first made by Haro,[2] Ewald,[3] and Levy,[4] but as defibrinated or oxalated blood was used in these tests, the results cannot be justly transferred to the living blood. In fact, I have demonstrated[5] that samples of normal blood rendered fluid by defibrination or by the addition of potassium oxalate, possess a viscosity much below that of the original sample. Although this difference was clearly in evidence soon after the withdrawal of the blood, it became even more manifest, if the above samples were permitted to remain undisturbed for a short time, so that a sufficient opportunity was given to the solid particles to settle. If under these conditions the upper layers of the blood were used for the determination, the viscosity values approached those for water, but became even greater than those for normal blood, if the blood near the bottom of the receptacle was employed.

Real clinical importance can be attached to viscosity values only if "living" blood, i. e., blood as it traverses the vascular channels, is employed. Agents for the purpose of preventing or retarding the coagulation cannot be resorted to, because any substance which will alter the chemical and physical character of the blood, will, in all probability, also change its viscosity. For this reason, it is imperative that determinations of this kind be executed within the time necessary for coagulation, namely, within a period of about three minutes.

A very serviceable method for measuring the viscosity of the "living" blood was finally evolved by Hürthle.[6] Cannulas are placed in both carotid arteries. One of these is connected with a mercury manometer, and the other with a capillary tube of known diameter and length. The latter is surrounded by a jacket through which water of 37 C. circulates. The blood escaping from the tube is collected in a weighing glass, the period during which it flows into this receptacle being indicated by tambours writing beneath the record of a Jaquet chronograph. The blood is actually collected in the glass during a brief period only, varying between one to two minutes, in accordance with its fluidity, but a somewhat longer time is required in addition for several manipulations, inclusive of the quick cleaning of the capillary tube and the cannulas. Several tests must be made in order to obtain a good average value.

The viscosity-coefficient K is ascertained by a calculation, for which the following factors are essential: The specific gravity, the blood-pressure, the duration of flow, the length and the internal diameter of the capillary. K for the blood is then compared with K for distilled water at 37 C.; the latter coefficient amounts to about 4,700. For example, if K for the blood equals the figure 940, then this particular sample of blood possesses a viscosity 5.0 times greater than that of distilled water at 37 C.

Before this method was actually applied to the circulating blood it was proved first of all that the law of Poiseuille is also applicable to pressures showing rhythmic variations,[6] as well as to fluids containing formed elements.[3] By another series of tests Hürthle and I[6] have shown that the blood may be permitted to traverse the capillary tube for a very much longer time than thirty seconds; without that the determination could possibly be endangered by coagulative changes.

The method above described necessitates a complete relaxation of the animal which was secured in all of the earlier experiments of this type by morphin and ether; in the subsequent tests, on the other hand, ether alone was employed. The question as to whether these drugs in themselves produce a change in the viscosity has been answered by me in the negative.[7] The viscosity of the blood in a normal rabbit having been determined, the animal was narcotized with morphin and half an hour later also with ether. The tests made subsequently revealed viscosity-coefficients which were in no way different from those obtained before the administration of these narcotics. The determinations must, however, be completed with a certain speed acquired by practice, because the viscosity increases somewhat in the course of the narcosis. If care is taken to keep the animal in a light, but nevertheless efficient narcosis, this increase will be scarcely detectable during the first half-hour, and this period is sufficiently long for the completion of two or three tests from which good average results may readily be obtained. The subsequent tests are prone to show a slightly increased viscosity, the rise being in a measure proportional to the duration of the narcosis, but, unless the experiment has been protracted, no special allowance need be made for these rises.

The cause of this progressive change in the viscosity must be sought in certain qualitative alterations of the constituents of the blood, induced by the anesthetic. I have endeavored to render these changes more conspicuous by subjecting the animal alternately to different degrees of narcosis.[8] Having completed the first determination of the viscosity during deep narcosis, the second was made during light narcosis and so on; moreover, the different tests were separated by intervals of about ten minutes, so that the differences in the ventilation of the lungs and the blood could become thoroughly established.

It was possible to produce in this manner very definite and regular variations in the viscosity. If the depth of the narcosis was lessened, the viscosity decreased, while on deep narcosis the viscosity again increased. Although well defined in each case, these differences cannot be regarded as of great consequence, because their range was rather limited. For example, in one experiment of this series the coefficient equalled the number 997 during light and the number 942 during deep narcosis; hence, while the viscosity was 4.7 times as great as that of distilled water at 37 C. during light narcosis, it became 5.1 as great during deep narcosis.

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[2] Haro: Compt. rend. Acad. d. sc., 1876, lxxxiii.

[3] Ewald: Arch. f. Anat. u. Physiol., 1877, p. 209, and 1878, p. 536.

[4] Levy: Arch. f. d. ges. Physiol., 1898, lxv, 447.

[5] Burton-Opitz: Arch. f. d. ges. Physiol., 1900, lxxxii, 464.

[6] Hürthle: Arch. f. d. ges. Physiol., 1900, lxxxii, 415.

[7] Burton-Opitz: Arch. f. d. ges. Physiol., 1900, lxxxii, 447.

[8] Burton-Opitz: Jour. Physiol., 1905, xxxii, 385.

Equally conspicuous variations I have also been able to induce by altering the carbon dioxid content of the blood.[9] The animals used for these tests were permitted to breathe alternately either fresh air, or air to which a sufficient quantity of carbon dioxid had been added to produce symptoms of dyspnea. The blood reacted with great promptitude, exhibiting periodically a greater or lesser viscosity in accordance with the amount of carbon dioxid inhaled.

This result naturally invited another series of experiments,[9] by means of which it was established that the venous blood possesses a viscous resistance slightly in excess of that of the arterial blood. In the light of the preceding data it may be inferred that this difference is due in a large measure to the amounts of carbon dioxid present in these two types of blood.

Our attention must also be directed at this time to the experiments pertaining to the inner friction of the blood during asphyxia, made subsequently by Ferrai,[10] Ewart,[11] and Determann.[12] The blood was withdrawn from a convenient distal blood-vessel and was then passed through a viscosimeter. In spite of this marked diversity in the methods, the results show a perfect agreement.

Mention must also be made of the work of Haro[2] and Ewald,[3] who found that carbon dioxid increases the volume of the red cells. It might seem at first that this volume-increase is rendered possible by an osmotic abstraction of water from the plasma or from the serum and that, therefore, any increase in the viscosity would be caused by a "thickening" of the blood. As it has been proved, however, that the carbon dioxid does not alter the viscosity of blood-serum in any measurable degree, we must be dealing here with a volumetric increase of the red cells pure and simple. V. Koranyi and Bence[13] have shown subsequently that this process may readily be reversed by removing the carbon dioxid from samples of blood by means of oxygen, and furthermore, it has been observed by Bence that the high viscosity of the blood in persons suffering from diseases accompanied by dyspnea, may be temporarily lessened by inhalations of oxygen.

Qualitative changes of sufficient magnitude to alter the viscosity of the blood I have also been able to incite by means of alcohol.[14] Solutions in strengths of from 10 to 60 per cent. were introduced, either into the facial vein or into the stomach or the duodenum. Whether injected directly into the circulation, or into the digestive tract, the solutions always rendered the blood more viscous, the effect being particularly pronounced if the alcohol was introduced into the latter channel.

Having proved that the viscosity of the normal blood is lessened by defibrination and also by the addition of potassium oxalate in quantities sufficient to prevent coagulation,[5] I next attempted a series of experiments to portray the influence of variations in the number of the corpuscular elements.[9] Ox-serum of a certain temperature to which an increasing number of red cells of the same animal were added was used for this purpose. By this means it was readily possible to raise the viscosity of the serum to that of the circulating blood. It was also brought out that normal viscosity values are very largely dependent on the number of red cells present and that other solid constituents play only a minor part. This deduction receives an additional support in the results of tests made by me,[15] which showed that blood rendered lake-colored by freezing, exhibits a much lower viscosity than the sample from which it was taken.

I have also sought to establish the rôle of the red cells in the animal by means of phenylhydrazin.[16] If injected subcutaneously, this agent incites in the course of two or three days a marked reduction in the number of the red cells. For this reason I expected to obtain a decided decrease in the viscosity, but as, in spite of the lessened number of reds, the values remained considerably above the average, the phenylhydrazin must cause in addition certain qualitative alterations which are more influential than those of purely quantitative origin. It is also conceivable that the disintegrating corpuscles acquire an uneven and angular outline and would on this account be prone to adhere more firmly to one another.

I have also demonstrated that the addition of moderately large quantities of normal saline solution or distilled water to the circulating blood lessens the viscosity.[14] It is to be noted, however, that the decrease is not in evidence if the amount injected is small. This is particularly true of distilled water. Apparently, small quantities of these fluids (5 c.c.) are not sufficiently powerful to neutralize the progressive increase caused by the narcosis. In the case of distilled water, it is also probable that this agent incites deleterious osmotic changes which in reality would tend to favor the rise in the viscous resistance dependent on the anesthesia. When, however, the quantities injected surpass a certain minimum, the influence of the narcosis is overcome and an immediate decrease in the viscosity, due to the thinning of the blood, is the result.

Closely related to these tests are those dealing with the effect of hemorrhage.[7] A loss of blood amounting to about one-fourth of the total quantity, caused a material reduction in the viscosity within half an hour after the bleeding. This result is readily explicable on the basis that the blood lost is soon replaced by an inflow of tissue-lymph. We obtain, therefore, in this case an increase in the watery constituents of the blood and hence a lessened viscosity.

By another series of tests it has been established by me that the viscous resistance of defibrinated blood is subject to changes in temperature.[5] Every increase between 15 and 40 C. produced an immediate and decided rise. The same results were obtained with blood-serum,[5] but with this difference, that the viscosity of the latter increased more rapidly with higher temperatures, while the rises in the case of defibrinated blood were more equal throughout. Blood-serum behaves, therefore, like water or watery solutions.

In accordance with these results it was thought possible that the viscosity of the circulating blood could also be varied by subjecting the animal as a whole to changes in temperature. To test this assumption a number of experiments were made on dogs, while they were submerged in water of 43 C., or in water of 23 C. Other tests were performed on dogs placed in a compartment through which a constant stream of dry hot air could be passed.[17] These experiments proved conclusively that the viscosity of the blood reacts very sharply to outside influences of this kind. The cold-water baths increased and the warm-water baths decreased the viscosity very considerably, the effect being clearly in evidence during the first ten to fifteen minutes after the beginning of the bath. Hot-air baths on the other hand, did not render the blood less viscous, as might be supposed, but more so. This result may well be accounted for by the loss of water which a body, subjected to this treatment, must necessarily suffer. Using a different method, Lommel[18] has repeated these experiments on human beings and has obtained results identical with the above.

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[9] Burton-Opitz: Arch. f. d. ges. Physiol., 1908, cxix, 359. Preliminary notice in Proc. Soc. Exper. Biol. and Med., Dec. 16, 1903.

[10] Ferrai: Arch. di Fisiol., 1904, i, 305.

[11] Ewart: D. Sc. Dissertation, Liverpool, 1904.

[12] Determann: Ztschr. f. klin. Med., 1906, lix, 283.

[13] Koranyi and Bence: Arch. f. d. ges. Physiol., 1905, cx, 513.

[14] Burton-Opitz: Jour. Physiol., 1904, xxxii, 8.

[15] Burton-Opitz: See Note 9. Compare Brown, Royal Infirmary Reports, 1904, and Winter, Dissertation, Breslau, 1907.

[16] Burton-Opitz: Arch. f. d. ges. Physiol., 1906, cxii, 6.

[17] Jour. Exper. Med., 1906, viii, 59.

In view of the results described previously one might readily be led to believe that rises in body-temperature caused by a microbic infection, would also lessen the viscosity. A number of determinations which I made on dogs during experimental typhoid[16] have shown, however, that a change of this kind does not necessarily occur during fever. The viscosity-values to which reference is had at this time were in reality somewhat higher than the average. It seems possible that the effect of the increase in body-temperature is offset by certain qualitative changes incited, probably, by the toxins.

In the course of the winter of 1903, I had occasion to determine the viscosity in two dogs whose thyroid glands were greatly enlarged. In both animals extremely low values prevailed.[19]

Fanno and Rossi[20] have confirmed my observations as to the influence of the thyroid. These authors assume, moreover, that the thyroids, and especially the parathyroids, furnish an internal secretion, the purpose of which is to alter the chemico-physical condition of the blood, or, in other words, to adjust its viscosity.

In seeking a standard for the viscosity of the blood, use has been made of the viscosity of distilled water which, at a temperature of 37 C., shows the value of 4,700. This figure being regarded as one, it must be clear that the viscous resistance of any fluid of greater concentration must be expressed in terms of multiples of one. As has been stated before, the viscosity of the blood differs even in individuals of the same species. On a mixed diet dogs showed the average coefficient of 950. The viscosity of this type of blood is, therefore, five times greater than that of distilled water at 37 C. Marked variations are present even under normal conditions. Thus, it was also possible to produce changes by feeding. When food was withheld the viscosity decreased, while continued feeding with meat induced high values. After an exclusive intake of fat or carbohydrates the viscosity showed intermediate values.[7]

The experiments on rabbits proved that the blood of these animals is also influenced by feeding. The coefficient K showed the average value of 1,346, the viscosity of rabbits' blood[7] is, therefore, only 3.4 times greater than that of distilled water at 37 C. The blood of the cat possesses an intermediate resistance, and again, the blood of the turtle or of the frog[21] possesses a viscosity very much below that of the rabbit.

This regular decrease of the viscosity, occurring as it does in complete harmony with the concentration of the circulating fluid, quite naturally leads to a consideration of the relationship existing between this peculiarity of the blood and the specific gravity. The concentration of a fluid and its specific gravity being in a large measure synonymous, it might be assumed at first thought that the viscosity must increase and decrease with the specific gravity. On this basis the determination of the viscosity would indeed be superfluous; at least such a procedure would no longer be necessary, so soon as definite comparative values for the viscosity and for the specific gravity had once been established. Thus, having gained accurate data regarding the concentration of a fluid by one method or another, we could easily deduct from these the necessary facts pertaining to the viscosity.

Although such a procedure is permissible in a large number of cases, it is not always infallible. While in general it may be said that the specific gravity and the viscosity of the blood pursue a parallel course, such a close relationship is not always clearly in evidence. It happens quite frequently that a sample of blood having a low specific gravity, possesses a high viscosity, and *vice versa,* and hence, the factors aforesaid are at times inversely proportional to one another. The qualitative and not the purely quantitative changes in the blood must be held responsible for this discrepancy.

It has been stated in one of the preceding paragraphs that the viscosity of the normal blood of the dog is five times greater than that of distilled water at 37 C. All factors being equal, the heart must, therefore, exert a force five times greater than that necessary to drive water through the circulatory channels. Herein lies the dynamic importance of the viscosity. I have found values considerably higher and lower than this average value, but one example in particular may serve to illustrate the significance of the viscosity more fully. During one of the experiments with chloroform a viscosity more than ten times greater than that of distilled water at 37 C. was found to prevail, and hence, it may be conjectured that in order to drive this type of blood through the vascular system, the heart was called on to more than double its power.

While a temporary increase in the viscosity may not impair the dynamics of the circulation in any serious way, a permanent change, on the other hand, might affect not only the condition of the heart, but also that of other organs. Thus, it seemed probable that one of the causes of cardiac hypertrophy might lie in the increased peripheral resistance caused solely by a greater "thickness" of the blood. Such considerations as these clearly showed at an early date that the viscosity of the blood must have an important clinical bearing; in fact, the part which this factor plays in disease was regarded as quite equal to that of the specific gravity and the number of the red cells.

It cannot surprise, therefore, that the first papers regarding the viscosity of the blood of animals as outlined above, were soon followed by attempts to determine this factor for the "living" human blood. Clearly, the elaborate but exact method of Hürthle could not be applied to persons. The only procedure for obtaining at all reliable results consisted in the quick removal of a small quantity of blood from a distal part and in the hurried passage of it through a viscosimeter. Even hirudin, a substance used to prevent the coagulation of the blood after its withdrawal, seemed to be contraindicated, because any agent which will alter the state of the blood to this extent, cannot be expected to leave its viscous resistance unchanged.

Using a U-shaped glass capillary very similar to the one employed by Ostwald in his determination of the inner friction of various fluids, Hirsch and Beck[22] made the first successful experiments with human blood. These authors obtained the coefficients 4.73 to 5.89 at a temperature of 38 C. These values imply that the viscosity of the human blood is 5.1 times greater than that of distilled water of 38 C. It is to be noted, however, that the blood was obtained from a distal part after venous stagnation by the procedure of venesection. We have seen previously that a superfluity of carbon dioxid increases the viscosity, and hence, it seems entirely probable that the values cited here are slightly in excess of those actually existing. Bence, who employed a similar method, gives an even higher average value, namely, 5.4. Hirsch and Beck also examined the blood of patients suffering from nephritis, but were unable to draw any definite conclusions.

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[18] Lommel: Arch. f. klin. Med., 1904, lxxx, 308.

[19] Zentralbl. f. Physiol., 1904, xviii, 493.

[20] Fanno and Rossi: Arch. di Fisiol., 1905, ii, 609.

[21] Burton-Opitz: Am. Jour. Physiol., 1902, vii, 243.

[22] Hirsch and Beck: Arch. f. klin. Med., 1901, lxix, 503; lxxii, 560.

During the winter of 1903 I used in this laboratory a U-shaped capillary glass tube, one end of which carried a funnel-shaped enlargement for the reception of the fluid to be tested, and the other a bulb large enough to contain 1 c.c. of it.[23] To begin with, the funnel of this viscosimeter was filled with distilled water. Gravity being used as the driving force, the time was determined which was required to fill the bulb. Human blood from a small cut in the end of a finger or in the lobule of the ear, was then permitted to drop into the receiving cup of this viscosimeter. Naturally, the time necessary for the collection of 1 c.c. of blood was very much longer than that required for the filling of the bulb with distilled water.

A few years later I made use of a glass tube similar to the one employed for the counting of the red cells.[24] The human blood, freshly collected in a small receptacle, was drawn into this tube by a constant suction. The index of the viscosity was obtained by ascertaining the difference in time necessary to fill the bulb with blood and with distilled water. Heubner[25] used an Ostwald viscosimeter, but prevented the coagulation of the blood by hirudin or by cooling, a procedure which seems open to objections. Hess[26] constructed an instrument by means of which he obtained values ranging between 3.75 and 5.75, and the average coefficient 4.6.

The experiments here cited show on the whole a relationship of 1 : 5; hence it may be said that the viscosity of human blood is about five times greater than that of distilled water. Human blood possesses, therefore, very nearly the same viscous resistance as the blood of the dog. It must be remembered, however, that in the early experiments with the dog the blood was taken directly from central channels, while in the case of human blood peripheral blood-vessels were tapped. It seems entirely probable that physical factors may cause a slight discrepancy, in that the blood circulating through capillary areas may be somewhat less concentrated than that contained in the larger channels. For this reason it is possible that the "molecular friction" of the arterial blood in and near the capillaries is less; however, the difference would be slight in all cases.

O. Müller[27] has recently succeeded in reducing the viscosity of human blood by means of potassium iodid, and it seems fair to assume that this salt produces this effect, not by its mere presence, but by a direct action on the blood. Romberg[28] attributes the beneficial action of this salt in arteriosclerosis to its power of lessening the viscosity.

It can readily be gathered from the foregoing that the employment of a viscosimeter meets with many obstacles. Although the results have been gratifying in so far as normal viscosity-values have been established for the human blood, it seems doubtful whether this method will ever be perfected in a way that small variations can be accurately and safely recorded. Great clinical value can hardly be attached to a method that will depict solely such changes in the viscosity as occur, for example, during leukemia or polycythemia. Other more simple means can be employed with greater safety for the purpose of diagnosing these conditions. Nor do the limitations lie wholly in the method. One of the gravest obstacles encountered in establishing slight differential values, exists in the variability of the viscosity itself.

Reference must finally be made to the dynamic effect of the viscosity on the blood-flow. Clearly, other factors remaining constant, the magnitude of the flow must become greater the less the viscous resistance. The reverse relationship must also exist.

This view, founded on the belief that the law of Poiseuille applies not only to rigid tubes, but also to the vascular systems of animals, has been severely criticized by Heubner.[25] The objections of this author have been overcome, however, by the experiments of du Bois-Reymond, Brodie and Müller.[29] Certain organs, freshly removed from the body, were perfused with defibrinated blood. While the quantity escaping was accurately determined, the viscous resistance of the perfusion-fluid was either lessened or increased.

These experiments showed unmistakably that the blood-flow changes in harmony with the viscosity. If the latter increases, the flow decreases proportionately. This parallelism establishes, therefore, the applicability of the law of Poiseuille to the diverse elastic tubules of the vascular system.

While no doubt the viscosity may play a very important part under certain conditions, it must also be said that clinicians have attached altogether too great an importance to it. To be sure the viscosity can develop into a mighty circulatory factor, but only when other dynamic conditions favor its development. Ordinarily, the effect of the viscous resistance is no doubt readily neutralized. Thus, an increase in the viscosity does not always call for a greater activity of the heart, because an enlargement of the vascular channel will serve equally well to keep the magnitude of the blood-flow constant. Normally, therefore, we have the various vasomotor reactions by means of which changes in the viscous resistance of the blood can be fully equalized and overcome. Only if this nervous mechanism is rendered more or less sluggish by disease or otherwise, can the viscosity exert a more powerful influence.

The effect of the viscosity may also be upset by the driving force. Changes in the frequency and the power of the heart will fully compensate for any alteration in the viscous resistance of the blood.

It may be said that the blood-flow is dependent on three factors, namely, on the driving force, on the peripheral resistance as formed by the size of the distal blood-bed, and on the viscosity. Normally, all three influence one another constantly, the flow being the product of all three. Although I believe that the viscosity is the weakest of these three dynamic forces, normally, I do not wish to emphasize this point too strongly. At all events, regarded in the manner described above, the viscosity represents an independent dynamic power which, although slight normally, will become overwhelmingly great, if other factors favor its development.

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[23] A similar tube was subsequently employed by Dunning and Watson, Proc. Roy. Soc., London, 1906, lxxviii, 328.

[24] Burton-Opitz: Proc. Soc. for Exper. Biol. and Med., Dec. 19, 1907.

[25] Heubner: Arch. f. exper. Pathol., 1905, liii, 280.

[26] Hess: München. med. Wchnschr., 1907, No. 45. Still more recently a viscosimeter has been described by Münzer and Bloch, Med. Klinik, 1909, No. 9.

[27] Müller: Deutsch. med. Wchnschr., 1904, p. 1751.

[28] Romberg: Kongress ber. inn. Med., 1904, p. 60.

[29] Arch. f. Anat. u. Physiol., 1907 (Suppl.), p. 37.

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THE PERPENDICULAR PELVIS IN THE HUMAN FEMALE AS AN INDEX OF RETARDED DEVELOPMENT IN ITS SOFT PARTS

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For five years, in the examination of women, I have carefully observed the relation of the axis of the pelvis to the perpendicular axis of the body, and noted the bearing of this relation on the developmental conditions of the soft parts attached to the bony structure. These examinations have not always been made with as much accuracy or system as should have been observed for the purpose of arriving at facts to establish scientific conclusions, but the observations have been conscientiously conducted and the conditions found have convinced me that my facts are sufficiently conclusive and practically suggestive to justify me in presenting them to the profession.

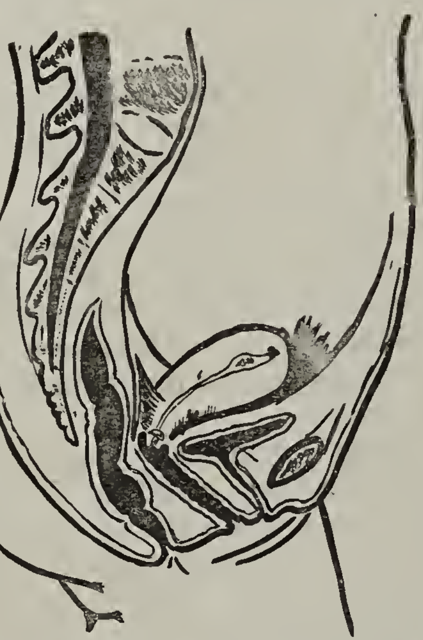

Fig. 1.—(W. J. S. McKay). Approximately normal pelvis. The soft parts are not correctly drawn to represent the normal position. The cervix of the uterus should occupy a higher position nearer the hollow of the sacrum. The whole floor of the pelvis should be higher and more in line with a line drawn from the lower border of the symphysis and the tip of the coccyx.

In the approximately normal pelvis the upper plane has an inclination of between 55° and 60° with the horizon, and the lower plane an inclination of from 5° to 10° with the horizon, each plane looking upward and forward.

A profile of the pelvis shows the sacrum with a backward tilt and the tip of the coccyx occupying a position 3½ inches posterior to a perpendicular line falling from the promontory of the sacrum (Fig. 1). The axis of the true pelvis, represented by a curved line corresponding to the anterior surface of the sacrum between the external and internal planes at their center, has an inclination of approximately 50° with the horizon, or fully 40° with the axis of the spinal column. Slight variations of inclinations of the pelvis from these arbitrary figures occur without peculiar significance, and even the change in position of the individual may change the inclination of the pelvis with the long axis of the body several degrees. Approximately, however, the range of figures given will cover the normal adult female during her menstrual years if the observation is made with the individual standing in the military attitude.

Variations from this normal inclination of the pelvis occur in two directions, both of which, as they become exaggerated, point to important departures from health and strength; one variation being the exaggerated direction of the pelvis backward, giving rise to an abnormal lordosis; the other variation being less dipping of the pelvis, giving rise to a perpendicular pelvis and thus eliminating correspondingly the depth of the lumbar curve of the spine. It is of the latter or the perpendicular pelvis that I wish to speak.

From the beginning of the discussion of Glenard's disease until now, attention has been called repeatedly to the form of the skeleton bearing a certain relation to visceral prolapse. In 1907 (*Surgery, Gynecology and Obstetrics*, Vol. IV, page 167) I endeavored to establish the fact that the coincidental existence of the peculiar skeleton form and abdominal visceral prolapse was definitely an evolution or individual retardation of development. In that article I pointed out definite developmental defects of the abdominal viscera, as I had observed them in abdominal sections in my routine surgical work (Figs. 2, 3 and 4). Continued observation has only strengthened my belief in the importance of the skeleton variation in pointing to coincidental visceral and muscular irregularities. This is particularly true in connection with variations in the pelvis. The perpendicular pelvis is one of the peculiarities of the skeleton defects that I covered in the paper already quoted.

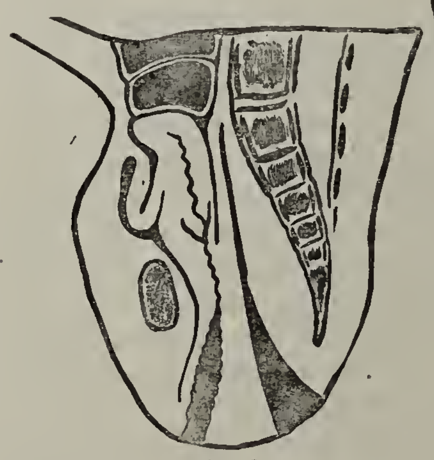

Fig. 2.

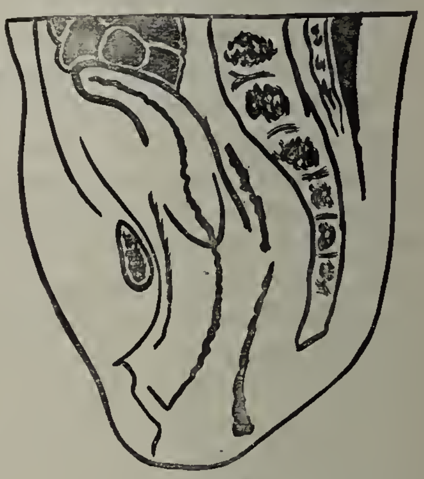

Fig. 3.

Fig. 2.—(J. C. Webster). Vertical mesial section of six months' fetal pelvis. The pelvic skeleton has not rotated, showing the perpendicular type. Retarded development often leaves the adult pelvis in this condition.

Fig. 3.—(J. C. Webster). Vertical mesial section of fetal pelvis at eight months' gestation. Note the perpendicular pelvis, not yet rotated. The rotation is more than in Figure 2, representing six months' gestation, and less than in Figure 4, representing term or birth.

The defects of the soft parts of the pelvis that I have definitely observed as coincident with the failure of the pelvis to rotate are peculiarities in the following parts:

1. Peritoneum
2. Uterus
3. Bladder
4. Ligaments
5. Rectum
6. Pelvic floor
7. Muscles
8. General appearance

I. PERITONEUM

The most striking peculiarity of the peritoneum which to my mind marks a failure of development in the normal perfection of the individual, is a distinctness of this membrane from the underlying tissue, which gives it the appearance and feel of looseness of attachment, and makes it easy to pick up in folds between two fingers. Its color is darker than the fully developed human peritoneum, slightly blue in color rather than pink, and has a glistening, polished appearance rather than the normal dull aspect. This is independent of the amount of subperitoneal fat, as when fat exists, it, like the subperitoneal connective tissue, is easily separated from the peritoneum, while in the normal it is almost inseparable.

In such cases these characteristics of the peritoneum are particularly noticed on the round ligaments, over the broad ligaments, and on the surface of the bladder.

Another noticeable peculiarity of the peritoneum is its relation to the uterus and the broad ligaments, and in its covering of the deep tissues, such as the ureters, the round ligaments, the sacro-uterine ligaments, the bladder, and even the lower bowel, viz: a tendency to furnish a pseudomesenteric attachment for these various structures, causing them to stand out, as is frequently seen in the lower animals.

II. UTERUS

This organ gives definite evidence in these defective cases. The sulcus between it and the bladder is deep and wide. The fundus occupies a position back of the median line of the axis of the already too perpendicular pelvis. Its broad ligaments are loose and thin and the posterior surface of their pelvic deflections are attached back of the axis of the pelvis instead of slightly in front, as is the case in the normal, and their anterior deflections forward on to the pelvis are too close to the posterior layers and widely separated from the layer that covers the round ligament (thus giving those ligaments the distinction of a mesenteric attachment referred to above), while this anterior layer should blend with the peritoneum covering the round ligaments and should form its attachment to the pelvic wall well forward in order to give the uterus a support well in front of the axis of the pelvis.

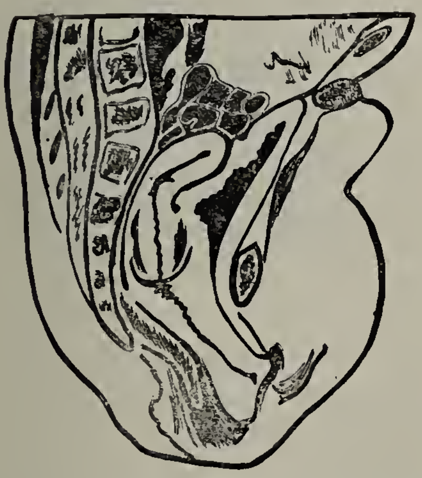

Fig. 4.—(J. C. Webster). Vertical mesial section of fetal pelvis at birth. Rotation is beginning and the tip of the coccyx is elevating and rotating backward, showing a tendency toward the normal tilting.

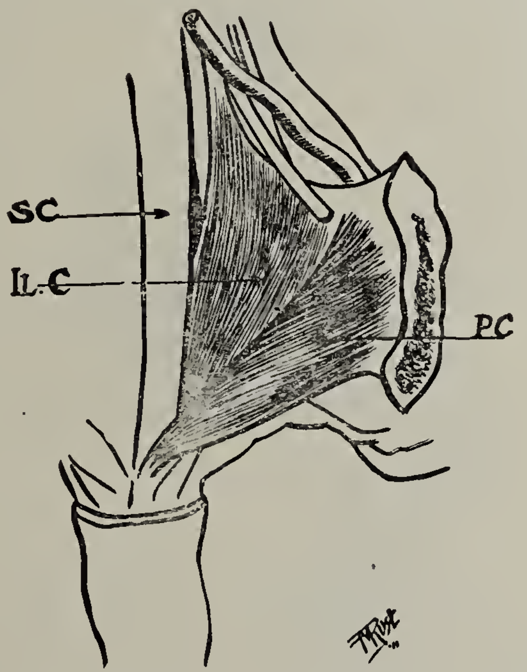

Fig. 5.—(Peter Thompson). Flexor muscles of tail of monkey. Left side from within. SC, sacrococcygeus; IlC, iliococcygeus; PC, pubococcygeus.

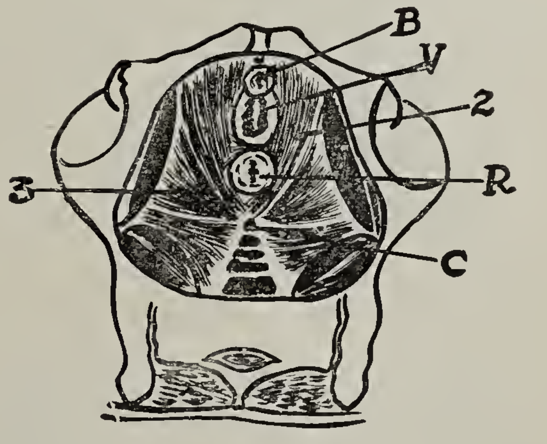

Fig. 6.—(J. C. Webster). Muscular floor in human female denuded of its fasciæ. B, neck of bladder; V, vagina; 2, anterior fibers of levator ani (pubococcygeus muscle); 3, lateral fibers of levator ani (obturator coccygeus muscle); R, rectum; C, coccyx.

Inspection of the cul-de-sac of Douglas in these cases demonstrates two distinct folds of peritoneum passing around a detached lower bowel, covering exaggerated sacro-uterine ligaments which usually have become inordinately stretched. In the normal, the rectum is buried, its mesentery has been obliterated, the peritoneal folds around the rectum blend with it, the cul-de-sac is closed and the round ligaments are scarcely perceptible, while the cervix is snugly held in the hollow of the sacrum.

The central loose attachment of the broad ligaments in these perpendicular pelves and the long uterosacral peritoneal attachment gives the uterus a perpendicular position which readily forecasts its future behavior.

III. BLADDER

One of the most characteristic signs of arrested development in these cases is the peculiarity of the bladder. It appears, according to the degree of the defect, a more or less pedunculated sac covered with a blue, crinkly, loose peritoneum, instead of the normal sessile sac, almost obliterated beneath a broad, closely attached peritoneum of pinkish color.

IV. LIGAMENTS

1. In the well-developed woman the urachus is practically obliterated. In the defective type this embryonic vestige is relatively conspicuous and lies as a loose cord beneath the peritoneum. Occasionally the arrest of development is so early that it remains a patulous tube. The size of the urachus is in inverse ratio to the completion of development of the individual.

2. The round ligaments present definite evidence of developmental conditions. Normally they are well buried beneath the peritoneum, are large and muscular and sweep well in front, reaching the parietal peritoneum well forward in a manner that broadens the peritoneal attachment of the pelvic end of the broad ligament. Its peritoneal covering is practically continuous with that of the balance of the broad ligament, the two together making a wide blending of the broad ligament well in front of the axis of the true pelvis and definitely determining the top of the uterus forward. In the defective type the round ligament is small, is easily picked up with its peritoneum, reaches the parietes in a line near the axis of the pelvis instead of well forward of it, and instead of being a portion of a broadly attached broad ligament is separated from that ligament by a deep sulcus. The uncovered ligament is thin, rudimentary and with little muscular tissue.

3. In the well-developed woman the sacro-uterine ligament is practically *nil* as a true ligament. It is an unnecessary structure in these cases because of the close attachment of the lower bowel, and the high deflection of the peritoneum back of the cervix, to the sacral parietes of the pelvis. When the sacro-uterine ligaments stand out as distinct structures beneath loose folds of peritoneum, a defective blending of the accompanying structures just referred to may be observed.

4. As already touched on in my remarks on the peritoneum, the broad ligaments vary much according to the developmental state of the individual. The attachment of the broad ligament in the defective individual is in line with the axis of the pelvis instead of well in front of that line, first, by the posterior layer of the broad ligament being deflected on to the pelvis farther back than normal, and second, on account of the base or the pelvic attachment of the broad ligament being much narrower; third, because the broad ligament is much looser in structure and contains less connective and fatty tissue; the peritoneal layers are longer and hang in folds, and finally, the anterior layer of the peritoneum comprising the broad ligament, is not deflected well forward of the axis of the pelvis as it blends with the parietal peritoneum.

The ligaments binding the different bones of the pelvis together are sometimes noticeably loose in their attachment, giving rise to perceptible movements between their parts.

V. RECTUM

In the well-developed adult the rectum possesses no mesentery for a considerable distance above the cul-de-sac of Douglas, this having disappeared in the process of development and being replaced by a broad attachment of the posterior wall of the viscus to the connective tissue on the anterior surface of the sacrum. The peritoneum, however, covers the anterior portion of the rectum until it leaves it as it is deflected forward to line the bottom of the cul-de-sac of Douglas. In retarded development, however, the rectum will persist in a mesentery and the cul-de-sac of Douglas is frequently deeper than normal, thereby depriving the posterior wall of the vagina of its normal high attachment to the firmly anchored rectum, and leaving a loosely attached cervix uteri. It is in these cases that two loose folds of peritoneum some distance above the cul-de-sac encircle the rectum and give dignity to the sacro-uterine ligaments.

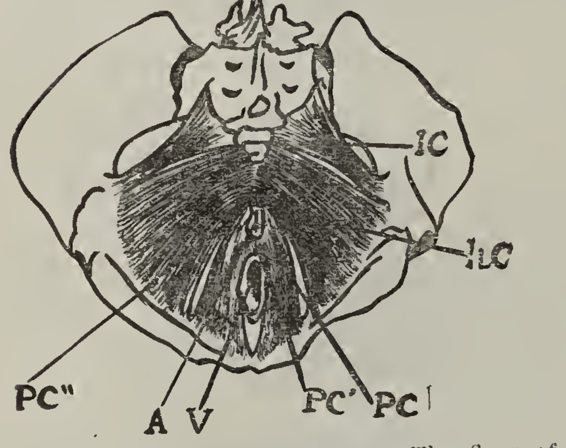

Fig. 7.—(Peter Thompson). The floor of the human female pelvis from below. Note the powerful puborectalis and coccygeus which surround the vagina and swing the rectum and vagina toward the pubis (PC). These muscles in the defective human female are not present, or are very imperfectly developed. A, anus, V, vagina; PC', pre-anal fibers of pubococcygeus; PC", puborectalis; IIC, iliococcygeus; IC, coccygeus.

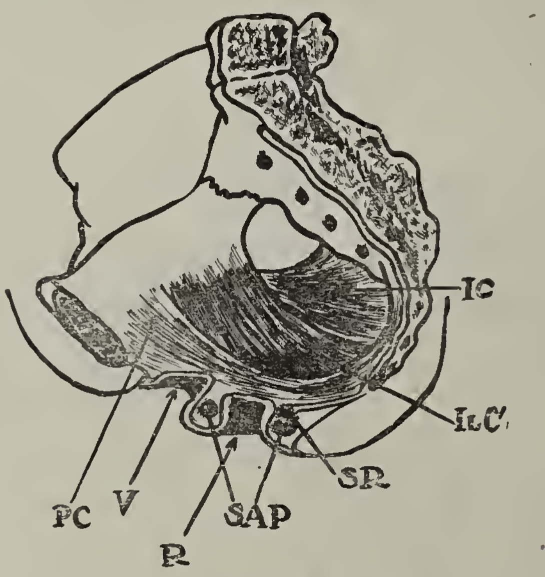

Fig. 8.—(Peter Thompson). Section of pelvis showing pelvic diaphragm of fully developed human female. V, vagina: R, rectum; IC, coccygeus; IIC, raphe formed by iliococcygei; SR, sphincter recti; SAP, sphincter ani externus profundus; PC, pubococcygeus.

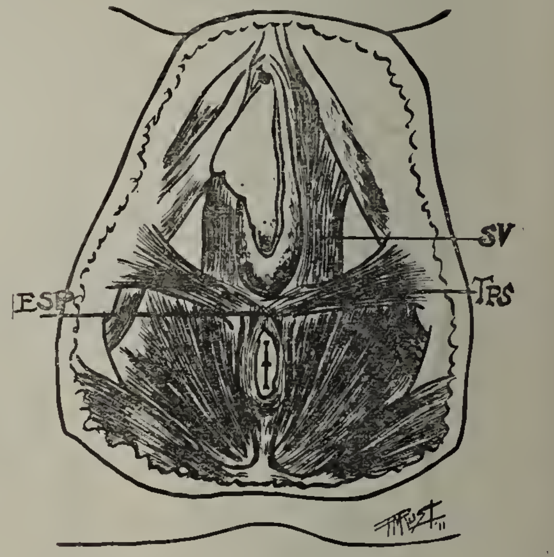

Fig. 9.—(Peter Thompson). Muscles of perineum in human female. SV, sphincter vaginæ; TPS, transversus perinei superficialis; ESP, sphincter ani externus profundus. The puborectalis is one of the muscles that often fails to develop in the defective female. The transversus perinei is another muscle that often fails to differentiate. The absence of these muscles makes a notable weakness in the pelvic floor.

VI. PELVIC FLOOR

Next to the observance of the straight spine, or the showing of a radiograph, nothing is more significant of the developmental defect characterized by the perpendicular pelvis than the simple inspection of the external portion of the floor of the pelvis as the patient lies on the examining table in the horizontal position with limbs slightly flexed and knees separated, with feet supported on stirrups at the level of the examining table. The contour of the presenting floor is unnaturally long anteroposteriorly, giving an oval appearance. The coccyx end of the oval projects further over the end of the table than the pubic end. The labia majora are long and narrow and the vaginal opening is situated far back instead of just beneath the pubis, and if the labia are slightly separated, the vagina will be shown gaping or open. Farther toward the coccyx, projecting beyond the vagina, is the anus, also too far back, with a pointing rim of integument around it, and still farther from it, a slight pouching of the posterior portion of the floor of the pelvis generally. From the sides of this sacculated, loose, unnatural protruding floor, bow off flat, atonic gluteal muscles.

On careful analysis of this not uncommon appearing floor of the pelvis (see floor of pelvis in the fetus as shown in Figures 2, 3 and 4), we readily see that the lower end of the spine projects an unnatural distance beyond the symphysis instead of occupying a position above it as in the normal individual. The vulvar opening is located posterior to its normal position and on a plane below a line drawn from the symphysis to the coccyx; its posterior wall is separated from its anterior wall while in the normal the vaginal opening is immediately beneath the symphysis, the posterior vaginal wall snugly hugs the anterior wall and there is no protruding of its mucous membrane.

The anus in the normal does not appear as a projecting point on a protruding sac hanging sling-like below the coccyx and the symphysis, occupying a position near the coccyx, but is well forward near the center of the floor of the pelvis (Fig. 1), on a plane level with the symphysis, with its margin firmly contracted, constituting the center of a well-protected floor, having the appearance of adequacy and strength.

What is the explanation of this important difference in the floor of the human female pelvis?

It is the difference produced by arrest of development of the muscles and fascia of the human pelvis before they reached the perfection necessary to the assumption of the new duties that must be assumed by the pelvic floor of an animal occupying a perpendicular position (Figs. 2, 3 and 4), and those muscles and mechanisms which have attained the development that fits them to support the human pelvic floor and its superimposed load.

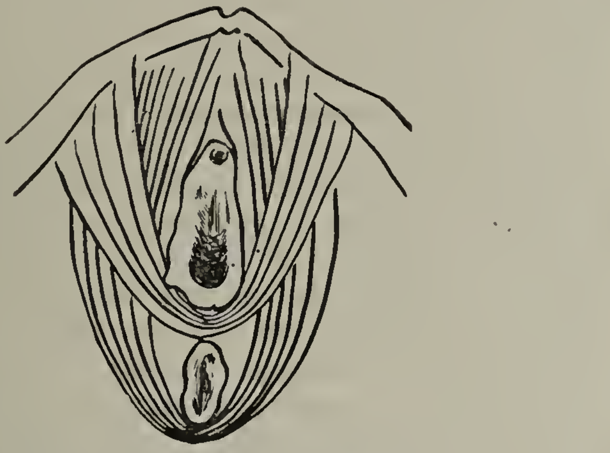

Fig. 10.—The transversus perinei.

Even a cursory study of the comparative anatomy of the pelvis of the higher and lower animals affords us a simple explanation of the phenomena of the defective pelvic floor depicted above.

In the lower vertebrates, with few exceptions, like the seal, the kangaroo or other animals that frequently assume the vertical position, and of course the higher monkey families, the levator ani proper, that is, a muscle of support for the rectum, does not exist, but appears as the tail muscle, its principal function being the management of that caudal appendage (Fig. 5). As the tail disappeared and the higher animal developed, with a disposition to assume the perpendicular, the levator ani remained attached to the coccyx and the sides of the sacral vertebra, and extended its other pelvic attachments forward from the ischium as far as the pubis, and while it constituted itself in this extension an upper floor or second diaphragm to the pelvis it also assumed other functions. Of course, this change added the important function of supporting the superimposed viscera. As the rectum became a perpendicular tube its upper portion required additional support, and this was afforded by this tail muscle through which it passed and the pubic extension in the form of a new muscle, the puborectalis, which extended from the pubis to the rectum, and after combining with the extension backwards (the pubococcyx) grasped the rectum in a sling (Fig. 6). These muscles elevate the rectal tube and the anterior one, the puborectalis, elevates it and draws it toward the pubis while the two together are powerful factors in elevating the whole human pelvic floor.

It is this powerful anterior mass of muscles of the levator ani that can be felt ¾ of an inch above the vulvar outlet on either side of the vagina, and that supports or swings the vagina well forward beneath the pubis. This whole tail muscle when it is developed to the human needs makes a veritable second floor to the pelvis (Fig. 7).

When these muscles fail to develop to their highest perfection, the anterior fibers, which are so important to the support of the human pelvic floor, are the first to fail, as they are the last to develop, and the picture of the projecting floor with pouting anus and open vagina is presented (Fig. 8).

Below the levator ani proper, beneath the integument, we get the external sphincter and more superficial muscles of the pelvic floor. The sphincters of the rectum and the vagina which penetrate in the human alone, the portion of the trunk that practically supports the entire contents of the abdomen, viz., the floor, must of necessity be relatively much stronger than in the animals in which vaginal and rectal outlets are not subjected to this additional strain. In the well-developed woman this is the case. The sphincter ani in the human being is a thick muscle extending around the anus for a height of an inch or more; it is divisible into three layers, the external encircling the anus decussating forward and back, the middle attaching it to the coccyx, the only primitive arrangement left, and in front joining the vaginal sphincter and on the sides reaching the spines of the ischii. The deep layer, thick and strong in the human, joins with the levator ani fibers of the puborectalis and coccygeus (Fig. 9).

The transversus perinei, which is rudimentary in some lower vertebrates, becomes a real entity in the perpendicular individual. It is a double bundle of fibers deep and superficial on either side of the perineum, decussating between the anus and vulva and finding attachment to the rami of the ischium and the white line in front of it (Fig. 10).

Thompson found the muscle absent in 46 per cent. He quotes Lesshaft as finding it absent in eighty cases; on both sides in 23 per cent. and on one side 68 per cent. According to Hall, quoted by Thompson, these muscles are derived, too, from the levator ani. The sphincter vaginæ superficialis is a muscle that is rudimentary in all but the most highly developed females.

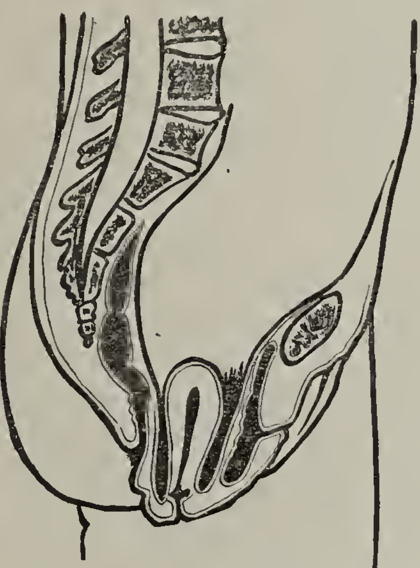

Fig. 11.

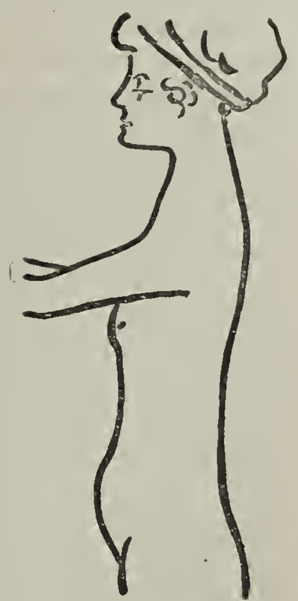

Fig. 12.

Fig. 11.—(W. J. S. McKay). Showing inevitable tendency of uterus and pelvic floor in congenitally defective female. The perpendicular pelvis subjects the pelvic contents, including uterus, to a disadvantageous pressure, and the defective development of the muscles and fasciæ of the pelvic floor offers no resistance to the misplaced uterus.

Fig. 12.—The congenitally defective type. Note straight back, perpendicular pelvis, projecting lower abdomen. These individuals have flat chests, long arms and narrow costal arches and are usually referred to as the "neurotic type." (Drawn from photograph from life.)

When these human muscles of the pelvis fail to differentiate and fail to develop from the tail muscle of the inferior vertebrate, the floor of the pelvis in that particular individual is incompetent and presents the pointed floor with its gaping openings.

VII. MUSCLES

Another evidence of the lack of higher differentiation in these cases is the lack of firm and adequate development of the voluntary muscles of the lower abdomen, external pelvis and thighs which play such an important part in maintaining the individual in the erect position. The strong pyramid of muscles immediately above the pubis are represented by soft yielding structures that soon give way and give rise to a marked projection of the abdominal wall. The gluteal muscles are flat, soft and weak and these, with the thin thigh muscles, present a picture of weak mechanism unsuited to their task.

VIII. GENERAL OUTLINE

These individuals of the defective type exhibit evidences of their characteristics that are unmistakable. The defective skeleton is connected with soft and defective ligaments; the defective muscles, whole fasciculi and even whole muscles of which may be absent, are held together with defective layers of fascia, and are terminated with defective tendons. The connective tissue and the fat deposits are defective and the skin covering all is loose, discolored and coarse. Its very appearance is uninviting, as it is unnatural and inadequate (Fig. 12). It is an animal predestined to failure in its higher attributes because its functions are those of the higher biped while its mechanism is that of a quadruped.

CLINICAL SIGNIFICANCE

Back of it all, the neurologist will say, is "a defective nervous system." If this be true, the nervous system, too, has differentiated against many of these individuals in a relatively small portion of their anatomy—in some of their bones, a few of their viscera, and their muscles leaving the brain, often a brilliant one, with many of the other functions characteristic of the higher individual well developed, demonstrating a normal mechanism for at least a portion of the body.

I only want to add that a confirmation of these facts I have so inadequately depicted can be obtained by any of us every day.

The perpendicular bony pelvis can be observed as the patient stands before us. The defective pelvic floor is easily recognized on the most casual inspection. The lack of development of the front portion of the levator ani, as exhibited in the puborectalis, the sphincter vaginæ, the transversus perinei, is easily ascertained by simple palpation of the perineum and the vaginal walls. The central position of the uterus and the failure of forward blending of the broad ligaments are immediately revealed in any lower abdomen operation. The defective peritoneum, projecting bladder, the small round ligaments and the exaggerated sacro-uterine ligaments are easily demonstrated in our routine abdominal work, while the Trendelenburg position and deep observance of the pelvis reveals the unattached rectum and the deep cul-de-sac of Douglas.

31 North State Street.

Bacteriologists Please Note.—We do not know just how to classify it, perhaps as a new phase of anaphylaxis, this smoldering of a microbe, referred to in a recent letter written to the *Scranton Times:* "When the earthly crown is fading in the twilight of the western light of life, and life's sun is setting in the glamor of the darkness that precedes their exit from life's stage, and the activities thereof, the smoldering microbe of the faith of their fathers becomes a lamp to their feet and a light in their way in their journey to eternity."

AN INDEX TO THE GENERAL BLOOD-PRESSURE

THE VENOUS PULSE AND BLANCHING OF THE RETINAL VESSELS INDUCED BY PRESSURE ON THE EYEBALL *

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DENVER

By pressure made on the eyeball with the finger placed over the junction of the eyelids at the external canthus, the intra-ocular tension can be materially increased. The tendency of this pressure is to empty the veins of the retina, to inhibit the inflow of blood into the retinal arteries, and to produce the venous pulse.

If, while this pressure is made, one watches the retinal circulation of a young child, the pulsation of the veins on the disk will be first observed; then the arteries will be seen to diminish in size and the veins to be almost emptied of blood. This is because the vessel walls are soft and resilient. In old age the walls of the vessels offer more resistance and scarcely any visible effect from the pressure is observable. In some very elderly people, however, the venous pulse is seen and a decided blanching of the vessels takes place while making steady strong pressure. These are the exceptions and only go to prove that a small amount of vascular hardening has taken place, or that this individual has always enjoyed a normal blood-pressure. It is admitted that this test is not of great value in very elderly people, for the reason that almost all of them will show little or no change in the retinal circulation from pressure. Its greatest value is in young or middle-aged subjects. If, while examining the eye-grounds of a patient aged 30, we apply pressure to the eye-ball and find that we cannot cause the venous pulse or blanching of the retinal vessels, we have good reason to suspect increased blood-pressure, and almost invariably the sphygmomanometer will confirm our suspicions. The early recognition of high blood-pressure may mean much to this individual.

A very striking picture is presented in people who have dilated hearts with very low blood-pressure. Here pressure on the globe causes a decided emptying of the arteries, with but little effect on the veins. When arteriosclerosis is well advanced, no matter what the age of the subject, or whether the general blood-pressure be high or low, little or no blanching of the retinal vessels will take place from making pressure on the globe, and it is equally difficult to produce the venous pulse. I have now given the matter close attention for four years, and I find when referring a patient to an internist for examination that I can almost invariably foretell what the blood-pressure findings will be. This does not mean that this pressure test renders the use of the sphygmomanometer unnecessary. On the contrary, it means that the ocular findings warrant a careful estimation of the blood-pressure by the use of the sphygmomanometer.

I have been unable to find in the literature any reference to this pressure test. If any one is before me in having published anything on this subject I shall be only too glad to give him due credit and to apologize for stealing his thunder.

329 Majestic Block.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

ABSTRACT OF DISCUSSION

DR. H. S. MILES, Bridgeport, Conn.: This test of Dr. Black's seems to me to be a very valuable one. As we are now paying much more attention to blood-pressure than formerly, it must be a great advantage to have a ready and reliable index which we can easily apply in a few moments.

DR. EDWARD JACKSON, Denver: I have made some application of the test, and am sure that doing it frequently it will every once in a while throw very interesting and important light on our cases. By a little additional pressure, or rather firm pressure, one can very often get the arterial pulse, and perhaps this is a more direct means of estimating the arterial blood-pressure than by the venous pulse. In a patient on whom I applied the test within the last two weeks, I found it impossible to produce any change in the arteries of any arterial pulsation by pressure that commenced to make the cornea steamy. Of course, this indicated high blood-pressure. While we have the sphygmomanometer to which, as Dr. Black says, we will refer to settle these questions, I think outside of that it would be perhaps the most valuable means of testing the blood-pressure. It is the same principle that is used in testing the capillary circulation by emptying the capillaries by pressure, though it is the length of time that it takes to refill that indicates the condition of the circulation. In the veins of the eye also the time it takes to refill is valuable and worth watching. I am inclined to think that gives more information about the general state of the intra-ocular circulation. It is a very interesting new method that can be applied very easily. Just place the little finger at the edge of the orbit, and then, pressing as firmly as you choose on the edge of the orbit, make pressure on the eyeball through the lower lid.

DR. MELVILLE BLACK, Denver: I never tried the pressure with my little finger. You press through the lower lid, do you, Dr. Jackson?

DR. EDWARD JACKSON: I usually use my little finger on the lower lid.

DR. MELVILLE BLACK: That might be desirable for the reason that many use the ophthalmoscope with reflected light. I use the electric ophthalmoscope and my hand does not get in the way of the source of illumination. I have been using the index-finger and applying it to the external canthus, but I can see that the other method would be better, because you could keep your hand out of the way.

With regard to the refilling of the small vessels of the disk, that unquestionably would have some value. That is a point I had not especially thought of, but I shall watch closely for that blanching effect on the disk. I had been following more particularly the larger vessels and one can see this blanching way out into the retina very distinctly. In a child one can squeeze almost all the blood out of the vessels, so that there is practically nothing but the empty vessel walls. This is particularly useful in cases of embolism of the central artery of the retina. Here, as is known, there is a certain amount of damming back of the venous circulation, and one can empty the veins so that there is nothing to be seen but the vessel walls. It is important to know exactly how much blood there is in the vessels. One can then readily determine the amount of collateral circulation, or whatever circulation there may be present in these cases. But the test as I proposed it was not for this purpose but to determine the actual hardness of the retinal vessels, and the state of the blood-pressure from the way they act.

Medieval Surgery.—Writing about "Science at the Medieval Universities" in the *Popular Science Monthly*, Prof. J. J. Walsh says that it was in surgery that the greatest triumphs of teaching of the medieval universities were secured. Most people are inclined to think that surgery developed only in our day. The great surgeons of the thirteenth and fourteenth centuries, however, anticipated most of our teaching. We have their text-books of surgery and they are a never-ending source of surprise. We have many wonderful instruments from these early days preserved in pictures at least, that show us how much modern advance is merely reinvention.

RECTAL PROLAPSE *

L. L. McARTHUR, M.D.
CHICAGO

In inviting your attention to this subject and to a modification of existing methods for its correction, I earnestly desire to be understood as advocating the proposed surgical interference only in the true, extensive, reducible, non-ulcerative cases, that resist the usual non-operative treatment. In order to have a proper working basis, it is necessary to specify what form of rectal prolapse is under consideration, since included under this caption one finds every gradation from simple protrusion of mucous membrane through the anus, to a genuine acute external intussusception.

Lenormant suggests four groupings:

1. Ectropion of mucosa through anal ring.
2. Invagination of lower rectum through anal ring.
3. Invagination of upper rectum through lower rectum and anal ring.
4. True intussusception of intestine and mesentery through anal ring.

Of these groupings the first and fourth are not here to be considered. The first, because a simple mucous membrane protrusion is not a rectal prolapse, is due to entirely different factors, and requires only local treatment. The fourth, an acute external intussusception, is an emergency requiring the same prompt interference appropriate to similar conditions higher up the intestinal tract. We have for consideration, therefore, a true prolapse of the rectum of varying degree, the etiologic factors of which have been so revised (Waldeyer, Ludloff, Lenormand, Hofmann) that the older teachings of Esmarch and his school are no longer tenable. It is not now believed nor taught that, provoked by straining, dysentery, hemorrhoids, bladder-stone, etc., the mucosa first prolapses, then the other layers in their sequence. Instead, anatomic researches (Waldeyer), clinical findings (Mikulicz), and operative results (Ludloff, Hofmann) confirm the assertion that this affection is always dependent on a defective pelvic floor. This defect may be (1) congenital or (2) acquired.

Congenitally the peritoneal pouch of Douglas may be, as in other hernial positions, so deep as to constitute a potential hernia, which intra-abdominal pressure later distends and, crowding downward through the anal ring, carries the rectal wall along with it. In the young, the slow development of the coccygeal curve and the associated imperfectly developed musculature, with its consequent lack of support to the pelvic floor, explain the greater frequency in children; the traumata of gestation, those in women. The rarity in the adult male thus becomes clear, age and intra-abdominal pressure being the great causative factors. Considering the great frequency with which we observe extremely high intra-abdominal pressure unassociated with rectal prolapse, we are forced to the conclusion that a defect in the pelvic floor is essential to its formation. With this carrying downward of the floor there is soon formed a prerectal peritoneal sac into which loops of small intestine may, and do, incarcerate, forming the principal complication of this affection, hedrocele.

From an anatomic basis—absence of peritoneal covering on the posterior rectal wall—we can expect to find the hedrocele anterior to the prolapsed mass (Cumston). Reduction of its contents is usually attended with gurgling, and coughing gives an impulse similar to other hernia (Gosselin). Allingham emphasizes the fact that the bowel orifice is at the apex of the prolapsus except when hedrocele exists; it then is directed posteriorly.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Hedrocele being viewed as true hernia—some writers assert it always is—the treatment similar to that for hernia elsewhere must be instituted, one step of which should be the obliteration of the peritoneal pouch, another the permanent reduction of its contents, with later, if necessary, the narrowing of the perineal defect —its hernial ring.

It being the purpose of this communication to present a modification of the best known and most accepted procedure (colopexy) for the alleviation of this ailment, time will not be taken to compare the varying merits of the many methods devised further than to state that the very extensive studies of both Lenormant and Ludloff lead to the conclusion that the upper operation is the one of choice.

Colopexy has always the advantage of in nowise disturbing the function of the rectum and anus; its dangers are no longer real, since out of sixty-eight cases (collected by Lenormant) there were no deaths, and since this procedure alone gave 90 per cent. permanent cures, while the 10 per cent. of recurrences can now be prevented by combining the procedures of several operators. These compare most favorably with the Aufret-Mikulicz resection which gives 7 per cent. recurrences and 10 per cent. mortality. This should, therefore, be reserved for gangrenous, irreducible, incarcerated and ulcerated cases only.

OPERATION: PROLAPSUS RECTI

To anyone making for the first time an effort to correct a rectal prolapse by intra-abdominal fixation there comes an early and startling realization of apparent lack of any satisfactory point to which the prolapsed bowel may safely and permanently be anchored. The dangers attendant on adhesions of any of the movable viscera to the parietal walls are constantly borne in mind in abdominal work, and every effort made to prevent the same. The strongest condemnations have been made of uterine ventrofixation based on unhappy clinical experience, and yet the most favored method to-day for prolapse involves similar incorporation in the line of incision of the rectum and sigmoid. I was not content with the recommendations of Verneuil to suture the epiploceles in the incision; of Quenu to suture the gut to the psoas and iliacus; and of the later writers to include intestinal wall in the incisional stitches, or that of Ludloff to resect the intestine, make an end to side implantation of the sigmoid in the rectum, and implant the upper end of the lower segment in the groin as an artificial anus.

In an effort to avoid a procedure which seemed to me so unsurgical, I sought—and think I found—the solution to the problem in the normal fixed point of the sigmoid. If one pulls up the prolapsed rectum from the emptied pelvis, the first thing to which it could well be attached is found to be the fixed portion of the sigmoid, but the fear of angulation or tearing out of stitches has perhaps prevented its utilization. To overcome this, and yet to secure a strong fixation, I have found that a generous and strong side-to-side anastomosis, using the three rows of sutures of Mayo, between the rectum and the fixed portion of the sigmoid, is most satisfactory, while in nowise leaving such potential dangers as attend incorporation in the cicatrix.

This procedure must not be confounded with that of Carlo, Hoffmann, Mariani et al. who before stitching the colon in the incision made an anastomosis to avoid the dangers of kinking that were made probable by the whipping together, to prevent internal hernia, of the loops of sigmoid to be suspended. It has the advantage of making an attachment to the abdominal wall unnecessary, thus obviating the various dangers attendant thereon, such as gestation, colics; internal hernias, etc. Obstruction of the lumen of the gut is obviated by the anastomosis. O. Samter first called attention to the fact that in cases of prolapsus recti, no matter how strongly one may pull up the gut, the lower part of the Douglas pouch peritoneum, so recently dilated, cannot be put on the stretch, hence were one to be content with a colopexy alone, there would still be the potential relapse. This he prevented by an obliteration of this space through suturing together of its walls, equivalent in effect to the removal of hernial sacs elsewhere. While believing the total obliteration of the pouch as shown in his drawing is unnecessarily extensive, I believe the same result can be accomplished by obliteration of its relaxed lower segment.

In our treatment of these peculiar hernias we have thus far provided for the reduction of their contents and the elimination of their sacs. There remains the correction when necessary of the perineal defect. In practice, however, it has been found that with the suspension of the intestine and the obliteration of the Douglas pouch by suturing from within, the dilated sphincter and relaxed perineal muscles often regain their normal tone and only rarely does it become necessary to make an anal narrowing, by a plication longitudinally of the lower rectal segment posteriorly as recommended by Marchant, or anteriorly and posteriorly after Duval and Lenormand. Though my experience has been limited to but three cases thus treated it has been so encouraging in its results and so relatively easy of performance that I do not hesitate to ask for further trial at your hands.

122 South Michigan Boulevard.

ABSTRACT OF DISCUSSION

Dr. E. Wyllys Andrews, Chicago: I know of no class of cases more unsatisfactory under the old methods than the complete prolapsus of all coats of the intestine, if treated by the cautery, the lower resection or any of the suture plastic methods.

Colopexy or rectopexy from above has proved to be the best solution for these extensive prolapse cases, in which the whole Douglas pouch has descended, and a long segment of rectum in the intestine inveterately protrudes.

But rectopexy or colopexy has in our hands been subject to complications of the several sorts, especially in the direction of aggravating abdominal pain and possible kinking; and I think possibly kinking depends on imperfect technic in the attachment through some support. We have attached it to the anterior wall, to the psoas magnus muscle and to the tissues of the groin; but the wide loop of the sigmoid still persists as an 18-inch or longer loose movable intestine, which is all the more kinked the more we draw the anus and rectum up by direct traction on the lower rectum.

Part of Dr. McArthur's work was done in the hospital where I have been his colleague; and after his technic was called to my attention, I employed the method which, as you heard in the paper, consists in anastomosing directly by lateral approximation, the short loop of the upper rectum to the fixed portion of the descending colon, where it turns to form the wide loop of the sigmoid. This is anatomically the best fixed support to which to attach the intestine for suspension purposes. It is the only scientific application of the suspension principle, to suspend one movable viscus to another movable viscus.

In several cases in which I suspended this movable colon to either the anterior or posterior wall or Poupart's ligament I had the pain I speak of. In two cases in which I followed Dr. McArthur's technic I had no other difficulty than the necessity in one of the cases of repairing a sphincter insufficiency which was partly due to rectocele associated with perineal laceration or possibly due to a prolonged dilatation of the external sphincter muscle from the almost life-long existence of this huge prolapsus. This had so overstretched it that at last it had become paralyzed—at any rate, lacking in tonicity. But the final result was satisfactory, though I was obliged to repair a slight prolapse of the mucous membrane only, forming a rectocele, by a sort of perineorrhaphy.

Dr. L. L. McArthur, Chicago: I want to call attention to the operation proposed by Ludloff in which he resects the gut, makes lateral implantation of the proximal end and anchors the distal end out at the groin. With this he has a handle to hold his bowel up. To me that is a far more formidable affair than the one proposed in the paper. In the latter the amount of traction which is put on the line of suture is only sufficient to bring the parts nicely together, while holding the rectum well out of the pelvis, but not a great tension, otherwise the stitches might tear out during the first few days of the convalescence. After the union has been completed, of course the adhesion is a good and a strong one.

WOODY PHLEGMON OF THE NECK (RECLUS)*

CHARLES A. POWERS, M.D.
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HISTORY OF THE SUBJECT

In 1893 Paul Reclus[1] of Paris reported on a form of chronic neck phlegmon of which he had seen three cases and which he believed to have been hitherto undescribed. According to this report the condition generally affects men of over 50 years, depreciated in general health. The urine is generally free; there is no constitutional disease. In these cases a slowly extending boardlike infiltration develops in the neck, sometimes in front, sometimes at the side. The development of the affection is always slow; it may extend over many weeks. The skin gradually becomes of a wine-red color, or purple or bluish. Fever and pain are not observed. At first the picture is that of a developing skin cancer. After a duration of five or six weeks edema and fluctuation come on and pus is apt to be discharged spontaneously or after incisions. In one case of Reclus the patient suddenly succumbed to edema of the glottis. In his other cases the phlegmon slowly healed after evacuation of the pus.

Reclus[1] gave a further account of this woody phlegmon of the neck in 1896, adding two cases to the three which he had hitherto observed. All of the cases occurred in men broken down in general health. Syphilis, diabetes, Bright's disease and other constitutional conditions were absent. The patients were much depressed; their only complaints were of difficulty in swallowing and in moving the neck. In all of his cases edema was present, and the skin slowly became of a wine-red color; there was a very slow formation of pus, and healing was slow. In one of his cases a bacillus like that of diphtheria was present and this patient improved under antidiphtheritic serum.

Reclus believed that this chronic inflammation might also occur in other portions of the body, though the neck was most often affected. It might easily be confounded with cancer, actinomycosis or tuberculosis. He believed that the condition owed its origin to pyogenic microbes of lessened virulence. Unknown factors might be associated.

These observations of Reclus did not lack confirmation. Kusnetzow[6] reported on a man of 69 years, much depreciated in general health, who had suffered Ludwig's angina two months before. A hard mass slowly developed between the lower jaw and the larynx. The skin became hard, there was no fever. The condition was thought to be cancer. Compresses slowly produced a softening at the center of the mass and a small abscess containing broken down tissue was opened. The hardening slowly passed down the left sternomastoid muscle and a new abscess was opened. One month later a suppurating gland was opened in the right subclavicular space. Healing took place after four months of illness. A weakened form of streptococcus was found in the pus.

Janson[11] reports a case occurring in a young woman of 25 years after a mild attack of streptococcus angina. Recovery after seven weeks. A similar case, due to the *Diplococcus pneumoniæ*, also secondary to an angina, is described by Jursdell and Svensson.

Sick[22]* of Hamburg reports a case of woody phlegmon occurring in a woman of 42 years who five years previously had suffered from a pneumonia with a subsequent mastoiditis requiring operation. She presented the characteristic infiltration, with swelling and skin discoloration extending from the mastoid process and maxillary border as far as the middle of the neck and downward to the clavicle. Complete, slow recovery took place under expectant treatment with large, moist dressings. Sick accepts the description of Reclus and emphasizes the fact that the differential diagnosis must exclude neoplasm as well as actinomycosis.

Further reports, each on one or two cases, are made by Moreau,[20] Sotis[32] and others. An excellent description is to be found in the "General Surgery" of Lexer and Bevan,[35] as well as by E. Wyllys Andrews in Keen's "Surgery."[36] Da Costa[40] of Philadelphia says that woody phlegmon is always dangerous and frequently fatal. He suggests the induction of suppuration by inoculations. Schmincke[25] tries, from the findings in one case, to make out a resemblance to neoplasm and characterizes the disease as cancer-like or cancroid. In this he was wrong: the condition is not neoplastic but inflammatory. The contention of Schmincke was promptly contradicted by Merkel,[17] Fichtner[26] and others.

An interesting observation is made by Antonio de Cortes.[37] His patient was a man of 27 who early in October, 1908, first noticed an induration in the suprahyoid region. This was of a stony hardness. It gave rise to no disturbance excepting for its presence and was therefore left untreated. It slowly increased in size. At the end of three or four weeks swallowing became somewhat difficult and the movements of the neck were restricted. On account of continued growth of the swelling the patient sought admission to the hospital. At this time the anterior half of the neck presented a slightly elevated swelling with a smooth surface and sharply outlined margins. The color was uniformly purple; it was attached to the underlying tissues and to the skin. The mass could not be indented with the finger. It extended from the jaw above to the collarbones below. There was no fever. Deglutition was difficult and painful. Movements of the neck were very much limited. The urine was free. Moist, warm packs were ordered. Ten days after the admission of the patient to the hospital the respiration began to be disturbed and swallowing became still more difficult. Dyspnea was especially marked at night and became actually threatening. A few days later the skin became edematous and at the same time a more intensely purple zone formed at the center of the mass. This center slowly softened. It was incised and a very small quantity of thick, bloody pus escaped. Dysphagia and dyspnea subsided, but in general the local condition persisted. Other small foci of softening formed and were evacuated; but little pus was present. The entire condition had completely disappeared at the end of five months and the patient was discharged cured. Rare coccidium forms, isolated or in groups, were found in the scanty pus.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Note. July 13, 1911. I am this day in receipt of a letter from Hofrat C. Sick, in which the distinguished Hamburg surgeon says: "The article on wooden phlegmon, to which you refer, is by my nephew, Dr. Paul Sick, of Leipsic. I have personally been able to certify but one case of woody phlegmon in my practice, a brief history of which is as follows: A workman suffered severe pain in the left side of his abdominal wall after strenuous physical efforts. Some fourteen days later a hard, board-like infiltration was found, involving the entire left anterior abdominal wall, extending to the linea alba within and to the lumbar region posteriorly. There was no fluctuation; there was moderate pain; there was slight fever. No evidence of suppuration from the peritoneal side. The infiltration of the abdominal wall was so extensive that one could make it out bimanually through the rectum. A free incision was made through the muscles and fasciæ to the peritoneum. The tissues were strongly infiltrated, but not suppurating. Here and there areas of granulation tissue were found. There was no history of syphilis and the Wassermann reaction was negative. Microscopically, nothing was found excepting inflammatory tissue; no tuberculosis, no actinomycosis, no neoplasm. The infiltration slowly disappeared in the course of a few months and the man was discharged cured. As I have said, I considered this a case of wooden phlegmon in the absence of other explanation."

Capasso[38] contributes two personal observations. In one the entire back of the neck was involved, small abscesses forming here and there from time to time, complete healing taking place at the end of some three months. The other case of Capasso concerned a priest who presented a woody phlegmon of the entire left cervical region. The mass was of stony hardness. Incisions of the hard mass showed lardaceous tissue without trace of suppuration. The swelling continued to extend after the incisions were made and a second and third intervention, with deeper incisions, had but little effect. The condition went on in this way for some weeks without general symptoms and with but moderate fever. After some time compression symptoms, through disturbed innervation of the limbs, became noticeable. Incontinence of urine came on. The deep, free incisions gave rise to very scanty suppuration At the end of several weeks the patient died, without marked symptoms of a grave general infection but still presenting the same signs of woody hardness in the affected region.

Suchy[39] contributes notes on an interesting observation in which symptoms of tracheal stenosis came on very suddenly. Operation disclosed a small, circumscribed abscess close beside the right thyroid cartilage. Relief followed the evacuation of a relatively small amount of pus. Complete recovery at the end of two months.

Other isolated observations on this interesting affection are reported by a number of surgeons. The chronologically arranged bibliography† at the end of this article gives references to these.

REPORT OF CASES

Without giving more time to these citations I venture to report three personal observations, which are as follows:

Case 1.—A man of 52, a laborer, came under my care in October, 1901, presenting a hard, fixed, bluish mass about the size of a flattened, large apple, in the median line of the neck beneath the lower jaw. According to his history he had suffered from a diffuse, tender swelling in the floor of the mouth about one month previous. This mouth swelling had twice been incised by a physician; at each time a moderate amount of pus had been liberated. The swelling beneath the jaw had come on slowly, painlessly, progressively. When seen by me it was fixed on the deep tissues; the skin was adherent and slightly edematous; it was of stony hardness and my provisional diagnosis was carcinoma. Under local anesthesia a fairly long, deep incision was made. The cut surface of the mass was hard, of a grayish white; it had the microscopic appearance of carcinoma. No pus was encountered in making this incision and there was no point of fluctuation. A good-sized piece was excised and submitted to Dr. J. A. Wilder, professor of pathology in the University of Denver, who reported it to be fibrous, inflammatory tissue. Expectant treatment was instituted; local, moist applications, general tonics. The man was depreciated in general health, depressed mentally. There was no fever at any time and he was able to be up and about. For three weeks after the patient came under observation the mass gradually increased in size, becoming something like a third larger than it was when first seen. At the end of this time small, rather superficial foci of suppuration began to appear. These were incised, and small amounts of thin pus were evacuated. Cultures showed this pus to contain *Staphylococcus albus* and *aureus*. At the end of three or four weeks the mass began to diminish in size and slowly disappeared. The man passed from observation three months after I saw him, four months after the onset of the disease. At that time there was a fair amount of thickening beneath the jaw, and movements of the jaw and neck were somewhat restricted. During the height of the swelling deglutition was somewhat interfered with but the man's breathing was at all times free.

Case 2.—In December, 1906, Dr. Frank W. Finney, of La Junta, Colorado referred to me Mr. G., a man of 45, of Lamar, Colorado. Some two months before he was seen, the patient had suffered from an infection around the left parotid gland. This had been incised by Dr. Finney; a small amount of thin, bloody pus had been evacuated. The inflammatory condition did not subside but extended to the left side and back of the neck. This extention of the swelling had been painless and unaccompanied by fever. It had been progressive. When the man came under my observation the entire left side and back of the neck was the seat of a diffuse, hard swelling which extended from the occiput and mastoid above to a point opposite the spinous process of the fourth cervical vertebra below. This swelling extended forward toward the jaw and across the median line. It was fixed; the skin over it was attached and somewhat discolored. The mass gave me the impression of malignancy. Operation was performed under ether at the Mercy Hospital, Dec. 15, 1906. On incision the mass was hard and whitish; it looked like carcinoma. Complete removal was impossible. Excised portions were given to Dr. J. A. Wilder, who reported the condition to be inflammatory fibrosis of muscle and fasciæ. At no time while the patient was under my care was there suppuration. The man returned to his home in Southern Colorado three weeks after operation and I was told that he died in Southern California in 1909. I am unable to learn the exact cause of his death.

Case 3.—*History.*—Mr. X., aged 47, while in New York in December, 1909, suffered from a severe attack of influenza. After three weeks of this disease a tender swelling presented in the floor of the mouth on the left side. The gums around the teeth of the left side of the lower jaw were tender, discolored and inflamed. On Jan. 3, 1910, Dr. Myles incised the tissues at the floor of the mouth and found a little pus (streptococcus and staphylococcus). During the following two days symptoms of an acute Ludwig's angina appeared; swollen mouth, salivation, fetid breath, strident voice, general difficulty in swallowing, swelling beneath the chin, swelling of the left submaxillary region. On Jan. 5, 1910, a submaxillary abscess was incised by Dr. Blake at the Presbyterian Hospital.

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† For which I am indebted to Dr. F. Robbins of New York.

‡ This case is presented in full. I am much indebted to Dr. S. G. Bonney for constant, valuable aid.

A secondary abscess was found below the angle of the jaw; the swelling in floor of the mouth was drained. Under hot fomentations and mouth irrigation the swelling gradually subsided. (Dr. Blake tells me that he evacuated ½ ounce of pus containing streptococci and staphylococci.) On January 24, nineteen days after operation, Mr. X. left New York for Denver. At that time he was thought to be in excellent condition; there was a small sinus which discharged but little. There remained a hardish swelling in the left side of the floor of the mouth and one beneath the chin. During the night of the day on which he left New York he was conscious of an increasing swelling beneath the lower jaw on the left side and of an increase in the swelling beneath the chin. The patient presented himself at my office on January 26. A small, very slightly discharging, submaxillary sinus was present. There was a moderate, rounded swelling beneath the chin and a further moderate swelling beneath the left border of the lower jaw. Both of these swellings were hard; they were not tender. An elongated, hard, fixed swelling was felt in the floor of the mouth in the region of the sublingual gland. The patient was weak but he had no fever. His local condition was not thought to be of marked importance; it was thought to be an ordinary induration consequent upon a severe Ludwig's angina. During the next few days the swellings beneath the chin and the jaw rather tended to increase. They became somewhat painful. Swallowing, which had before been good, began to become impaired. The voice was at times husky. An x-ray picture failed to show a calculus or any affection of the bone. It was thought wise to make a free incision and remove the left submaxillary gland.

Operation.—Performed at the patient's home, Feb. 2, 1910, under ether, Drs. Childs and Jones assisting. Free incision from midline of chin beneath border of lower jaw to its angle. All tissues hard, fibrous, whitish, boardlike. All tissues fused in a mass. Removal of a large area of hardened platysma muscle and fascia. Removal, with some difficulty, of the left submaxillary gland. Further incision between the genial muscles up to the mucous membrane of the floor of the mouth. Entire digastric triangle cleared out and packed with gauze. Rubber drainage-tube to the floor of the mouth. Separate, large cigarette drain beneath the chin. Very wide, thorough operation. Subcuticular suture. Culture taken from wound negative. Culture from sinus showed *Staphylococcus albus* and *aureus.* Sections of gland and muscles made by Dr. H. S. Denison showed "dense fibrous tissue with the typical distorted nuclei of chronic inflammation. No evidence of malignancy."

Postoperative History.—Smooth immediate course. Daily dressings, gradual closure of the wound. Good healing at sutured area. Daily irrigation of wound, gradual pushing out of tube and drains.

March 6, 1910: During the past week the swelling beneath the chin has tended to increase, the skin over it has become reddish, the skin below the middle of the incision has become reddish and swollen. The swelling of the sublingual gland as felt in the floor of the mouth remains about the same. It is hard, not tender. The patient has no fever; during the past three weeks his temperature has been normal and his pulse about 80 to the minute both morning and evening. He has been up and about, out of doors, sleeping well and eating fairly, though he has had but little appetite. His bowels have been moved daily by laxatives. He opens his mouth well and has good use of his tongue; his voice and swallowing are good. Hot boric compresses are to be applied to the swollen area.

March 9: The voice is a little rough this morning. The patient complains of headache. He says that he feels "played out." There is no fever. There is a suspicion of beginning softening in the mass beneath the chin; hot fomentations continued.

March 10: The mass beneath the chin seems somewhat enlarged. It is of a bluish-red or violet color; it is hard, not tender. Under cocain an incision ¾ of an inch long and ¾ of an inch deep is made at about its middle. A very little streaky pus is liberated. The mass, at its cut surface, is whitish and seems fibrous.

March 11: The mass is about the same in size. Three cultures are taken from various places. Hot fomentations continued. The patient has no fever; he feels fairly well.

March 12: The mass seems to be larger this morning. It is of a rather deeper bluish-red color; there is no discharge from the wound made on March 10. The sublingual gland in the floor of the mouth seems to be rather larger and harder. Dr. W. C. Mitchell reports one culture tube to be sterile; each of the others shows *Staphylococcus albus* and *aureus* together with a pseudo-diphtheritic bacillus. An autogenous vaccine* is ordered.

March 13: The mass seems to me a little smaller this morning; its color is less marked. There is practically no discharge. Hot fomentations of a weak boric solution have been continued. The patient constantly shows a pulse of 80 and a normal or subnormal temperature. He sleeps well and has no pain. He can open his jaw to practically the full extent; the motions of the tongue are excellent, though the patient thinks that there is rather more fullness in the floor of the mouth. He is up and about during the day. While he has practically no appetite he takes a sufficient amount of food.

March 14: The mass beneath the chin seems a little smaller this morning, the color is less marked. There seems to be a little increase of deep thickening just below the angle of the jaw on the left side. Further incisions are delayed in the face of this apparent improvement. Considering the solidity of the tissues between the lower jaw and the hyoid bone the patient has a remarkable use of the lower jaw and of the tongue. No positive prognosis is made at this time, although the outlook for recovery is thought to be good. The condition, clinically, resembles cancer or actinomycosis.

March 17: Since the last note was made the patient has been up and about the house daily. Hot fomentations have been continued. His general health is good; he has no pain nor fever. The swelling at the left side of the floor of the mouth tends a little to recede; it seems a little smaller on palpation. There is still a small sinus at the middle of the digastric triangle. There is practically no discharge from this. There is a very slight discharge from an incision which was made a few days ago; this incision tends to heal. The mass between the lower jaw and the hyoid bone seems rather smaller and tends to become movable; it is of a bluish-violet color. The change has not been marked but it seems fairly noticeable and is a change for the better.

March 21: During the last two days the mass beneath the chin has become rather deeper red in color and somewhat more swollen. It is a little more tender. The general health is good. The hot fomentations are continued. This condition tends to recede and advance by turns, and despite the fact that I believe the general outlook good I must admit feeling a marked sense of anxiety.

March 25: The condition is better now than at any time since the patient returned to Denver. The mass below the chin is movable; the mass in the floor of the mouth is smaller and softer. The process is essentially a chronic one.

March 29: During the past three days there has been increased swelling, pain and discomfort, increased swelling and disability in the floor of the mouth. During the past twelve hours there has been a fairly free discharge of thick pus at the site of the incision last made.

April 11: Since the last note the patient has been up and about, and has had the boric acid fomentations applied whenever the skin would permit. On the days on which the wet dressings have been omitted he has been out of doors. The mass beneath the chin tends slowly to improve; at times it has scantily discharged pus.

April 15: A lymphatic gland the size of a half cherry is discovered just below the angle of the jaw on the right side. This is movable, not tender. Probably it is secondary to inflamed tissue beneath the jaw; it may be due to the vaccine. The mass beneath the jaw is more reddened and swollen at the right of the median line.

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* In such a condition it is always difficult to judge accurately as to the value or effect of a vaccine. In general I must confess to skepticism regarding these agents in surgical infections, yet in this particular case I am inclined to think that the vaccine was of definite value.

April 16: Since the last note was made the entire condition has become much improved. The gland beneath the angle of the jaw is smaller; the mass beneath the chin is smaller, more movable and of a better color.

April 25: The local condition is markedly improved. The incision of April 16 healed in a few days without suppuration. (I am impressed by the fact that in this condition of woody phlegmon incisions through inflamed tissue may heal very promptly without suppuration.)

April 28: The local condition has steadily improved. The condition in the floor of the mouth is much better; the mass beneath the chin is smaller and very freely movable. The gland at the angle of the jaw is much smaller.

May 20, 1911: From the time of the previous note on, the condition slowly but steadily improved. There was no further suppuration. The hardened mass gradually disappeared. On June 1, four months after the patient came under my care, he was considered well. There was a little deep thickening of the submaxillary tissues but this was hardly noticeable. The scars beneath the jaw were so placed that they were hardly to be seen. The general health steadily improved and the patient considered himself cured. I have seen him often since; there has been no relapse.

I have cited this history at some length because it seems to me to be that of a carefully observed, typical case.

The foregoing personal cases conform closely to the type described by Reclus. In the first case the clinical course was typical and a cure resulted. The second case was a clear one but the man passed from under my observation at an early day and I am at this time uncertain regarding the exact ultimate history. I am under the impression that he died from some intercurrent disease. The third case, the history which I have related at length, is absolutely typical in every particular. I think that it may be accepted as a classical example of the affection under discussion.

I am in receipt of a letter from Professor Reclus† under date of Feb. 8, 1911, giving the present view of that distinguished Paris surgeon. He says that the condition is not considered by him a definite morbid entity, but that it is a form of anatomic reaction which can be provoked by any pathogenic germ; not only by the ordinary agents of suppuration, but also by the fungi (actinomycosis, sporotrichosis) the gregarines, etc. This anatomic reaction, characterized essentially by the production of fibrous tissue, may be found in regions other than the neck; for example, around the abdominal viscera, principally in the right iliac fossa, or around the kidney. The so-called perinephritic sclerosis is practically a ligneous phlegmon. Freidrich of Marburg writes me‡ that he believes that in these cases a wide excision of the fibrous tissue is preferable to multiple incisions. I believe this to be correct in certain cases; the third observation in my own series seems to be a very good example of this.

CONCLUSIONS

1. Woody phlegmon of the neck, *phlegmon ligneux*, is a condition of infrequent occurrence. It is generally seen in men depreciated in general health and over 45 years of age. The patients are generally free from intercurrent disease.

2. The exact causation is unknown. There is generally an antecedent infection of the tissues of the mouth or the pharynx or the salivary glands. The theory of Reclus that it is a form of anatomic reaction of the tissues to the presence of pathogenic organisms or fungi may at this time be accepted in place of a more definite explanation. The causative microorganisms are apt to be of low vitality.

3. The condition is essentially a chronic one. It generally simulates carcinoma or sarcoma or actinomycosis and must be carefully differentiated. Correct diagnosis is of the greatest importance.

4. The general tendency of the disease is toward recovery. Fatalities may occur through edema of the larynx or through pressure or through diffuse extension and exhaustion.

5. Foci of suppuration should be induced in all possible ways. Warm, moist compresses are undoubtedly of value. Free incisions may be made. Excision of wide areas of boardlike tissue should be practiced in suitable cases. The general health should be brought up to the highest possible point.

6. A careful microscopic and bacteriologic study of each case is necessary. Autogenous vaccines may prove to be of value.

7. The surgeon should be in readiness at all times to perform a required intubation of the larynx or a tracheotomy.

8. While the accompanying communication concerns woody phlegmon of the neck it is to be remembered that a similar pathologic process may affect other portions of the body.

Fourteenth and Stout Streets.

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† Through Dr. Kendizdjy, his chief of clinic.
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ABSTRACT OF DISCUSSION

Dr. **Frank Le Moyne Hupp**, Wheeling, W. Va.: One of the important points mentioned by Dr. Powers and emphasized also by Kocher, is that the characteristic point of this disease does not lie in the etiology so much as in the diminished potency or attenuated virulency of the torpid and non-reactive microbes, and the boardlike and densely hard infiltration of the skin, which though localized at first, may extend from the jaw to the clavicle. While Dr. Powers has told us that in arriving at a diagnosis, carcinoma, sarcoma and actinomycosis are to be excluded, this strange disease is also not to be confounded with Ludwig's angina, where we have to deal with an acute inflammatory process whose most striking characteristic is edema of the glottis with a phlegmonous, erysipelatous, perilaryngeal infection dependent on other causes. As a matter of fact, the Canadian teacher, Archibald, has said that the disease described by Ludwig in 1838 occupied the submaxillary space, was acute in its course and usually secondary to an adenitis, the exciting lesions being a carious tooth, a mucous ulcer or a tonsillitis. The deep fascia furnishes an unyielding barrier for the deep-seated exudate, and so the larynx and glottis are subjected to a pressure and inflammation, presenting the characteristic picture of a true Ludwig's angina, with pressure symptoms, infection, and often death. This suggests another point in woody phlegmon, and that is while it may be true in some cases, as Andrews has described, that in its course no alarming symptoms of dyspnea or dysphagia develop, the essayist has told us that a suffocating laryngeal asphyxia has resulted, due to edema of the glottis, demanding a tracheotomy, and that we should always be prepared for this emergency.

Two cases of this kind have come under my attention: one, I think, was a typical woody phlegmon which was tracheotomized in the second month of the disease, and the other an extensive infiltration of the planes of the entire anterior aspect of the neck due to a virulent infection following tracheotomy for post-typhoid laryngeal stenosis. In both cases a quick tracheotomy was successfully done, using a new retractor or tube pilot which I have devised for the emergency operation.

BRAIN TUMOR *

REPORT OF NINE CASES

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The following cases of brain tumor seem to me to present variety enough in their symptom-complex to warrant reporting, and to serve also as a basis to direct attention to some of the clinical manifestations present. It has been my experience that some cases of brain tumor are overlooked, especially when no fundus changes have taken place, and that we should not depend too much on choked disk in order to say whether or not we have to deal with a cerebral neoplasm. Especially I think that this is so with many of us who are located in the smaller cities, where we have no expert neurologist to work out with us these central problems. Those of us so situated must depend largely on our own findings for our diagnosis. These cases are much more difficult when they present but few, if any, localizing symptoms outside of the eye changes, and also when the nerve change is in its first or second stage; or perhaps when it never passes on to swelling enough so that it would be classified as choked disk. I am fully convinced that some cases of brain tumor are missed in diagnosis because of the nonrecognition of this eye change in its early stages; and sometimes because coincident with the beginning choked disk there appears a macular change; and perhaps some albumin in the urine, with or without the presence of casts, or other evidences of nephritis, and the conclusion is rapidly reached that the case is one of albuminuric retinitis. While the macular figure in brain tumor is not like that of typical albuminuric retinitis, still it is sometimes confused with it; but as albuminuric retinitis is usually a late symptom in nephritis, and the macular change in brain tumor comes usually with the height of the swelling, there should be no difficulty in differentiation.

Both nephritis and brain tumor, however, occasionally occur simultaneously, and it is well to bear this in mind; but when there are other symptoms of tumor together with the eye changes it simplifies the diagnosis.

With Dr. de Schweinitz and others, I think that the symptom of temporary amaurosis is of great value, and occurs in the majority of cases. I wish also to emphasize Dr. de Schweinitz' advice to deduct the amount of static refraction present before giving the amount of swelling of the disk.

I believe also that in a majority of the cases the greatest swelling occurs on the side of the lesion, but the exception to this occurs so frequently that as a sign it cannot be depended on in localization. Taken in conjunction with other symptoms, however, it is of value. The same, I think, may be said of nystagmus. While this may be exaggerated when the eyes are turned to the side of the lesion, still it so frequently happens that the contrary is true that it is not of such value as we formerly thought; and, further, nystagmus is far from a constant symptom in brain tumor, and hence loses much of its importance as a diagnostic symptom.

A symptom which I believe is of great value is deafness in one ear, either partial or complete; in the majority of cases of tumor of the cerebellum and angle this appears at an early date. In some of my cases it was among the earliest of symptoms, and is an important factor in localizing the side of the lesion. In the cases here reported four of the patients had deafness on the side of the lesion, as confirmed by operation or autopsy.

The character of the vomiting is usually expulsive; it comes on without any previous nausea, and often is nocturnal. I believe that ophthalmologists should be as familiar with the symptomatology of brain tumor as the internist or surgeon; as ordinarily no one symptom can be relied on in making a diagnosis, and not infrequently the patient consults the ophthalmologist first for temporary amaurosis, or the failure of vision resulting from optic nerve changes. It is interesting to note what a loss of vision occurs in cases which are not yet in the choked disk stage, and in which only a papillitis exists; and to note also the amount of swelling which may exist in a nerve-head with good central vision.

I believe, with others who have written on this subject, that even if we find a case late in the disease, in which atrophy has already begun, we should not hesitate to recommend operation by decompression and removal of the mass if possible. In this way we are likely to save what vision remains, even if that be but light perception. Another point in this connection is that while saving the remaining vision, operation also serves to lessen the amount of staggering and vertigo, and makes it possible for the patient to get about readily, as Case 3, here reported, shows. In many cases also it serves to relieve nausea, loss of taste and smell, and other symptoms. So sure am I that such advice is for the best interest of the patient that in such cases I always recommend consulting a cranial surgeon. I have seen patients who were blind, deaf in one ear, unable to walk or stand, or to talk so that they could be understood, or to swallow without serious choking, and who suffered severe pain and a constant nausea and inability to retain food, with other of the terminal symptoms that tend to make a patient so absolutely helpless and wretched that nothing could be worse. To the laity, however, a cranial operation is a terrifying thing, and several of my patients refused operation and underwent all these things because they or their families were not educated up to the point where they could conceive of a surgeon doing an operation on the brain and the patient surviving.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

I have no doubt that the reversal and interlacing of the color lines as described by Drs. Cushing and Bordley as an early diagnostic sign is of value. I have two cases at present in which these phenomenon occur. If it is found to be constant prior to the visible nerve changes it will be of great service in diagnosis.

In my cases I have not noticed the distention and change in color, and uneven tortuosity of the retinal veins prior to visible nerve changes.

I believe thoroughly in early operation in choked disk, and believe also that if there is doubt as to whether or not the lesion is of luetic origin the Wassermann test should be used. While this reaction is not always to be depended on, still it is the best means of diagnosis in questionable cases. If there is a definite history of specific infection, especially if comparatively recent, and in the presence of brain symptoms, then I believe a course of mercury should be tried. It is little short of criminal to waste time in every tumor case by such treatment, especially when there is great swelling of the disk and perhaps beginning atrophy. In an old syphilitic case, however, I think the advice of Horsley, to treat it like any other surgical case, is correct. The cases in which operation has seemed to increase the papilledema seem to me too few to weigh much against operative procedure at as early a date as possible; yet, it is wise to inform the patient or friends of possibility of danger.

A symptom, which several of my patients exhibited, I have not noticed reported by others, especially in tumors of the cerebellum and angle; that is, a loss of sense of distance and direction for objects. For instance, in Case 1, the patient said that she missed articles she attempted to reach; either she did not reach far enough, or went to one side, or overreached; and perhaps she would fall over the object. In walking to a door she was likely to miss the opening and strike the casing; and this was not due to staggering, but to a loss of ability to judge the distance and direction of the object.

In Case 3, the patient had noticed the same thing, and stated that she had this trouble, especially in getting into a wagon, and attempting to take hold of the dashboard to aid in getting in: she said that she was likely to miss it and fall, and, in fact had fallen several times.

Another of my patients said that he was likely to stumble over objects that were low, but if the object were sufficiently high he had no trouble in getting over other than staggering; he constantly misjudged the height of objects on the floor, or on the sidewalk, and was likely to stumble over them. This is perhaps but a part of the general ataxic muscular condition.

In two of my patients an early sensory symptom noticed was a feeling of numbness about the eyes and across the face, as if the part were "asleep," and the patient had a desire to rub it.

That brain tumor with rapid degeneration can sometimes simulate brain abscess is, I think, well illustrated in Case 5, as there was the rapid onset, the slow pulse and the subnormal temperature seen in some cases of abscess. I think that in any case in which there are not decided blood-changes and in which no focus of suppuration can be found in any part of the body from which there might be metastasis that we are warranted in excluding brain abscess.

It seems to me that in the last case reported Jacksonian epilepsy is unusual in tumor of the left hemisphere of the cerebellum.

Perhaps my report of these cases, as well as these remarks, is too general in character for the Section on Ophthalmology; but it is my contention that we should embrace in our examination, especially in the absence of a neurologist, a general examination; I have not tried to give here the results of such examination entirely, but only the more prominent general symptoms.

Case 1.—*Patient.*—R. B., girl, aged 22, teacher, was referred to me by Dr. Colegrove in September, 1897. She looked well, except that she was somewhat anemic, but told me that for a year past she had been in poor health. She had been treated for indigestion, and had also some pelvic trouble. Recently her eyes had not felt right; they smarted and vision blurred, especially in the right eye. At times there was temporary loss of sight in both eyes, lasting from a few seconds to ten minutes, during which time she was very dizzy, and the blindness was seemingly equal in both eyes.

Examination.—Vision in the right eye was 20/50, in the left, 20/30. The right disk was best seen with plus 3. There was 1 D. hyperopia, and left papilledema of plus 1. There was a macular change in the right eye, with some chorioiditis, and small hemorrhages throughout the right retina. There was some loss of station, and the patient staggered in walking, chiefly to the right side. She said that she was always running into articles of furniture about the room; frequently made a misstep in descending stairs; that she misjudged distances, and in reaching for an article overreached it, and was likely to fall. Patellar reflexes were lost. Pupils contracted to light and convergence; there was no paralysis of extrinsic muscles, and no nystagmus. The patient had had very severe headaches with severe vomiting, which nothing would control. She said she had taken on some weight within the last few months, but that it did not seem natural to her, and she could not account for it.

Progress of Case.—Three weeks later, the right disk had 6 D. of swelling, and the left 1 D. There was much loss of coordination; and more hemorrhages in the right retina. The arteries were small, and the veins dark, large and tortuous; the left retina had a slight macular change. Vision at this time was, right 20/50, and left 20/30.

The patient was put on iodid and mercury, although there was no luetic history.

November 20: The patient said that the vomiting was better, the attack being less frequent and not so severe, but that she still had the blind spells, and that she did not walk any better. She had noticed also that there was loss of taste, and that things did not appear natural to her when eating. There was also some loss of smell; she said that she could not detect the odor of flowers. She appeared weak and anxious. I informed the family of the gravity of the case, and asked them to consult a cranial surgeon; but at this time we did not have as much to offer in this class of surgical cases, consequently I did not urge the matter.

About two months later I saw this patient again. There was 5 D. of swelling in the right eye, and 1 D. in the left, with beginning atrophy to the temporal side of both disks, and the swelling subsiding. There was very severe vomiting at times, her other symptoms were exaggerated, and she had begun to lose flesh.

Termination of Case.—I did not see the patient again, but learned from her physician that total blindness ensued; there was almost constant vomiting, inability to walk or stand, and death took place in April. An autopsy was refused.

Case 2.—*Patient.*—H. S., aged 18, farmer. Family history was good. I saw him in December, 1903. About six months previously he had begun to have severe pains at the vertex of the skull, and became very dizzy, staggering when he walked. He often had attacks of vomiting without preceding nausea. He was dull mentally, and was very slow in his answers; said he was unable to think clearly, and that his memory was poor. Recently his eyes had blurred, and there was a temporary loss of sight in both eyes, varying in time from a few seconds to several minutes.

Examination.—The patient was brought to me with a diagnosis of locomotor ataxia. He was very ataxic, chiefly to the right side; there was swaying, chiefly to the right, on standing with his eyes closed and feet approximate. The patellar reflexes were lost. Pupils reacted to light and convergence; there was no paralysis of extrinsic muscles. Vision, right 20/40, left 20/200. The right fundus showed choked disk, best seen with plus 6; left, plus 4. There was no nystagmus, and eye movements were carried out normally; there were no hemorrhages in either retina. On a rough test, both fields were contracted, but color fields were not taken. Some albumin was found in the urine, and some casts, chiefly of the hyaline variety. The patient had become very fleshy in the past few months; the skin seemed tense and hard, as if fully distended; did not pit on pressure, and had a leathery feeling. There was no deafness in either ear, and there was no loss of taste or smell.

Course of Disease.—I saw this patient but once, and on telling the family the nature of the disease other physicians were consulted, who, after examination, concluded that it was a case of myxedema, owing to the rapid taking on of fat, the condition of the skin, the albumin present, and the eye-ground condition. These physicians informed me that the man seemed to improve on thyroid extract. He then consulted Dr. Allen Starr, of New York, who diagnosed the case as one of brain tumor. His condition gradually grew worse; his vision failed utterly; moving about, walking or standing without support was impossible; vomiting and headache became very severe, and the patient died suddenly, about six months after I first saw him.

Necropsy.—The brain and kidneys were sent to me for examination. They were hardened in formaldehyd solution. The kidneys showed some cortical nephritis. The cerebrum was normal throughout, except that on opening the lateral ventricles there was a thick fluid, slightly tinged with blood in both lateral ventricles. This was spread out on the floor of the ventricles. On section of the cerebellum the right hemisphere was seen to be the site of a large tumor, which occupied the entire side and extended to the left hemisphere but did not involve all of that side. The mass was well broken down at the center, and over the fourth ventricle, and the fluid spoken of as being in the lateral ventricle was in the fourth also, and evidently came from this softened vascular tissue. Examination showed the tumor to be sarcoma.

Case 3.—*Patient.*—C. F., female, aged 32, a clerk, was first seen in December, 1904. Two years before, she began to have a queer sense as of drawing or numbness across the face, below the eyes, and about the eyebrows. She said that the stiffness annoyed her greatly; she wanted to rub her face to make it feel alive; she also noted at this time that vision blurred greatly. She was examined by an ophthalmologist, whose notes show no disease of the eyes; no macular change; and no refractive trouble requiring glasses. There was, however, 3 degrees exophoria. The numbness persisted, however, and she noticed that she stumbled over objects, and had dizzy spells. She was more apt to stumble over an object if it were low than if it were standing at an ordinary height. She said that she also seemed unable to avoid articles of furniture about the room, or at the store where she worked. If she put her hand out at times to touch an object she was likely to miss it, or to place her hand beyond it and run against it or fall over it. She noticed also that sometimes she made a misstep, and had noticed for months that in approaching customers in attempting to stop she frequently bumped against them, and several times had pitched forward, falling in several instances against the person she was approaching.

She again consulted an ophthalmologist about a year after the first one. This physician made a diagnosis of albuminuric retinitis, as there was some neuritis and macular change. At times also there was a small quantity of albumin in the urine, but no casts. This neuritis and macular change was no doubt the beginning of the papilledema. For some time also, even before consulting an ophthalmologist, she had what she termed "bilious spells"; she would waken suddenly in the night with severe vomiting, expulsive in character, and which nothing would control. She had temporary loss of vision, sometimes lasting for a minute or two, sometimes very transient. She told me she had noticed that for at least two years, in getting into a wagon, she would reach for the dashboard to support herself and would miss it, and had fallen in doing so several times and had become afraid to make the attempt, either to get out of or into a wagon without help, and that her legs seemed weak. Her mother had noticed also that she staggered in walking; that she was continually bumping into things about the house, and had fallen over a chair several times. Vision had rapidly failed, and her vomiting attacks grew so frequent and she staggered so badly that she gave up her position and remained at home. Her ophthalmologist said that nothing could be done for her; that the kidney disease had made her lose her sight.

Examination.—When I saw her there was no vision in either eye, nor had there been for six weeks, when she said the last light perception failed. The pupils were widely dilated with no reaction to light; the right cornea was anesthetic, the left partly so. There was marked exophthalmos of both eyes. There was still some evidence of papilledema; both nerve-heads were atrophic. I was unable to decide in which eye there had been the first or greater edema, as both nerve-heads seemed equally atrophic. In both retinas there were remains of numerous hemorrhages, which were nearly absorbed. I could not make out any macular change. The veins were large, dark and tortuous, and the arteries small, with deposit along their sides near the disk. There was marked nystagmus of both eyes, much exaggerated on extreme rotation to the right; the left eye turned to the outer side a little. There was very little headache, but what she did have was occipital. The patient had difficulty in speaking; there was no paralysis of the vocal cords, and the tongue protruded straight, but the left masseter was weak. There was total loss of taste and smell, and there was partial deafness in left ear, both for air and bone conduction. There was a small amount of albumin in the urine, but no casts. Patellar reflexes were lost; the patient was unable to stand with feet approximate, but could do so with feet apart, though with great swaying; she staggered badly on attempting to walk, chiefly to left side. In fact, she would fall after she had taken a few steps unless supported.

Course of Disease.—A Christian Science healer stepped in at this juncture of the case, and after receiving glittering promise of cure the easily deluded family asked me to step out, and let her try. After several weeks, and after the healer had assimilated the family's store of funds, which were very limited, I was again called in; but did not claim ability to cure, as did the healer. I advised operation, but it was refused, as I could not, of course, promise return of vision. The girl finally lost all ability to stand, was absolutely deaf in the left ear; had great difficulty in swallowing anything, but could swallow semi-fluid better than fluid. She was unable to converse so that any one could understand her but her mother. There was a constant flow of saliva, and the left corner of the mouth drooped. The patellar and plantar reflexes were abolished. The optic nerves were completely atrophied, and no light sense remained. The patient continued for some months in this condition and finally died suddenly.

Necropsy.—There was no change in the cerebrum or ventricles, but there was a large pear-shaped tumor in the left cerebellopontile angle, which had attacked the eighth nerve, and this nerve was embedded in its substance. The growth was also adherent to the periosteum of the petrous portion of the temporal bone. The pathologist's report follows:

"Specimen consists of the tumor of the brain measuring 4 cm. in its greatest diameter. The tumor mass seems to be well encapsulated and to have grown equally in all directions. The cut surface presents a mottled, dirty gray, reddish and whitish coloration, the red areas being due to numerous blood-vessels distended with blood. The white, apparently fibrous tissue strands, have a more or less radiating distribution. The consistency is variable in different areas, being greater in the dense, white connective tissue strands.

"Microscopic examination reveals an arrangement of the cells, diagnostic of fibrous sarcoma. The sarcomatous elements do not predominate, and the tumor histologically seems not to be very malignant, but the size of the nuclei is irregular. The peculiar arrangement of the cells and of the blood-vessel formation, positively indicates a malignant condition of the fibrous tumor. The adjacent brain tissue, beyond some softening, shows no important changes."

Case 4.—*Patient.*—E. D., female, aged 24, a domestic, was first seen in January, 1906. She had been told, from an examination of her eyes and the presence of albumin in the urine, that she had Bright's disease. About two years ago she noticed that her legs were weak; she staggered in walking, but did not fall. For a year past she had thought her eyes were not right; she could not see clearly, and frequently everything before her eyes would disappear; she could not see for a few seconds, then things became clear. She began to have nausea and vomiting, and about this time noticed that she was growing deaf in the right ear. For three months before I saw her she had severe headache.

Examination.—She was blind in each eye, but light perception was present. The ocular movements were carried out in a jerky manner, and I thought that I could detect nystagmus at times, although this was transitory, and not exaggerated, in either direction. Pupils were dilated; the right pupil responded when light was thrown in from the temporal side, in which position it was recognized. The left pupil did not respond to light. There was choked disk in each eye and also advanced atrophy in each disk; there was 6 diopters swelling right and 7 left. There was no paralysis of the ocular muscles. In the right ear there was hearing only for the Galton whistle; bone conduction was nearly lost. In the left ear hearing was not impaired. It was impossible for the patient to walk or stand without being supported; she complained of a queer feeling as of numbness in the right side of the face. The tongue was protruded straight; and the right eye-ball seemed a trifle more prominent than the left. The patellar reflexes were a little exaggerated, but no Babinski sign could be elicited.

Operation.—I told both the patient and her family of her condition, and referred her to Dr. Charles H. Frazier, of the University of Pennsylvania Hospital, who, in conjunction with Dr. de Schweinitz and Dr. Spiller, examined her, and concluded that an operation was necessary. On February 23, Dr. Frazier removed the bone overlying the right cerebellar hemisphere. Following the operation, and before the next one was done, the choked disk subsided from 7 to 3 diopters; but of course there was no return of vision. The hearing improved, and the nausea and vomiting ceased; headache disappeared, and there was improvement in ability to walk, so she could get about the ward with very little assistance.

Subsequent History.—On April 7, owing to the fact that headache and vomiting had recurred, it was decided to make an attempt to remove the tumor which was supposed to exist. On opening the dura, the cerebellar hemisphere was found to be under considerable tension; it was almost impossible to expose the cerebellopontile angle, but on introduction of the finger a tumor about the size of a hen's egg, firmly adherent in the angle between the pons and the cerebellum, was discovered. The tumor was removed almost intact, and proved to be fibrous.

For the first few days after the operation, while the patient suffered considerably from shock, yet her condition was not such as to cause any apprehension. However, about the sixth day after the second operation, the circulatory and respiratory apparatus began to fail, and the patient died[1] April 15.

Case 5.—*Patient.*—J. L., aged 25, female, consulted me on Aug. 31, 1906. She came to me because of severe headache, and said that at times she had loss of vision, lasting from an instant to several minutes. She also said that at times she had some nausea. She said for at least six years she had been a sufferer from headaches, the attacks varying greatly in intensity, but for the last six months they had been much more severe than ever before. Her sister, who was with her, did most of the talking; and until I requested her to let the patient answer my questions the patient herself had volunteered little information.

Examination.—Vision in each eye was 20/15; under a mydriatic it was the same. The patient was very slow to answer questions; and it seemed to be a long time before she comprehended the meaning of my questions. She was apathetic, seemed confused in manner, and said also that she had been depressed recently. The right disk had beginning neuritis and swelling, chiefly under the superior and inferior retinal vessels as they emerged from the nerve-head. This swelling amounted to 3 D. in the right eye. It shaded off rather abruptly, and the rest of the disk margin on both sides could be plainly seen, although there was some redness all over the disk. The same change existed in the left eye, where the swelling was at the superior and inferior disk margin; the vessels overlay the edema. The swelling was measured with plus 2. The disk margins were plainly seen, both to temporal and nasal side, except where the swelling had taken place, as stated. In the left eye, there was a very little transudation to the outer side of the disk, where a vein crossed an artery. There was not much, if any, change in the size or color of the vessels. I could not make out that there was evidence of venous obstruction. The field, roughly taken, seemed but little contracted, if at all. I did not try the color field. The patellar reflexes were normal. There was no nystagmus, or paralysis of the eye muscles. Plantar reflexes were lost, but station was good. Ear tests were negative, and the finger and nose test was also negative. The grasp of the two hands was equal.

Course of Disease.—The next day I saw the patient again, and her condition was the same. I asked her to report again in two days, but she did not do so. However, one week from the day I first saw her I was called to her home. I found her in bed, and only semi-conscious. Both pupils were widely dilated, and did not react to light. Both disks were choked, and each had 7 D. of swelling. There were large hemorrhages in both retinas, and drooping of the right eyelid. Pulse was 50, temperature 98, and respiration 14. The patient did not give evidence of much suffering. She could swallow readily, but I could not get from her intelligent answers.

Three days later, complete ophthalmoplegia took place in the right eye, and paralysis of external and internal rectus of left eye, but the patient could move the left eye up and down a little. Both eye-balls were somewhat prominent. Pulse was 45, temperature 97, and respiration 16. The disks measured about the same in swelling; both pupils were widely dilated, and did not react to light. The patient's answers were very confused as to what she could see. She said at one time that she could count fingers, and again that she could not. She did not seem to notice the bright light from the ophthalmoscope when her eyes were under examination. Patellar reflexes were lost, and no Babinski sign was present. There was no motor paralysis, except of eyes as stated. From the very rapid onset I thought that there must be a focus of pus some place in the body, and again looked over the ears for any source of pus there, but they were normal throughout; still I thought that there must be a brain abscess, because of the slow pulse and subnormal temperature. There was no leukocytosis, and the hemoglobin was nearly normal in amount.

About one week after I first saw the patient in bed she had several convulsions. They usually began in the left arm and were Jacksonian in type, and did not seem to be brought on by change in position. After having had several of these convulsions she seemed to brighten up, and could speak much more clearly, yet remained in a very confused condition. In the absence of her nurse, she got out of bed and walked about the room, but her vision was very much reduced, although she asserted that she could see better with the left eye than with the right. There was no sensory disturbance about the face, nor was there loss of special senses. The pulse remained very slow and full; respirations were slow, and temperature remained subnormal. I strongly advised operation, as I thought that there must be great increase of intracranial pressure; and, in the absence of a cranial surgeon and expert neurologist I advised making a right temporal decompression, which was refused. The patient again grew worse, and died four weeks from the time I first saw her.

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[1] A more complete general report by Dr. Frazier of this case can be found in The Journal A. M. A., Sept. 22, 1906, p. 923.

Necropsy.—The left temporal lobe was found to be the site of a large softened tumor occupying the upper and posterior part of the lobe. It was very soft and vascular, but there were no free hemorrhages in its substance. The rest of the brain was normal, and there was no pathologic fluid in the lateral ventricles. The mass proved to be a sarcoma.

CASE 6.—*Patient.*—M. J., female, aged 51, had always been healthy until about two years ago, when she suffered an attack of influenza, which left her weak. After getting up, she noticed that she was dizzy at times and occasionally vomited. She grew so dizzy after some weeks, and staggered so much in walking, that she used a cane, and had been walking with a cane for over a year. On one occasion she fell during a period of dizziness, and the local physician said that she had fractured two ribs.

Examination.—I saw her Oct. 1, 1906. She complained of severe headache, chiefly in the frontal region. She said that she had blind "spells"; and that she was losing her hearing in the left ear; and had very troublesome noises in that ear. Her right ear was normal; with the left ear she thought she could hear a watch when pressed close, but there was no bone conduction. Her vision was, right 20/20, and left 20/20. The pupils reacted to light and convergence; both disks were choked. No hemorrhages could be seen in either eye. The right disk was best seen with plus 6, left with plus 7, but there was 3 D. of hyperopia in each eye. The patient was ataxic, pitching chiefly to the left side, and was apt to strike against the side of the door in passing through. She swayed badly with the eyes closed, chiefly to the left side. The right patellar reflex was retarded; the left was lost. There was some impairment of smell and taste. The Babinski sign was not present. The patient had consulted several ophthalmologists, and had been told she had spinal trouble. One ophthalmologist told her she probably had basilar meningitis. On examination, the urine was found normal.

Operation.—I referred the patient to Dr. Charles H. Frazier, who did a decompressive operation in the left occipital region on October 15. A cyst was found underneath the left cerebellar hemisphere and was evacuated. On retracting the cerebellum, a tumor was found in the left cerebellopontile angle; it was very adherent to the surrounding structures, but was not removed. A small section was taken, however, and examination showed it to be a fibrosarcoma. Following the operation, the patient did nicely, but about two weeks later began to have severe nausea, vomiting, and considerable pain. A second operation was done, and the intracranial pressure was found to be considerable; the dura was slit freely, and the wound closed. For some days the vomiting seemed to be increased. She was very ataxic. She also developed some rise of temperature, which ranged from 99 to 102 F. This soon cleared up, but the vomiting persisted.

Subsequent History.—When the patient was sent back to me on January 7, the right disk measured 2 D., and her left 1 D. She said that she still had periods of vomiting, and staggered in walking; and had some difficulty in swallowing. Vision was better, and her sense of taste and smell had partly returned.

July, 1907: She had but 1 D. of swelling of the disk in the right eye, with vision of 20/20; and congestion only of the disk in the left eye, with vision of 20/15. With her reading glasses she reads J 2. I thought I could detect some beginning atrophy. She still walked with a cane, and said that she did not remember well.

June 16, 1908: The swelling of both disks had disappeared, but there was evidence of former choking, and some deposit along the vessels near the disk, although the vessels were not altered in size. The patient could hear a 512 C fork in left ear for twenty seconds, but had no hearing for watch on contact. She complained of some numbness in her left hand and arm; and that she frequently choked in swallowing liquids.

Feb. 26, 1911: The last time I saw the patient, there was no swelling of either disk, but still some redness, and showed deposit of fibrous tissue about vessels. With her distance correction she sees 20/15 in each eye. She has a little bone conduction in the left ear, but there was no hearing for watch. She has been going about her duties since I last saw her; she works about her farm, but says that she has noticed that frequently she drops things from the left hand, and that her gait has been very unsteady for the last year, and she feels much more confidence in herself if she carries a cane. There is a large hernia cerebri about the size of a small hen's egg at the site of the operation. She says that at times this is much harder, as she expresses it; and that at those times she notices she is apt to be less steady while walking. She still has some trouble about eating; says that liquids no longer choke her, but that solids frequently do. She suffers no pain; is satisfied now that she will keep her vision; is cheerful, and regrets that she did not have her operation earlier.

CASE 7.—*Patient.*—J. D. M., male, aged 23, machinist, consulted me March 25, 1908, for severe headaches, which he stated he had had since boyhood. Recently they have been much more severe; and about three weeks before consulting me he began to have attacks of vomiting. The vomitus, he stated, was bilious. He has not been free from headaches for three weeks, and the pain is referred to brow and occiput. Just before these severe headaches came on he had noticed dimness of vision at times, and occasionally diplopia. The latter was not constant, however, and was more apt to come on when he was tired. There was no nausea preceding the vomiting. He has vertigo, which began about six weeks before I saw him, and he has had dizzy spells daily since. On two occasions he had fallen, when these dizzy spells began, once on the street. After this attack he seemed confused mentally and did not appear well. With the vertigo he says he feels a peculiar sensation in his left hand and arm, like the arm being "sleepy." Patient had not been working for the past six weeks. He seemed slow of comprehension in answering questions.

Examination.—Vision in right eye was 20/15. Patellar reflexes were normal. The patient had a homonymous diplopia. The right disk had 3 D. of swelling, and the left 2 D. The right ear was normal for watch and bone conduction; in the left ear watch could be heard but 10 inches, and whisper 5 feet. I told him of the nature of his trouble. He had denied any history of lues; and on close questioning there seemed to be no specific family history.

Consultation.—I referred him to Dr. Frazier, of Philadelphia, who, in conjunction with Dr. Spiller and Dr. de Schweinitz, examined him. Their opinion was that he probably had a brain tumor, but that an operation was not imperative at that time. It was also suggested that he might with safety wait a little time while a course of mercury and iodid was tried, which was done.

Course of Disease.—The patient soon began to improve; his vertigo and vomiting subsided, the neuritis rapidly lessened; and on examination in the following June he had but 2 D. of swelling in the right eye and 1 D. in the left, chiefly to the upper side of each disk. He complained of some headache, and of deafness in the left ear. He was feeling very much better in every way, was quicker of comprehension; had returned to work, and had not fallen or noticed that he staggered recently. I have examined him from time to time since; and on my last examination, Feb. 26, 1911, Dr. Frazier being at my office, there was no swelling of either disk, but both were reddened. The patient said that he had worked steadily, and had splendid health since being given the specific treatment; and that he had kept it up at times ever since his leaving the hospital. There is no diplopia, and the patient feels that he is cured.

Case 8.—*Patient.*—In June, 1908, I was on my vacation, and was asked by a physician in a small country town to see what he thought was a very obscure case in a child of 2½ years. The child had been ill for several months; had had difficulty in retaining food, had not been able to walk, and an attempt usually brought a fall, more often to the left side.

Examination.—I found the child sitting on the floor, its left hand at its side, spread out on the floor as if in the position of bracing itself. The head was large and undoubtedly hydrocephalic. The child looked fairly well nourished. There was no dilatation of the pupils, and the reaction to light was normal. There was no strabismus. Having no ophthalmoscope with me, and feeling sure that the trouble was central, as the attending physician had suggested, I left some atropin to be instilled; and the next day I again visited the patient with a retinoscope of my own devising—a small toilet mirror, from which I had scraped some of the silvering on the back of the mirror—with which I examined the fundi. I found choked disk in each eye, but was unable to estimate the amount of swelling.

The case occurred some miles from Fort Wayne, and I referred the patient to Dr. A. A. Bulson, who wrote me, under date of July 8, 1908, as follows: "The child has double choked disk, and all the elements of intracranial pressure; is unable to walk or sit up or use its arms. The tendon reflexes are entirely absent. There was but little response to the pupillary reaction, and the family reported some transient facial paralysis, and while the child was in Fort Wayne it developed a partial facial paralysis on one side. Owing to the unfavorable outlook given the family, they took the child to an osteopath, who diagnosed a vertebral dislocation, which he said he could cure. I do not doubt this was a cerebellar lesion, although there seemed to be a general meningeal involvement."

The child is still living but is totally blind; it can recognize different members of the family by their voices. It has occasional convulsions, is helpless and is only able to utter a very few words. The head is extremely large.

Case 9.—*Patient.*—In February, 1908, I was called by Dr. A. W. Booth to see C. Y., aged 55, an accountant. For some months past he had had what he supposed was digestive trouble, and had frequent attacks of vomiting. He also had severe attacks of vertigo, with dim vision lasting from a few seconds to several minutes, at which times he said he had great difficulty in maintaining his balance. He had also noticed for some months past that in walking he invariably deviated to the left; and it was difficult for him to follow an ordinary walk without unconsciously getting to the left side. He had also noticed that at times his legs seemed weak, and that he staggered. The vomiting was expulsive in character, and at times he choked while eating. The vertigo and vomiting had necessitated his going to bed, and if he was lying prone he was much more comfortable; only that at times he had severe vertigo in this position.

Examination.—The patellar reflexes were normal. The field for form roughly taken was normal. There was no paralysis of eye muscles, nor was there drooping of the lids. The movements of the eyes were carried out in a somewhat jerky manner, and the patient was unable to rotate either eye to the left side as far as he could to the right. At times he had some nystagmus when the eyes were rotated to the left. There was no defect in vision in the right eye, and there were no fundus changes. In the left eye, the upper margin of the disk was a little obscure, and there was a little congestion of this disk, but not what one would call a neuritis; vision was normal. Sitting up quickly in bed was apt to bring on vomiting and an increase of nystagmus. The patient had no loss of taste or smell, but was totally deaf in the left ear.

Three years before he had consulted me concerning his ears; and my notes show his bone conduction in that ear at that time was not normal; and his hearing for the watch 10 inches, and he suffered from tinnitis aurium. At this time he did not complain to me of any of the symptoms here given; and thought that inflation several times did his hearing good. He, however, did not return to me for further treatment.

If he was set upright in bed, and especially if taken out of the bed onto a chair, he began to have attacks of typical Jacksonian epilepsy. The attack began invariably in the left hand and arm; then spread to the left foot, and rapidly became general in character, and was of short duration. There was no exaggeration or loss of patellar reflexes. The patient was clear in mind, but was often puzzled to speak the word he wished, and at times his speech was difficult. He had no sensory disturbance or motor paralysis. From his inability to retain food he rapidly emaciated, and died about six weeks after I first saw him.

Necropsy.—The cerebrum was found normal throughout, but the left hemisphere of the cerebellum to the outer side was the site of a large, irregular, softened mass, which on examination was found to be sarcoma.

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ABSTRACT OF DISCUSSION

Dr. Harvey Cushing, Baltimore: A thorough neurologic examination is an arduous undertaking. It means an individual study of hours' duration, such a study as can be satisfactorily made only when the patient is in the hospital under observation for a number of days. Even for a proper investigation of the ophthalmologic conditions alone a long time is required if perimetry is to be invariably included, as it should be in all cases where tumor is even suspected; and when we consider the fact that we must examine not only the other special sense organs with like care, but the functional status of all the cerebral nerves as well as of the cerebrum and cerebellum themselves, the examination of a single case becomes an elaborate and time-consuming matter.

It is wise to follow a definite rule of procedure, so that no individual symptom deserving investigation will be found subsequently to have been overlooked. It would be well if we could all agree on some definite schedule which all would follow. It would greatly lighten the labors of all who feel called on to peruse the records of neurologic examinations if a certain sequence in the record were invariably followed.

We have seen many illustrations of so-called "albuminuric retinitis" in individuals who were subsequently proved to be carrying tumors. We have, contrariwise, seen patients who to all appearances were suffering from brain tumor who were subsequently shown to have nephritis. It is often exceedingly difficult to distinguish the changes in the eye-grounds in the two conditions.

It is interesting that in one of Dr. Voorhees' cases the patient appeared to have these periods of temporary amaurosis as an early symptom of the disease. I had always supposed this to be a relatively late symptom of choked disk. At all events these periods of passing blindness are much more frequent comparatively late in the disease.

We are inclined to agree with Sir Victor Horsley that in supratentorial lesions the choked disk is apt to be greater on the side of the lesion, but this refers to the length of the process rather than to the measurable height of the swollen nerve head. A choked disk which has advanced to the stage of atrophy with blindness due to the new tissue contraction and consequent lowering of the height of the disk may again become elevated with removal of cerebrospinal fluid tension. One must remember, too, that a supratentorial lesion, such as a lateral recess tumor, may exist for years without any change in the eye-grounds, until a slight blocking of the iter may cause a choked disk of high degree to appear abruptly. Again, a pituitary tumor may reach a considerable size and cause primary atrophy alone, but a choked disk will be immediately superimposed as soon as the growth projects into the third ventricle far enough to produce a ventricular hydrops by blocking the foramina of Monro.

So far as the eyes are concerned, the results of operation in the late stages are not very brilliant. The chronic changes and new tissue formation often shut down on and effectually choke the optic nerves; and in a patient who still retains some degree of vision before operation it is heartrending to have the perception of light fade away after a successful decompression which has relieved all the other symptoms. The failure to make careful neurologic studies, such as Dr. Voorhees has given his patients, until vision has been nearly lost, not only may court the disaster of blindness, but may effectually prevent any subsequent possibility of making a localizing diagnosis. This is likely to be so since we are cut off from all recourse to perimetry, and perimetry is often the only possible aid to the localization of occipital and temporal lobe tumors.

With our present means of recognizing, and vigorous measures for combating syphilis, we no longer need to elaborate on the advisability or otherwise of preliminary specific treatment in these cases. The presence of a positive Wassermann reaction justifies delay for a week or two at the most. Vigorous treatment and possibly the use of salvarsan will promptly decide whether the process will lend itself to these corrective measures. In case there is any doubt, provided the eyes are seriously implicated, it is much better to decompress first and institute medicinal treatment later, for many of the fibrous cerebral gummata are notoriously resistant to the usual antiluetic measures. We must not forget, too, that pressure symptoms of certain of the gliomata are ameliorated temporarily by massive doses of the iodids. This fact has proved the source of dire misfortune for many a poor soul actually carrying a removable non-syphilitic growth.

Dr. Sherman Voorhees, Elmira, N. Y.: What has been driven home to me is the fact that these cases come to the ophthalmologist so late, and that they have been treated for all manner of things by their family physicians. If the patient has had vomiting they have done all sorts of things for stomach trouble; and if he has complained of headache he has been treated for headache, and it has been symptomatic treatment all the way through until the time has gone by when anyone can do much. But for that vomiting and for the relief of the extra-mental symptoms that occur late in brain tumor, I believe that decompression is warranted. I have had a number of decompressions done—two just recently—in which the vision failed rapidly after the decompression. It occurs, not because of the decompression, but because of the changes inaugurated prior to the operation; but it seems to come on more rapidly after the operation. The temporary amaurosis Dr. Cushing speaks of I have taken largely from the statements of the patients. In one case the patient said the first thing he recognized was this temporary blindness. He would be walking about or at the table, and would be suddenly seized with blindness, which would clear up. That case had gone on to complete blindness before any neurologist or ophthalmologist had been consulted. It was simply to call attention to some things in the differential diagnosis that I have reported the cases. I have some seven other cases that I mean to report soon. Whether I have seen more than some one else I do not know. I shall ask Dr. Cushing. I am glad that I live close to Baltimore and Philadelphia where I can have the opinions of the best surgeons and neurologists, as I have often done. Dr. Cushing speaks of the side of the greater swelling, and especially of the change, in the nerve-head, as determining which side the lesion is on. In a case which I have had of subtentorial decompression the patient came with a neuritis of the right eye, occupying about seven-tenths of the right disk, with absolutely no change in the nerve-head until about eight weeks following, when there was a neuritis on the left side but with deafness in the left ear. The patient was a woman of 62. At the operation we found a tumor of the left hemisphere of the cerebellum.

Tests of Efficiency for Hygienic Measures.—It is impossible at present to apply direct tests of efficiency to some measures that undoubtedly promote health, says Prof. E. O. Jordan in *Science* (June 2, 1911). The influence of playgrounds, public baths, regulation of the hours of labor in extra-arduous industries and the like is real if it cannot be accurately determined or estimated. Many topics need investigation in order to discover their real bearing on the public health. Among these are such matters as the effect of a smoky atmosphere, the alleged nervous strain due to city noise and numerous important questions in the domain of food adulteration and contamination.

SUBHYALOID AND VITREOUS HEMORRHAGES

A STUDY OF POSSIBLE SYSTEMIC CAUSES *

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This paper is a study of a subject of which we confessedly know very little, and is undertaken for the following reasons: 1. Its importance. 2. The possibility that what I shall call the "new attitude" of members of this Section toward ocular lesions of uncertain etiology may, during discussion, bring out important truths. At any rate, this "attitude" means that oculists are awakening to their own responsibility of tracing systemic causes, not simply making the diagnosis of ocular condition and referring patient and diagnosis to some physician, who, the oculist is often sure, will go no farther.

This mental change on our own part is worthy of emphasis, and if, for the time being, we can do little more than recognize the problems, we should keep their existence constantly before us. Their nature may be briefly stated: Syphilis, tuberculosis, rheumatism are thought to be the most prolific causes of eye diseases. The first is often undiscoverable clinically or in the history of the patient. The same is true of the second. As to the third, excluding gonorrheal arthritis, and limiting consideration to the disease arthritic rheumatism, the average oculist, after years of experience, can probably count on the fingers of one hand the cases of "rheumatic" eye disease which he has observed. Yet when he enters the great *terra incognita* of "chronic" rheumatism, "muscular" rheumatism, etc., cases abound. He cannot define this condition; neither can his confrère, the internist.

Modern methods of studying mysterious eye lesions are based on the use made of laboratory evidence and pathologic results of syphilis, tuberculosis, and what really underlies that group of general symptoms to which the term "chronic rheumatism" has for years been applied, and which, in one form or another, so often are associated with ocular lesions. How study of this sort has taken us into fields we little dreamed of, one can easily see by looking at our proceedings of the past few years. What is true of the three systemic troubles mentioned, is equally true of constipation, menstrual and pelvic anomalies, anemia, malaria, nephritis, pregnancy, etc. In other words, given an ocular condition, functional or organic, not accounted for by the state of the eye itself, it becomes our duty to note everything wrong anywhere, and to determine the effect of this on the eye.

It was in this spirit, and at the request of our Chairman, that I undertook the study herein presented. I felt in the beginning that my personal experience and knowledge were totally unequal to the task. A review of even our newest text-books showed that little regarding underlying conditions is known. The objective appearance of vitreous and subhyaloid hemorrhage is given. Some authors stop there. Others state that the source of the hemorrhage is usually the uveal circulation, with the retinal vessels occasionally responsible. A few, notably, Fuchs, de Schweinitz and Weeks, tell about the reasons for the break in the vessels. But all this is rather suggestive than conclusive, and necessarily so; for it is not the function of a special author to do more than suggest lines of general investigation. In current literature, many cases are reported with nothing except the objective findings, age of patient, etc. In only a few, so far as I have been able to discover, are the reports specially instructive.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Then I decided to turn to men in our own Section, men of large clinical experience, trained observation and judgment, and to ask their aid. They were all busy men, and for their help I wish to express the warmest thanks. Many took the trouble to analyze their cases, while others, with no time to do this, gave, what is just as valuable, convictions based on long observation. I regret that some of the replies have come in only while this introduction is being written, and too late for incorporation in the report. Nor could I, without making the paper inexcusably long, even seek information from all available sources. A few special features were dwelt on in my inquiries: age, condition of the eye, systemic lesions, blood-pressure, fate of the affected eye and of the patient. Some of my correspondents had never seen cases, and one asked what I meant. This is not particularly surprising when one considers that in an article by Serini and Bourdeaux,[1] it is stated that "essential relapsing hemorrhages" appear about once or twice in 5,000 cases. Following are some of the replies I received:

REPORTS OF OBSERVATIONS

Dr. Melville Black, Denver: Youngest patient 21, oldest 72. When blood-pressure was low I usually found dilated heart or auto-infection. With high blood-pressure, arteriosclerosis, incipient and advanced kidney degeneration. Blood-pressure was taken in every case in last eight years, and was less than 110 in 60 per cent.

Ultimate Results:—Glaucoma resulted and enucleation was done in two cases. Young patients with low pressure usually recovered, though one patient had four relapses. General health normal. Older patients with arteriosclerosis, nephritis, high blood-pressure did well or badly according to progress of general disease. Absolute milk diet recommended for reduction of B-P.

Dr. James H. Bordley, Baltimore: *Case* 1.—Female, aged 52, had repeated hemorrhages from 17 to 29; dense hyaloid opacities in right eye, in left, vision = fingers (?). Both lenses, which were clear, were removed and hyaloid needled. Right eye showed proliferating retinitis. Left recovered V. to 10/50.

General condition: Aortic stenosis; blood-pressure 190; nephritis, indicanuria; patient later developed carotid aneurysm.

Case 2.—Woman, aged 56, had vitreous hemorrhages from 18 to 30. Sight completely lost at 40. Lenses cloudy, no light perception in either eye. Aneurysm of aorta, nephritis, indicanuria, tuberculosis of lungs; blood-pressure 220.

Case 3.—Man, aged 45, had been in German army, but compelled to retire at 23 because of repeated vitreous hemorrhages in right eye; right eye was phthisical; left had cataract. After removal, retinitis proliferans was found but sufficient sight remained to enable patient to do moderate laboring work. Blood-pressure 185; casts, indicanuria, albumin, arteriosclerosis; patient reacts to tuberculin.

Case 4.—Man, aged 26; history of lost right eye at 23, retinitis proliferans. In left, vitreous hemorrhage. General condition: Blood, normal; blood-pressure, 110; hard radials, indicanuria; positive reaction to tuberculin, but no clinical tuberculosis. Under tuberculin treatment, and later potassium iodid, hemorrhage cleared and V.=20/30. Several months later it was learned through the mail that the left eye had gone completely blind. Cause unknown.

Case 5.—Man, aged 29, had first hemorrhage at 20 in right eye; several hemorrhages in a few months. Left eye attacked two years later. No hemorrhage for three years. Marked retinitis proliferans, but with sight good enough to enable patient to hold a semiclerical position. Blood-pressure was 115. Patient reacts to tuberculin; there was no clinical tuberculosis; Wassermann negative; marked and persistent indicanuria.

Case 6.—Man, aged 23, had first hemorrhage in left eye at 23; twelve since, becoming more frequent the past year. Tuberculin reaction positive; Wassermann negative; healed lesion at right apex; arteriosclerosis; blood-pressure taken by different men and with different instruments, constantly varied from 120 to 220; urine normal, but for very marked indicanuria. Patient was treated with small doses of tuberculin, two injections of animal serum, and later sent to the mountains, where he did well; gained in weight and had no more hemorrhages.

Bordley reports also having seen several patients with brain tumors, the extravasations absorbing; states that he has seen a great many cases but kept no notes.

Dr. H. B. Chandler, Boston: Four cases recently in private practice, all males, between 25 and 34. Three of them had one eye affected, one both eyes within two years. Nothing else wrong in eyes, and careful physical examination revealed no cause. Tuberculin tests not used, as from Chandler's experience in infirmary, all cases reacted positively. Blood-pressure taken in only one case; abnormally high. Treatment: Iodids, sweating and injection of blood-serum with improvement in vision in all cases.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: *Case* 1.—Man, aged 21, seen four years ago, was blind in one eye from extensive vitreous hemorrhage. Patient was under constant observation for year and a half. He had some fifteen or more hemorrhages during these years, one following the other so closely that for a long time fundal examination was impossible. Eventually the hemorrhages ceased, the vitreous cleared and left 20/15 V., which has persisted for two years. The most painstaking clinical examinations were made without results, save pronounced indicanuria. After clearing of the vitreous, no lesion was found in the fundus.

Case 2.—A healthy young farmer had been under observation a year and had fifteen or twenty hemorrhages, each following rapidly on its predecessor. The fundus has never yet been seen. The man had some hemorrhages while in bed. He left the hospital and returned to his work. Recently he wrote that he had not had a hemorrhage for several weeks and he could read the headlines in the papers. The man has been subjected to rigid clinical and experimental tests, but nothing has been found save a persistent and excessive indicanuria. Both of these patients were treated with diaphoresis, potassium iodid, etc. The reporter thinks the blood came from the ciliary bodies in both cases, largely because there was no evidence of fundal lesion, and the retinal vessels, when uncovered, were unaltered.

Dr. John T. Carpenter, Philadelphia: Patient seen in 1898 (only one in private practice), was a man, 30 years old, with intense neuroretinitis with retinal hemorrhages and exudates, veins swollen and tortuous, followed by recurrent vitreous hemorrhages, leaving vitreous dark. General health was excellent, but patient was an alcoholic. There was family history of gout. Patient was very constipated. Eye was totally lost, and reflex destroyed.

Dr. E. A. Davis, New York: *Case* 1.—Man, aged 30, was first seen for refraction error; V. 20/15 in each eye. A year later patient suddenly lost sight in right eye from vitreous hemorrhage on temporal side. Davis thought the blood came from chorioid, as at the upper end of the hemorrhage near the macula, the sclera showed through. Retina was partially detached at the temporal side and below. V. = fingers at 4 feet. In left eye there was subhyaloid hemorrhage just below macula, with a few fine retinal hemorrhages. V. = 20/20, in spite of lesions. Only systemic abnormality was traces of albumin and a few hyaline casts. Under treatment, nephritis cleared and hemorrhage was absorbed. In the right eye, which first showed extravasations, blood absorbed and retina reattached, with V. =20/30. Later retinitis proliferans with reduced V. = fingers. Left eye retained V. = 20/15 to last observation.

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[1] Arch. d'Opht., March, 1903; quoted in Ann. Ophth., July, 1903

Case 2.—Patient was a woman, married, aged 22. Menstruation did not begin before 21, one year before being seen by Davis. Two days before menstruation V. in right eye was suddenly lost. It gradually returned until it reached 20/30. There was no lesion in the eye. When under observation the left vitreous showed a balloon-shaped hemorrhage V. = 4/200, becoming 20/200 after two months. Hemorrhage was thought to be of chorioidal origin.

Dr. Allen Greenwood, Boston: His patients have been between 20 or 40 years of age. None of them showed fundal or systemic abnormality. He describes the history of one patient as follows: "A watch-maker had over thirty hemorrhages, and frequently only light perception in one eye. The other eye had only one hemorrhage. The thirty-odd hemorrhages occurred during a space of eight years. Five years ago the patient was appointed to the police force, and left his sedentary life for an active one of constant walking. No hemorrhages since out-door work, and the eye of many hemorrhages now has a vision of 20/30, in spite of many vitreous strings."

Dr. E. E. Holt, Portland, Me.: Holt thinks that in most of his cases there has been nothing wrong in the eye save the hemorrhage, and that some form of nephritis was demonstrable in most of them. In a case seen sixteen years ago, with V. = 0.1, treated with "massage and cataphoresis," normal vision returned after a year, and was present fifteen years later. This was observed when the patient, a woman, came on account of a hemorrhage in the other eye, which recovered under the same treatment.

Dr. B. R. Kennon, Norfolk, Va.: Kennon reports having had but one case, in a man whose first hemorrhage occurred at the age of 22. There were opacities from former hemorrhages when the case was under observation. Careful clinical search did not reveal constitutional lesion. Sight was gradually lost, each hemorrhage destroying a little of what was left.

Dr. F. Park Lewis, Buffalo: Lewis has seen very few cases, and these before tuberculin tests, etc., were employed. A girl of 15 in perfect health, so far as clinical investigations indicated, had one single hemorrhage which resulted in retinal scars that damaged vision. She has since grown into robust womanhood. A boy had during adolescence repeated subhyaloid hemorrhages which destroyed the eye; general health remained unimpaired. He has grown to manhood without developing ill health.

Dr. Charles H. May, New York: May reports three cases, patients aged 16, 20 and 36, all males. In all the eye structures were normal, barring the hemorrhages, and careful clinical study showed nothing. Two patients regained normal vision, one after a month, the other in a year. The history of the other is not known. Tests for tuberculosis were not made.

Dr. H. Moulton, Fort Smith, Ark.: Moulton reports a case in man of 60, with constant recurrences during five years, ending in blindness. General health robust at 70.

A second patient, 45, syphilitic, recovered normal vision in three months, and had no recurrence after six months.

Dr. Moulton adds that his youngest patient was 24, and most of them were between 40 and 60. Intra-ocular structures were normal, or, at the most, showed tortuous veins; often circumscribed patches of chorioretinitis. The majority of his patients showed positive clinical proof of syphilis. One case occurred in a cured lung tuberculosis, and no others showed evidence, though tests were not used. Arterial tension was, as a rule, high.

Dr. Brown Pusey, Chicago: Notes on two cases seen during past year. *Case* 1.—Patient was a man, aged 65; eye structures normal. Nothing is given about systemic examinations save blood-pressure, which was 200. Hemorrhage first in right eye, clearing in six months, with normal vision. Same experience four months later in left eye, and a second hemorrhage after same period in right eye. Patient recovered from all hemorrhages with normal vision.

Case 2.—Man, aged 43, seven years previously, had hemorrhage in left eye, which cleared, followed after six months by loss of eye from hemorrhagic glaucoma. First hemorrhage in right eye was one year, and second, six months before observation. Vitreous was full of opacities, and V. = 6/45. Blood-pressure was normal. Tuberculous pleurisy at age of 21. Family history of tuberculosis; office man, always constipated.

Dr. Edgar S. Thompson, New York: *Case* 1.—Man, aged 23; subhyaloid hemorrhage after pole-vaulting. Cleared up perfectly. Nothing in history or general clinical findings to explain hemorrhage.

Case 2.—Man, aged 55, had large subhyaloid hemorrhage in course of albuminuric retinitis. Eye was lost from glaucoma and enucleated.

Some of the men to whom I wrote gave their impressions from observation rather than detailed accounts of cases. Many of these are noteworthy. Bruns, of New Orleans, has seen cases in young adults with nothing else wrong. Some patients recovered, some lost the eyes.

The late Dr. Bull, of New York, thought the subhyaloid variety usually develops destructive chorioretinitis; the vitreous, general hyalitis and uveitis. Patients of both classes are apt to show cardiovascular or renal disease, "if they live long enough."

Callan, of New York, says that in young patients the eye structures are usually normal; in older persons there is arteriosclerosis. He thinks tests for tuberculosis unreliable unless other evidences are present.

De Schweinitz, of Philadelphia, excludes in his letter the hemorrhages in old persons from arteriosclerosis. Others occur between 18 and 30. Intra-ocular structures, he says, are often normal; nothing to account for hemorrhage. He twice discovered patches of chorioiditis. Regarding constitutional causes, he puts first, "so-called auto-intoxication as determined by the tests which I believe to be necessary and which are detailed in my paper on that subject before the Chicago meeting."[2] Tuberculosis, either clinically present or demonstrated by tests, seems to him an important causative factor, but treatment by tuberculin, in at least one case whose record he sent me, was negative. Blood-pressure in these young patients was never high. Most cases went on to loss of the eyes from vitreous exudates, detached retina, secondary cataracts, vascular formation in vitreous, etc.

Ellis, of Los Angeles, says that cases in young people usually resulted in greater or less blindness from such causes as mentioned in de Schweinitz' note. General condition was usually good save for constipation, etc.

Friedenberg, of New York, has no data on tuberculosis. Syphilis was a frequent cause. Anemia with suppressed menses, dysmenorrhea, etc., have been associated conditions. Ocular structures were usually normal.

W. Reber, of Philadelphia, mentions four youthful patients, in three of whom the eye structures were normal. The other showed evidence of sclerosis in the retinal vessels. Three regained normal vision. The hemorrhage in the fourth case occurred while straining at stool.

Risley, of Philadelphia, has seen a few cases in children; thought the vitreous webs and chorioidal patches, which impaired vision, resulted from injury during parturition. Most other cases came in advanced life from cardiovascular diseases. Blood-pressure is usually high in this variety. Risley has never seen cases in which he thought it advisable to use tuberculin tests. Many young and clinically healthy adults recover.

Roy, of Atlanta, seems to have had experience confined to the sclerotic cases in advanced life.

Suker, of Chicago, seems to have had the same experience; his cases usually showed some permanent impairment of vision, attributable to the general condition.

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[2] Tr. Sec. on Ophth., A. M. A., 1908

Thorington, of Philadelphia, says that his patients were usually over 50. They improved only when the condition was due to syphilis. Arteriosclerotic or nephritic changes usually present.

J. E. Weeks, of New York, finds that cases usually occur between 15 and 22. Sometimes small venous hemorrhages in the retina precede subhyaloid or vitreous hemorrhages. Among causes he notes establishment of menstruation, constipation, irregularities of circulation. He has never used tuberculin tests. A girl of 16 lost both eyes from secondary glaucoma. In other young persons hemorrhages have recurred without serious impairment of vision.

To these cases, I add five which have come under my care recently.

Case 1.—Mrs. B., 29 years old, first consulted me in 1899 for asthenopia due to simple hyperopic astigmatism of 0.5 D. at 90°. She wore these glasses till she came to me again in November, 1909, to have them changed, as the eyes tired in reading. Vision, accommodation and muscular balance were normal. In both eyes were found numerous exudates beneath the retinal vessels; small extravasations were in each retina, obliterating the vessels, and careful examination showed small hemorrhages in the vitreous. She was sent to the hospital for clinical investigation. Dr. Gordon Wilson, clinical professor of medicine at the University of Maryland, was asked to make the examination, and I am indebted greatly to Dr. J. W. Robertson, now of Onancock, Va., and then hospital intern, for pains-taking observations. Only the following abnormalities were found: Decided accentuation of the second heart sound, and a transient albuminuria, with a few hyaline casts. The daily output of urine never exceeded 16 ounces. Blood-pressure was, on entrance, 240 mm. All the usual remedies were used without effect. Thyroid extract nauseated at once. Milk diet did the same. After a week I asked Dr. Arthur M. Shipley, of the surgical staff, to do a phlebotomy. He extracted 12 ounces of blood, with a blood-pressure reduction to 195 mm., the pressure returning to the old mark within twenty-four hours. Tuberculin tests, subcutaneous and von Pirquet's, were negative. There was not the least reason to suspect syphilis, and at that time I was not familiar with the Wassermann test. An interesting item in the patient's family history is that five relatives in preceding generations had died before the age of 40 from cerebral apoplexy. The patient went home; my diagnosis of nephritis was denied by her local physician, and we all came in for considerable criticism on account of our so-called "thoroughness;" this being the alleged cause of her equally alleged nervous prostration. The patient, however, lost her sight and a year later died.

This case does not, possibly, in the strictest sense, belong to my subject. Some of the small hemorrhages, however, were in the vitreous. Nor is it proper to draw a hard and fast line between various kinds of intra-ocular hemorrhage. The case illustrates one of the points made by Black in his report: the relation of high blood-pressure to the causative disease.

Case 2.—Mrs. T., aged 67, living in a small town in Maryland, was sent to me in December, 1910, for a change of glasses. Correction of low hypermetropia gave normal vision in each eye. Numerous small hemorrhages were found, apparently in the retina, near the right disk. The patient was not willing to stay in Baltimore long enough for a thorough examination, and I had to content myself with finding traces of indicanuria, not apparently excessive, and a blood-pressure of 220 mm. These findings were reported to her physician. She saw me again in February last. The old hemorrhages had absorbed, and there were many little ones in the vitreous, four to five diopters in front of the retina. The only thing in her history of note is a vesicovaginal fistula which was cured by operation. Outside of her right eye the patient seemed healthy; but I suspected that there was something she was unwilling to tell. I could not impress her with the possible gravity of the case, and she would not allow such tests as I wanted to use. At this writing, April 8, 1911, she is reported "well."

Case 3.—During December, 1910, a physician in country practice, 25 years of age, consulted me for sudden blindness in the right eye, coming on during a fit of coughing. A large subhyaloid hemorrhage covered the right foveal region. The retinal vessels could be traced to their usual visible limit, and were normal. No lesion, save the hemorrhage, was found. The left eye had 20/15 vision, and had nothing the matter with it. I had the patient examined by a competent internist, who gave him a clean bill of health with the exception of a blood-pressure of 210 mm., and "decided indicanuria." The man is an athlete, and looks in superb physical shape. He denied the possibility of syphilis or tuberculosis, and showed no indication of either. He was summoned to his home in the South before tests for tuberculosis could be used. A letter from him under date of March 3, states that the eye previously blind can now read large print, and is evidently clearing. I urged on him the necessity of running down the cause, if possible, but if he has undergone further examinations he did not disclose their result.

Case 4.—A boy, 15 years of age, worker in a wagon factory, came to my clinic at the Presbyterian Eye, Ear and Throat Hospital in October, 1910. He showed a left external squint, and stated that he had lost the sight of this eye some six months previously; that it had gone out suddenly, and he had never had the eye examined. The right eye was normal. Examination showed a cloudy vitreous, numerous large opacities and two or three vitreous hemorrhages, well anteriorly. Toward the nasal side could be seen a beginning retinitis proliferans. This boy was told to enter the hospital, but would not do so. I did not see him again until March. General examination showed nothing wrong save a possible slight splenic enlargement. There was some indicanuria, but no excess. Subcutaneous tuberculin test was followed by a violent local reaction and temperature of 100.5 F. There was no external local reaction in the eye, and I could not judge of the intra-ocular effect, if present. Following is the report of blood examination: Red cells, 4,700,000; leukocytes, 29,600; hemoglobin, 90 per cent.; polymorphs, 80 per cent.; small mononuclears, 15 per cent.; large mononuclears, 3 per cent.; eosinophils, 2 per cent. This is simply an inflammatory reaction. The retinitis proliferans shows increase. The general health seems unimpaired, and the patient is continuing his indoor work "until an outside job turns up." The family history gives no indication of syphilis; so, with positive tuberculous findings, a Wassermann test was deemed unnecessary. The fact that the boy was not in the hospital for a day or two before the tuberculin test must be considered in drawing conclusions regarding the febrile reaction. Blood-pressure, 120 mm.

Case 5.—Mrs. T., aged 29, came to me Nov. 15, 1910, for sudden loss of vision in the left eye. The immediate history was that on November 12 she had gone into the cellar to hunt up a reported leak, and had suddenly found herself in water up to her knees. Two hours or so later she knew that something had happened to her left eye. I found the vitreous absolutely black, save for small areas, down and up, which gave a fair reflex. The patient was subjected to a careful physical examination by Dr. Wilson. She was the mother of two children and had had one miscarriage—her first pregnancy. She weighed 140 pounds and looked in excellent health. Menstruation had always been regular, and she had nursed all her children. Syphilis, tuberculosis and intestinal toxemia were excluded by examinations and tests. She was not menstruating when the eye hemorrhage occurred. For want of better indications in the way of treatment, she was put to bed in the hospital, given pilocarpin sweats and potassium internally. After two weeks the vitreous hemorrhage had cleared sufficiently to enable me to see a large subhyaloid hemorrhage over the fovea, and extending nasally over the disk border. A few smaller subhyaloid hemorrhages were seen at the nasal and lower edge of the disk. All of these gradually cleared, the foveal extravasation being the most persistent, while the disk margins were entirely free after a month. On January 19, the patient had central vision of 8/200, and could trace the perimetric disk in all parts of the field. On February 9 I observed a recurrent hemorrhage over the upper and outer disk margin. Blood-pressure varied between 115 and 130 mm. After the second hemorrhage in February, I urged the patient to have some teeth cared for, to which Dr. Wilson had called my attention as a possible portal of entry for infection. What influence, if any, this had I cannot say; but late in March central vision had increased to 20/100, indistinctly, and there had been no further hemorrhages. As study of the fundus became possible, the uncovered retinal vessels came out normal.

DEDUCTIONS

1. *Results.*—So far as the above collective observations admit of analysis, from the standpoint of results, the following is approximately true: Of forty-eight eyes, twenty recovered with practically normal vision to the time of last observation. Seven obtained more or less improvement, the nature of the residual lesion not being given. Seven developed retinitis proliferans, three of these being totally blind, the others preserving sight enough to do some work. The other fourteen were totally lost, four from secondary glaucoma, one from phthisis bulbi, and nine from causes not specified, probably vitreous opacities, retinal detachment, etc. Seventeen out of the forty-eight eyes were lost.

2. *Recoveries.*—A number of cases in the foregoing reports and in literature, showed one hemorrhage, or recurrent hemorrhages, producing temporary and complete blindness. Then normal vision was slowly restored and retained. Nothing was found in the eye to account for hemorrhage. The source of blood is generally ascribed to the chorioidal vessels. This is based on the facts that the retinal vessels, when they can be seen, as in the subhyaloid variety, show nothing wrong, and after absorption of the blood, the same is true. It is hard to think of normal retinal vessels being responsible for so much hemorrhage. A still stronger reason is found in our knowledge derived from recent studies in chorioidal diseases. We know that many pathologic conditions are associated with exudative chorioiditis. Intestinal parasites, "indigestion," chronic appendicitis, and malaria, may be mentioned. We attribute these ocular lesions to toxins or organisms in the blood, and their manifestation in the chorioid to the large vascular area therein. It is not going very far to imagine the same influences breaking down a vessel and producing hemorrhage. So long as vascular resistance is less than the acting cause, recurrence persists. When the cause is removed, through either intelligent diagnosis and treatment or general hygienic management, hemorrhages cease. Note, for instance, the cases reported by Greenwood and Bordley. Recovery of vision must depend on the harm done by one or more attacks, and recurrence must depend on intelligent or accidental removal of the cause.

3. *Concomitant Systemic Conditions.* — Blood-pressure. Black's remark is apparently borne out by the "returns." When high, it is usually associated with nephritis or arteriosclerosis. In each we have conditions directly calculated to produce hemorrhage through a previous arteritis or phlebitis. Bull believed that such patients always develop arteriosclerosis or nephritis, if they live long enough. One of my own patients was dead in a year of nephritis; yet no one would have made such a diagnosis on this young woman on the urinalysis and symptoms alone—outside of the intra-ocular hemorrhages and blood-pressure. C. S. G. Nagel[3] reports a case in which retinal hemorrhages were the first symptom of diabetes. (I call attention here to the previously expressed opinion that we must not differentiate intra-ocular hemorrhages too closely according to their situation.) The patient was apparently in good health. Nagel notes Leber's observation that retinal diabetic lesions occur only after years, and when emaciation and general decline are present. Webster Fox[4] discusses the relation of high pressure to intra-ocular hemorrhages, and shows the close relation between them and various forms of nephritis. In the article by Scrini and Bourdeaux,[1] the statement is made that these essential vitreous hemorrhages have no prognostic effect on general health. I think that this statement is to be accepted with allowance. Nagel's diabetic, and my first case are illustrations. My third belongs to the class which must be regarded with concern. Something caused the high arterial tension, and the fact that we do not know what it was in no way proves that it is not serious. I cannot extend the paper to quote other authors, but I am convinced that these hemorrhages, accompanied by high pressure, ought to be regarded as a possible early indication of chronic nephritis. But they occur, too, with low pressure. Black expresses the opinion that dilated heart or auto-infection is at the bottom of these. We still have the dilated heart to account for. Usually some systemic infection precedes this. Of course, the passive venous congestion might be a mechanical cause. As to auto-infection, i. e., absorption of either the organisms themselves or toxins, which might act deleteriously on small or terminal vessels, I believe that here we are approaching the main etiologic factor in most cases, and that careful search for the nature of the infection may often lead to the diagnosis of a condition giving no other symptom.

Axenfeld and Stock[5] report a case of a woman, 30 years of age, with a vitreous hemorrhage of the right eye. The left eye was normal; but several weeks later a grayish-yellow exudate appeared in the periphery of this eye. There was also a perivascular exudate along a retinal artery which ran toward the chorioidal focus. There was both general and local reaction to tuberculin in both eyes. "During the treatment with small doses of tuberculin the foci in the chorioid and perivascular exudate completely disappeared, and in the right eye, in which in the meantime an indolent posterior synechia appeared, the vitreous cleared. One must accept that in this case a chronic tuberculous uveitis had begun with the appearance of a simple hemorrhage in the vitreous, which surely had arisen from the retinal vessels." It seldom happens that one can observe such a sequel of events in these cases.

De Schweinitz and Holloway[6] report a remarkable case of retinal hemorrhages in a boy of 20, who gave a positive reaction for tuberculosis. The late Dr. Kipp, of Newark, reported an instructive case[7] in this connection. I call attention to my fourth case, which showed positive tuberculous reaction without symptoms outside the eye. Such observation seems to me to show that these cases, even if the eye gets well, must always be viewed with suspicion, and that it is best to treat them as though the diagnosis was made. Greenwood's policeman (given in this paper), and Bordley's sixth case are examples.

Indicanuria plays a large rôle in these concomitant systemic conditions. There is, I know, discussion regarding its value as a diagnostic sign; but its persistent presence in excess is generally thought indicative of disturbance of metabolism. It was observed in most of Bordley's and in Bulson's cases. It was seen in my series, but not in sufficient quantity to make us think it significant. In another[3] it was abundant.

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[3] Nagel: Ophth. Rec., October, 1904; abstr. in Ann. Ophth., January, 1905.

[4] Fox: Ophth. Rec., October, 1908.

[5] Axenfeld and Stock: Klin. Monatsbl. f. Augenh., January 1911, p. 28.

[6] Univ. Penn. Bull., March, 1910.

[7] Arch. f. Ophth., v, 38.

The frequency of obstinate constipation in the description of these cases leads one to think that indican would be found more frequently if always looked for. It occurs without reference to blood-pressure. Where the pressure was high, as in Bordley's cases, there were other conditions, usually renal, to account for it. The close association of indicanuria with functional and organic uveal lesions has been presented to this Section too recently to need repetition. Vitreous hemorrhage, with tuberculosis (sometimes clinically undemonstrable) shows that this form of infection can produce vascular diseases in the eye. Indican in the urine means intestinal putrefaction, and this means not necessarily absorption of putrefactive toxins, but malassimilation, allowing absorption of other toxins, which, under better conditions, the system might avoid. Here we come against other concomitant conditions. Anemia, unless essential, must have a cause. Dysmenorrhea, amenorrhea, unless due to local conditions, often admit of an explanation which involves nutrition. They are but symptomatic of the same disturbance which causes the intra-ocular hemorrhage, and are not themselves a cause.

To discuss treatment of these hemorrhages is impossible, save to say that for the most part oculists have been using diaphoresis, the iodids, etc. With the natural tendency to absorb, it is hard to estimate the value of these remedies. It seems to me that we should view these cases about like this:

1. In older people, i. e., persons over 50, we usually have signs of arteriosclerosis, and if they are not present, the hemorrhage itself is evidence. Eliminating special causes of vascular changes—syphilis, nephritis, etc.—we have to manage, as best we can—or the internist has to manage—the vascular changes. Along this line, we shall get our best results.

2. In young people, whether there is a single hemorrhage or many, we are probably dealing with some infection or disease capable of producing vascular changes. High blood-pressure throws suspicion on the kidneys, whether or not there are other symptoms of nephritis. Anemia, menstrual disturbances, etc., are but symptomatic of malnutrition probably due to an infection. This may be tuberculous, and may be of some other kind, brought about through defective metabolism. Its presence and nature is to be determined by rigid laboratory examinations.

3. Even when we can find no cause, and have to resort to the "alterative" treatment, we should bear in mind that the cause has not been determined; that it is usually of a serious nature, and that it is well to give the patient the benefit of doubt with regard to the three causes apparently most apt to be found—tuberculosis, defective metabolism, nephritis.

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ABSTRACT OF DISCUSSION

Dr. W. H. Roberts, Pasadena, Cal.: I am not prepared to discuss the etiology of this class of troubles, but I wish to report two cases, each with a distinct tuberculous history.

Case 1.—Miss J. F. N., aged 64, came under my care Feb. 21, 1902. She had lived in California for several years and had recovered from a pulmonary tuberculosis. Vision O. S. had suddenly been reduced to counting fingers at five feet, and the vitreous was too full of blood to permit of a view of the fundus. Fundus O. D. normal; O. D. V. with correction 6/5. Later when the media of O. S. cleared, an almost complete detachment of the retina was found, and this eye has had little more than light perception since. January 16 of the following year she had hemorrhage in her right eye, mostly in the nerve-fiber layer, but some blood escaped into the vitreous. This was the beginning of a series of small hemorrhages occurring in this eye extending through a period of over seven years. She has had two partial detachments of her retina to the nasal side of the disk, which have readhered. The patient has been under constant observation for over nine years. She has been an ideal patient in every respect, obeying implicitly all orders, and is now in good physical and mental condition.

Case 2.—J. F. B., aged 20, was first seen Sept. 27, 1910. He was in a sanitarium for pulmonary tuberculosis. He had noticed black spots before each eye for some two months. At this time the periphery of each retina showed flame-shaped hemorrhages, mostly about the veins. Dec. 14, 1910, he had two subhyaloid hemorrhages below the macular region of the left eye. His blood-pressure has never been taken, but the coagulometer has shown very slow coagulation; hemoglobin 95 per cent. He was placed on calcium lactate but the hemorrhages persisted in recurring, and the coagulation of his blood continued to be tardy. Then as the hemorrhages seemed to come from the retinal veins, he was given fluid extract of hamamelis with immediate cessation of all hemorrhages up to the present time.

Dr. Adolf Alt, St. Louis: I have had occasion to examine a good many patients with hemorrhage into the vitreous, but only once have I seen an eye in which there was a diagnosis of subhyaloid hemorrhage in the macular region; and since Dr. Woods made the statement that the hemorrhage came from the ciliary veins, in my case it came from a retinal artery. The hemorrhage concerned chiefly the space between the retinal and the hyaloid. However, there was some hemorrhage in the nerve-fiber layer. I think in most cases the hemorrhage comes from the retinal vessels and not from the chorioidal or ciliary vessels. In all the cases I have seen there has been disease of the blood-vessels themselves.

Dr. Melville Black, Denver: Dr. Woods touched on a point that seems to me important concerning these hemorrhages, and the remarks of Dr. Alt suggested a possible explanation. We sometimes have subhyaloid hemorrhages which run into hemorrhagic glaucoma, and I think possibly the most rational explanation of these hemorrhages would be that they come from the ciliary region. I saw a woman about two months ago who had a very large vitreous hemorrhage, so large, as a matter of fact, that no light reflex whatever could be obtained, and it was difficult to say that it did not occupy practically all of the vitreous space. I saw her just before I left for this meeting. She came in with a steamy cornea and a tension by the tonometer of plus 3. She suffered pain and some vomiting and was in great distress. A good many of these cases of vitreous hemorrhage are subhyaloid hemorrhages terminating in hemorrhagic glaucoma, one of the most serious conditions that we have to contend with. I have seen several of these cases and in every one there has been a general autointoxication along the line suggested by Dr. Woods. In this case a very careful laboratory examination was made and it was found that certain excretory products were not being properly eliminated. In view of this fact this woman was placed on a glass of buttermilk every two hours, with a very plain vegetable diet. Nothing is hoped for from that treatment on the offending eye, but what is going to happen to the other eye? Patients should be put in a position in which there is no likelihood of a similar accident happening to it. The low blood-pressures have interested me for a good many years in connection with this question and it is very difficult to say what would be at one time a normal blood-pressure and at another time a low blood-pressure. If in a person with a blood-pressure running 140 it should drop to 100 or 110 it becomes an important matter, because it is a very low blood-pressure for that particular person. The low blood-pressure together with the factors that are back of it may get the patient into trouble. I do not think, however, that we should take the blood-pressure as anything more than an index, or rather a danger signal to the conditions which are influencing the blood-pressure, and we as ophthalmologists are very poorly qualified to go into the necessary laboratory findings to get to the bottom of these troubles. We must have some one to do that in the most scientific and advanced manner possible, and by systematically following up these cases I believe we will have a very decidedly better understanding of the etiology and pathology and treatment of these conditions.

Dr. Edward Jackson, Denver: One way in which low blood-pressure may be a cause of hemorrhage is through thrombosis. A very low blood-pressure has been associated with forms of intraocular hemorrhage and other hemorrhages also, and it has been suggested that, when there is thrombosis in the small veins, hemorrhage follows. While this does not apply to recurrent hemorrhages, it is a possibility that might be borne in mind in any intra-ocular hemorrhage when we see the patient for the first time, for temporary causes may have produced a hemorrhage entirely apart from tuberculosis, syphilis or arteriosclerosis. I have in mind the case of an engineer, a healthy man, who came to me with a very clear explanation in his own mind of his intra-ocular hemorrhage. He said he had always been particularly subject to the influence of tobacco. He was one evening in a small room which got very thick with smoke, and he became markedly nauseated and had to get out. He did not vomit. There was no straining. After going out into the street, when he saw the street light, he saw a little drop coming down in front of his eye and the next day presented himself with a very typical subhyaloid hemorrhage in the macular region. Absorption was complete and vision was restored to normal, but he was very clear in his explanation, and I never could find any more probable explanation of that hemorrhage than that it was the temporary influence of the nausea producing the hemorrhage from a retinal vessel. I cannot conceive of such hemorrhages, which are sharply outlined in the retina, as having come from the advanced ciliary vessels.

Dr. William F. Mittendorf, New York: The most serious cases are those in which the entire vitreous chamber is filled with blood. The vision, of course, is completely obscured. We cannot see any of the details of the fundus. I should like to mention here that one of the best remedies in my hands has been pilocarpin in very small doses, continued, in combination with massage. I have cleared up a good many cases by this means. Unfortunately in many of them the destruction of the vitreous humor and the interior of the eye is so complete that they resist all treatment. Fortunately, however, in the great majority of cases it is only one eye. The good eye does not necessarily follow the same course. I have observed cases of this kind for years in which one eye only suffered.

Dr. Carl S. G. Nagel, San Francisco: I should like to ask the essayist whether he has tried in these cases fibrolysin-thiosinamin. I know it is a drug somewhat discredited, but recently there has been published in the *Zeitschrift für Augenheilkunde* an article reporting results which were decidedly striking. Apart from that the doctor has been quoting a case of my own in the literature, and I should like to add with regard to subhyaloid hemorrhage and refer to a few points I made in a report in Wurdemann's *Ophthalmology* a few months ago. The wife of a physician suddenly lost her vision in one eye. An oculist was consulted and gave a bad prognosis on account of the hemorrhage in the macular region. This was a typical case of subhyaloid hemorrhage with a typical scotoma of umbrella shape. The patient recovered, as these patients generally do. I can remember four or five cases of that sort that I saw while in Uhthoff's service. There was a distinct history of articular rheumatism which had led to ankylosis of one elbow. Without throwing much light on it, the most interesting point seemed to be that this had occurred in one eye during the beginning of the menstrual period, and with the next menstrual period a very slight hemorrhage occurred in the other eye, the first eye having almost completely recovered in the meantime. Now in the second eye it would have been impossible to make out from the ophthalmoscopic picture in what layer the hemorrhage was, although the woman had a slight, indistinct scotoma; but having the experience with the other eye she could have observed it perhaps more distinctly than otherwise. But that led me to believe that these hemorrhages do occur sometimes in very slight form as in this case, and are overlooked or not rightly interpreted. I thought it might be possibly functional from the form of the scotoma, which, of course, will be inverted, occurring behind the nodal point. In this case the woman was intelligent. It struck me that it might be possible to use this feature of the inverted figure of the scotoma to the hemmorrhage to make out the diagnosis.

Dr. H. W. Woodruff, Joliet, Ill.: I wish to ask Dr. Woods if he has ever found hemorrhages in other portions of the body associated with these subhyaloid and vitreous hemorrhages? It has always seemed strange to me that subconjunctival hemorrhages are so exceedingly common that we almost never find any symptoms of general disturbances, and are in the habit of looking on them as of very trivial importance.

. People come to us with a history of waking in the morning and discovering this appearance in the eye. I once had a case of subconjunctival hemorrhage in a young girl without any history of cough or traumatism of any kind. Associated with it was a small hemorrhage in the retina. She recovered without any subjective disturbance of any kind. Perhaps Dr. Woods has had experience in similar cases.

Dr. C. D. Wescott, Chicago: I have seen a number of cases such as Dr. Woods has described, and in my experience the patients past middle life who have these hemorrhages have arteriosclerosis, and the hemorrhages are easily attributed thereto.

In the younger patients it has been practically impossible for me or the internist to find out why they occur. Auto-intoxication, I believe, is present in many of these cases, but we do not know how auto-intoxication may cause retinal hemorrhage. Dr. Woodruff's point in regard to hemorrhages in other parts of the body is important, and I feel that we should warn these patients that a general examination is imperative. I think this paper points very strongly to our duty in all cases in which we find any alteration in the retinal circulation, to have the blood-pressure taken, and if it is found high to have a general examination; that the patient may have his life so regulated that he may not have subsequent hemorrhages into the retina, or, perhaps, apoplexy, which has followed so many of these cases of hemorrhage in the eye.

Dr. F. T. Rogers, Providence, R. I.: I wish to call attention to the difference between an exciting and a predisposing cause. I have seen two cases recently in which the predisposing cause was unknown, but the exciting cause was evident. One was the case of a lighthouse keeper who has had three attacks in the last year, and each one has come on within a few minutes of lighting the lamp. In another case the man was an electric light tester. It seemed to me that the exciting cause was the sudden impress of an exceedingly bright light.

Dr. John E. Weeks, New York: We have a class of cases of hemorrhage into the vitreous occurring in young individuals that is unsatisfactory as far as etiology is concerned. These cases may affect one or both eyes. The hemorrhages are recurrent. I have seen two such cases in my practice. One I referred to in writing to Dr. Wood. In this case both eyes were lost in spite of everything that we could do so far as therapeutic measures were concerned. It was necessary to remove one eye because of secondary glaucoma. The patient was a girl 17 to 19 years of age, apparently in good health, except, perhaps, that she was somewhat anemic. The hemorrhages began in the right eye. She was under my observation at least two years, and the hemorrhages were recurrent, large masses of blood appearing in the vitreous from time to time. The eye that was enucleated I removed myself. I examined it microscopically and found the remains of hemorrhage into the vitreous in the form of fibrinous masses which had become somewhat changed by age. I have never found any satisfactory explanation of the etiology in these cases occurring in young individuals. Of course those occurring from disease of the blood-vessels as in arteriosclerosis or in syphilitic affections, we know perfectly well about. They precede apoplexy, as Dr. Wescott has said, in not a few cases in apoplexy; but, regarding the cases that occur in the young we would like to have some further information.

Dr. A. E. Bulson, Jr., Fort Wayne: Dr. Woods undertook the study of this subject largely through suggestions from me. I have had during the past sixteen or eighteen years a number of cases of subhyaloid hemorrhage in the young, and they have been extremely puzzling to me and a source of a great deal of annoyance and uncertainty as to the outcome. The point which is of most importance is the etiology. When we can exclude kidney disease, arteriosclerosis, tuberculosis, syphilis and rheumatism we have very little left on which to found a diagnosis, and particularly the etiology. Some of the patients under my care have been where I could watch them for a period of years. Most of them have been in young farmers, and strange as it may seem, most of them have been in males. One man in particular was in the hospital for several weeks. During that time he was under constant observation by several of my confrères, including a very competent pathologist and bacteriologist and an internal medicine man. The man was given a tuberculin test, he had the Noguchi test, his blood was repeatedly and thoroughly examined, and we exhausted our means of arriving at a diagnosis. He was given potassium iodid internally, pilocarpin, salts, dionin both subconjunctivally and by local application, laxatives and cathartics, limited diet, and his blood-pressure was taken without discovering any blood-pressure which would lead us to suspect that increased pressure was responsible for the hemorrhage. During the time this man was under treatment and in the hospital he would have hemorrhages in the middle of the night while asleep; he would have them before breakfast; he had at least eight or ten in the hospital while under treatment, and it became a perplexing problem. The man returned home. He was carefully instructed concerning his diet and his duties; advised not to engage in any very laborious occupation. He soon discovered that it did not make any difference whether he pitched hay or rested under a shade tree, he had the hemorrhages just the same. The strange feature about this case was that when it cleared up he had 20/20 vision and there was not a single thing in that retina. Now in that case of retinal hemorrhage it seems to me there would be some evidence of it, and when we take into consideration that the fundus would be absolutely black and that we could not see the faintest red reflex for a period of two to three or four or six weeks, it certainly is strange that eventually it would clear up and he would have normal vision. This would occur again and again. This man has written me repeatedly. I intended to forward several of his letters to Dr. Woods. The letter would go something like this: "I haven't had a hemorrhage for three weeks. I can see to read and can see perfectly for distance. I hope it will continue, but the experience of the past would seem to indicate that I cannot hope for this vision very long." Perhaps in the course of a week I would get another letter which said: "Well, I have had another hemorrhage and I can't see anything." I exhausted all my resources and did not know what to do any more. It was with a view to determine the etiology that I asked Dr. Woods to take up the study. These cases were examined by me and my confrères, and we called to our aid competent internists, pathologists, etc. The only thing that I could find was a persistent, high indicanuria. I have not given the tuberculin test in all of them. I suspicion that possibly tuberculosis may play some part. The Noguchi has been given in several of them notwithstanding there was nothing to indicate that there was anything specific. In each instance it has been negative. To me these cases are a source of great interest. We did not try the injection of normal serum in that case.

Dr. William Zentmayer, Philadelphia: It seems to me not enough emphasis has been laid on the fact that there are two distinct varieties of cases here dealt with. It always appeared to me that recurrent hemorrhages and subhyaloid hemorrhages are different things. My experience is that the recurrent hemorrhages occur in young individuals, sometimes in one eye, more frequently in both, and that they lead to a peculiar proliferative inflammation which gives a bewildering ophthalmoscopic picture. We cannot with certainty locate the disk and see several layers of white, interlacing sheets. The subhyaloid hemorrhages occur in older persons; there is usually one, and in one eye. In the first class of cases the hemorrhage seems to come from the ciliary body. In the second class they most assuredly come from the retina. That has been proved. I cannot remember the authority; but in every case of the second variety the hemorrhage was traced to the retinal vessels. It came from any layer; not always just the anterior layer. It seems to me, therefore, that we have here to do with two distinct classes of cases.

Dr. Edgar S. Thomson, New York: The late Dr. C. J. Kipp, who was a careful and accurate observer, told me he had seen one of these hemorrhages occur. It was in a patient over 50, and there were a few retinal hemorrhages. Dr. Kipp was examining him with the ophthalmoscope when he saw a retinal vessel burst like a garden hose, and the interior of the vitreous was flooded with blood immediately.

Dr. William F. Mittendorf, New York: I should like to ask Dr. Woods whether or not he has thought of the hemorrhagic diathesis, in cases in which the etiology is obscure?

Dr. Hiram Woods, Baltimore: Dr. Roberts speaks of detached retina. A detached retina is a result in quite a number of these cases that have been reported in the literature, and retinitis proliferans is another common result; the fibrosing result described by Dr. Zentmayer also. The detached retina brings up the source of the hemorrhage. So far as I can find out there is no very definite proof one way or the other as to just where it comes from. Fuchs in his textbook seems to lean toward the retinal vessels as the source of the hemorrhage. On the other hand other authorities take a different view. I thought I quoted Dr. Weeks correctly about the uveal origin, and de Schweinitz, Berry and others put the hemorrhage in the uveal tract. The fact that retinal detachment follows would rather look like the hemorrhage came from the surface beneath that. Now one of the cases I allude to here occurred in a woman who was perfectly healthy, 29 years old; but it absorbed. Dr. Mittendorf spoke about diaphoresis. She was given diaphoretics. The blood-pressure was 125 and nothing was found in that line. Under the diaphoresis and purgations a second hemorrhage occurred while the patient was in bed, as in Dr. Bulson's case. Later on she was given over to one of the best internists. He said to me, "That woman has bad teeth, and she is getting infection from some source. The teeth are all I can find and you had better have them attended to." There is no doubt that after a disgusting pyorrhea had been cured by the extraction of some necrotic teeth improvement went on steadily. I do not give that as the cause; what I am giving is the associated facts. This woman while in bed under diaphoretic treatment had three hemorrhages and when we discovered and treated the pyorrhea there was a steady improvement to normal vision. Whether that was the cause the future only can determine. Dr. Mittendorf speaks of one eye being usually affected. I think that is generally the case when we have any serious trouble of this kind. It is certainly the case with relapsing exudative choroiditis. A second attack will come in the same eye as a rule, and not in the other eye.

I want to express my approval of the view some have taken of these subconjunctival hemorrhages. I have in several cases found a little peripheral exudate that Dr. Woodruff spoke of; but de Schweinitz found that out some years ago. The necessity of recognizing subconjunctival hemorrhage is a matter of importance. Dr. Mittendorf's second question, as to the hemorrhagic diathesis may be answered by saying that I have not seen hemorrhages in other parts of the body; there was no leukemia or defective hemoglobin. They occurred in young people apparently in ideal health, except for the indicanuria and the pyorrhea, and, in one case, the positive tuberculin test. Dr. Rogers speaks of the predisposing and the exciting causes. In Dr. Thomson's case a young athlete who had been doing all kinds of stunts for years, once in a pole-vault had a subhyaloid hemorrhage. What made him have the hemorrhage that time? It cleared up and he had no more. Some exciting cause does come in, but I am unable to tell what it is. I am only trying to find out the concomitant conditions that might act as causes, and I think the persistent turning up of tuberculosis and indicanuria, etc., we will find are possible causes in young persons. Of course, as Dr. Weeks says, we have got to differentiate these from the cases in older people with arteriosclerosis. Dr. Zentmayer thinks the subhyaloid hemorrhages do not recur. That has not been my experience. I have seen them recur in young persons. I think the vitreous hemorrhages are more common, but in this particular case of the young woman of 29 with the pyorrhea she had two recurrences of subhyaloid hemorrhage and only one definite large vitreous hemorrhage.

AN ESOPHAGEAL DILATOR AND AN ESOPHAGEAL SOUND

WILLIAM LERCHE, M.D.
ST. PAUL, MINN.

In a paper previously published,[1] I described a cutting operation for the cure of strictures of the esophagus, performed through the esophagoscope.

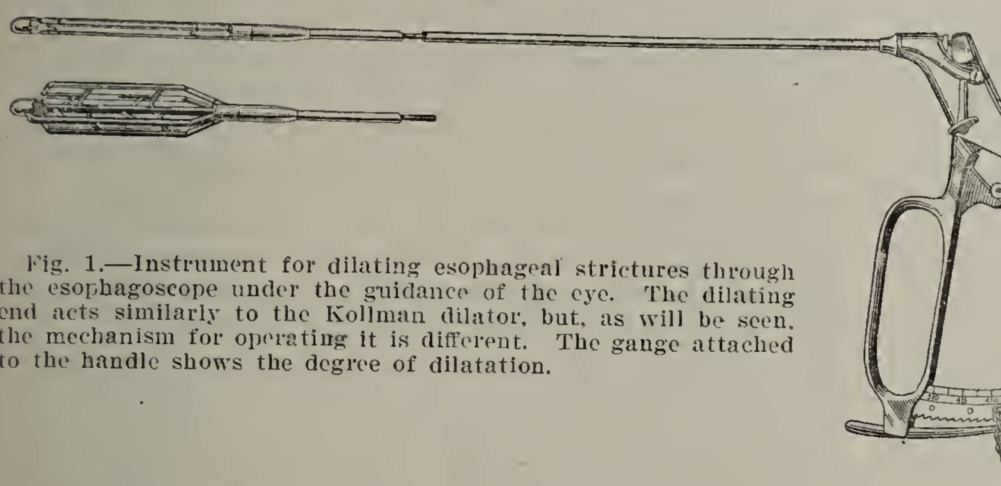

Fig. 1.—Instrument for dilating esophageal strictures through the esophagoscope under the guidance of the eye. The dilating end acts similarly to the Kollman dilator, but, as will be seen, the mechanism for operating it is different. The gauge attached to the handle shows the degree of dilatation.

Figure 1 shows an instrument which I have devised for the purpose of dilating the stricture through the esophagoscope, under the guidance of the eye, in the same sitting after the incisions have been made.

The circumference of the dilator when closed corresponds to 16 of the French scale, and its maximum expansion is 50 French, as indicated by the scale on the handle. A metal peg is inserted into holes on the scale-plate to limit the expansion to the extent desired. The dilator is used like a glove-stretcher to dilate the stricture gently by alternately expanding and relaxing the instrument, and changing its position now and then by rotation. By this method the stricture can be dilated rapidly in one sitting without removing the esophagoscope.

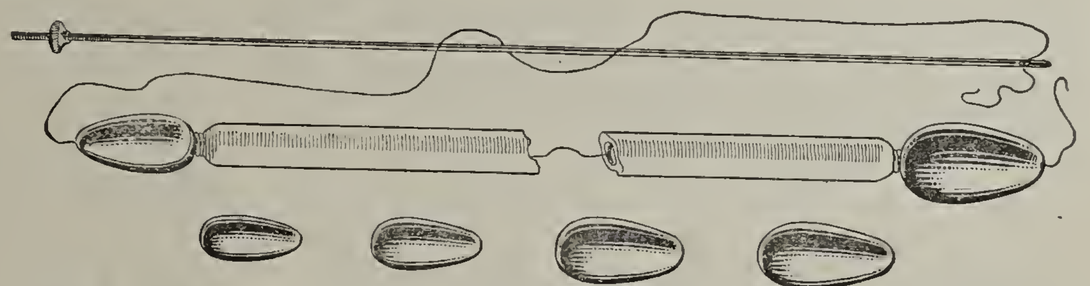

Fig. 2.—Esophageal sound, consisting of a flexible shaft of spiral steel wire covered by a rubber tube. Olives of different sizes may be screwed to each end; shaft and olives are perforated longitudinally so that the sound may be threaded on a guide if desired. A steel wire with an eye in one end, which is also shown, is used for pulling a silk thread guide through the sound. The wire may also be used for making the instrument more rigid.

The esophageal sound (Fig. 2) consists of a flexible shaft of spiral steel wire which is covered by a rubber tube. To both ends of this shaft can be screwed olives of different sizes. The shaft and the olives are perforated throughout in the long diameter in order that the sound may be threaded on to a guide if desired. Figure 2 also shows a steel wire with an eye in one end used for pulling a silk thread guide through the sound. The cut shows the wire with the silk thread guide after it has been pulled through. The steel wire, when inserted into the sound, also serves the purpose of making the instrument more rigid if required.

I have used this sound for several years, after first having tried the sound described by Jamison in 1825, and which of late has again come into vogue. In the latter the shaft is flexible at the end near the olive, but the olive only is perforated for the guide, and this at an angle to its long axis. I found that if a piano wire or a filiform whalebone bougie was used for a guide, this would easily become jammed in the olive, while if the guide runs through the whole length of the sound this difficulty is obviated.

412 Lowry Annex.

A METHOD OF FIXATION OF VEIN TO FACILITATE THE INTRODUCTION OF A NEEDLE FOR INTRAVENOUS INJECTIONS

J. J. WATSON, M.D.
COLUMBIA, S. C.

The difficulty, and sometimes impossibility, of introducing a suitable needle into a vein has been encountered by every one who has many times made the attempt, and the necessity of exposing the vein became unavoidable.

I have used the procedure described below a sufficient number of times to test its efficacy fully, seldom having failed to enter the vein on the first attempt.

TECHNIC

The arm is corded above the elbow if the vein is small or the subject fat, thereby rendering the vein prominent. The vein is then anchored by a medium-sized sewing-needle passed through the skin and upper quadrant of the vein at right angles to its axis; the hemostat or needle-holder used to insert the needle is taken off and clamped on the point side of the needle about one-fourth inch from the vein (Fig. 1).

The hemostat is gently lifted with the left hand, if the operator is right-handed, the upper wall of the vein being thereby elevated with the skin. The hollow needle is introduced into the vein almost parallel with the axis, with the right hand (Fig. 2).

Figure 3 shows a slightly exaggerated result of the ordinary effort of introducing the needle into the vein.

By my method no fluid will go into the tissues if the flow from the needle is stopped (after the air is expelled) just as it is plunged into the vein. There will be no bleeding if a piece of sterile gauze is pressed over the vein and held there for half a minute as the needle is withdrawn. Cover the three small punctures with collodion and the procedure is completed.

One is surprised at the comparative ease of execution of this procedure and the absence of discomfort to th patient. I have had patients use a fan with the arm five minutes after the needle was removed and they subsequently experienced no inconvenience.

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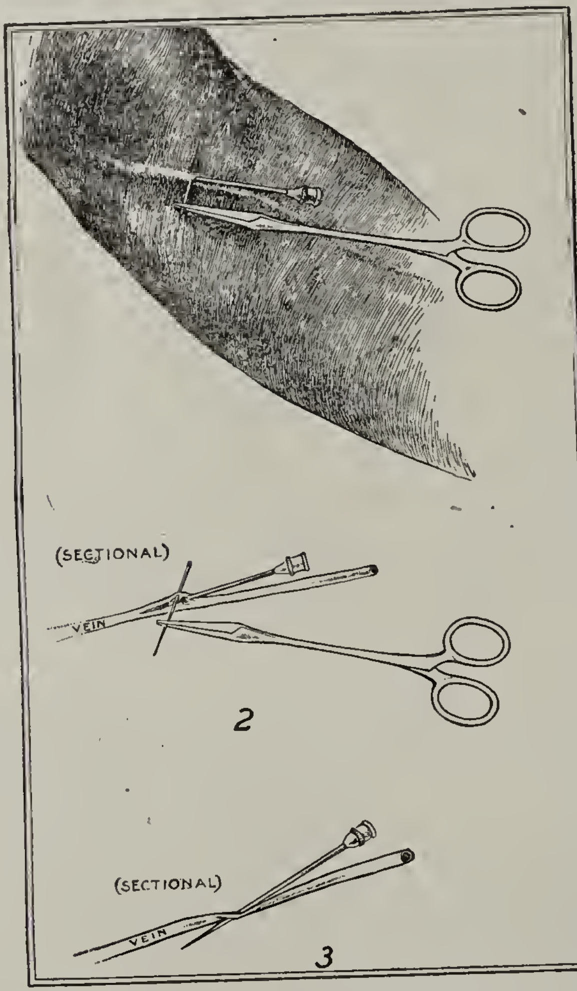
[1] Surg., Gynec. and Obst., October, 1910.

If it is desired to abstract blood, cord the arm and insert the needle, allow as much blood to flow as is desired, and then remove the cord, needles, etc.

I am now using this method for obtaining blood for the Wassermann reaction. I wish to acknowledge my indebtedness to Mr. Brantley Smith of the staff of the *Columbia State* for the drawings accompanying this article.

1312 Blanding Street.



Figs. 1, 2 and 3.—No. 1 shows the method of transfixing and raising the vein with a sewing-needle and holding it in the elevated position by means of a hemostat. The infusion needle is shown inserted into the vein beneath the transfixing needle. No. 2 shows more in detail the method of fixation and the insertion of the needle. No. 3 shows what frequently happens in attempting to insert the transfusion needle without first fixing the vein.

SPONTANEOUS RUPTURE OF THE SUPERIOR VENA CAVA WITHIN THE PERICARDIUM

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History.—The patient, a woman aged 53 was first seen on the evening of June 7, 1911. She had been combing her hair, preparatory to going out, when she suddenly became weak and faint, so much so that she went to bed and called a physician. When seen at 7:30 p. m. she was in a state of profound collapse; conscious, with face pale, and covered with cold perspiration. Her extremities were cold, and her legs had lost sensation and the power of motion; she could move her arms. Pupils responded to light and accommodation and were equal in size. The patient suffered from air hunger, and felt a pain in the left axillary line on a level with the nipple. Her temperature was 97.5; pulse 45, weak and thready. Heat was applied and strychnin and nitroglycerin administered.

At 12 o'clock, the same night, the extremities were warmer. The patient could move her right leg, and color had returned to her lips and ears. She still complained of air hunger. Pulse was 60, slightly stronger but intermittent.

June 8, 9 a. m., patient had slept quietly after ⅛ grain morphin hypodermically. Color was still improved; temperature was 98; pulse was 85, irregular in volume and rhythm. The patient could move both legs, but she still had pain in precordial region extending to left midaxillary line. She also suffered from flatulency. Calomel was prescribed and strychnin continued. During the day her bowels moved and urine was voided, dark and diminished in quantity. At 8:30 p. m. the patient had taken nourishment. Pain was felt in same region but not severe. Pulse was 90, irregular and of fair volume.

June 9, 9 a. m., the patient had passed a fair night; general appearance was improved; the temperature was 98; pulse was 90 and irregular. Respiration was 20; the patient had a mild but continuous pain.

At 9:45 a. m. she suddenly expired, while the nurse was bathing her. The patient was the mother of three children, had not consulted a physician in twenty years, and up to the time she was stricken she had supposed her physical condition to be normal.

Necropsy.—The patient was a woman apparently sixty years of age, fairly well nourished, abdomen distended, and rigor mortis present. There was some free fluid in the abdominal cavity, and marked ptosis of the stomach and the transverse colon. The liver was much enlarged, and ptosis was such that the right lobe extended well below the crest of the ilium. Blood oozed from the cut sections. Veins of the portal system could be easily traced by their intense congestion. Enlargement of spleen was not pronounced. Kidney capsules were easily stripped, and there were no disease changes apparent. Appendix, ovaries, tubes and uterus were normally atrophied. Nothing abnormal was found in the lungs or pleural cavity. The pericardium, on careful opening, was found filled with blood and clots. The heart, *in situ*, appeared normal in size. The superior vena cava was ruptured, the opening being nearly two inches in length and in the wall farthest from the aorta. The left auricle and ventricle were normal in size, with no incompetency of mitral or semilunar valves. The tricuspid valves were normal, but were incompetent from dilatation of right auriculo-ventricular ring. No change in size of right auricle and ventricle. The aorta and pulmonary arteries were sclerosed but not markedly atheromatous.

We could discover no cause for this sudden rupture apart from the conditions already mentioned.

Probably the sclerosis in the pulmonary arteries was contributory, in that the lack of elasticity was enough to cause a retardation of the blood-current through the right heart; and the increased effort was sufficient to produce a dilatation of the right auriculoventricular ring with a consequent incompetency of the tricuspid valves. This, in turn, permitted congestion of the liver and the veins of the portal system; and after the inferior vena cava became engorged, the back pressure was too great for the superior vena cava and it gave away. The whole process leading up to the final disaster could have been only of recent origin, or certainly the woman would have had symptoms continued over a longer period of time; and the left heart would have shown more signs of hypertrophy. It is not unreasonable to suppose that the whole process apart from the sclerotic changes in the aorta and the pulmonary arteries, was limited to the forty hours' acute illness of the patient. Spontaneous rupture of the superior vena cava is so rare as to be almost unique.

After some research, we were unable to find but one reported case of spontaneous rupture of the vena cava within the pericardium, and we found no mention whatever of such a condition in the works on pathology consulted.

405 South Hill Street.

OBSERVATIONS ON TUBERCULOSIS IN THE SOUTHWEST *

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IN COLLABORATION WITH
LEROY S. PETERS, M.D.
SILVER CITY, N. M.

In the fifteen years during which I may say I have lived constantly in an atmosphere of tuberculosis, and during which over two thousand cases have passed through my hands, I have reached certain conclusions as to the fundamental principles of treatment in this disease which I trust will prove of value. On the other hand, realizing as I do, that to be confined in a bit of a valley in the Rockies for many years with a colony of consumptives is not conducive to breadth of vision, it is my hope that in the discussion of my paper I may be able to correct any of my opinions which are wrong.

We must certainly grant that at this stage in the development of knowledge of tuberculosis we know exceedingly little about the disease. In fact, Koch's epochal elucidation of the etiology is a striking landmark along a way strewn with generalizations, theories, and loosely-applied scientific terms. Our forefathers in medicine, with their bleedings and sinapisms, were much more certain of their ground than we, who with each new discovery stand aghast at the realm of the unknown that stretches before us. A superficial observer, like George Bernard Shaw, dealing in half truths, as is his wont, overlooking either purposely or unconsciously our accomplishments in the alleviation of human distress, feels perfectly satisfied when he has designated us as conspirators and charlatans. Nevertheless, Shaw is largely justified in his criticism of our prevailing professional fault—treating theories as though they were demonstrations—and, as well, in his objection to our common, loose application of terms. With this criticism in mind I propose to abstain from everything which, if it is not empiric knowledge, may not at least be substantiated by anyone so minded.

I myself know of nothing so efficient as a destroyer of egotism as a close acquaintance with tuberculosis. When, year after year, human beings hold out their hands for help which cannot be given, when seemingly some of those most worthy of life die in spite of everything, and others recover apparently without much effort, it certainly not only brings home a keen appreciation of personal inefficiency, but as well a strong desire to confine oneself to a registration of facts and only facts in the discussion of this disease, permitting all theories to go by the board.

CLIMATE

I recovered from tuberculosis in the Rockies. My cure, after the lapse of years, may be said to be a real one, and not merely an arrest or relative recovery. Being human, it is natural to suppose that I started my work with a preconceived idea of the value of high, dry climates in the treatment of tuberculosis. When one recovers from so serious a disease as tuberculosis is likely to be, or, I may say, always is, it is bound to leave an almost indelible mental impression, with a tremendous bias in favor of the conditions under which one happens to recover. I can maintain, however, that I have tried conscientiously to remove my personal equation, as it were, from the consideration of the actual facts on which a final estimate of the value of high climates should be based. It is fortunate that at this time the evidence is practically all in, and has apparently crystallized in an opinion which to a very great extent, has become general throughout our profession and the people at large. The limited anti-climate school may spend much time in proclaiming that no benefit can be derived from climatic treatment that cannot be obtained in the home environment, but the reply is that of Dr. Alfred Stengel, who states that if he contracts tuberculosis he is going West, and that, I am sure, will be the answer of medical men generally, if under such conditions they can get or have the means to go there.

A commonly held opinion such as this is pretty likely to be true, at least pragmatically so, in the sense that the late Prof. William James would have employed that expression. In the future we may have something better to offer consumptives than high climates, but for the present at least we cannot do better than accept what seemed to be the consensus of opinion at the last International Congress on Tuberculosis, namely, that high climates unquestionably afford the best single weapon against the disease.

It is in anyone's power to prove this general statement of the value of high climates. As you know, the classification recommended by the National Society for the Study and Prevention of Tuberculosis has been quite generally adopted. In fact, in both Europe and America much the same scheme of classification is employed in sanatoria. This furnishes at least a relatively useful basis of comparison of the results achieved in the sanatorium treatment of tuberculosis, in spite of manifest shortcomings inherently dependent on our lack of knowledge of what really dictates differences in type in clinical tuberculosis. My own results, which correspond closely with those obtained by Dr. S. G. Bonney, of Denver, as recently communicated to me, and which, therefore, may be taken as a type of about what it is possible to accomplish in high climates, are briefly as follows: In terms of apparent recovery or cure the incipients furnish 83 per cent., the advanced cases 50 per cent., and the far-advanced cases 13 per cent. These results are achieved in an average sanatorium residence of a little more than nine months, and could undoubtedly be improved if we were granted a perfect control over our patients, which in the light of the limitations placed on remaining under treatment a sufficient length of time by both lack of money and human weakness, it is impossible to obtain. As all institutions, however, struggle against much the same conditions and disadvantages in the respect named, comparisons between them will be none the less fair.

Taking these statistics as representative of about what we can expect to accomplish in the sanatorium management of consumptives with our present armamentarium, and using them as a standard of comparison, what can be discovered? Beginning with institutions located at sea-level in this country and in Europe the results will be found to improve with every thousand feet of altitude obtained up to six or seven thousand feet, the latter figure being the extreme limit of sanatorium location. While a personal equation doubtless enters into any scheme of classification yet devised and while there are considerable differences between institutions as to type of human being received, yet as a deduction from the available statistical evidence the conclusion follows that the best results are obtained in high altitudes.

At the meeting of the International Conference on Tuberculosis held at Philadelphia in 1908, it was my privilege to hear Dr. Williams, of London, speak on this subject. His was the paper of the evening, and in the

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

audience were gathered most of the men prominent in this country as opponents of climatic treatment. One cannot forget the astonishment with which they received Professor Williams' paper, in which he advanced his carefully kept case-records to show that in a lifetime largely devoted to the treatment of consumption the best results had been obtained in those instances in which the patient had gone to the Alps. Among European phthisiotherapists it is common practice to give the patient a chance in the Alps if it is practicable to do so. And, as Dr. Williams has said, how much easier and more pleasant high altitude treatment may be in a country where the vast interior plateau is one grand sanatorium with every possible variety of climate as regards temperature exemplified! I am no special pleader for any particular locality, but wish to embrace in my recommendation all that high, dry portion of the western United States which lies between the northern boundary of Colorado and the Mexican line. A curious obsession is presented by the average climatologist who imagines that the particular spot where he lives and works must necessarily have just a little the better of any other place.

It is certainly most important that a locality be chosen which presents a good all-year-round climate, for it cannot but be most disadvantageous to a consumptive who is doing well, and accustomed to his surroundings and doctor, to be forced on account of a hot and prostrating summer to change his location.

It has been advanced as an argument against climate that at one time or another all sorts of places from Florida to California had been advocated as resorts for consumptives, and that, after a time, each in turn had given way to the next. This is not an argument for or against climate, but the strongest possible evidence in favor of a change in environment, which, as we all know, is efficient for a time, at least, to a remarkable degree, in tuberculosis. In fact, there is no known metabolic stimulant the equal of simple change in scene and surroundings.

The real work, the most important work of the Southwest, is to-day done by consumptives who are cured or whose disease is arrested, and this in the face of extensive and often vast pulmonary destruction. We, who live there, have no difficulty in appreciating what these people mean to the country, and what the country means to them. If others could only be brought to this appreciation there would be no agitation against climatic treatment. I never had a phthisiotherapist visit my institution and go over the cases who was not astonished at the accomplishments of high-altitude treatment.

Utilizing, therefore, the gathered experience of centuries, from the Father of Medicine to our own time, the conclusion is justifiable that high altitude climates are most likely to prove permanently helpful to consumptives. This is the best sort of empiric knowledge, and I do not think that it should require any further elaboration at my hands or those of any other man.

The application of this knowledge for the benefit of the unfortunate individual presenting himself for counsel as to what to do and where to go, is, I regret to say, a very difficult matter, the trouble being that not over one consumptive in a hundred can afford to go away for his health. This, I maintain, comprises the only argument against climate worth listening to, and, we must all agree, it is a very serious objection, and compels the use of our most valuable therapeutic measure in but a very limited number of cases. Dr. J. Solis-Cohen, of Philadelphia, who has been advising consumptives for fifty years, employs a method of dealing with this problem which I believe is the only one fair to patient, home physician, locality chosen as the field of battle, as well as the physician or institution to which the patient may be sent. On confirmation of the diagnosis he states the case to the patient in approximately these words: "What I advise you to do will depend on your financial resources. In plain language, can you command twelve hundred dollars during the coming year without impoverishing either yourself or your family?" If the reply is "no," then the project of going to a distant climate is not mentioned, and if, on the contrary it is "yes," then he recommends the Rocky Mountain region, and specifically refers his patient to a physician known and trusted by him or to an institution standing equally high in his estimation. By this method the patient has his best chance, if able to afford it, and if not, the lure of a better chance than he would have at home is not held out to him. He is not sent where he can spend but a few months, a wholly inadequate period for testing out a case of tuberculosis, and then compelled, sorely disappointed, to return home; he is not sent where his family will be placed in jeopardy by the expense of his trip; he is not sent if it is probable that he will be still unable to work at the end of a year, and become penniless in a strange land. If it could only be appreciated how often the indigent consumptive comes to the Southwest—and indeed, a sadder figure can hardly be conceived—it seems certain that very great care would be taken in preparing him for his long sojourn in a distant region, to face undismayed a prospect of at least twelve months away from home. All possible good obtainable from treatment in a high altitude will likely be more than counterbalanced by financial worry. One hundred dollars per month is none too much for the requirements of an invalid in a strange land. It seems certain to me that three out of every five patients sent west are very inadequately supplied with money, or perhaps it should be said, who go west, for surely our profession is not responsible for all of them.

Finally, by this plan the home doctor is fair to the physician or institution to which the patient is referred. He has assured, as far as he is able, time enough to try out the case. This is a very important matter indeed. Certainly we do not expect to obtain a result in an average case of tuberculosis in a period of four or six months in any climate. There is no disease in which there is a prospect of recovery in which time is a more important element. After years of this work I feel perfectly sure of my ground in stating that twelve months is a good average for an incipient case; two years in an advanced case, and three in far-advanced cases, and in such, if relative recovery occurs, probably the rest of life in the high altitude zone.

In the West years ago we had many more incipient cases than we now have; then the home treatment fad came in, and now, let me say as emphatically as I am able, that our successes are largely derived from home-treatment failures. We get them when the patient, the home doctor or the family have become scared. Over 60 per cent. of the patients treated in my institution are in the far-advanced class. If able to come to us when far advanced, surely they might have been sent in the beginning, when the prospect of cure was 83 per cent., as well as in a stage when the probability of clinical cure is reduced to 13 per cent. I was formerly very proud of the number of apparent recoveries I could turn out, but latterly from the high percentage of advanced and far-advanced cases sent to me, I have been forced from the exigencies of the situation to turn my attention to the conservation of human life, and we high altitude workers are very thankful that there is a place to which this class of invalids can turn hopefully, and where, let me emphasize, they are welcome. I have no hesitation in saying that if once more a consumptive as I was fifteen years ago, I would rather take my chance in the Rocky Mountains with a good home and three good meals a day than in the best equipped, most scientifically conducted institution in the world at sea-level.

Why high altitude climates are helpful in tuberculosis we do not know. Webb, of Colorado Springs, has done much work to show that the large mononuclear leukocytes are increased in a high altitude, and ascribes value to this phenomenon. Dr. L. S. Peters, my associate, has shown that an increase in blood-pressure follows continued residence in such a place. Still others have maintained an increase in the erythrocyte content of the blood, as well as changes in conformation of the chest, respiratory changes, etc. Although suggestive, none of these theories singly or combined tell us definitely why more consumptives recover in a high altitude. Instead of indulging in loose attempts at scientific explanation, we may better say that a climate which tends to keep healthy people healthy, and which furnishes a very low death-rate, is seemingly a good place for consumptives to resort to and receive treatment. And now, since we have found that exposure to all the elements, no matter how unpleasant it may be, is not necessarily a part of fresh-air treatment, it is infinitely more agreeable to the patient to take the cure where the temperature does not drop to 20 or 30 degrees below zero in winter, or where he must endure a summer of prostrating humidity.

There is no known means of saying beforehand that in any given case the patient will or will not be benefited by residence in a high, dry climate. I know of no special type of tuberculosis in which high-altitude treatment is contra-indicated *per se*. Certainly no one should be sent, even if able to afford the change, in whom the mental attitude is positively against going away. I have seen each and every variety of consumptive recover, and, as well, I have seen failure in each and every class. I have a profound conviction, however, based on the fact that in every instance in which a patient whose case was progressive went home of his own accord, or changed to a low climate of his own volition, as well as those advised to go, he is either dead or will be dead in a short time; that if recovery is impossible under proper conditions in a high climate, for all practical purposes it cannot occur anywhere. I recognize but three indications for sending a patient to a lower altitude, namely, cyanosis, which is chronic and independent of cold, a high grade of emphysema causing life in a high altitude to be intolerable, and broken compensation in heart lesions. In hopelessly far-advanced fever cases the patient will always be more comfortable in a low altitude, and should never have been sent to a high or distant climate in the first place.

The sanatorium owes its usefulness in the scheme of combating tuberculosis to a great many factors, principal among which is that it offers facilities for the treatment of comparatively large numbers of a class of invalids not desired anywhere else. Especially is this so of the unfortunates with the marks of the disease on their persons. All over Europe and America tremendous pressure is now brought on consumptives to submit to institutional treatment. Though to an extent this is the outgrowth of modern phthisiophobia it is the best possible thing for the consumptive. It places him at once under a scientific, or rather, let us be honest and say, a pseudoscientific régime, where everything that can be done will be done, and not much done that ought not to be done; in a place where he is wanted for his own sake, among others who, similarly afflicted, are congenial; where the atmosphere is impregnated with the spirit of getting well; where he receives an education in tuberculosis of value, not only to himself, but to others; where it is possible for him to see his physician when he needs him, and not be wasting precious time in some doctor's office awaiting his turn; where, if necessary, his throat may be treated without his going miles for that inefficient two or three times a week application; where he can be fed what he requires with the least effort on his part; where if he receives tuberculin its effects may be carefully observed; and last, and, I am tempted to say, most important of all, where he can be in daily touch with a doctor who loves his work and his people, and who, the patient feels, can do as much for him as any other man, and who, he also appreciates, will be absolutely fair with him, who will not feed him on false hope, but who will be physician, brother, and, in fact, a whole family to him. Sanatorium physicians who can inspire and maintain the spirit of getting well, and who realize that sometimes there is nothing between the patient and death but the right word at the right time, are born, not made, and strange to say, that they may have the proper point of view as well as patient sympathy, it is almost essential that they should have had the disease in their own persons. For one man to do the work the sanatorium physician often does, would be impossible if it were not for the fact that his patients are conveniently located in one place.

These, I think, are the reasons for the existence of the tuberculosis sanatorium as we know it to-day, and all will agree, I believe, that they are sufficiently important to justify our whole-hearted support of the sanatorium movement in this country.

The peculiarly personal relation of the sanatorium physician to his work is one reason why such institutions should be kept relatively small and well within the range of what one man can do well. We are all glad to see the fruition of the movement for the establishment of state institutions for tuberculosis, but, it seems to me, it would have been much better to establish several small ones in each state than one great one. Evolution will, I have no doubt, bring this about, but at a great expenditure of time, effort and money.

TUBERCULIN

I approach the subject of tuberculin with much hesitation; for so little is known about it. You will remember, I have no doubt, Trudeau's conservative statement of the value of tuberculin which appeared in the *American Journal of the Medical Sciences* in 1907. It marked the renaissance of tuberculin in this country. When I reread that carefully prepared statement and then turn to the enthusiastic writings of Bandelier and Roepke I stand aghast at the vast differences in men when treating the same subject, as well as the apparently clear demonstration of the lack of real knowledge of tuberculin. I feel definitely sure that at least some of the repute of the use of tuberculin as a sanatorium procedure is due to the fact that without a routine measure such as the administration of tuberculin affords patients cannot be kept long enough under institutional management to accomplish much of anything; or, to state it differently, it is easier to keep them working for cure if something definite and tangible is being done for them. Tuberculin, therefore, with its pseudoscientific reputation, is an almost ideal weapon against human weakness and restlessness. It seems to me that if tuberculin employed with such care as to be harmless did no more than this it would be worth something—simply as the faithful ally of the sanatorium physician, whose measure of accomplishment is often largely that of keeping a patient faithfully working long enough to try out the case.

It should be almost needless to state, however, that no honest man could use tuberculin if not convinced of its usefulness, and that most of us are. Exactly when and how to apply it is quite another question and one which no one can answer definitely. I cannot show statistically that my results in terms of cure are much better since I have been using tuberculin than previously when I did not use it, though, in terms of those still living the results are better, as found by Trudeau. On its face value this is a good reason for faith in tuberculin, although in this better post-discharge mortality under tuberculin we must certainly consider the possibility of its being accounted for by natural selection—in other words, in the most favorable cases tuberculin is best tolerated, and this toleration might be taken as a measure of resistance rather than that the better prognosis is due to the administration of tuberculin. That this is absolutely true of those cases in which tuberculin is accepted as though it were water, I have no doubt, excepting, of course, very advanced cases in which reaction power has been lost.

An excellent reason for faith in tuberculin is this: We are all familiar with the permanence of type in tuberculosis; that afebrile cases tend to continue afebrile throughout the course of the disease, and *per contra,* febrile cases continue febrile in the same manner. It is certain that with tuberculin we can change more cases from the febrile to the afebrile class than without it. It is also certain that, regardless of class, we not infrequently see sudden clinical cure or improvement follow reactions. Tuberculosis is usually chronic in its progression as in its retrogression; nothing, as a rule, happens suddenly, least of all improvement or cure, and when such events follow reactions, then the only sane deduction is that the tuberculin accounts for it. A few years ago I stopped the use of tuberculin in my work—to enable me to recover my standards and be more certain of what I was doing. I did not use it for six months and it certainly seemed to me that without it the course of events in my institution was not so smooth as before; that the manifestations of the disease were more tumultuous; there were more eruptions and flareups. You will remember that Trudeau maintains the same thing.

In which cases to abstain altogether from the use of tuberculin, knowing beforehand that it will not be tolerated, and in which it must be used if recovery is to occur—these are questions which no one can answer. The opsonic method, heralded as at least a partial reply to this difficult question, has gone into the limbo of widely proclaimed and soon forgotten discoveries in medicine. We have left only the clinical method, which after all, is but careful experimentation in each and every instance in which tuberculin is applied.

The use of tuberculin in my hands has been an evolution. I began using it only in cases in which recovery was reasonably sure without it, and have gradually extended its use, as I have found that with sufficient care it may be given to anyone, or its futility demonstrated in any individual case with absolutely no danger. It must be remembered that in sanatorium work we have only a limited time in which to apply our measures for the relief of our patients; to be exact, in my work there is an average of nine months, and also, it should be remembered, in all probability the patient will not have another chance. What is accomplished must be performed in these all too few months. I admit that, granted all the time necessary, I would first demonstrate the possibility of improvement or cure without tuberculin in practically each and every case before resorting to its use. With, however, the limited time available in mind, and knowing that tuberculin can be given safely to anyone, or that its use may be stopped without subsequent damage to the patient when the indications for so doing are manifested, and that it is wholly necessary in some cases which we have no means of selecting beforehand, I feel it my duty to do as much good with it as I can in the limited time which the exigencies of the work and human nature will grant.

All I know of the use of tuberculin I have learned in the school of experience. First, I had to discover that with the newer and more active preparations no dose larger than 1/1,000,000 mg. is absolutely safe as a beginning dose; that occasionally marked reactions would be witnessed in afebrile cases with either the B. E. or B. F. in so small a dose as 8/1,000,000 mg. In such instances it proves necessary to start with 1/10,000,000 mg. Now, except in very incipient afebrile cases I never start with a larger dose than that first named, and in the best type of cases with a dose no larger than 1/100,000 mg.

The bouillon filtrate I use twice a week, unless it seems wise, as experience is gained with the individual, to lengthen the interval, and the doses of Bacillen Emulsion are spaced six days apart. As practically everyone is familiar with the clinical method of gradual increase of dose it is not necessary to discuss it at length. In some ways my practice differs widely from that in common use, as will be referred to later. At the slightest hint gained from daily careful observation of symptomatology, the dose is either reduced or repeated. The most valuable symptoms of supertuberculinization are tired feeling, increase of cough or expectoration, boneache, and, as a rule lastly, rise of temperature. In the presence of these symptoms the rule must be either to repeat or reduce the dose, and to repeat at the reduced dose or repeated dose until it seems perfectly safe to continue, doing so in fractions if it seems wise. We should always keep in mind the fact that there is no such thing as a course of tuberculin, and that almost any dose attained may prove to be the most valuable one for our patient. In fact it is my conviction that the dose which is just short of producing manifestations of reaction is the one most likely to be efficient, and that if we had a safe and reliable method of determining this dose beforehand much time might be saved. It must not be forgotten that the practically indefinite repetition of the seemingly effective dose may be all that is required.

The afebrile cases, though a fairly large proportion of them will accept each and every increase of dose without symptoms, are those in which it is usually impossible for the clinician to be sure that his tuberculin has accomplished anything. Experience has shown clearly that when tuberculin is received without symptoms it is surely harmless, but that in such cases it actually does good is problematic. The cases without fever are those in which we recognize the best natural resistance to the disease, or those in which to a great extent there is a natural toxic immunity. It is reasonable that such patients should accept the toxin or allied toxin to which they have already proved their resistance. We must admit that natural tuberculosis toxemia is at least related to tuberculin poisoning. It is also, it seems to me, reasonable to expect less benefit from the use of tuberculin in such cases than in those in which it is used with at least some difficulty.

Recognizing the brilliant results which occasionally follow reactions, it may be asked, why not raise the dose progressively and sufficiently rapidly to accomplish the reaction? The answer is plain: An occasional and slight reaction is certainly not to be feared; it may do good, and in my experience is not harmful. But the reaction is beyond our control when once induced: it is always a sign of supertuberculinization, and when violent or often repeated may result in positive damage, by breaking or impairing the degree of natural toxic resistance the patient may possess, or even causing rapid extension of the lesion. This we all know from the bitter experience of twenty years ago.

It is unquestionably rational to improve toxic resistance by tuberculin administration, but when tuberculin hypersusceptibility is encountered there remains but one thing to do: stop the tuberculin at once and probably for good. To continue on the appearance of symptoms denoting hypersusceptibility as shown by reaction phenomena on reduced dosage is a crime. I have had some experience of a retrial in such cases after a year or two, and such as it is it surely indicates that the ability to neutralize tuberculin has been permanently impaired. Though not fearing slight reactions—and that is about all the careful man will ever get—I do not feel that the present state of our knowledge justifies their deliberate cultivation. Occasionally most brilliant results have followed violent reactions, an instance of which came under my observation several years ago, when a patient received 600 mg. by mistake for 60. The resulting reaction was tremendous, and it was thought the patient might die. He recovered rapidly, however, and has never had any symptoms of tuberculosis since, and now four years have passed.

In a speciality full of uncertainties and surprises, like phthisiotherapy, nothing can be surer than the prognosis based on tuberculin immunity. We absolutely know that, given one hundred cases in which each dose of tuberculin is accepted as though it were water, and one hundred in which it is given with difficulty, or in which the impossibility of its administration is demonstrated, the natural expectation of life is vastly better in the first-named class. Practically this amounts to a demonstration of the close relationship that exists between tuberculin and the toxemia of tuberculosis. In this connection it must be granted that I have not in mind those far-advanced and hopeless cases in which reaction ability is exhausted, and in which a seeming tuberculin immunity is an expression of grave prognosis.

It is in those cases of the afebrile class in which at least some difficulty of administration is encountered that we are justified in interpreting our good results in terms of tuberculin achievement, and it is in such that the principle of repeating or lowering the dose must be most religiously followed. The tuberculin immunizator should have ever in mind the rule to avoid sins of commission, and if he cannot he does best to let this powerful substance alone.

I have now to speak of what is to me the most interesting class of tuberculous invalids in their relation to tuberculin. I refer to those with an average daily maximum temperature between 99 and 100 F. My method of using tuberculin in this class is a product of my own experience. We all recognize that the tendency of these cases with a chronic febrility of the type named, and in which no result is obtained from rest, is not only to continue with the same temperature curve day after day, but to present the signs of slow progression. Tuberculin enables us to save at least a fair proportion of these otherwise doomed patients, and in them my procedure is radically different from that employed in any other class, and on its face somewhat contradictory, I must admit. Starting with a known safe dose it is slowly increased until, should it fortunately occur, there is a slight drop in temperature on the day following the dose or on the same day. Should such a drop occur, even though it be but a fraction of a degree, the dose is held at the point reached until the temperature again rises, when it is not reduced, but raised, following the temperature up, as it were, and again repeated as before until little by little the temperature is forced to normal. The dose effective in obtaining the normal temperature is repeated practically indefinitely, or after a time, tuberculin resistance having been well cultivated, it is cautiously raised, sometimes to the limit of a 1,000 mg. These patients with the slight daily rise of temperature are, we may say, on the fence as regards progression or retrogression of their disease, with the course usually in favor of slow progression, and in them tuberculin finds its most positively useful field of application. In such cases it is unquestionably often the means of carrying to safety at least a fair proportion of the patients who would otherwise join the ranks of those discharged unimproved—progressive. We have in such instances deliberately cultivated what they did not have before; namely, resistance to tuberculosis, and it is certainly a grand accomplishment.

I mention only to condemn in plain and unequivocal terms the use of tuberculin in high fever cases, those in which the average daily maximum temperature is over 100 F., and in which the patient is already supertuberculinized or overwhelmed with some allied toxin. I have tried it out faithfully, and though, in such cases, each increase of dose may be accepted without additional symptoms, it has never been successful in my experience. These are the cases in which we suppose there is or may be a symbiosis of other organisms to which some, at least, of the fever may be due. Tuberculin, then, we might reasonably expect to be totally ineffective, and even if we grant that other organisms play but an insignificant rôle in fever production, and that the patient is simply overwhelmed with tuberculous toxemia, still we cannot expect more of the same poison or allied poison to prove beneficial. We abstain from the use of tuberculin in such cases for the same reason that we discontinue it when hypersusceptibility is induced. These are the cases in which the patient most needs our assistance, and in which we find ourselves least able to give it.

OTHER THERAPEUTIC MEASURES

Vaccine.—In the patients with persistent and severe febrility just referred to I have made a faithful and persevering trial of homologous vaccines during the past two years. I have seen just enough seemingly good results to encourage continued effort with them, but by no means to enable me either to endorse or to condemn their use.

Rest and Exercise.—Though the pulmonary or other lesions in tuberculosis may be important, it is certainly a fact that the disease is manifested to us as a chronic intoxication, and the question of rest and exercise is absolutely settled in my opinion by the presence or absence of the signs of this intoxication. As long as by elevation of pulse and temperature, as well as emaciation, we know that the patient is not neutralizing the quantity of poison elaborated, then it becomes perfectly plain that the balance must be in favor of rest, and whether complete or relative, must be determined individually by the degree of intoxication present. As soon as these symptoms are in abeyance, then graded exercises, for the purpose of restoring the muscular system, as well as for the effect on metabolism, must be instituted, with accompanying careful observation of pulse and temperature. This method in my hands has yielded excellent results, and I see no reason at present for its abandonment in favor of the theory of auto-inoculation by exercise.

Citrate of Iron in Anemia.—With the indefinite and piecemeal knowledge that still characterizes medicine, it is but seldom that a physician finds himself in a position of being able to endorse a therapeutic measure in a whole-hearted manner. This I find myself able to do in the hypodermic administration of citrate of iron in the common secondary anemia of tuberculosis. A residence in a high altitude has an undoubted influence for good in secondary anemias, but now, with the hypodermic use of citrate of iron, we do not have to await natural restoration of the hemoglobin content in this manifestation of tuberculous toxemia, but may, with almost mathematical precision and in practically every case cause the hemoglobin reading to be normal in from twenty to forty days. My favorite prescription for this purpose is as follows: Citrate of iron, 0.10; sodium glycerophosphate, 0.50; sodium metarsenate, 0.10; strychnin, 0.001. In another place my associate, Dr. Peters, has fully reported our use of iron for this purpose, and it is not necessary to go farther into the subject here.

Diet.—After having tried every sort of dietetic scheme so far recommended in tuberculosis, I am positively of the opinion that the only important dietetic principle is that of sufficient plain and wholesome food. There has long been a strong prejudice among phthisiotherapists in favor of an excess of proteids in the diet of consumptives. During recent years, following the lead of Crittenden and Fisher of Yale, and the splendid work they have done in the department of dietetics, I have been slowly swinging away from the excessive proteid diet, and so far, I am sure, without injury to the work. What is meant by forced feeding, and the only sense in which forced feeding can be absolved from the epithet "outrage on the patient", is simply enough food in the individual case to maintain losses and, if possible, restore the normal weight. There is absolutely nothing but indigestion and auto-intoxication to result from the real forced feeding, the stuffing process, such as was practiced ten or fifteen years ago. I have never been able to prove to my own satisfaction that altering the constituents of the diet, except to meet individual digestive indications, has any practical application in tuberculosis. As soon as toxemia has been removed, then the natural appetite becomes the best possible dietetic guide.

Formaldehyd in Laryngeal Tuberculosis.—In closing I would like to call attention once more to my method of applying formaldehyd in laryngeal tuberculosis. I recognize, of course, that the actual cautery as well as direct surgical intervention, as in removal of the epiglottis, have a place in the management of this often distressing complication. Taking it by and large, the twice daily direct application of a dilution of liquor formaldehydi solution in both the ulcerative and infiltrated types of laryngeal tuberculosis has yielded such excellent results in my hands that I am inclined to urge its use in all institutions for tuberculosis. This method is very tedious and really practicable only in institutions where the patient is at all times available. The method and its results I reported in full to the last International Congress on Tuberculosis. It has enabled me to achieve 35 per cent. of recoveries in the larynx, and 18 per cent. of recoveries, taking the larynx and other lesions together. Realizing that tuberculosis of the larynx is, as a rule, a complication of otherwise bad cases, especially in its severe ulcerative manifestations, the results indicate to me that the method has much to recommend it.

ABSTRACT OF DISCUSSION

Dr. A. H. Andrews, Chicago: I wish to mention certain points in the paper in order to emphasize them. First, we should not underestimate the value of sanitarium training for these patients. This is of value, regardless of whether or not they recover. It trains them in their own sanitation, and it makes those around them, with whom they must come in contact, less liable to contract the disease. I live not very far from one of these open-air sanitariums and I come in contact with patients who have been there. Some of them are apparently well and some of them are not well and will not get well, but they are all thoroughly drilled in their own sanitation. Next, I would emphasize the importance of personal contact with some one who has faith in the future for these patients. You have to imbue them with your own courage, in order that many of them may get well. The psychic side is important. Many who cannot get well are very optimistic, and many, who otherwise would not get well, may be helped by the optimism of the physician. It is fortunate when the man at the head of the sanitarium is optimistic and can come into direct, close personal contact with the patients.

Dr. E. R. Carpenter, El Paso, Tex.: It is too bad that Dr. Bullock could not take up in his paper his work on laryngeal tuberculosis. Having lived in the same community I have had an opportunity to observe some of his patients before and after treatment, and it is marvelous what may be accomplished. I have seen cases of infiltration and ulceration, in which recovery seemed impossible, and yet in some 35 per cent of these patients recovery takes place. No one in private office work can obtain such good results in this class of work. There are a good many of his patients whom possibly a more expert laryngologist could cure more quickly, but there are many things we can do in the institutional treatment of these patients that are impracticable in private office practice.

Dr. Sherman Voorhees, Elmira, N. Y.: I was somewhat disappointed that the reader of the paper did not say more regarding laryngeal tuberculosis. Formerly I felt that I must send these patients to the southwest high and dry altitude, where I have had many excellent recoveries. But my experience has been that many of these patients cannot return East and maintain good health. On returning, after pronounced cured in the Southwest, they would have a return of the trouble. In the last few years I have been sending these patients to the Adirondacks, and those that have recovered have remained well after returning home. So I think we should take into consideration the surroundings of these patients. In Elmira we have found that at an elevation of 1,000 or 1,200 feet, under proper regime, our patients do as well as at higher altitudes, whether the Adirondacks, the Catskills or the mountains of the Southwest. A patient sent to a resort near his residence, often does better than when sent to the Southwest, where they are under different conditions. Some of my patients have objected to the everlasting sunshine to which they have not been accustomed. It seems to me that possibly better results are secured by the use of tuberculin and the regime in a small sanitarium.

Dr. Thompson B. Wright, Pasadena: I want first to endorse what Dr. Bullock has said about sanitarium treatment. I think all of us will agree that we cannot accomplish in private practice what can be accomplished in a sanitarium. I was very much impressed by what he said about tuberculin, and feel that his conservative methods should be heartily endorsed. His experience was especially interesting in the giving of tuberculin in larger doses than the usual ones, in febrile cases under certain circumstances. I have had a similar experience in a few cases and have noted that results may be governed somewhat by the initial drop of temperature of which he speaks. I want to congratulate Dr. Bullock on the excellent results he has achieved, considering the handicap of the bad climate he has been working in. It seems to me they are wonderful. I formerly practiced in Ohio and sent patients to the Alleghenies, the Adirondacks, to South Carolina, to Southern California and, also, to Denver.

A large percentage of those sent to the Alleghenies and to California recovered; but those sent to Denver all died promptly. I have been impressed by the statement, made by a prominent Denver physician (Dr. Holden), that, in examining patients sent to him from the East, often a larger lung area will be found involved than was reported by the men sending them. That would indicate an increased hyperemic area induced by the stimulation of the higher altitude. This may be a good thing. It is what we get in tuberculin reactions, and frequently we get secondary good results from these reactions. But, if the patient does not recover quickly from the hyperemia, he may die very promptly, or remain permanently worse. And this is an element to be considered in sending patients to a high altitude, especially when they have been accustomed to elevations near the sea level. It is a risk for them to go at once to an altitude of perhaps 5,000 to 6,000 feet.

I was much impressed by what Dr. John C. King of Banning, Cal., told me, namely, that he had never seen a patient with tuberculosis complicated by organic heart disease recover at Banning, where the elevation is 2,300 feet. If that is true at Banning, how much more must it be true at higher elevations.

Dr. Bullock has had remarkable results; but, if you compare them with the results obtained by Von Ruck at Asheville, by Brown and Baldwin at Saranac and by Pottenger at Monrovia, whose results are as good as his own, we are forced to the conclusion that climate is not the most important factor in the treatment of tuberculosis; but that more depends on the man who is in control of the sanitarium and carrying out the treatment than on the elevation.

Dr. G. B. Webb, Colorado Springs: For many years I have been trying to find out a scientific explanation for the possible advantages of climate and altitude in tuberculosis. It is well known that there is usually some scientific basis for the survival of a time-honored remedy, and, as Dr. Bullock remarked, people have been using altitude as a therapeutic measure for some 2,000 years. For an indefinite period our good mothers have used the hot mustard foot bath in the treatment of their children for colds. Science has explained that this measure produces a beneficial leukocytosis. When our mothers have poulticed abscesses and boils, science has revealed that they have thereby produced an increased flow of blood and opsonin to the diseased areas. It was my good fortune a few years ago to discover, together with Dr. W. W. Williams, that one effect of altitude is to increase the lymphocytes in the circulating blood. A large amount of recent scientific work has pointed to the lymphocytes as the active warriors against the tubercle bacillus. The tubercle bacilli contains about 30 per cent. by weight of wax resembling beeswax. Wax is difficult for our body cells to digest, but the lymphocyte is easily able to do so. At an altitude of 6,000 feet these lymphocytes are increased 40 per cent, and I am inclined to believe that this factor is probably of great importance in the cure of tuberculosis at altitudes and in part explains the high degree of immunity to tuberculosis which residents at these altitudes seem to possess.

Dr. B. R. Shurly, Detroit, Mich.: It has been my privilege and pleasure, for some twelve or fifteen years to send patients with tuberculosis to the Southwest, and during that period Dr. Bullock has had between seventy-five and a hundred of these patients. I have watched these patients from year to year to observe what the effect has been in the climatic treatment in the Southwest, and to carefully observe those that have returned to our own climate of Michigan, which is a particularly moist and bad climate for this disease. And I have tried, if possible, to make some deductions, from which I might, myself, draw some conclusions and some confirmation of the theories in regard to climatic treatment. Many of them are patients that have come under observation because of nose and throat symptoms, with the diagnosis of a pulmonary lesion as a secondary matter. And I may state, by the way, that I have never seen laryngeal tuberculosis unattended by a pulmonary lesion. There may be such cases, but it has not been my privilege to see them. This may be because the cases that come to a specialist, come after the difficulty has existed for some months. At any rate, I have not found cases of laryngeal tuberculosis without some pulmonary lesion. Therefore, the treatment of laryngeal tuberculosis must include the treatment of pulmonary tuberculosis in the vast majority of cases. It is a compound problem. In sending these patients away from home, we have a great responsibility. Many of them are sent uselessly, as we know, and it is essential that we should have some definite classification of the patients we will send away to the Southwest and those we will keep at home. The first consideration is the matter of finances. In some of the advanced cases, patients who are hopeless wrecks, with a few months, perhaps, of life, it is absolutely wrong even to mention the great value of sending cases to the Southwest—something of value that is impossible to them. Unless they can have at least $1,000 and go under proper medical supervision, it is certainly wrong for us to send them away. We can do much better with these patients at home. The question of early diagnosis, then, is the one which should concern us more than any other. And I think we should, as far as possible, constitute ourselves missionaries in our own home circles to impress the importance of the early diagnosis in tuberculosis. All of us who treat throat patients, often see the picture in the larynx, the peculiar anemic, white larynx, that should arouse the suspicion that perhaps something is wrong further down the respiratory tract. A crusade along this line will be very valuable aid to those who develop this dreadful disease.

Dr. Albert H. Schermann, Flagstaff, Ariz.: It is hard to say why high altitudes are a benefit, unless it is the increased leukocytosis and possibly the absence of pus organisms. In surgical work, we notice in high altitudes we are not so liable to have infected wounds. The pus organisms do not seem to be so abundant there as at sea-level. Possibly in tuberculosis this enables us to avoid the mixed infection. The cure of tuberculosis is largely dependent on avoiding or getting rid of the mixed infection.

Dr. E. S. Bullock, Silver City, N. Mex.: As a profession we do not seem to be able to come to any conclusion as to the value of climate. Scientifically Dr. Webb, as well as my associate, Dr. L. S. Peters, and myself, has done a great deal to elucidate this problem. I have, it seems, but one gentleman to reply to, and he says the results are practically the same, regardless of altitude. In a paper read before the Chicago Medical Society I compared the results obtained at sanatoriums at sea-level and those at high altitudes, and I found fully 30 per cent. of difference in the statistics in favor of high climate. Dr. Turban, of Davos Platz, has published results proving the same thing for Europe. Some of us may be overoptimistic in marking our cases, but that could not hold regarding all the reports we receive from sanatoriums. We often find, as Dr. Wright says, lesions of greater extent when the patients come to us than were reported at the patient's home. That is the result, not of the bad effect of high altitude on the lesion, but probably because the initial diagnosis at the patient's home is often very faulty. We who do this work know we can never master this subject or control tuberculosis until we teach the profession at large how to make an early diagnosis. That does not apply to specialists, but it does apply to the rank and file.

THREE UNUSUAL BRONCHOSCOPIC CASES

A. TUMOR IN THE BRONCHUS. B. TRACHEAL STENOSIS. C. TRACHEAL SCLEROMA *

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Case 1.—Margaret I. W., aged 3 years, was referred to me Sept. 16, 1910, by Dr. Linn Emerson, presenting the following history:

History.—At the age of eleven days she had a sudden attack of obstruction to her breathing, which yielded to treatment after a short time. Until January of the present year, she had been well. At this time she had an attack of grippe followed by a spasmodic cough, the latter remaining ever since. July 4, she had an attack of measles, and on the 25th her breathing became so interfered with that emphysema of the neck and body appeared, lasting several days. At the present time breathes with a loud expiratory effort day and night. Has chronic constipation, prolapsus ani, and a capricious appetite.

Examination.—Child is well nourished and has good color. There is a peculiar, loud respiration showing interference with the expiratory act. The respirations are so loud as to be heard quite a distance and remain of this character day and night, becoming somewhat worse on crying or exertion. There is no rise of temperature, and the child plays about, getting easily tired, however. While she is never cyanosed, her distress in breathing often culminates in an attack of vomiting, but without relief to the breathing. The examination of the chest shows a sudden distention of the entire chest wall at each expiratory effort, except for the lower portion of the left lung. In this part there is dulness on percussion and entire absence of air entering the lung in the left lower lobe. There is no bronchial catarrh. The diagnosis of some form of stenosis of the bronchus at the bifurcation on the left side was made. An *x*-ray picture, taken by Dr. Jaches, radiographist of Mt. Sinai Hospital, showed an absence of air entering the lower lobe of the left lung. There was no evidence of any foreign body shown in the *x*-ray picture.

Operation.—At Mt. Sinai Hospital, under gas and ether, bronchoscopy was done on September 30, the instrument used being the Killian hand light with a short tube. The child took the anesthesia very badly and was very much cyanosed. The holding of the epiglottis increased the cyanosis to so marked a degree that it was rapidly withdrawn. In the meantime, Dr. Yankauer, who assisted me, had a long tube attached to another Killian hand light to which he had an attachment for the throwing of ether vapor into the tube during the entire examination, and at my request he introduced the longer tube rapidly into the bronchus. At the bifurcation, directly over the entrance to the left lung, a new growth was seen having the general appearances of a papilloma; there seemed to be several of them with small pedicles and having in all a diameter of one-half inch. These were promptly removed and after their removal the breathing became very much freer, and air again entered at the lower portion of the left lung. The growth was referred to Dr. F. S. Mandelbaum, pathologist of Mt. Sinai Hospital, who reported that, the growth having been placed in formaldehyd solution, it was impossible to test for tubercle bacilli, but that the growth had all the appearances of syphilis.

Subsequent History.—The child recovered from the effects of the anesthesia, air freely entering into the formerly obstructed lung, and on the third day the child was sent to its home.

Five months later the examination of the child showed no evidence of interference with respiration, the cough having gradually ceased, and the child was apparently well. In the meantime the child had been examined by Dr. Sara Welt Kakels, whose report follows: "Well-developed child for her age; weight 26¾ pounds; temperature normal. On the skin and visible mucosae nothing abnormal. Of the superficial lymphatic glands, the anterior cervical and inguinal glands are slightly enlarged. The inspection of the buccal cavity shows a slight hypertrophy of the tonsils; voice and respiration are perfectly normal. Inspection of the thorax shows that the chest walls move freely during respiration, apparently symmetrically on both sides; percussion over both lungs is clear and resonant; lower borders of both lungs normal. On auscultation vesicular breathing is to be heard, on and off harsh over all the lobes of the lungs; heart normal on percussion and auscultation; thymus dulness present. Of the organs of the abdomen, the spleen is not palpable; the liver is very slightly enlarged; its lower border is one finger's breadth below the costal arch in the nipple line, while in the median line it is slightly above a point midway between the umbilicus and the xyphoid process. The urine shows no trace of albumin or sugar. The feces show microscopically no pathologic constituents. The blood-count is as follows: Hemoglobin 70 per cent.; red blood-cells 3,600,000; white blood-cells 10,200; differential count, polynuclears 59 per cent., small mononuclears 30 per cent., large mononuclears 8 per cent., eosinophils 3 per cent. Wassermann's test was negative."

A most careful investigation into the family history as well as that of the child, shows no evidence of specific disease. A summary of the case shows that the clinical diagnosis of a stenosis of the bronchus at the entrance of the left lower lobe of the lung was fully established, and that a happy result followed the removal of the growth. This is a combination that is exceedingly rare.

Case 2.—Rose L., aged 12 years, an inmate of an orphan asylum, whose past history is necessarily indefinite, was referred to me Dec. 12, 1910, with the following history:

History.—Except for an attack of diphtheria six years ago, followed by a protracted cough, she had been, as far as known, entirely well until four weeks ago when she began to cough, constantly, spasmodically, and without secretion. There was a short, sharp, ringing cough with intervals of a few seconds, sounding more like the bark of a dog than a cough, rasping and very noisy. While not so frequent at night, still it occurred then. All manner of treatment had failed to relieve it; there was no dyspnea; the voice was clear, and there were no râles in the chest. It is almost impossible to express the extreme annoyance to the child as also to its surroundings, occasioned by this noisy cough.

Examination.—The child had hypertrophied tonsils and an adenoid growth, but these were not considered as factors in causing cough. Below the chords, high up in the trachea, there was a tracheal thickening which showed itself not only in the laryngeal tissue but also by direct examination. The bronchoscopic tube was then introduced, and on its introduction it was felt to pass through the firm constriction and the diagnosis of spasmodic cough due to a tracheal stenosis, probably post-diphtheritic, was made. The report of the findings was made the following day to the attending physician, Dr. Gershel, who reported that, immediately following the bronchoscopy, all cough had ceased and this condition of cure of most distressing cough has remained permanent from the single dilatation following the entrance of the bronchoscopic tube. The general appearance of the trachea at the time of examination clinically resembled those cases of tracheal scleroma that I have seen, and the diagnosis would have been investigated were it not for the fact that the child was born in the United States, and no case of this affection originating *de novo* in this country has ever been presented. The examination with the bronchoscope was readily made under local anesthesia.

Case 3.—Rachel R., aged 18 years, six years in the United States, a native of Russian Poland, was admitted to the surgical wards of Mt. Sinai Hospital, service of Dr. Howard Lilienthal, two and a half years ago, suffering from dyspnea, requiring tracheotomy. Before operating, Dr. Lilienthal requested me to see the case to determine the nature of the stenosis.

Examination.—I found a tracheal thickening with much induration on the line of the cricoid cartilage, and much crust formation in the nose with hyperplasia, and I made the clinical diagnosis of tracheal scleroma. A portion of the thickened tissue from the nose was removed and sent to the pathologic department for examination. The report came back from Dr. F. S. Mandelbaum, chief of that department, that it was negative. A second portion was removed a few days later and this time it was reported rhino-scleroma. Operation was not advised and the patient was then kindly referred by Dr. Lilienthal to the out-patient department of the Mt. Sinai Hospital Dispensary under my care. The dyspnea subsided, the voice was husky and the nasal secretions kept up their crust formations until a year ago when she began again to show symptoms of tracheal obstruction. From this time on dilatation by means of the Killian tubes was practiced every week regularly with the result that the breathing became normal. Of late the dilatation has been done less frequently, about once a fortnight, and the patient is in a very comfortable condition. The bronchoscopic tube in this case enters very readily; the patient has become tolerant and she has been exhibited at various medical societies, usually permitting the introduction of the bronchoscopic tube in about thirty seconds' time. During my absence from the city, the same treatment was followed by Dr. Yankauer.

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* Read before the American Laryngological Association at its thirty-third annual meeting, Philadelphia, 1911.

This case is of special interest in that most cases of tracheal scleroma have heretofore required trachectomy together with the more or less constant wearing of the canula. This method is surely only palliative.

In presenting these three unusual cases, I conclude that the correctness of the clinical diagnosis was fully established in the first case, while the happy result of complete recovery followed the removal of the growth which failed to show any symptoms of syphilis, and in the absence of all tests must be put down as a benign growth, again illustrating the value of the bronchoscope as a means of diagnosis and an assistance in the surgical treatment of these cases.

In the second and third cases, the bronchoscope was first used as a means of diagnosis and then as a remedial agent, producing cure by rapid dilation in one case, and giving decided relief in the other.

40 East Forty-First Street.

PLACENTA PRÆVIA—A WARNING

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Within the last two years an unusually large number of articles have appeared in the medical press on the subject of placenta prævia, the last article being the exhaustive one by Ellice McDonald, in *Surgery, Gynecology, and Obstetrics*, of June, 1911. In these different articles, and in the various text-books at my command, I fail to find any reference whatever to the possibility of concealed hemorrhage going on after the leg had been brought down by the Braxton-Hicks method.

That that is a very real danger, however, though undoubtedly very rare, is evidenced by a case which I saw in consultation about two years ago.

The patient was in charge of an unusually well-qualified young physician, a graduate of Johns Hopkins. She was a multipara, whose previous labors had been easy. She had been having slight hemorrhages, but nothing alarming. Further delay, however, being thought inadvisable, she was brought to the hospital for delivery, and I saw her then for the first time in consultation. It was decided to adopt the Braxton-Hicks procedure, and with no difficulty I brought down a leg, as I had done in very many previous cases. The parts were dilating nicely, and thoroughly dilatable, so that it seemed evident that delivery would be accomplished in a short time. As there was no further need for my services I left the patient, her physician exerting steady traction, which seemed to put a complete stop to hemorrhage. Very little blood had been lost during the manipulation. Within an hour, and while I was taking lunch in the hospital dining-room, an assistant came in and said that he thought the attending physician would like to see me, as the patient seemed to be going to pieces. I left the table instantly, and within a minute was at the patient's bedside. She was dying in collapse, and a glance at the abdomen showed the uterine tumor much larger than before, so that the diagnosis of internal hemorrhage was apparent. I directed the doctor to pull, while I exerted pressure above, and in an instant the child was born, the birth being followed by such a deluge of blood and blood-clots as I had never seen before. The patient was *in articulo mortis*, and expired a very few moments after the child was delivered.

Since the above was written there have appeared, in the *American Journal of Obstetrics*, the papers which constituted a symposium on placenta prævia at the last meeting of the American Gynecological Society. These papers are by Edwin B. Cragin, Edward P. Davis, J. Clifton Edgar, Henry D. Fry and T. S. Newell. None of these papers mentions the possibility of a concealed hemorrhage after the leg is brought down, while Fry speaks positively of "bleeding being absolutely under control" by this method, and advises slow delivery to prevent laceration of the lower uterine segment. A few paragraphs later he adds: "hemorrhage is controlled, and if the delivery is left to uterine action the dilatation is slow and safe."

Had the text-books contained any warning of the possibility of concealed hemorrhage going on in these cases, I think the attending physician would have been on his guard and would have recognized the condition before the hemorrhage had reached a fatal stage.

I have had a rather large consultation experience in placenta prævia, and this is the only death from hemorrhage of which I have had any personal knowledge, and this death can be looked on as in a sense unnecessary.

A MODIFICATION OF SLUDER'S METHOD OF TONSILLECTOMY

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The purpose of this paper is to describe a modification of the method of guillotine tonsillectomy which Dr. Sluder advocated in The Journal March 25, 1911, page 867. This modification has been used by me with unvarying success in seventeen cases; its results have proved equal to any dissection tonsillectomy operation formerly tried. It has invariably removed the tonsil and capsule completely, rapidly and bloodlessly. This modification consists in using the ordinary tonsil snare, passed over the tonsil external to the already applied guillotine. Specifically, after the tonsil has been pressed through the window of the guillotine, by the alveolar eminence of the mandible, and engaged by the blade of the guillotine, in the manner described by Dr. Sluder, the distal end of the snare loop is passed over the guillotine and under guidance of the index-finger is placed posterior to, and thus external to, the tonsil and its capsule. Tightening the snare, in the usual manner for the particular snare, completes the removal.

In the use of this method it has not been found necessary to go in twice for any tonsil, however soft, shallow or imbedded. Dr. Sluder mentions the occasional need of going in a second time for remnants of tonsil or capsule. This is probably due to faulty technic, especially if this modification is used; for, if the tonsil is pressed through the guillotine so that the tonsil is drawn from its bed, the snare, when passed over, can be depended on to complete the dissection thoroughly. Further, the snare wound is less likely to bleed than any sharp or dull guillotine wound.

This method is far more rapid than any other form of tonsillectomy. I have myself operated on five cases of tonsils and adenoids in forty minutes, including the time for ether administration. I do not remove any of the anterior pillar as advocated by Dr. Sluder and see no advantage in so doing. This itself may be a frequent source of bleeding. In all other details, I follow closely the description of Dr. Sluder.

419 Boylston Street.

CHALK PASTE A SUBSTITUTE FOR BISMUTH PASTE

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Medical science is deeply indebted to Beck of Chicago for bringing forward the curative properties of bismuth paste. Many a now-healed sinus would still be discharging pus but for the agency of this paste. Since Beck contributed his technic, no appreciable advance has been made by any other surgeon.

Bismuth paste, however, has its limitations. Its chief danger is nitrite poisoning, even when the paste is used in but moderate amount. Two years ago, I witnessed a case in which such poisoning developed. A patient was being treated for a sinus which had persisted eight months following an empyema operation. About four ounches of paste were injected. Three days later, the resulting combination of stomatitis, intestinal colic, diarrhea, albuminuria and symptoms of collapse necessitated the removal of the paste. The patient refused further treatment and left the hospital with the sinus still discharging.

The germicidal action of bismuth is slight. The action of the paste is for the most part mechanical. It is a foreign body, and as such, stimulates a local leukocytosis. Further, it keeps the walls of a wound separated, allowing healing to take place by granulation from the bottom. Bismuth, the metal, has no magical properties. In the paste, then, it is merely a mechanical stimulant to local leukocytosis.

As bismuth has no exclusively specific property, and moreover has the disadvantage of being poisonous, it is necessary to seek a non-poisonous substitute for use in sinuses requiring large quantities. A patient consulted me for the treatment of a large sinus in the thigh following a psoas abscess, and three tuberculous sinuses leading into the shoulder joint. To inject either bismuth or iodoform meant to invite drug poisoning. I decided to try a substitute for the bismuth nitrate, and my final choice was a paste containing equal parts of petrolatum and chalk. This healed all the cavities satisfactorily in three months.

Chalk paste is an improvement on bismuth paste. Like the bismuth, it separates the walls of the wound, and allows *x*-ray photographs. It seems more active than bismuth, probably because the calcium is a proved chemical, as well as a mechanical, stimulant to local leukocytosis. It is safer than bismuth, for a patient cannot be poisoned with chalk.

Chalk paste has won my confidence, and I offer it to the medical profession as an improvement on bismuth paste in every case in which paste injection is indicated.

COMPARATIVE VALUE OF SOME URETHRAL AND OTHER GERMICIDES

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The experiments which form the basis of this contribution were done under the kind direction of Dr. Charles Norris, director of the pathologic department of Bellevue Hospital.

The method employed was as follows: To 2 c.c. of the various dilutions of antiseptics to be tested, were added 2 c.c. of a salt emulsion of the organisms used. It will immediately be seen that this procedure diluted to one-half the antiseptic solution. To equalize this, double the strength of the antiseptic solution was used. The silver preparations were bought in original bottles and prepared according to directions. The liquor cresolis compositus, under the commercial name of lysol, was from the hospital drug supply.

In the case of each organism but a single strain was employed. Controls for each organism were made and the average number of colonies, per plate, were noted. The tubes in which the bacteria were exposed to the different solutions of the different germicides, were left for a period of five, fifteen and thirty minutes, respectively. Then one loopful from each tube was mixed into a tube of acetic-agar and poured into a sterile Petri dish. These were incubated at 37 c. and observed at the end of twenty-four and forty-eight hours. The accompanying results are tabulated after the manner of Post and Nicoll,[1] whose tables appear in The Journal, lv, 1635.

In the case of argyrol, it is to be noted that our results are not in accord with those of others whose results we have reviewed. We have no explanation for this difference.

It has already been demonstrated by a number of laboratory workers that the killing power *in vitro* of the several silver preparations is weak or nil as compared with the action of silver nitrate.

It would seem superfluous to add another protest to the list were it not for the deep root this idea has taken that the silver preparations hold some peculiar power not possessed by silver nitrate in its various degrees of dilution.

The majority of these silver preparations seem to hold a peculiar innoxiousness which, along with their taking color in solution, play a part in urethral medication which fortunately interferes very little with Nature's efforts toward recovery. In fact, they have constituted a means of cleansing the surface, of dilating the urethral canal, and, in the case of the more irritating members of their large family, of causing mild and transient hyperemia, which is a real augment to Nature's plan.

For the privilege of subscribing to their use the dues are about fifty times larger than when an equally efficient dilution of silver nitrate is chosen. This is a consideration when supplying a large hospital.

Bellevue and Allied Hospital spent last year:

For silver nitrate	$ 108.00
for collargolum	25.00
For protargol	224.00
For argyrol	910.00
Total	$1,267.00

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[1] Post and Nicoll: The Comparative Efficiency of Some Common Germicides, The Journal A. M. A., Nov. 5, 1910, p. 1635.

To determine the power of penetration, Wildbolz,[2] of Bern, has done a series of experiments with silver nitrate and protargol on the living mucous membranes of the eye and urethra in dogs—a reduction of the silver being accomplished by exposure to a Finsen light. In the urethra he used 1:1000 to 1:100 silver nitrate and 1 per cent. to 3 per cent. protargol solutions. There was some penetration of the metal down to the subepithelial tissue. In penetrating power, the silver nitrate easily predominated.

NUMBER OF COLONIES IN ONE LOOPFUL TEST SOLUTION AFTER TWENTY-FOUR HOURS' INCUBATION

Solution		Organism	5 Min.	15 Min.	30 Min.
Argyrol	30 per cent.	Strep.	0	0	0
“	30 per cent.	Staph.	0	0	0
“	30 per cent.	B. coli	0	0	0
“	30 per cent.	Gon.	79	50	10
“	10 per cent.	Strep.	4	0	0
“	10 per cent.	Staph.	0	0	0
“	10 per cent.	B. coli	0	0	0
“	10 per cent.	Gon.	90	70	50
“	1 per cent.	Strep.	50	35	35
“	1 per cent.	Staph.	100	75	100
“	1 per cent.	B. coli	1,500	500	100
“	1 per cent.	Gon.	120	50	25
Protargol	10 per cent.	Strep.	25	20	20
“	10 per cent.	Staph.	100	1	75
“	10 per cent.	B. coli	0	0	0
“	10 per cent.	Gon.	30	15	25
“	5 per cent.	Strep.	49	31	26
“	5 per cent.	Staph.	150	50	50
“	5 per cent.	B. coli	0	100	25
“	5 per cent.	Gon.	90	50	35
“	1 per cent.	Strep.	48	44	39
“	1 per cent.	Staph.	∞	200	150
“	1 per cent.	B. coli	1,000	700	200
“	1 per cent.	Gon.	100	35	25
Silver nitrate	2 per cent.	Strep.	0	0	0
“	2 per cent.	Staph.	0	0	0
“	2 per cent.	B. coli	0	0	0
“	2 per cent.	Gon.	0	0	0
“	1 per cent.	Strep.	6	5	0
“	1 per cent.	Staph.	0	0	0
“	1 per cent.	B. coli	10	15	50
“	1 per cent.	Gon.	0	0	0
“	½ per cent.	Strep.	10	8	0
“	½ per cent.	Staph.	0	0	0
“	½ per cent.	B. coli	100	36	10
“	½ per cent.	Gon.	0	0	0
“	1 to 1,000	Strep.	15	70	6
“	1 to 1,000	Staph.	7	14	5
“	1 to 1,000	B. coli	600	500	300
“	1 to 1,000	Gon.	0	0	0
“	1 to 5,000	Strep.	23	40	15
“	1 to 5,000	Staph.	10	6	3
“	1 to 5,000	B. coli	1,000	5,000	5,000
“	1 to 5,000	Gon.	0	0	0
“	1 to 10,000	Strep.	44	26	50
“	1 to 10,000	Staph.	22	5	3
“	1 to 10,000	B. coli	∞	∞	∞
“	1 to 10,000	Gon.	525	40	20
Cresol Comp.	10 per cent.	Strep.	0	0	0
“	10 per cent.	Staph.	0	0	0
“	10 per cent.	B. coli	0	0	0
“	10 per cent.	Gon.	0	0	0
“	5 per cent.	Strep.	0	0	0
“	5 per cent.	Staph.	0	0	0
“	5 per cent.	B. coli	0	0	0
“	5 per cent.	Gon.	0	0	0
“	2.5 per cent.	Strep.	0	0	0
“	2.5 per cent.	Staph.	5	0	0
“	2.5 per cent.	B. coli	0	0	0
“	2.5 per cent.	Gon.	0	0	0
“	1.2 per cent.	Strep.	0	0	0
“	1.2 per cent.	Staph.	4	0	0
“	1.2 per cent.	B. coli	200	0	0
“	1.2 per cent.	Gon.	550	300	0
“	0.5 per cent.	Strep.	3	0	0
“	0.5 per cent.	Staph.	8	0	0
“	0.5 per cent.	B. coli	∞	40	16
“	0.5 per cent.	Gon.	600	500	100
Collargolum	2.5 per cent.	Strep.	15	8	0
“	2.5 per cent.	Staph.	15	1	0
“	2.5 per cent.	B. coli	0	0	0
“	2.5 per cent.	Gon.	80	100	15
“	1.25 per cent.	Strep.	25	12	10
“	1.25 per cent.	Staph.	∞	100	100
“	1.25 per cent.	B. coli	0	100	100
“	1.25 per cent.	Gon.	120	100	75
Cargentos	20 per cent.	Strep.	0	0	0
“	20 per cent.	Staph.	7	0	0
“	20 per cent.	B. coli	0	0	0
“	20 per cent.	Gon.	18	10	0
“	5 per cent.	Strep.	28	20	15
“	5 per cent.	Staph.	50	2	20
“	5 per cent.	B. coli	0	0	0
“	5 per cent.	Gon.	75	0	50

As to the value of antiseptics penetrating below the surface: In order to check up the work of other experimenters, Derby,[3] of Boston, made a series of observations as follows: He took samples of sterile hydrocele fluid and bovine serum: to 1 c.c. of the serum he mixed 1 c.c. of the silver preparation to be tested and to this he exposed the staphylococcus. The nitrate of silver, 2 per cent., showed a growth of the organisms after an exposure of from thirty to forty minutes; the protargol, 8 per cent., after sixty minutes; the argyrol, 50 per cent., gave an abundant growth after three and one-half hours. Other preparations showed the same results.

This goes to show how completely the body fluids can destroy the bactericidal power of antiseptics when brought into contact with them, and how little advantage there can be in a drug having the power to penetrate below the surface.

HINTS FOR RADIOGRAPHERS

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It is usually necessary to make two exposures in different axes when radiographing injured or diseased parts, or suspected ones. This can be nicely accomplished by using a single plate. This applies particularly to the extremities, where most of such work is required.

After placing the plate in its envelopes, if using an 8 by 10 plate for instance, draw with a pencil on the face of the outside envelope, a line which will divide the contained plate into two equal parts, each of which will then measure 5 by 8 inches. Have at hand a piece of sheet lead about 10 by 6 inches and thick enough to be absolutely impervious to the rays—about 1/10 inch thick is what I use for this purpose. After the plate is in position under the part to be radiographed, using one-half of the plate, as indicated by the line mentioned, cover the other half of the plate with the sheet of lead, adjusting it accurately to the line on the envelope. Then make the exposure on the unprotected part of the plate.

Remove the lead to the other half, and adjust for the second exposure on the part of the plate not yet exposed. Make the second exposure in a direction transverse to the former, or in such direction as may be required by the case and its anatomy. Be sure that the two exposures are approximately equal in intensity, so that they will develop together. When the negative is finished, the complete record of the case is on a single plate, which is not only much more convenient than using separate plates, but also more economical.

It is also my practice to make all needed notes of the exposure, such as the date, initials or name of patient, direction of radiance, number of tube, its penetration, amount of current, distance of plate from target and length of exposure, on some unimportant part of the negative, with a soft lead-pencil. Thus the whole technic is indicated without more trouble, and is always at hand when examining the negative. If a print is made this will not often show, but then it is not required. The penciled words will usually not be visible until the negative is examined in such direction that the light is reflected from the graphite which has been deposited. Then the words become sufficiently plain to be easily read.

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[2] Wildbolz, H.: Experimentelle Untersuchungen über die Wirkung von Silber Nitrat und Protargollösungen auf labende schleimhäute, Ztschr. f. Urol., 1907, pp. 185-200.

[3] Derby, G. S.: An Experimental Study of the Bactericidal Power of Various Silver Preparations, Boston Med. and Surg. Jour., 1906, clv, 341.

In indicating the direction of exposure, I do not write dorso-ventral, intero-external, etc., as is generally advised, but use only the word which describes the part next the sensitive film. This describes the exposure as accurately, and obviates all possible errors of understanding later. Except when radiographing parts containing only one bone and no joints, such as the middle thirds of the thigh or arm, it is not even necessary to write "right" or "left," as the anatomy of the part in connection with mention of the side next the plate, will enable the physician examining the negative to see which side is represented on the plate.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

ACIDOL.—Betainæ Hydrochloridum.—Betaine Hydrochloride.—Acidol, $C_5H_{11}NO_2.HCl$, is the hydrochloride of betaine.

It is prepared by the action of hydrochloric acid on betain. Acidol consists of colorless crystals, freely soluble in water. It contains 23.8 per cent. absolute hydrochloric acid.

Actions and Uses.—In the dry state acidol does not split off hydrochloric acid at ordinary or high temperature, but when dissolved in water there is a gradual liberation of the acid. It therefore represents a very convenient method of administering hydrochloric acid.

It is used for the same purposes as hydrochloric acid.

Dosage.—0.5 Gm. (8 grains), which corresponds to about 1.1 Cc. (18 minims) of diluted hydrochloric acid U. S. P., to be taken dissolved in water.

Manufactured by the Actien-Gesellschaft für Anilin-Fabrikation, Berlin, Germany (Farbenfabriken of Elberfeld Co., New York). Not patented. U. S. trademark No. 43,628.

Acidol Tablets, 8 grains.—Each tablet contains acidol 0.5 Gm. (8 grains).

Acidol Pepsin Tablets, Mild.—Each tablet contains pepsin 0.2 Gm. (3 grains) and acidol 0.05 Gm. (1 grain). U. S. patent No. 806,615 (Dec. 5, 1905; expires 1922).

Acidol Pepsin Tablets, Strong.—Each tablet contains pepsin 0.1 Gm. (1½ grain) and acidol 6.4 Gm. (6 grains). U. S. patent No. 806,615 (Dec. 5, 1905; expires 1922).

HEGONON.—Silver nitrate ammonia albumose.—Hegonon is a substance obtained by treating silver ammonium nitrate with albumose, said to contain approximately 7 per cent. of organically combined silver.

It is a light brown powder readily soluble in water. Its aqueous solutions do not coagulate albumin, even on heating, nor are they precipitated by sodium chloride.

Actions and Uses.—The pharmacologic action of Hegonon is similar to that of other protein silver preparations. Hegonon is used as a substitute for silver nitrate.

Dosage.—It can be used in concentrations of from 1 to 6.000 to 1 to 2.000 for irrigation. Urethral injections of ¼ per cent. are recommended.

Manufactured by the Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent and trade-mark applied for.

CYPRESS OIL—Oleum cupressi.—An oil distilled from the leaves and young branches of *Cupressus sempervirens L.*

Cypress oil is a yellowish liquid with a pleasant odor suggesting cypress. After evaporation it leaves an odor that reminds one of labdanum or amber. Its specific gravity is 0.88 to 0.89 and its specific rotation + 4° to + 14°. The oil is soluble in 4 to 5 parts of 90 per cent. alcohol.

Cypress oil consists chiefly of terpenes, principally d-pinene; sylvestrene and sesquiterpenes appear also to be present. The oil contains small amount of esters and occasionally a substance which appears to be an optically inactive modification of cedrol.

Actions and Uses.—Cypress Oil is said to be useful by inhalation for the relief of whooping-cough.

Dosage.—The oil should be diluted with 5 parts of alcohol and 15 Cc. (½ ounce) of the mixture sprinkled three to four times daily over the coverlet, pillow and underwear of the child. The application may be repeated once or twice during the night, if recurring attacks are unusually severe.

Non-Proprietary Preparation:

Oil of Cypress.—Schimmel & Co.

Manufactured by Schimmel & Co., Miltitz near Leipsic, Germany (Fritzsche Bros., New York). No patent or trade-mark.

Therapeutics

HICCUP: SINGULTUS

Like some other symptoms, hiccup or singultus, while not to be distinguished as a distinct disease, nevertheless sometimes becomes of sufficient importance to merit individual consideration. The phenomenon consists of a spasmodic contraction of the diaphragm accompanied by a characteristic noise caused by the impact of the incoming air against a closed, partially closed, or at least not fully opened glottis. In normal respiration, coincident with the descent of the diaphragm there is an opening of the glottis through the contraction of the crico-arytenoid muscle. This opening does not occur when there is hiccup. Many believe that accompanying the spasmodic contraction of the diaphragm, there is also a spasmodic closure of the glottis, but this has not been definitely determined. The motor impulse which gives rise to the spasm of the diaphragm arises in the medulla and is transmitted through the phrenic nerve. This impulse may be caused reflexly by any irritation in the course of the pneumogastric nerve, especially in the stomach or the abdominal viscera. Irregular contraction of the diaphragm may also be aroused by pressure on the phrenic or pneumogastric nerves in the chest by tumors, aneurysms, etc.

Most cases in which hiccup is a prominent feature may be divided into several more or less distinct classes. The first class may be distinguished as acute, transient hiccup, and includes a very great proportion of all cases in which the symptom is observed. It occurs most commonly in infants and children, and usually does not last more than a few minutes. It is generally associated with some disturbance of the digestive organs, either from overfilling of the stomach, or from the ingestion of food which is indigestible, or to the accumulation in the stomach of gas which has been produced by fermentation, or to the accumulation of air which has been swallowed. These simple cases are generally easily benefited by simple measures of treatment.

When a baby begins to hiccup, it is often given granulated sugar, and many times with good result. Or a teaspoonful of plain water, or of water with anise or peppermint, any of which may be successful. An older child may be made to hold his breath for a portion of a minute, or to drink rapidly a glass of water, either of which methods may hold the diaphragm quiet long enough to overcome the tendency to spasm. Adults can hold the breath longer, and frequently this will bring about a cessation of the hiccup.

Sometimes provoking sneezing will stop the hiccup. Also, if a patient is well and strong, any slow muscular effort, as lifting a weight, or especially pulling the body several times up by the hands holding onto any trapeze arrangement, is often successful.

If these simple measures do not afford relief, and the stomach is overloaded, an emetic, as ipecac, may be administered. If the symptoms do not seem to be sufficiently severe to demand such heroic treatment, a carminative, such as a few drops of the spirit of peppermint with the addition of a little soda, or 20 drops of the aromatic spirit of ammonia, will often afford relief. As preventive treatment, any indigestion should, if possible, be corrected, and constipation should be treated.

In the second class may be grouped those cases in which the motor impulse giving rise to the spasm is excited by a central irritation which may be brought to the medulla through the blood. Here belong the cases of hiccup arising in patients suffering with diabetes or with uremia in chronic nephritis. In this same class probably belongs the hiccup occurring in patients who are seriously ill with typhoid fever and in sunstroke; and here perhaps, also, should be classed those cases in which hiccup occurs as a symptom of hysteria or other functional nervous disease.

When uremia is the agent which is causing the hiccup, treatment by hot-air baths will often prove efficacious by dilating the peripheral circulation, promoting elimination through the skin, and allowing the kidneys to resume their function.

In the third class may be included those more serious cases in which hiccup is a most distressing symptom, and in which by its obstinate persistence, if unrelieved, it often hastens or precipitates a fatal result. In this class are included a large variety of abdominal troubles; among them may be enumerated inflammation of the bowels due to a perforation of any abdominal viscus and especially of an ulcerating appendix; any obstruction to the function of the intestine, such as paresis of the muscular coat of the intestine, obstruction by a mass of fecal matter which it is impossible to propel through the canal, obstruction by intussusception or volvulus, or by bands of cicatricial tissue on the outside of the intestine or strangulation of a hernia; inflammation of the liver and of the gall-bladder, especially when complicated by gall-stones; inflammation of the pancreas; and cystitis. Arteriosclerosis, by causing degeneration of the arteries in the neighborhood of the origin of the phrenic nerve, may cause hiccup. A fractured rib may also cause obstinate hiccup. In such cases as these hiccup is often a most obstinate and dangerous symptom, and a great variety of remedial measures may have to be tried before the hiccup is stopped, even if it is possible to stop it.

At first, certain external remedies may be tried; the easiest and simplest is a large mustard plaster applied to the epigastrium. If there is much distention of the abdomen from gas in the intestines, turpentine stupes may be applied. Often an enema containing turpentine will be found useful. Sometimes pressure on the phrenic nerve where it passes over the scalenus anticus muscle will prove effective. Pressing three fingers of each hand on each side of the trachea and larynx, with the thumbs on the back of the neck, so as to compress the phrenic and pneumogastric nerves has sometimes proved effective. The application of a counter-irritant, such as a mustard paste, to the back of the neck, or spraying this region with ether is sometimes useful.

A great variety of antispasmodic medicines have been employed with varying degrees of success. In some cases a hypodermatic injection of morphin and atropin will stop the spasm, or atropin sulphate, in a dose of $^{1}/_{150}$ of a grain may be given alone, hypodermatically, and repeated two or three times a day, if needed. In individual cases there may be objection to using this remedy on account of the danger of masking the symptoms and obscuring the diagnosis. The spirit of camphor and the spirit of chloroform may often be given with advantage, and they may be combined with the compound tincture of lavender. These are especially useful when the nervous element predominates and when there is no severe organic difficulty.

One of the most useful drugs in controlling convulsive action of the muscles is chloral, and many obstinate cases of hiccup are relieved by this drug. It may be administered in a dose of 1 gm. (15 grains), and repeated, if necessary, in two hours.

Gelsemium has been highly praised by some practitioners. This drug is believed to diminish spasmodic irritability of the muscles by action on the nerve centers. It also depresses the respiratory center, which obviously is affected when this symptom is present. It acts quickly, its full effect being obtained in an hour, and the effect commencing to pass away in three hours. A reliable preparation should be prescribed, and the fluidextract may be given in doses of 3 or 4 drops, repeated every three or four hours, or the tincture may be given in a dose of 15 or 20 drops, repeated every four hours.

Nitroglycerin, in doses of $^{1}/_{100}$ of a grain, repeated every hour or every two hours, is beneficial in some cases. Occasionally the inhalation of a few drops of nitrite of amyl will produce quick relief. Musk is highly recommended by some writers. Scopolamin hydrobromid, in a dose of $^{1}/_{200}$ of a grain, may be given by the mouth or hypodermatically, and repeated, if needed.

Sometimes chloroform to partial or complete anesthesia must be administered to check the spasmodic contraction of the diaphragm, and in some cases the hiccup will not recur.

In some cases, confining forcibly the movements of the ribs, either by straps of adhesive plaster applied around the lower part of the chest or by a bandage tightly pinned around, will afford relief by diminishing the extent of the movement of the diaphragm.

The state of the bowels should always be inquired into, and if constipation is present, its cause must be determined. Especially is it important to examine the abdomen for the presence of hernia. A small femoral or inguinal hernia may easily escape a superficial examination, and may give hiccup as an early symptom, and later cause obstruction of the intestines, which can, in some cases, at this early period be easily relieved by reduction of the hernia. It is important to secure action of the bowels in most cases of hiccup to remove any collection which may set up irritation or which may be giving rise to any toxemia.

Double Congenital Club-Hand with Absence of Radii.—A case of double congenital club-hand of the radiopalmar variety, with absence of radius on both sides, is recorded by A. H. Tubby (*Proc. Roy. Soc. Med.*, May, 1911). The case was unusual, inasmuch as the development of the metacarpal bones and phalanges appeared to be perfect. The ulna was curved and greatly thickened, especially toward its lower end. In this case and two similar ones, Tubby operated by splitting the ulna vertically up about the lower two-thirds, drawing outward the outer fragment and fixing its lower end with silkworm-gut to the outer part of the carpus. The effect was to steady the wrist and hand and to increase their range of flexion and extension. Pronation and supination could not be restored.

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[*For other information see second page following reading matter*]

SATURDAY, JULY 29, 1911

PROTEIN FEVER

Attention was recently called in these columns[1] to the growing belief that many of the features of infectious diseases are, in all probability, anaphylactic in character, and result from the liberation in the body of toxic cleavage products split from bacterial proteid by ferment action. Striking confirmation of this view is afforded by recent work by Vaughan and his colleagues[2] on the so-called "protein fever." This phenomenon—the production of heightened temperature by the parenteral introduction into the body of proteid material—is not of recent observation, although its correct interpretation has long been obscure. So the postoperative rise of temperature following aseptic surgical work is probably of this character, and Vaughan believes that "hay-fever" or "rose-fever" is simply the result of reaction of the body to the vegetable proteids absorbed through the respiratory mucosa.

Although the two examples just cited are, comparatively speaking, not dangerous, he was able in animals to produce disease of grave and even fatal character, by the proper administration of the foreign material. Thus in rabbits the repeated injection of small quantities of white of egg caused fevers closely resembling typhoid in type, while by varying the frequency and size of dosage, remittent and intermittent fevers could be produced. The general character of the process was shown by the fact that besides white of egg, laked foreign corpuscles and vegetable proteids likewise caused fever when introduced by other than intestinal channels.

Vaughan concludes that the great majority of fevers originate in this way, the foreign proteid in most cases being the small, but constantly maintained, quantity of bacterial matter lodged in the body during an infection. The ferments by which the toxic cleavage products are liberated he considers to be of two sorts: the one normally present and of only limited specificity, the other resulting from the stimulation of certain tissue cells by the deposition in them of the proteid when this occurs in quantities too great for the small quantity of the more general ferment to destroy. The localization of an infection, according to this view, depends largely on the predilection of the proteid for some particular tissue—that of the pneumococcus for the lungs, of typhoid for the mesenteric and other lymph nodes, etc.

The actual causation of fever, he believes, is due to three factors operating in varying degrees—the unaccustomed stimulation of cellular activity by the foreign material, the heat liberated by the cleavage of this material, and the reaction between the products of this cleavage and the tissues. From the minute quantities of proteid that suffice to produce pyrexia, it is probable that the second factor is for the most part negligible, and that the other two are mainly instrumental in the cause of fever.

AN EFFICIENT BOARD OF HEALTH

We have previously commented favorably on the work of the Montclair (N. J.) Board of Health. The Sixteenth Annual Report of the Board recently issued is worthy of its immediate predecessors, and deserves wide circulation. It shows what can be accomplished by a progressive and well-informed board of health even with a modest regular annual appropriation of $5,000 (for a population of about 22,000). Chemical and bacteriologic work is carried on, vital statistics are carefully collected and recorded, inspection of certain sources of food-supply is frequent and evidently thorough, and outbreaks of communicable disease are carefully investigated.

Especially does the supervision of the milk-supply seem to have reached a high degree of efficiency. As in previous reports, a complete survey of the milk situation is given and the merits and demerits of the different milk dealers and sources of supply are discussed with the fullest frankness. Dairies are rated according to the plan adopted by the U. S. Bureau of Animal Industry and the comparative ratings for both equipment and methods are published in full. The bacterial counts are also given, and altogether the data supplied furnish the physicians and other interested citizens of Montclair with a good basis for forming a judgment as to the purity and wholesomeness of the individual milk-supplies. The outspoken methods employed are shown by the following excerpts:

> "*Borden's Condensed Milk Company:* This supply has already been referred to in connection with the refusal of this company to have its herds tested for tuberculosis. We have no criticism to make as to the manner in which the Borden Company handles the milk after it comes into its possession. . . . Before the milk is received by the Borden Company, however, it is not handled under such favorable conditions. The milk is not from tested cattle, proper care and cleanliness are not enforced at the time of milking and the milk is not properly cooled."
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> "*Canfield, M. H.:* This supply was uniformly high in bacterial count and steps will be taken to exclude it from the town unless improvement is shown."

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[1] Infection and Anaphylaxis, The Journal A. M. A., March 11, 1911, p. 746.

[2] The Journal A. M. A., Aug. 21, 1909, p. 629; Ztschr. f. Immunitätsforsch., 1911, ix, 458

"*Croot Bros.*: This supply was from an excellent dairy, but owing to careless handling the bacterial counts were excessive."

It is by publicity of this sort as well as by inspection and instruction that really noteworthy results have been reached. The average bacterial count of all the milk sold in Montclair in 1910 was only 46.000. Two dairies throughout the year delivered milk with a maximum bacterial count of less than 20,000. One dairy reduced its average from 80,000 in 1909, to 9,700 in 1910. Conditions like this are naturally not reached all at once, but are the result of persistent endeavor extending over several years. Montclair is certainly to be congratulated on possessing so efficient a board of health.

THE INTERNATIONAL PLAGUE CONFERENCE

The International Plague Conference called together by the Chinese government after the outbreak of the plague in serious proportions in that country, has made to that government an interim report which includes a summary of the evidence collected by the commission and a series of resolutions and recommendations approved by the conference; but this report will not be made public until the full report of the conference is issued. From the news accounts of the discussions already published, however, the work and the conclusions of the conference may be briefly summarized.

No types of plague were found other than the pneumonic or the combined pneumonic and septicemic, and this is a point of great interest in this epidemic. The other great epidemics have been mostly of the bubonic form. The theory that the plague originated from infected tarabagans, a species of marmot, a fur-bearing animal of the squirrel family, has been accepted as probably the correct one. That this animal is extremely susceptible to plague was shown by the American delegates. It has also been found that this animal suffers from a form of subacute or chronic plague, and this probably explains why the plague is endemic in Northern China. Neither rats nor other animals besides the tarabagan were found to be largely affected with the plague, only one rat having been found to be infected in upward of 30,000 rodents examined by the Chinese and Japanese. One dog was said to have died from plague at Dalny, and there were circumstantial accounts of mules having been infected. The plague promptly subsided when attacked in earnest and the chief factor in its eradication appears to have been the drastic preventive measures taken by the Russian, Japanese and Chinese authorities, although climatic and other natural influences may have contributed to this result. That there was no decrease in the virulence of the bacillus during the later stages of the epidemic seems to have been conclusively demonstrated. Even in the small villages and hamlets the inhabitants were frightened by the fatality of the disease into taking crude but effectual precautions.

It was almost conclusively demonstrated also, that the disease was introduced into every new center by the arrival of persons actually suffering from plague or incubating the disease. That pneumonic plague can be carried by clothing or merchandise or by vermin was not proved and the direct human factor in its transmission seemed to be the chief one. Experiments undertaken by the American and Japanese delegates seemed to prove conclusively that the breath of the sufferer was not infective apart from particles of sputum expelled by coughing or possibly by forcible speaking. The sputum, however, was shown to be infective as long as it remained moist or frozen, and it is believed that dust can carry infection only by acting as the medium for small particles of moist or frozen sputum, and houses are probably not infective apart from the presence of such infective sputum. It has been determined that the incubation period varies from two to seven days, but is usually three to five days. The pulse was regarded by some as the earliest diagnostic sign; by others, including the Russian delegate, Zabolotny, the temperature was relied on. The absence of marked physical signs in the chest during the early stages was notable, and rendered diagnosis difficult. Less than five recoveries were recorded.

The value of plague vaccines and serums during a pneumonic epidemic was thought to be doubtful, although this feature developed considerable difference of opinion among the delegates. It was suggested that attenuated living cultures of the bacillus might be used for protective inoculation, but this was condemned by some as being too dangerous and therefore unjustifiable.

Two facts seem to stand out prominently from the work of the conference, and these are that the human host is the most important factor in the spread of the infection, and that rather close contact is a necessary element. This is in line with the knowledge that is now becoming more clearly established in regard to other epidemic and infectious diseases, and is the most important point to be taken into consideration in dealing effectually with them. Even the possibility of immune carriers was demonstrated in at least one instance in this epidemic, and this is in line also with our growing knowledge of the infections.

In connection with the present perfection of laboratory methods in the study of diseases, especially of the infectious diseases, the conference plan of reaching results in a large way in diseases that menace large populations is a marvelously quick and efficient one. This conference, along with the other important international conferences of recent years, is a distinct step forward in the control or elimination of deadly world-epidemics.

It is gratifying for Americans to note that in this important conference the delegates from this country, Drs. Strong and Teague, took a most prominent, if not the leading part.

Current Comment

EDITORIAL ESTIMATES OF DR. WILEY

One of the most striking results of the effort to remove Dr. Wiley has been the unanimity and vigor with which the daily newspapers of the country have denounced the attacks of his enemies. Almost without exception, the press has recognized that the charges preferred against him were largely technical and were trumped up simply to afford a pretext for his removal. The influences of the interests concerned in this attack have been clearly recognized. The Providence (R. I.) *Evening Tribune* says:

> That there is a conspiracy to oust Dr. Wiley is indisputable. It has made itself visible for a long time past, both outside and inside the Department of Agriculture. It has been carried on with venomous persistence by those poisoners of the stomachs of the people whom he has hunted down and exposed, those manufacturers of fraudulent foods and compounders of misbranded drugs who hope to slide back into their old enormously profitable evil practices when Dr. Wiley is out of office. It is they who have uncovered this technical offense on his part and the animus and purpose of the charges they make against him are entirely clear.

The Burlington (Vt.) *News* is particularly outspoken:

> The plunderers and poisoners of the people are determined to get Wiley out of their way so that they can go on unrestricted in making money out of poisons. Dr. Wiley has done a remarkable work in his fight against food and drink poisons. He practically alone was responsible for the rigid law against placing any deleterious substance in the foods and drinks of the people.

The Wheeling (W. Va.) *Intelligence* recognizes the animus behind the attack:

> Dr. Wiley's efforts have driven adulterators and food poisoners out of business. This is a great and splendid work. Naturally a man engaged in such a work will arouse antagonism and his enemies will discredit him if possible.

The Buffalo (N. Y.) *Enquirer* endorses Dr. Wiley as the protector of the people:

> Pure food and drug laws amount to nothing without a man of the stamp of Dr. Harvey W. Wiley, chief of the Bureau of Chemistry, to enforce them. Dr. Wiley has done much to reduce the sale of adulterated foods and drugs. That work has been good for the consumer, although it has seriously interfered with the business of the adulterators. The latter naturally do not like Dr. Wiley. The former love him and will not quickly forgive unfair treatment of him. . . . The people will stand by themselves if they stand by Wiley. He is the man who has made the goods match the label. He is protecting the people from fraud, much of it worse than the fraud which merely cheats the purchaser out of money. The enmity he has aroused is his glory. The hatred of crooked manufacturers is proof of his efficiency.

The Providence (R. I.) *Journal* says:

> Popular judgment is not infallible, to be sure. It is too often based on mistaken premises. But it is a sound instinct which leads both Congress and the people to believe that the present situation has been brought about, in the last analysis, by resentment over Dr. Wiley's services in behalf of public health.

The above are samples of the editorial comments from all over the country. They show plainly that neither the press nor the people are disposed to tolerate the dismissal of a faithful and valuable public servant on a trumped-up, technical charge. They recognize the influences which, secretly and underhandedly, have been at work for years for the overthrow of the one man who stood between the dishonest manufacturer and the public. It is impossible to believe that the president will approve the findings of Attorney-General Wickersham, since, whatever may be the nature of the technical offense charged, it must be fully evident to President Taft that the great American public will not for a moment approve of the removal on a mere technicality of an honest official who stands in the public eye as the champion of the pure food law and the protector of the people's rights.

NEW PRESERVING MEDIUM

What promises to be of useful application for museums and demonstration purposes is a solution invented by Wickerschener, of the Berlin Zoologic Museum, for fixing and preserving plants and animals in their natural colors. The solution is prepared by dissolving in 3 liters of boiling water 100 grams of alum, 25 of sodium chlorid, 12 of potassium nitrate, 60 of potassium carbonate, and 10 of arsenious acid. To this 1,200 c.c. of glycerin and 300 c.c. of methyl alcohol are added. Objects preserved in this liquid are said to retain their form, color and suppleness to a remarkable degree. Even after a considerable lapse of time muscle tissue retains its fresh appearance, and can be cut as in the fresh state, and ligaments remain perfectly pliable, permitting the demonstration of movements as in life. This solution differs materially from the Kaiserling fluid, although both contain potassium salts. The composition of Kaiserling's fluid is: potassium nitrate, 10; potassium acetate, 30; liquor formaldehydi, 750; distilled water to make 1,000.

THE CHOLERA SITUATION

Notwithstanding the somewhat alarming headlines in the newspapers, regarding the presence of Asiatic cholera in the United States, there is no cause for alarm. In the first place, those in charge of the quarantine stations are thoroughly alive to their responsibility, and, consequently, there is little fear of many cases coming to this country. In addition to the usual methods for preventing those suffering with infectious diseases from landing in this country, the United States Public Health and Marine-Hospital Service has made additional regulations for the present conditions, in that all steerage passengers arriving from ports that are likely to be infected with cholera are subjected to bacteriologic examination and detention until such examination proves that they are not cholera bacillus carriers. The period of observation has also been extended from five to ten days. It should be remembered, further, that medical science has so advanced that even though the epidemic did obtain a foothold in this country, it could easily be controlled, and the individual cases managed much better than would have been the case twenty-five years ago. To repeat, there is no cause whatever for alarm.

Medical News

ILLINOIS

New Alienist Appointed.—Governor Deneen is said to have accepted the resignation of Dr. J. L. Greene, Springfield, alienist on the State Board of Administration and to have appointed as his successor, Dr. Frank P. Norbury, whose resignation from the position of superintendent of the Kankakee State Hospital was noted in THE JOURNAL, July 22. It is announced that Dr. Greene has been offered the position of superintendent of the Arkansas State Hospital, Little Rock.

Personal.—Dr. Maurice A. Bernstein, senior physician of the Oak Forest Infirmary, has resigned.——In a collision with an electric car, July 20, the automobile of Dr. Fremont C. Knight, Waukegan, was demolished, but Dr. Knight received only slight injury.——Dr. John C. Foley, Waukegan, was knocked down by his automobile and suffered a fracture of the clavicle.——Dr. Henry Ward Clifton, Macomb, has moved to Lacon.——Dr. Ferris F. Tannus, Bloomington, has sailed for Europe.——Dr. David E. Yantis has been appointed physician of the Illinois Traction System at Urbana.——Dr. James A. Flautt, who has been seriously ill at his home in Otterville, is reported to be convalescent.

Chicago

Personal.—Dr. and Mrs. Lewis L. McArthur and Dr. and Mrs. Arthur Dean Bevan sailed for Europe, July 19.——Dr. and Mrs. Wesley John Woolston, Geneva, Ill., have sailed for Europe.——Dr. Clara Pauline Seippel has qualified as assistant city physician, and will assume her duties August 9.

Asked to Report Diarrheal Diseases.—Dr. George B. Young. Commissioner of Health, requests that physicians report all cases of diarrheal diseases on the postal cards furnished by the department. This has an especial significance on account of the outbreak of cholera among immigrants at New York City. While the department is confident that the national and local authorities are taking every precaution, including the bacterial examination of discharges of every one coming from cholera-infected ports, it behooves the local profession, especially those who practice among Italians, to take special precautions.

INDIANA

State Treatment of Rabies.—The State Board of Health on July 10, began the treatment of the first person who appealed for aid under the new law which provides for the treatment of indigent persons afflicted with rabies.

State Hospital for Tuberculosis.—The secretary of the State Board of Health has issued a circular letter to physicians urging them to make use of the State Hospital for Tuberculosis, Rockville, which was opened April 1, but to which only a few patients have thus far applied for admission.

State Board Changes.—Dr. John R. Hicks, Covington, has been appointed a member of the State Board of Health to succeed Dr. George T. MacCoy, Columbus, term expired; Dr. William Niles Wishard, Indianapolis, president of the board, has resigned; Dr. T. Henry Davis, Richmond, has been reappointed a member and Dr. James S. Boyers, Decatur, has been appointed as successor to Dr. Wishard.

New Dean at Indiana University School of Medicine.—Dr. Burton D. Myers, secretary of the Indiana University School of Medicine, writes that Dr. Charles P. Emerson has been appointed by the trustees as dean of that medical school. It is stated that Dr. Emerson will enter on his teaching and executive duties at the beginning of the fall term. The arrangement provides that he may do a limited consultation practice so long as that does not encroach on his college duties. Dr. Emerson will reside in Indianapolis.

Personal.—Dr. Jacob R. Etter, Crawfordsville, has been designated as surgeon general of the Uniform Rank of Odd Fellows of the World.——Dr. Charles A. Stafford, Indianapolis, is seriously ill on account of cerebral hemorrhage.——Dr. E. A. Carlson has been appointed secretary of the board of health of Madison, vice Dr. Jefferson Cooperider, deceased.——Dr. Orange G. Pfaff, Indianapolis, who has been seriously ill with septicemia, has recovered.——Dr. Urban A. Lyle has resigned from the board of health of Lafayette.——Dr. Aldine E. Morgan has been appointed chief surgeon of the Soldiers' Home of Lafayette.——Dr. Harry H. Smith, Jeffersonville, has resigned as physician to the Indiana State Reformatory to accept the position of chief surgeon for the American Rolling Mill Company at Middletown, O., and will be succeeded in August by Dr. James H. Walker. Henryville.——Dr. Sumner A. Furniss, Indianapolis, was burned painfully on the hands and forearms, July 14, by the ignition of gasoline which was being poured into the tank of his automobile.

IOWA

Personal.—Dr. Albert De Bey, Orange City, has been elected president of the State Board of Medical Examiners, and Dr. Bert L. Eiker, president of the State Board of Health.——Dr. Guilford H. Sumner, Waterloo, has been reelected secretary of the State Board of Health.——Lieut. Horace Lee Husted, M. C. N. G., Iowa, Muscatine, has resigned.——Dr. George A. Smith, Clinton, has been appointed a member of the State Board of Health, vice Dr. George Edward Decker, Davenport, resigned.——Dr. George W. Coit, after forty years' practice in Missouri Valley, announces that he has decided to retire.——Dr. Frederick Pomeroy Lord, Iowa City, has resigned from the faculty of the state university to become professor of anatomy in Dartmouth Medical School, Hanover, N. H.

Medical Societies Elect.—At the fifty-second annual meeting of the Iowa Union Medical Society, held at Cedar Rapids, July 12, the following officers were elected: president, Dr. David C. Brockman, Ottumwa; vice-president, Dr. Lewis William Harding, Solon; secretary, Dr. Frederick G. Murray, Cedar Rapids (reelected); treasurer, Dr. George P. Carpenter, Cedar Rapids (reelected), and censors, Drs. Laurence W. Littig. Iowa City; Frederick Cecil Skinner, Le Claire (reelected), and William Edward Owen, Cedar Rapids.——The Austin Flint Medical Society at its annual meeting held in Clear Lake, July 11-12, elected the following officers: president, Dr. Joseph Clinton Powers, Hampton; vice-president, Dr. Elmer E. Dunkelberg, Waterloo; secretary, Dr. Charles Freeman Starr, Mason City, and treasurer, Dr. Will L. Hearst, Cedar Falls. Waterloo was selected as the next meeting place.——Des Moines Valley Medical Society at its fortieth annual meeting held in Ottumwa, elected the following officers: president, Dr. Alfred Oscar Williams, Ottumwa; vice-presidents, Drs. William W. Eastburn, Sigourney, and Samuel K. Davis, Libertyville; secretary-treasurer, Dr. Fred W. Bowles, Ottumwa, and censors, Drs. Henry A. Leipziger, Burlington; Charles Stephen James, Centerville, and Charles B. Taylor, What Cheer.——At the annual meeting of Jones County Medical Association, held in Anamosa, Dr. Aram G. Hejinian, Anamosa, was reelected president; Dr. Aileen B. Corbit, Wyoming, was reelected vice-president, and Dr. Thomas M. Redmond, Monticello, was elected secretary and treasurer.

MARYLAND

Reception to Governor and Staff.—Following a review of the Maryland National Guard, a reception was given to the governor and the staff, July 18, by Dr. Charles H. Conley, Adamstown.

Society Entertained.—The members of the Baltimore Medical Society were the guests of Drs. Frank Eldred and G. Carville McCormick, Baltimore, at a crab feast at Penwood Grove, July 19.

Hospital Building Planned.—The Washington County Hospital Association has bought Kee Mar College, Hagerstown, and will convert it into a hospital at an expense of about $60,000. The idea of building a hospital on the farm recently purchased in the suburbs of the city has been abandoned and the farm will probably be sold.

Portrait of Old Physician.—The committee of the Baltimore Medical Society consisting of Drs. William Tarun, Baltimore; Dr. James Gorsuch, Fork, and Dr. L. Gibbons Smart, Lutherville, have sent a circular letter to members of the society asking subscriptions to procure the portrait of Dr. James H. Jarrett, Towson, who graduated from the University of Maryland, fifty-seven years ago. The portrait is to cost about $250 and is to be deposited in the hall of the Medical and Chirurgical Faculty of Maryland.

Baltimore

Nurses' Home.—A building for the nurses in connection with the Hospital for the Women of Maryland is to be built at an expense of about $12,000.

Personal.—Dr. James S. Brotherhood has been appointed resident physician, Dr. Willis D. Gatch, resident surgeon, and Dr. Roger Sylvester Morris, associate professor of medicine in Washington University, St. Louis.——Dr. Carey B. Gamble, Baltimore, has sailed for Europe.——Dr. George Heller, who has been ill for a long while, is convalescent.——Dr. Harry Wilbur Stoner is seriously ill with an infection of the hand.——Drs. Richard Holden Follis and William Alexander Fisher have returned from Europe.

MASSACHUSETTS

Cholera in Boston.—A case of Asiatic cholera is reported to have occurred in Boston. The victim was a boardinghouse keeper, who took into her house as lodgers two sailors who it is said had recently arrived on a steamship from an Italian port. The patient died July 7. The relatives of the deceased are under observation at the Quarantine Hospital and the board of health has begun the work of examining all individuals who may have come into contact with the dead woman. The two sailors have disappeared and their whereabouts are unknown.

Infants' Hospital.—The Rotch Memorial Infants' Hospital on the grounds of the Harvard Medical School is nearly completed. The building has a frontage of 120 feet and is three stories in height. On the first floor are the reception room, modern nursery, dining room, food room, room for medical supplies, modifying and refrigerating rooms and room for graduated nurses and medical directors. On the second floor are two wards accommodating twenty-two patients, a lecture room, a surgical ward and an operating room. On the third floor are six private rooms for patients and rooms for the nurses and maids.

MICHIGAN

Bequests.—By the will of the late Charles S. Chase $100,000 is bequeathed to the Harper Hospital, Detroit. The income is to be used for the establishment of free beds and for the offering of prizes for research work looking toward the cure of cancer. It is to be called the Chase Fund in memory of the father, mother and brother of the deceased.

Michiganaw Society Organized.—The first annual reunion of the Michiganaw Association, composed of members of the faculties and graduates of the Michigan College of Medicine and Surgery and the Saginaw Valley Medical College, was held in Detroit, July 12-14. The association has a membership of about 600. Dr. John G. Kirker was elected president; Dr. Vine Larue Smith, vice-president; Dr. Martin V. Meddaugh, secretary, and Dr. Berthold Bertram, treasurer, all of Detroit.

Sanatorium Trustees Meet.—The annual meeting of the board of trustees of the Michigan State Sanatorium for Tuberculosis, Howell, was held July 11. The superintendent announced that twenty-five more patients can be accommodated in the new buildings now available and an appropriation has been granted by the legislature for additional buildings. J. A. Heath, Richmond, was elected president; Dr. Wilbert B. Hinsdale, Ann Arbor, secretary, and G. W. Teeples, Pinckney, treasurer.

Personal.—Dr. Edward Thomas Abrams, Hancock, has been appointed a member of the state board of health, vice George S. Harrington, Kalamazoo.——Dr. Kenneth Kilbourn, Detroit, fell down the companionway of a steamer, while crossing the Straits of Mackinac, July 7, and sustained severe injury to the spine.——Dr. Francis J. W. Maguire, Detroit, has been severely ill with septicemia, due to an operation wound.——Dr. Herbert W. Yemans, Detroit, has been appointed a delegate to the Esperanto Congress to be held in Antwerp, August 20-21. Dr. Yemans was given a banquet by the Detroit Esperanto Club July 15.——Dr. James C. McGregor, Flint, was operated on for appendicitis at Los Angeles recently.——Dr. Ralph E. Balch, Kalamazoo, who has been seriously ill with septicemia, is reported to be improving.

NEW YORK

Personal.—In a head-on collision between two automobiles near Middletown, July 14, Dr. Lillian Morgan of that city and Dr. Herman Mendolwitz, Brooklyn, were severely cut and bruised.

Inebriate Hospitals.—The governor has signed a bill authorizing the establishment of hospitals and industrial colonies for the care, treatment and occupation of inebriates by cities of the first and second class. The government of such hospitals is to be in charge of a board of inebriety consisting of seven members who are to serve without compensation. The new law makes numerous changes in the penal law in regard to the question of intoxication, one of the principal amendments being to put inebriates under the supervision of the board of inebriety under certain conditions and restrictions.

Cholera Laboratory for the Port.—At the direction of Governor Dix a fully equipped state bacteriologic laboratory is being established at the port of New York. Dr. William Seagrove Magill, director of the State Hygienic Laboratory, and three assistants have been detailed to take charge of this laboratory.

New York City

Personal.—Dr. and Mrs. George Montague Swift, Dr. and Mrs. Philip Embury, Dr. John Van Der Poel, Dr. and Mrs. Frederic Grosvenor Goodridge of New York and Dr. Henry Holdich Morton of Brooklyn have left for Europe.

New Seaside Hospital for Babies.—A new hospital to accommodate 184 patients has been opened at Surf Avenue and Twenty-Second Street, Coney Island. The building was erected under the auspices of the Children's Aid Society of Brooklyn.

Hospital Donated to Poughkeepsie.—Mrs. Samuel W. Bowne of New York City has presented $50,000 for a tuberculosis hospital for the city of Poughkeepsie. The city has already started the erection of a tuberculosis hospital and Mrs. Bowne's gift will tend to make the institution one of the most complete in the state.

Bequests.—The will of the late Mrs. May Cossitt Dodge contains among other bequests the following: the Lincoln Hospital, $25,000, and Adirondack Cottage Sanitarium at Saranac Lake, $10,000.——The will of the late Mr. Abraham Abrahams of Brooklyn bequeathes $50,000 to the Jewish Hospital of that city, the income of which is to be applied to the maintenance of the institution.

Decrease in Infant Death-Rate Continues.—The health department reports that for the week ended July 22 there were 344 deaths from all causes of infants under 1 year of age, as compared with 523 for the corresponding week of 1910. During the same week there were 157 deaths from diarrheal diseases compared with 323 for the corresponding week of 1910. Thus far this year the total saving of infant life is estimated at 716.

Whooping-Cough and Typhoid Fever.—Reports show that there are many more cases of whooping-cough in this city than there have been at the same period in many years and that the malady is by no means confined to children. The health department has received many complaints because mothers bring children afflicted with whooping-cough to the recreation centers, but the department holds that this is the best thing for the patients and that it would be unwise to place restrictions on this class of patients. For the four weeks previous to July 8 there were reported 140 cases of typhoid fever in the borough of Manhattan while for the same time in 1910 only seventy-four cases were reported. This increase so early in the season is attributed to the heavy rains following the prolonged drouth which was broken early in June.

Danger in Unbottled Milk.—The Subcommittee for the Reduction of Infant Mortality of the New York Milk Committee, because of complaints from nurses in the employ of the committee that much of the illness of infants was caused by unbottled milk, has made an investigation of 200 shops within easy distance of the committee's stations. Some of the samples of milk from these shops contained as high as ten million bacteria and some were highly adulterated. In order to perfect the organization of the different committees dealing with the pure milk problem, the Association of Infant's Milk Stations has been formed. A central office has been established at the Department of Child Hygiene at 969 Sixth Avenue where information as to the work of the milk stations is collected and distributed. This organization represents ninety milk stations in which 7,000 babies are cared for.

Infant Mortality.—Commissioner Lederle has made the following announcements regarding infant mortality in the city from July 1-15. For the week ended July 15, there were 359 deaths from infants under 1 year of age, as compared with 568 deaths for the corresponding week of 1910, and 148 from diarrheal diseases in infants under 1 year of age as compared with 363 in the corresponding week of 1910. From July 1-15, the period of intense heat, 706 deaths were reported of infants under 1 year of age as compared with 1,006 for the corresponding half of July, 1910. From January 1 to July 15, there were 8,043 deaths of children under 1 year as opposed to 8,353 deaths during the same period last year, and 1,454 deaths from diarrheal diseases of children under 1 year as compared with 1,711 for 1910. July and August are the months of highest infant mortality, and mothers are urged to take special precautions to guard the health of their babies during this time. Mothers are advised to take babies to milk stations to obtain pure milk and the services of doctors and nurses. If a baby is ill and the parents are unable to pay for medical attention, a physician or nurse can be obtained by telephoning to the office of the department of health.

NORTH CAROLINA

The Hookworm Campaign.—Dr. C. Wardell Stiles, scientific secretary of the Rockefeller Sanitary Commission, is making his headquarters at Raleigh and from this point he will cooperate actively in the field work of the hookworm forces now under the direction of Dr. John A. Farrall, assistant secretary for hookworm of the State Board of Health.

Personal.—Dr. Herbert D. Walker has been appointed acting assistant surgeon U. S. P. H. and M.-H. Service and has been assigned to his duty at the port of Elizabeth City, N. C., vice Dr. J. E. Wood, deceased.——Dr. Lorenzo D. McPhail, Rockingham, has been appointed superintendent of health of Richmond County.——Dr. Edward J. Wood, Wilmington, is reported convalescent after a severe attack of typhoid fever.

PENNSYLVANIA

Hospital to Collect Board.—The trustees of the State Insane Hospital at Danville have been instructed by the Attorney General's office to collect the cost of maintenance from estates or relatives of patients able to pay. This rule will hereafter obtain in all similar institutions.

New Instructors at the University of Pennsylvania.—The following changes in the teaching force of the Medical Department of the University are announced, Dr. G. T. Thomas to be associate professor of applied anatomy; Dr. George William Norris to become assistant professor of medicine in place of the late Dr. Aloysius O. J. Kelly; Drs. Joseph Rex Hobensack, William E. Quicksall, Penn-Gaskell Skillern and Nate Ginsburg to become assistant demonstrators in anatomy; Dr. Howard A. Sutton, assistant demonstrator of anatomy, to become assistant demonstrator of osteology; Dr. Norman Leslie Knipe to become assistant instructor in obstetrics; Dr. Oscar H. Plant to become demonstrator of pharmacology; Dr. James Harold Austin, demonstrator in pathology, to become associate in research medicine; Dr. A. B. Eisenbrey, associate in research medicine, to become instructor in surgery; Dr. James S. Hickey, absent on leave, will resume duty as assistant in physiology; Dr. A. H. Hopkins will become instructor in gynecology; Dr. Ralph S. Lavenson, absent on leave, will resume duty as instructor in medicine; Dr. William H. MacKinney will become assistant instructor in genito-urinary diseases.

Safeguarding of Pennsylvania Against Cholera.—The state health commissioner is taking most careful precautions to safeguard the state against cholera. He is keeping under surveillance all immigrants who come into Pennsylvania from cholera-infected ports. Since October 14,433 immigrants have come into the state and have been under surveillance by the state health officers until it was positively assured that the immigrants were not infected. The Surgeon-General United States Public Health and Marine-Hospital Service notifies the State Department of Health of the destination of every immigrant who comes from a cholera-infected port. If an immigrant goes to a city or borough the commissioner at once notifies the secretary of the local health board, instructing that he be kept under observation for at least ten days and be placed under rigid quarantine in case of the development of any suspicious illness. Immigrants going into townships are under surveillance of the state health officer. When an immigrant comes to the state he is given a postal card and is told in case of illness within ten days to send the postal to the State Board of Health. On receipt of such a postal card from the immigrant the health officer at once investigates the nature of the illness. The health officer does not, however, rely on receiving the postal card from the immigrant, but keeps in touch with him during the period of surveillance.

Philadelphia

Bequest.—The will of the late John Dobson bequeathes $10,000 to the Episcopal Hospital.

Ground Broken for Phipps Institute.—Without any formal exercises ground was broken July 10 for the new hospital and laboratory buildings of the Henry Phipps Institute at Seventh and Lombard Streets.

Mortality Decreased.—During the week ended July 22 the report of the Bureau of Health shows 485 deaths, as compared with 714 for the previous week. Twenty-eight deaths were caused by heat and there were 169 deaths of children under 2 years of age.

Personal.—Dr. H. Brooker Mills has been elected physician to the Northern Home for Friendless Children.——Dr. Warfield Theobold Longcope has been appointed assistant professor of medicine in Columbia University.——Drs. James K. Young, William Louis Rodman and Milton B. Hartzell have sailed for Europe.

City Modified Milk Station.—In order to further the crusade against infant mortality, Dr. Joseph S. Neff is planning to have the city maintain its own modified milk plant. It is proposed to turn the old police station on Wood Street, above Seventeenth, into a plant for the modifying of milk and arrangements will be made to distribute it free among mothers too poor to buy milk of the proper standard.

Babies' Hospital Successful.—During the first ten days of the "Babies' Hospital" at Wynnefield, sixty babies were brought to the hospital and all were cared for. The staff of graduate nurses has been increased from six to twelve and four visiting physicians have been added to the staff. Two tents have been placed on the lawn for the use of nursing mothers. These accommodate eight, but it is hoped to make provision for fifteen. After the babies have been sent home cured visiting nurses are detailed to follow up the cases.

Pharmacists and Chemists Protest Against Dr. Wiley's Removal.—A meeting of the members of the Pennsylvania Pharmaceutical Association, Philadelphia Association of Retail Druggists, Philadelphia Branch of the American Pharmaceutical Association and its scientific section, Philadelphia Branch of the American Chemical Society, Philadelphia College of Pharmacy, etc., was held in Philadelphia July 17 at which strong and vigorous protests were made against the suggested removal of Dr. Wiley; a preamble and resolutions were adopted and sent to President Taft, endorsing and commending Dr. Wiley's work and deploring any movement which would either cause Dr. Wiley to resign at this time or would tend to hamper him in his efforts to make the Food and Drugs Act effective, and thus practically render it a dead letter.

TENNESSEE

College Merger.—It is reported that the Medical Department of the University of Tennessee is to be moved from Nashville to Memphis where it will be established in the building of the College of Physicians and Surgeons and that the latter school will go out of existence. An attempt was made to have the merger include also the Memphis Hospital Medical College but without success.

VIRGINIA

Personal.—Dr. John Lloyd, acting resident physician at Catawba Sanatorium, has been appointed physician to the institutions.——Dr. Albert C. Fox, Waynesboro, is reported to be seriously ill in the University Hospital, Charlottesville.

New Medical Society.—The physicians of Loudoun County met at Leesburg, July 14, and organized the Loudoun County Medical Society, with Dr. Nelson G. West, Leesburg, as president, and Drs. Eppa H. Heaton, Waterford, and Thomas T. Keen, Hamilton, vice-presidents.

WEST VIRGINIA

New State Board Members.—Dr. Charles A. Wingerter, Wheeling, and Dr. William W. Golden, Elkins, have been appointed, and Drs. Joseph E. Robins, Charleston; Hosea N. Rymer, Harrisville, and Hugh A. Barbee, Point Pleasant, have been reappointed members of the State Board of Health.

WISCONSIN

Personal.—Dr. J. E. Drury, Pepin, has returned from Europe.——Dr. John P. G. Bjorkman, Racine, who has been seriously ill, is reported to be convalescent.——Dr. Harry O. Delaney, Beloit, sustained a fracture of the patella, while cranking his automobile near Bennett, Ill., July 16.

County Tuberculosis Sanatoria.—Acting under the authority of the law, passed by the present legislature, Douglas, Outagamie, Fond du Lac and Dunn Counties have made appropriations for county tuberculosis sanatoria, and Eau Claire, Dane, Winnebago, Marathon, Racine and Ashland Counties will undoubtedly take action regarding this matter at an early date. Racine, it is said, contemplates the erection of a city sanatorium. The act under which the counties are operating appropriates $20,000 annually for defraying one-half of the expenses of maintaining persons afflicted with tuberculosis in country sanatoria. The county is given the authority to build tuberculosis shacks, one-half of the cost of maintenance of which will be borne by the county and one-half by the state.

New Medical Board.—The governor has announced the following appointments to the Wisconsin State Board of Medical Examiners: Dr. Henry W. Abraham, Appleton, successor to Dr. Lewis F. Bennett, Beloit; Dr. F. Gregory Connell, Oshkosh, successor to Dr. William T. Sarles, Sparta, and Dr. George H. Ripley, Kenosha, successor to Dr. Adellon P. Andrus, Ashland. The board at its meeting in Milwaukee elected the following officers: Dr. Milton A. Barndt, Milwaukee, president; Dr. John M. Beffel, Milwaukee, secretary-treasurer; and the following committees were elected: auditing committee, Drs. William L. Thompson, Milwaukee; Charles W. Rodecker, Wonewoc, and F. Gregory Connell, Oshkosh; committee on local medical schools, Drs. Abner B. Bailey, Fennimore; John M. Beffel, Milwaukee, and George H. Ripley, Kenosha; committee on foreign colleges and departments, Drs. Milton A. Barndt, Milwaukee; Henry W. Abraham, Appleton, and F. Gregory Connell, Oshkosh; committee on midwives, Drs. Charles W. Rodecker, Wonewoc; John M. Beffel, Milwaukee, and George H. Ripley, Kenosha; and committee on reciprocity, Drs. Abner B. Bailey, Fennimore; Henry W. Abraham, Appleton; George H. Ripley, Kenosha, and William L. Thompson, Milwaukee.

GENERAL NEWS

Missouri Registration at Los Angeles.—The registration of members from Missouri was, through a clerical error, enumerated wrongly in The Journal July 22, page 328. That state should have been credited with 64 instead of 4. It was evident to almost anyone, of course, that 4 was an error.

Summary of the Cholera Situation.—The occurrence of cholera in New York and Boston is commented on editorially in this issue. The following is a brief summary of the events which have occurred since June 13, when the first infected steamer arrived.——The *Berlin* arrived at New York from Italian ports, June 13, with the report of a death from cholera at sea; the diagnosis was confirmed by bacteriologic examination of the dejecta. The vessel was inspected, the blankets and beds were disinfected by steam and the passengers and crew washed down with phenol solution. The 836 steerage passengers were removed to Hoffmann Island, June 13; of these 829 were released June 17. All of the twenty-one members of the crew, admitted to quarantine June 14, were returned to the steamer, June 17; all baggage was inspected, and foodstuffs and all soiled clothing were destroyed.——The *Europa* arrived at quarantine from Genoa and Naples, June 14, with a case of cholera. The vessel was inspected and detained four days for disinfection, which was carried out in the usual way. In addition, the patient's bed and those adjacent were disinfected with bichlorid solution, the hospital walls and beds were whitewashed, the hospital toilets treated with chlorid of lime and the hospital walls and floors whitewashed; the hospital was fumigated with sulphur (4 per cent.) for eight hours. The luggage of the steerage passengers and all below deck, mattresses, beds and tableware were disinfected by steam. The floors and windows were whitewashed, the latrines treated with chlorid of lime, soiled linen and steerage baggage were disinfected and foodstuffs destroyed. The 359 steerage passengers were removed to Hoffmann Island for observation June 15. Four steerage passengers were removed to Swinburne Island and nineteen members of the crew to Hoffmann Island on the same day. The members of the crew were discharged from quarantine June 19 and all passengers were discharged the next day.——The *Duca degli Abruzzi* arrived at New York Quarantine from Italian ports and Funchal, Madeira, June 20, reporting four cases of cholera. One died at sea, one on arrival, one later and one recovered and was discharged from quarantine July 18. One steerage passenger developed cholera, June 23, during detention at Hoffmann Island, and was removed to Swinburne Island. One male immigrant developed cholera at Auburn, N. Y., and died June 21, and one female immigrant developed cholera in Brooklyn, June 30, was reported as suspicious July 2, removed to Swinburne Island July 3 and died July 4. Both had been detained at quarantine from June 20 to June 27. The steamer was inspected, disinfected and detained five days. The 616 steerage passengers were removed to Hoffmann Island, June 20, for detention, and nineteen to Swinburne Island together with nine members of the crew. Of the detained passengers, 355 were discharged June 27 and 261 on the following day.——The *Laura* arrived June 21, having touched at Palermo, Sicily, June 7, with two cholera patients aboard. They had apparently recovered, but bacteriologic findings were positive and the patients were detained at Swinburne Island and finally discharged July 14. The vessel was inspected and disinfected in the usual way. The 341 steerage passengers were returned to quarantine June 23 before reaching Ellis Island, and were released June 27.——The *Moltke* arrived at New York from Italian ports, July 5, with a cholera case in a member of the crew, which had developed at sea, and eleven cases among steerage passengers, which developed at quarantine with four deaths. Up to July 18, four cholera carriers had been found among nine apparently healthy detained steerage passengers at quarantine. The vessel was inspected and disinfected in the usual way and was detained two days. Two hundred and twelve steerage passengers were removed to Hoffmann Island. July 7, with five members of the crew. Four days later forty-six members of the crew and one stowaway were removed to Hoffmann Island. One quarantine employee who had been guarding supposedly healthy passengers left the station and developed cholera on July 13. He was removed to Swinburne Island July 14 and died on the following day.——The *Perugia* arrived at the New York quarantine station from Italian ports, June 30, reporting two cases of diarrhea on the voyage which were bacteriologically shown to be cholera. One patient was a fireman, the other an immigrant. The steamer was disinfected and detained in quarantine, the passengers and crew held aboard in detention, and all eating and drinking utensils were boiled each time before using.——July 22 the ninth death from cholera occurred at Swinburne Island. The patient was a steerage passenger on the *Moltke*.——July 23 a case of cholera was reported from Boston believed to have been brought to that city by two sailors, members of a crew of a steamer supposed to have sailed from Italian ports. The victim was a boarding-house keeper at whose house the two sailors lodged. She died at the detention hospital, Gallup's Island, Boston. The sailors were subsequently taken ill, but disappeared and have not been located. The house of the patient who died has been thoroughly fumigated and all precautions taken to protect the twenty-five families who live in the house.——July 22, a patient admitted to Bellevue Hospital, supposed to be suffering from typhoid fever, was found to be a victim of cholera. This man was a Spaniard who came to New York as a fireman on a tramp steamer arriving July 1. The patient and his nurse were taken to Swinburne Island Hospital. July 24 the physicians at Bellevue report that the orderly who attended the sailor who developed cholera at Bellevue was ill with what was feared to be cholera.——July 25 the steamer *Oceanic* arrived from Italian ports with three cases of suspected cholera on board; the *San Giorgio* from Naples with a stowaway who was a cholera suspect, and on the steamer *Kirby Bank* which arrived at Perth Amboy, from Mexico, another cholera suspect was found.

PARIS LETTER

(From Our Regular Correspondent)

Paris, July 7, 1911.

A Physician in the Ministry

There are in France many physicians engaged in active politics and some, Clemenceau and Combes, for instance, have obtained considerable eminence. The cabinet formed as a consequence of the last ministerial crisis includes a physician, Dr. Augagneur, former professor of the Faculté de médecine de Lyon. He was a deputy from that city and was for some time governor-general of Madagascar. He has just been appointed minister of public works, the postal service and telegraph.

Death of M. Adrian

M. Adrian, director and founder of the Société française de produits pharmaceutiques, has just died, aged 75. He was *préparateur* at the Ecole de pharmacie de Paris, member of the Société chimique, the Société de thérapeutique, etc., and contributed largely to the progress of pharmacy in France by his scientific works and by the founding of the society mentioned above.

Personal

Dr. Lande of Bordeaux has just been chosen president of the Association générale des médecins de France to replace Dr. Lereboullet, who has resigned.

The Bust of Brissaud at the Medical School

The collections of the Faculté de médecine de Paris have just been enriched by a bronze bust of Professor Brissaud, executed from memory by a confrère, Dr. Paulin.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, July 6, 1911.

Alcohol, if a Food, is Expensive, Wasteful and Harmful

The well-known hygienist of Munich, Professor v. Gruber, delivered an address on this subject at the international meeting of Good Templars in Hamburg. He reiterated that in spite of the well-known fact that it is rapidly absorbed from the digestive tract and is oxidized and possesses a large amount of potential energy—the heat produced by digestion of alcohol being greater than with albumin and sugar and but little less than with fat—alcohol cannot be regarded as a foodstuff, because it is a narcotic poison and even in small quantities has a benumbing action on the brain. In addition it may by continued use cause other serious injury to the body. In consequence of its benumbing action alcohol is a bad source of energy for voluntary muscular work. As a result of the benumbing of the brain the motion of the muscles after small doses of alcohol (from 20 to 30 grams per day) is much less skilful than in the fasting condition. More muscles are put in motion and the muscles are contracted more powerfully than is necessary; incorrect movements are made, etc., so that the relation of the potential energy employed to the result accomplished is very unfavorable. Besides, by the benumbing of the brain, the effectual work, that is, the amount of work done in a unit of time, is quite considerably diminished. Finally alcohol should be rejected as a foodstuff not only on account of its poisonous character, but also because of its high price. A quarter's worth of potatoes yields about 4 times, of flour about 5 times, and of beet sugar about 4 times as many calories as of beer or 35 per cent. whiskey. If we consider that in consequence of the waste of energy in hard work done under the influence of alcohol, only about one-fourth part of the energy produced is expended advantageously for the body, the utter foolishness, from an economic standpoint, of the attempt to derive strength for the laborer from spirituous liquors becomes evident. If the working man buys the necessary energy for his labor in whiskey or beer, instead of in potatoes, he pays about thirty times as much and wastes his money as if one were to heat a steam boiler with wheat flour instead of coal.

Rabid Animals in 1910

In Prussia 247 injuries by the bite of rabid animals or of animals suspected of rabies were officially reported during 1910. This number is the smallest in the last nine years. Most of the injuries occurred in August, but there is no regularity as to the time of year, although as a general rule the number of bites is larger in the warmer season. Of the 138 animals which bit the persons, eighty-four were surely rabid; in fifty the diagnosis was doubtful, while four were not rabid. Of the 247 injured, 237 were submitted to the Pasteur prophylactic injection. Only one of the injured persons developed rabies. Her treatment was not begun until ten days after the injury; she died three months after her injury from blood-poisoning.

BUDAPEST LETTER

(From Our Occasional Correspondent)

BUDAPEST, July 9, 1911.

Tabes of Married Couples

At a recent meeting at the Budapest Royal Medical Society Dr. Hudovernig read a paper on this subject. He said that to date thirty-two cases of conjugal tabes have been recorded in the literature, and he reported three further cases of the kind. In his three couples, the tabes was subsequent to syphilis; in fact only one couple of the thirty-five known proved to be apparently free from syphilis. Thus in 80 per cent. of the conjugal tabes cases there was known syphilitic infection. The theory was first brought forward by Longres that tabes and general paralysis are produced by a special form of syphilis, i. e. a *virus nerveux*, which in his view possesses a special affinity for the central nervous system. Dr. Hudovernig declined to accept this view until placed in possession of real proofs. He holds, therefore, that the reason why so many syphilitics develop tabes or general paralysis while the remainder are free from any sequelæ of the kind, is not to be sought in the above-named affinity of the syphilitic virus for the central nervous system, but that this special predisposition is to be sought for in another direction, perhaps in a congenital or acquired particular predisposition of the nervous system.

Care After Recovery from Mental Disease

At the recent annual meeting of the Humanitarian Society, one object of which is the care of poor persons who have been discharged as recovered from asylums for the insane, it was stated that about 3,000 patients are discharged every year from asylums in Hungary. Such a fact clearly indicates the need for organized means whereby help may if possible be rendered in preventing a recurrence of the mental derangement. The Humanitarian Society is a branch of the Freemason Lodge, and during the past year has dealt with ninety-six cases, sixty-one women and thirty-five men. Many were boarded out in cottages in the country, and others were assisted by grants of money, clothing and promises of situations.

Marriages

LARRY B. MCAFEE, M.C., U. S. Army, Washington, D. C., to Miss Marjorie Deshon, at Hot Springs, Ark., July 7.

CHARLES BELFREY KELLY, M.D., Guelph, Ont., to Miss Marian Elise Miles of La Grange, Ill., July 13.

OSCAR WALTER NAUMAN, M.D., Craig, Mo., to Miss Fanny M. Warner of Aspinwall, Pa., recently.

MARTIN THOMAS POWERS, M.D., Rome, N. Y., to Miss Ada Belle Mason of Utica, N. Y., July 12.

GEORGE H. LONG, M.D., Luray, Va., to Miss Clara Laverne Hughes, at Earleston, Md., July 11.

MERLE VERNE FORREST, M.D., to Miss Margaret E. Warnock, both of Portland, Ore., July 9.

FREDERICK M. LEMEN, M.D., Buffalo, N. Y., to Miss Laurett S. Kurtz, at Buffalo, July 19.

FRANK E. CARPENTER, M.D., to Miss Mabel Hallenbake, both of Brooklyn, N. Y., July 10.

JAMES C. LANDREE, M.D., to Miss Anna M. J. Goldstein, both of St. Louis, July 15.

WESLEY J. WOOLSTON, M.D., to Miss Edna Chappell, both of Chicago, June 28.

Deaths

Edwin Hamilton Bidwell, M.D. University of Pennsylvania, Philadelphia, 1883; Dartmouth Medical School, Hanover, N. H., 1884; for three years coroner of Cumberland County, N. J., and for a similar time a member of the borough council of Vineland; from 1883 to 1888 secretary of the Vineland Board of Health, and a trustee of the New Jersey State Reform School for Boys from 1894 to 1898; died at his home in Vineland, July 5, aged 52.

Robert J. Carroll, M.D. Jefferson Medical College, 1867; acting assistant surgeon, U. S. Army, from 1867 to 1869; a veteran of the Civil War; for several years coroner of Dutchess County, N. Y., health officer of the township and of the village of Red Hook and president of the board of trustees of the village; died at his home, April 24, from carcinoma of the intestine, aged 67.

George W. Truitt, M.D. University of Maryland, Baltimore, 1875; formerly a member of the house of delegates, from Wicomico and Baltimore Counties, and State Senator from Wicomico County; for twelve years deputy fire insurance commissioner of Maryland; died at his home in Roland Park, Baltimore County, July 11, from cerebral hemorrhage, aged 65.

Edward Guadalupe Frisbie, M.D. Cooper Medical College, San Francisco, 1882; a member of the American Medical Association; formerly president of the State Board of Medical Examiners; president of the Thomas Hospital Association; died in that institution, July 13 from septicemia, due to a scratch of the forehead, ten days before, aged 53.

Isaac Richard Lane, M.D. Northwestern University Medical School, Chicago, 1867; for twenty years a practitioner of Mountain Grove, Mo.; a member of the Southwestern Medical Society of Missouri, and a charter member of Greene County Medical Society; died in Alexian Brothers' Hospital, St. Louis, May 19, from cerebral thrombosis and arteriosclerosis.

Hubbard Linley, M.D. University of Nebraska, Omaha, 1893; a member of the American Medical Association; division surgeon of the Missouri Pacific Railway, with headquarters at Atchison, Kan.; a member of the local board of pension examining surgeons; died suddenly in his office in Atchison, July 14, from heart disease, aged 51.

Watson Roberts O'Connor, M.D. Queens University, Dublin, Ireland, 1869; for many years a surgeon for the Peninsular and Oriental Steamship Company, but for more than thirty years a practitioner of Lawrence, Mass.; for three terms city physician and medical inspector of schools; died at his home June 24, aged 61.

Isaiah Winds Condict, M.D. College of Physicians and Surgeons, New York City, 1847; a member of the Medical Society of New Jersey and of the Tri-County (Sussex, Warren and Morris) Medical Association; one of the oldest practitioners of the state; died at his home in Dover, July 4, aged 93.

Samuel Mason Zeigler, M.D. University of Pennsylvania, Philadelphia, 1899; of Greenville, Pa.; a member of the Medical Society of the State of Pennsylvania; chief surgeon of the Bessemer and Lake Erie Railroad; was instantly killed in an automobile accident at Sherman, N. Y., July 2, aged 36.

Otis Milton Humphrey, M.D. Long Island College Hospital, Brooklyn, 1862; a pioneer resident of Minneapolis, Minn.; surgeon of Massachusetts volunteers throughout the Civil War and brevetted lieutenant-colonel for faithful and meritorious services in 1865; died at his home July 8, aged 79.

Robert Foster Andrews, M.D. Dartmouth Medical School, Hanover, N. H., 1858; a member of the Massachusetts Medical Society, and for more than fifty years a practitioner of Gardner; died at the home of his brother in North New Salem, July 10, from cerebral hemorrhage, aged 75.

John Kiern McDonnell, M.D. Dartmouth Medical School, Hanover, N. H., 1898; formerly of Meyer, Ariz.; a member of the American Medical Association; assistant chief surgeon to the United Verde Hospital; died at his home in Jerome, Ariz., May 25, from suppurative appendicitis, aged 35.

Emmor H. Price, M.D. Pulte Medical College, Cincinnati, 1873; of Chattanooga, Tenn.; a veteran of the Civil War, and for four years thereafter assistant revenue collector; died at the West Ellis Hospital, Chattanooga, July 10, from nephritis, aged 78.

James C. Thompson, M.D. Western Pennsylvania Medical College, Pittsburg, 1891; a member of the Medical Society of the State of Pennsylvania; consulting surgeon to the Franklin Public Hospital; died at his home in Franklin, July 12, from diabetes, aged 54.

John M. Crawford, M.D. Columbus (Ohio) Medical College, 1877; for thirty-five years a practitioner of Minerva, O., but for the last three years a resident of Cleveland; a veteran of the Civil War; died at the Glenville Hospital, Cleveland, July 10, aged 67.

Benjamin F. Ray, M.D. Western Reserve University, Cleveland, 1870; a member of the hospital corps during the Civil War; for thirty years a practitioner of Geanga County, O.; died at the home of his daughter in Cleveland, July 13, aged 68.

William L. Pollock, M.D. Jefferson Medical College, 1871; a member of the Iowa State Medical Society and formerly president of the Central District Medical Association; died suddenly at his home in Boone, July 15, from heart disease, aged 60.

Edward H. Clarke (years of practice, New York, 1845); who practiced for about three years in that state and then went into other business; died at the home of his daughter in Morristown, N. J., January 13, from chronic bronchitis, aged 87.

Charles Archelaus Coolidge, M.D. Dartmouth Medical School, Hanover, N. H., 1856; for more than fifty years a practitioner of Canton, Me.; died at the home of his son in North Waterford, Me., July 1, from cerebral hemorrhage, aged 81.

William L. Stevens, M.D. Medical College of Ohio, Cincinnati, 1882; of Arco, Idaho; died in Blackfoot, Idaho, in March, from cerebral hemorrhage, while on his way to Ogden to take treatment for cancer of the stomach, aged about 58.

William Thomas Jones, M.D. Jefferson Medical College, 1904; of Natchez, Miss.; died at the sanitarium of Dr. Charles Chamberlain in Natchez, July 9, from septicemia following an abscess of the shoulder, aged 36.

Alfred Samuel Bassinger, M.D. Starling-Ohio Medical College, Columbus, Ohio, 1911; of Bluffton, Ohio; who received his license to practice July 5, was drowned while bathing in Lake Erie, near Lakeside, July 7, aged 29.

Thomas Hodge Jones, M.D. Eclectic Medical Institute, Cincinnati, 1879; a veteran of the Civil War; for several years superintendent of schools of Laclede County, Mo.; died at his home in Springfield, April 24, aged 70.

John W. Dillard, M.D. University of Virginia, Charlottesville, 1875; formerly of Chandler, Okla.; died at his home in Bristow, Okla., February 2, from peritonitis, following an operation for appendicitis, aged 54.

Daniel Free (license, Ohio, years of practice, 1896); for forty-five years a practitioner of the state and said to have been the oldest physician in Marion County, died at his home in Green Camp, July 12, aged 78.

Richard E. Jones, M.D. Miami Medical College, Cincinnati, 1856; a member of the American Medical Association, and a life member of the Ohio State Medical Association; president of the First National Bank of Lima; died at his home in Gomer, April 24, aged 76.

John G. Noles, M.D. Louisville (Ky.) Medical College, 1907; of Dubberly, near Ringgold, La.; died in a sanitarium at Shreveport, La., May 9, five days after an operation for intestinal obstruction, aged 32.

Fernandez Todd, M.D. University of Pennsylvania, Philadelphia, 1875; a member of the Medical Society of the State of Pennsylvania; died at his home in Houtzdale, May 17, from pneumonia, aged 61.

Samuel L. Tyner, M.D. Rush Medical College, 1870; a member of the Indiana State Medical Association; formerly clerk of Warrick County; died at his home in Boonville, July 14, from cerebral hemorrhage.

George L. Andrew, M.D. New Medical Institution, New York City, 1845; chief inspector of the U. S. Sanitary Commission during the Civil War; died at his home in La Porte, Ind., July 19, aged 89.

Charles Lanning, M.D. State University of Iowa, College of Homeopathic Medicine, Iowa City, Ia., 1885; died at his home in Morrison, Ill., July 5, from cerebral hemorrhage, aged 68.

David W. Else, M.D. Kansas City (Mo.) Hospital Medical College, 1885; at one time coroner of Cloud County, Kan.; died at his home in Concordia, July 2, from heart disease, aged 70.

Ezra R. Spencer, M.D. University of Pennsylvania, Philadelphia, 1870; a member of the American Medical Association; died at his home in Doylestown, O., July 13, aged 73.

John A. Morrison, M.D. Cincinnati College of Medicine and Surgery, 1875; for many years a practitioner of Montpelier, Ind.; died at his home in Jackson Township, July 11, aged 62.

Gerhard Carl Benneke, M.D. Rush Medical College, 1911; who was about to go to Alaska as a medical missionary; was drowned in Rock River, near Watertown, Wis., July 4, aged 27.

Thomas Hillery West, M.D. University of Pennsylvania, Philadelphia, 1870; a Confederate veteran; died at his home in Keyser, W. Va., July 12, from heart disease, aged 69.

Abram Morrison, M.D. University Medical College of Kansas City, Mo., 1897; a member of the Arizona Medical Association; died at his home in Tucson, July 8, aged 40.

Clarence Alphonzo Crain, M.D. Kentucky School of Medicine, 1894; a member of the Kentucky State Medical Association; died at his home in Helena, April 5, aged 41.

Henry Rock Connor, M.D. Bellevue Hospital Medical College, 1894; assistant physician to the French Hospital, New York City; died at his home, July 7, aged 54.

Lyman H. Jones, M.D. Atlanta (Ga.) Medical College, 1878; for many years a practitioner of Atlanta; died at his home in Atwood, Ga., July 1, aged 60.

Joseph H. Baxter, M.D. Bellevue Hospital Medical College, 1884; for forty years a practitioner of Columbus, Kan.; died at his home in that city, July 14, aged 63.

Lewis Freeman Worthley, M.D. New York University, New York City, 1881; died at his home in Altoona, Pa., July 6, from cerebral hemorrhage, aged 70.

Job Theophilus Edwards, M.D. Leonard School of Medicine, Raleigh, N. C., 1906; died at his home in Connellsville, Pa., July 9, from tuberculosis, aged 34.

Lon O. Pickens, M.D. University of Nashville, Tenn., 1907; died at his home in Ashland, Okla., July 4, from the effects of an accidental gunshot wound.

Archibald Nesbitt Johnson, M.D. University of Michigan, Ann Arbor, 1862; formerly of Cumber; died at his home in Detroit, July 8, aged 75.

Frank M. Brewer, M.D. Bennett Medical College, Chicago, 1885; died at his home in Fort Atkinson, Wis., July 4, from heart disease, aged 48.

Thomas B. Welsh, M.D. Cleveland Homeopathic Medical College, 1898; died in his office in Pittsburg, Pa., July 6, aged 41.

James Edward Keating, M.D. Harvard Medical School, 1879; died at his home in Natick, Mass., July 5, from heart disease, aged 64.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

EN-AR-CO OIL

A Poisonous Nostrum for Curing Rheumatism and Making Hens Lay

Before the passage of the federal Food and Drugs Act, the most insidiously dangerous poisons could be sold to the public in the form of "patent medicines" without the slightest warning or indication of their deadly character. The passage of that act made it obligatory on the "patent medicine" venders to disclose the presence of certain specified drugs if such entered into the composition of their nostrums. The number of drugs whose presence must thus be declared is small. Some of the most virulent poisons need not be specified and their presence can be hidden in a "patent medicine" with impunity. Strychnin, arsenic and prussic acid are but three of a large number of dangerous drugs whose presence it is not necessary to declare and which may enter into the composition of "patent medicines" without any warning being given to the purchaser.

Inquiries have been received concerning the composition of a nostrum known as En-Ar-Co Oil. The label on the bottle of this preparation states that "the popular En-Ar-Co Oil" was "known for a quarter of a century as 'the wonderful Japanese Oil.'" It is further stated that "this style label [was] adopted to meet requirements of Food and Drugs Act." One wonders whether the exploiters of En-Ar-Co Oil found it necessary after the passage of the Food and Drugs Act, to discard the name "Japanese Oil," because it is not a Japanese oil. The pure food law, while permitting falsehoods regarding the curative effects of nostrums, prohibits untruths regarding the place of origin.

Accompanying the package of En-Ar-Co Oil is a circular in which it is stated concerning the nostrum:

> "A medicine that is equally valuable for Man, Beast or Fowl is something outside the general run, and should attract the attention of all classes accordingly."
>
> "We do not claim it to be infallible, or to cure everything, but we do believe that it comes nearer to accomplishing all this than any other known remedy; for proof of this read list of diseases, printed hereon, which it relieves and the testimonials published here and elsewhere."

The list of diseases referred to is large enough to make the gullible feel that he is getting his money's worth. Such widely different pathologic conditions in human beings as asthma, "toe itch," fever sores, rheumatism and insect bites are said to yield to the curative power of En-Ar-Co Oil, while in the lower animals, hog cholera, spavin, distemper and roup may be made to disappear. From the testimonials, it appears that lockjaw and snake bite also are easily conquered by this wonderful remedy. Most important of all:

> "En-Ar-Co Oil is also excellent for making hens lay."

An original package of En-Ar-Co Oil was examined by the Association's chemists, who report as follows:

LABORATORY REPORT

Qualitative tests demonstrated the presence of ethyl alcohol, iso-amyl alcohol (the chief constituent of "fusel oil"), capsicum and a volatile oil of a greenish color and eucalyptus-like odor, but which was not identified. Neither cantharides nor ginger could be found and alkaloids were absent. While no exact separations were made it is concluded that about 90 per cent. of the preparation consists of "fusel oil."

From the results of this cursory examination it appears that a mixture of "fusel oil" and tincture of capsicum with a little oil of eucalyptus added would have properties similar to those of the "Wonderful Japanese Oil."

Iso-amyl alcohol is, according to different investigators, from ten to twenty times as poisonous[1] as ethyl (grain) alcohol. A number of serious and some fatal cases of poisoning from the use of "fusel oil" have been reported.[2] If it be remembered that the extraordinarily poisonous and irritating properties of freshly distilled liquors are largely due to the small quantities (usually less than 1 part in 1,000) of "fusel oil" which they contain, it can be seen that a 10-drop dose of this mixture (about 9 drops of which are "fusel oil") might be distinctly poisonous to an adult. "Fusel oil" is not employed in the rational practice of medicine, although it is said to have been used occasionally by the ignorant as a local application for rheumatism. Its employment in a "patent medicine" is contrary to the general rule that nostrums usually contain only well-known remedies.

Whatever the value of such a concoction for relieving "toe itch" or for "making hens lay" may be, its use by human beings as an internal remedy cannot be too strongly condemned and its sale without a poison label should be prohibited.

Correspondence

Postgraduate Work for Americans at Budapest

To the Editor:—I thought it might be interesting to some of the readers of The Journal to hear something about the advantages and the opportunities offered for study and postgraduate work here in Budapest on the "beautiful blue Danube," about 150 miles southeast of Vienna. Budapest has a population of nearly one million, and is becoming celebrated for the number and character of its educational institutions.

The Hungarians have made wonderful progress in the last thirty years; especially have they shown material advancement in the science and art of medicine and surgery. Their hospitals are nearly all modern buildings, beautifully situated as regards light and air, with pleasant surroundings and well equipped with the latest and best appliances, for *x*-ray, laboratory, pathologic and clinical work.

Of the two gynecologic hospitals which are connected with the Royal Hungarian University I can speak from practical experience, as I have been working as clinical assistant in one of them for the past two months. This hospital contains 150 beds, half of the building being devoted to gynecologic cases and the other half to obstetrics. There is a separate building for septic cases and also one for dispensary cases. In this latter department from forty to fifty patients are examined and treated every morning from 8 till 11.

In the obstetric division from six to eight women are confined daily, and one can see here in a short time various abnormalities of the pelvis and any number of difficult labor cases, ranging from forceps operations to extraperitoneal Cesarean sections. This latter operation is performed where the patient has been examined *per vaginam* for two weeks previous to delivery, as they believe that where there is the slightest danger of infection it is not wise to open the peritoneum.

For any physician wishing to do postgraduate work in gynecology or obstetrics, this place has a great many advantages over other large European cities. Every opportunity is afforded one to make the examinations, treat the patient and follow the case from beginning to end. The supply of material is unlimited and the number of physicians coming here for work is not so large as in some of the other medical centers, so that one can have plenty of opportunity to work along the lines he most desires. Emergency cases are treated when practicable at the homes of the patients, and at least twelve to fifteen new patients are attended to daily. Even in the poorest of homes wonderful results are obtained and seldom is there an infection following confinement or miscarriage, as the asepsis is the most thorough and rigid that could be put into practice.

Another advantage is the ability of the assistants to speak English, and besides their native language they also speak

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[1] Dujardin-Beaumetz and Audige: Compt. rend., 1875, lxxxi, 192; Rabuteau: Ibid., 631; Richardson: Suppl. Med. Times and Gaz., 1869, ii, 705; Frankel: Die Arzneimittel-Synthese, ed. 2, 133.

[2] Ord: Lancet, 1889, ii, 1225; Swain: Brit. Med. Jour., 1891, i, 903; Rodzevitch: Russk. Med., 1893, xviii, 249, 264; Futcher: Am. Med., 1901, ii, 210.

French and German. With the aid of German, one would have no difficulty in making himself understood, as the nurses also speak German. Dr. Scipiades, the adjunct professor, has traveled extensively in the United States, is well acquainted with some of our best surgeons and is conversant with the methods used in some of our large hospitals. Docent Frigyesi, who will become a professor next year, has been stationed in this hospital for the past ten years. He speaks English well and is a kindly and courteous physician, ever willing and ready to demonstrate the gynecologic cases. These two men do the bulk of the operating work and display considerable skill and precision combined with directness and rapidity of operating. Assistant Schmidlechner, who has charge of the bacteriologic and out-patient department, speaks excellent English, having lived in London a number of years. One can under his direction obtain a valuable experience in examining the innumerable cases that come under his charge. Assistant Mansfield, who is a relative of the late actor, Richard Mansfield, has charge of the obstetric department and is also extremely courteous and willing at all times to demonstrate the cases in his division. Professor Tauffer, chief of the clinic, is a well-known physician, having been assistant to Professor Hegar of Freiburg, and was last month elected one of the presidents of the gynecologic congress held at Munich.

Everything is done here for the comfort and enlightenment of the visiting physicians that possibly could be done, and it is a great proof of the catholicism of medical science which one finds so well demonstrated in this far away eastern country. I might add that the best season for work here is between September and June.

Frank McMorrow (of Syracuse, N. Y.).

The Introduction of the Ophthalmoscope Into This Country

To the Editor:—In "A Tribute to Herman Knapp," you state editorially in The Journal, May 20, 1911, in substance that Dr. Knapp first introduced the ophthalmoscope into this country in 1868. This is erroneous. Whatever credit is attached to the first introduction of that instrument into this country belongs to the late Dr. E. Williams of Cincinnati.

In 1852, Dr. Williams determined to devote his life to the specialty of ophthalmology and went to Europe to perfect his education along that line. Just at that time the ophthalmoscope first came into use and Dr. Williams had the rare good luck to be able to study its uses along with Des Marres, Graefe, Arlt, Jaeger and others in Germany.

Early in the year 1854, he introduced the ophthalmoscope into London. At that time this instrument was unknown in England, so far as its uses were concerned. While in London, Dr. Williams wrote and published a full account of the new instrument in the *Medical Times and Gazette*, July 1, 1854. This article was the first ever published in English on that subject. The heading was: "The Ophthalmoscope; the Principles on Which it is Based—the Manner of its Application—and its Practical Advantages; with a Report of Some Cases."

I have a copy of this article. The description of the instrument, simple as it was, was very complete and the report of the three cases of retinal detachments would be practically up to date now, except that he called the cases "dropsy of the retina." The old English writers (Mackenzie and Lawrence) quoted extensively from this article in their books, published soon after the article appeared.

In the spring of 1855, Dr. Williams returned to Cincinnati and brought with him the first ophthalmoscope ever brought to this country, and from that time on he used the ophthalmoscope whenever he had occasion.

When I went to Cincinnati in the fall of 1860 to begin the study of medicine, Dr. E. Williams, my uncle and preceptor, and the first educated man in this country to make a specialty of ophthalmology, was using the ophthalmoscope right along and had been doing so ever since the spring of 1855.

From the above you can readily see that Dr. Herman Knapp did not introduce the first ophthalmoscope into this country.

A. D. Williams, Bedford, Ind.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MENTAL HEALING

To the Editor:—Please refer me to some articles treating the subject of mental healing, especially as practiced by religious sects, from a physician's point of view.

R. E. Teall, Paleo, Kan.

Answer.—A recent work on the subject is Cutten's "Three Thousand Years of Mental Healing." In addition the articles listed below contain more or less information on the subject of mental healing.

Mitchell, J. K.: The Emmanuel Movement, *Am. Jour. Med. Sc.*, December, 1909; abstr. in The Journal, Jan. 1, 1910, p. 79.
Church, A.: Mind Cures in General and the Emmanuel Movement in Particular, *Jour. Mich. State Med. Assn.*, December, 1909; abstr. in The Journal, Oct. 9, 1909, p. 1220.
Collins, J.: The Emmanuel Movement, The Journal, Jan. 2, 1909, p. 87.
The Medical Profession and the Emmanuel Movement: Correspondence, The Journal, Jan. 23, 1909, p. 314.
Symposium on Psychotherapy, The Journal, March 13, 1909, p. 916. These articles appeared in full in the *Illinois Medical Journal*, May, 1909.
Hilscher, S. S.: The Physician's Relation to Mental-Healing Systems and Methods, *Jour. Kan. Med. Soc.*, June, 1908; abstr. in The Journal, May 30, 1908, p. 1823.
Psychotherapy and Religion, Editorial, The Journal, Dec. 26, 1908.
Mental Healing, Editorial, The Journal, March 28, 1908, p. 1042.
Fads in Mental Healing, Editorial, The Journal, June 13, 1908, p. 1987.
Religious Therapeutics, Editorial, The Journal, April 4, 1908, p. 1124.
Fallows: Religious Psychology, *Chicago Med. Recorder*, March, 1908; abstr. in The Journal, May 16, 1908, p. 1652.
Cabot, R. C.: Mind Cure; Its Service to the Community, *Detroit Med. Jour.*, August, 1907; abstr. in The Journal, Sept. 14, 1907, p. 968.

BUTTERMILK IN INTESTINAL PUTREFACTION

To the Editor:—Will you please supply references to the literature concerning the value of buttermilk, either supporting or opposing the claim of Metchnikoff that the lactic acid bacillus tends to decrease the production and absorption of putrefactive bodies from the large intestine?

T. R. S.

Answer.—Following is a list of articles which have appeared in The Journal, or have been abstracted. Reference is also given to an article in the *American Journal of Diseases of Children* on the *Bacillus acidophilus*, which may be of interest in this connection:

Ritter, J., and Buttermilch, W.: Buttermilk for Infants with Acute Indigestion, *Berl. klin. Wchnschr.*, Nov. 28, 1910; abstr. in The Journal, Jan. 14, 1911, p. 160.
Buttermilk Therapy, The Journal, July 24, 1909, p. 304.
Koeppe, H.: Buttermilk in Infant Feeding, *Deutsch. med. Wchnschr.*, June 17, 1909; abstr. in The Journal, July 31, 1909, p. 421.
Buttermilk Therapy and Milks as Foods, Query and Minor Note, The Journal, Aug. 14, 1909, p. 576.
Strauch, A.: Buttermilk as Infant Food, *Med. Rec.*, New York, March 30, 1907; abstr. in The Journal, April 13, 1907, p. 1297.
Judson, C. F., and Clock, R. O.: Modified Buttermilk in Infant Feeding, *New York Med. Jour.*, Apr. 30, 1907; abstr. in The Journal, May 4, 1907, p. 1548.
Carpenter, H. C.: Buttermilk Feeding, The Journal, May 11, 1907, p. 1576.
Allen, F. H.: Buttermilk as a Food for Infants, *Ann. Gynec. and Pediat.*, August, 1907; abstr. in The Journal, Sept. 7, 1907, p. 879.
Herter, C. A.: The Manifestations of Saccharo-Butyric Intestinal Putrefaction, The Journal, Dec. 14, 1907, p. 1965, and Dec. 21, p. 2077.
Rotch and Kennedy: A Preparatory Study of the Bacillus Acidophilus in Regard to Its Possible Therapeutic Use, *Am. Jour. Dis. Child.*, July, 1911, p. 30.

HISTORY OF MEDICINE

To the Editor:—In an editorial, July 1, 1911, p. 28, you discussed "Medical History Clubs," and I think you are quite right in your views of the subject. For some time I have been thinking of writing you for as complete a list of books on the history of medicine and surgery, both in general and particular, as you could furnish.

J. L. Miller, Thomas, W. Va.

Answer.—A list of books on the history of medicine was published in The Journal (May 8, 1909, page 1517) and also a separate list of books on the recent history of surgery.

Since that time another has come out that ought to be mentioned, namely, "The History of Medicine," by Max Neuburger, in two volumes, published by the Oxford University Press, London, at $9.

CONTRACT PRACTICE

To the Editor:—Please define for me what is meant by the term "contract practice" as it is used at the present day in reference to a certain phase of the practice of medicine.

A. B. Schnader, Mount Carmel, Pa.

Answer.—See The Journal, department of Medical Economics, July 8, 1911, p. 145.

REQUEST FOR CIRCULARS ON HARMON-JACKMAN BOOK

To the Editor:—Any physician receiving circulars advertising a book published by one W. J. Jackman and purporting to contain an introductory chapter by me will confer a favor by sending to me such circulars, with the envelope in which they were received.

G. Frank Lydston, M.D., Chicago.

"ROENTOGRAPHY"

To the Editor:—Your correspondent (July 1, p. 39) has cut the Gordian knot of *x*-ray nomenclature which, as the *Interstate Medical Journal* of June, 1911, states, is still open to discussion after fifteen years of the universal use of this physical agent. Its editorial comments on the nomenclature promoted by the American Roentgen Ray Society that "it would load our language with polysyllables which are more or less ridiculous in the English language." By dropping enough of the syllables to make their terms available, as your correspondent suggests, the Gordian knot is cut and enough of Roentgen's name is left for individualization of the technic and doing honor to the scientist, while "roentography," "roentograph" and "roentogram" step into line with photography, photograph, radiography, etc.

F. C.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 15, 1911.

Love, Joseph W., M.R.C., granted one month and fifteen days' leave of absence.

Lyster, William J. F., major, ordered to proceed from Fort Oglethorpe, Ga., to San Antonio, Texas, for duty with 11th Cavalry.

Fauntelroy, P. C., major, ordered to proceed to Camp Douglass, Wis., for duty at encampment organized militia of Wisconsin, from July 8 to 28, 1911.

Birmingham, H. P., colonel, Fisher, Henry C., lieut.-colonel, and Bartlett, C. J., major, promoted to rank from June 7, 1911.

Bernheim, Julien R., dental surgeon, ordered to proceed from Fort Sheridan, Ill., to Columbus Barracks, Ohio, for temporary duty.

Millikin, John D., dental surgeon, will, after arrival at San Francisco and on expiration of leave of absence, proceed to Columbus Barracks, Ohio, for duty at that station.

Fisk, Owen C., lieut., relieved from treatment at Hot Springs, Ark., and ordered to proceed to Walter Reed General Hospital, Takoma Park, D. C., for treatment.

Rnddy, William P. J., M.R.C., relieved from temporary duty at Washington Barracks, D. C., and to return to Fort Myer, Va.

Gentry, Ernest R., lieut., ordered to San Antonio, Texas, for temporary duty in Department of Texas.

Freeman, Paul L., captain, relieved from temporary duty at San Antonio, Texas, and to return to Fort Riley, Kan.

Ferenbaugh, Thomas L., lieut., now at San Antonio, Texas, will report to commanding general, Department of Texas, for temporary duty.

Craig, Charles F., captain, granted thirty days' leave of absence about Aug. 1, 1911.

Chambers, William H., dental surgeon, reports departure from duty at West Point, N. Y., for duty at Army General Hospital, San Francisco.

Stone, Frank P., dental surgeon, returned to Army General Hospital, San Francisco, from temporary duty at Fort Rosecrans, Cal.

Hess, John H., dental surgeon, left Fort McDowell, Cal., on thirty days' leave of absence.

Berry, Harry R., first-lieut., will be relieved from duty, maneuver division, San Antonio, Texas, July 24, and return to former station, Fort Benjamin Harrison, Ind. Granted leave for one month after arrival at that post.

Davis, Arthur O., first-lieut., granted leave of absence for one month on arrival at Fort Oglethorpe, Ga.

Divins, George C., first-lieut., will be relieved from duty with Troop E, 3d Cavalry, at Minera, Texas, July 1, and will proceed to San Fordyce, Texas, reporting to commanding officer, Troop L, 3d Cavalry.

Brown, Polk D., M.R.C., relieved from duty, Minera, Texas, and ordered to return to Fort Sam Houston. Granted leave of absence for one month from July 2.

Aydelotte, John T., first-lieut., granted leave of absence for one month on surgeon's certificate of disability.

Gunckel, George I., dental surgeon, left Fort Barrancas, Fla., en route to Fort Dade, Fla., for temporary duty.

Billingslea, C. C., captain, reports departure from Washington, D. C., on fourteen days' leave of absence.

Owen, Leartus J., captain, ordered to Port Huron, Mich., Aug. 9 to 18, 1911, as inspector-instructor of militia.

Billingslea, Charles C., captain, having completed duty, this city, will return to proper station on expiration of leave of absence granted him.

Darby, Taylor E., first-lieut., granted leave of absence for fourteen days on his relief from temporary duty, Fort McPherson, Ga.

De Laney, Matthew A., major, will report in person to the surgeon-general of the Army for assignment to duty as attending surgeon in this city.

Russell, Frederick F., major, will proceed to Kingston, N. Y., to deliver an address on typhoid vaccination at annual meeting, Third District Branch Medical Association, New York, and then return to proper station, this city.

Thomason, Henry D., captain, will proceed to Port Huron, Mich., about Aug. 9, 1911, for consultation with adjutant general, State of Michigan, for reorganization medical corps and sanitary troops of that state.

Smith, Allen M., lieut.-colonel, on board to meet at Fort Sam Houston, August 1, to examine applicants for commission in volunteer force.

Usner, Francis M. C., major, on board to meet at Fort Sam Houston, Texas, August 1, to examine applicants for commission in volunteer force.

Barber, John R., Worthington, Joseph A., Ashford, Mahlon, Huber, Edward G., Lambie, John S., Jr., Tasker, Arthur N., Snyder, Howard McC., Cowles, Calvin D., Jr., McKinney, Garfield L., and Phillips, Hiram A., captains, promoted to rank from June 13, 1911.

Poust, Luther R., M.R.C., reports for temporary duty at Fort Hamilton, N. Y.

Boens, Charles J., M.R.C., ordered to Fort Ontario, N. Y., for temporary duty. Reported at Fort Ontario same date.

The following named officers will proceed at the proper time to camps of organized militia, as specified below, for duty as instructors and inspectors: Hess, Louis T., major, ordered to Mount Gretna, Pa., July 8-15; Robbins, Chandler P., major, ordered to Frederick, Md., July 12-22; Williams, Allie W., captain, ordered to Niantic, Conn., July 10-15; Hopwood, Lucius L., captain, ordered to Basic City, Va., July 17-23.

Miller, E. W., captain, left Fort Ontario, N. Y., en route to Camp Kanawah, W. Va., militia, for duty as inspector-instructor.

McAfee, L. B., lieut., left Hot Springs, Ark., on ten days' leave of absence.

Hess, Louis T., major, left Fort Hamilton, N. Y., en route to Camp Mount Gretua, Pa., as sanitary inspector.

Willisma, A. W., captain, left Fort H. G. Wright, N. Y., en route to Niantic, Conn., as instructor sanitary troops.

Burnett, Thomas W., M.R.C., reported for temporary duty at Fort Slocum, N. Y.

Baker, C. R., M.R.C., reported for duty at Fort Hancock, N. J.

Brown, Ira C., M.R.C., is relieved from duty at Fort Douglas, Utah, on arrival of 15th Infantry and will return to Fort Lawton, Wash.

Ashford, Bailey K., major, is relieved from present duties on assumption of duties as advisor of the governor of Porto Rico.

Owen, L. J., captain, ordered to proceed at proper time to camp organized militia, at Port Huron, Mich., for duty as inspector-instructor, Aug. 9 to 18, 1911.

Cook, George W., lieut., granted leave of absence for one month.

Miller, Reuben B., major, promoted to with rank from June 21, 1911.

Craft, Edgar D., first-lieut., appointed with rank from Feb. 17, 1911.

Medical Corps, U. S. Navy

Changes for the week ended July 22, 1911.

Geiger, A. J., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the *Colorado*.

Hayward, A. B., P. A. surgeon, detached from the *Colorado* and ordered to the *South Dakota*.

McGuire, E. W., asst.-surgeon, detached from the *South Dakota* and ordered to the navy recruiting station, Portland, Ore.

Dickson, S. H., medical director, transferred to the retired list from July 20, 1911; detached from the marine barracks, Washington, D. C., and ordered home.

Kelley, H. L., P. A. surgeon, detached from the *Yorktown* and ordered to duty at the naval hospital, Mare Island, Cal.

Munger, C. B., P. A. surgeon, detached from the *West Virginia* and ordered to the *California*.

Camerer, C. B., asst.-surgeon, detached from the *California* and ordered to the *Yorktown*.

Alfred, A. R., surgeon, ordered to the navy-yard, Norfolk, Va.

Kennedy, R. M., surgeon, ordered to duty at the Naval Medical School, Washington, D. C.

Rodman, S. S., surgeon, orders of May 19 revoked.

Rennie, W. H., P. A. surgeon, detached from the naval hospital, Boston, and ordered to the *Tacoma*.

Jenkins, H. E., asst.-surgeon, detached from the *Montana* and ordered to the *Ohio*.

Bishop, L. W., P. A. surgeon, detached from the *Tacoma* and ordered to the *New Jersey*.

Thomas C. G., asst.-surgeon, orders of May 19, revoked.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended July 19, 1911:

Wertenbaker, C. P., surgeon, detailed to represent the Service at a meeting of the Association of Surgeons, Atlantic Coast Line Railroad, to be held at Norfolk, Va., July 25-26.

Brown, B. W., surgeon, granted one month's leave of absence to be taken when he can be absent without detriment to the service.

Oakley, J. H., surgeon, directed to proceed to New York and return to station on board steamship carrying immigrants.

Mathewson, H. S., P. A. surgeon, granted two months' leave of absence from Aug. 1, 1911.

Von Ezdorf, R. H., P. A. surgeon, directed to proceed to New York via the Bureau, on special temporary duty.

Moore, Dunlop, P. A. surgeon, granted seven days' additional leave of absence from July 17, 1911.

Foster, A. D., P. A. surgeon, granted one month's leave of absence from Aug. 2, 1911.

Frost, W. H., P. A. surgeon, directed to proceed to Little Rock, Ark., on special temporary duty.

de Valin, Hugh, P. A. surgeon, granted seven days' leave of absence from June 28, 1911, on account of sickness.

Earl, F. D., acting asst.-surgeon, granted fifteen days' leave of absence from July 14, 1911.

Hicks, W. R., acting asst.-surgeon, granted 30 days' leave of absence from July 10, 1911.

Markoe, W. W., acting asst.-surgeon, granted twenty-four days' extension of leave on account of sickness, from June 1, 1911.

Watson Harry J., acting asst.-surgeon, granted thirty days' leave of absence from Aug. 14, 1911.

Herrick, Dr. A. W., appointed acting asst.-surgeon for duty at Bay City, Mich., July 11, 1911.

Medical Economics

PERSONAL LIBERTY AND SCHOOL INSPECTION

That organization created primarily to fight the American Medical Association on account of its crusade against quackery and frauds in medicines—the National League of Medical Freedom—has been circulating throughout the country printed matter, mimeographed letters, circulars and other campaign literature (?) attacking the medical inspection of school children. This matter has been sent principally to school superintendents with a view to prejudicing them against the proper inspection of school children. An accompanying letter asks the school superintendent to protest against school inspection in his city. This circular letter has called out at least one reply in which the writer does not hesitate to speak his mind. The following by the superintendent of schools of one of the large New England cities has been reprinted by the Russell Sage Foundation, Department of Child Hygiene:

> *Dear Sir:* Your letter and pamphlets relating to compulsory medical inspection are received.
>
> We have medical inspection in our city, though usually not compulsory, parents being allowed in most cases to have a child exempt on request. In a few cases not only inspection but treatment is compulsory, horrible as such a condition may appear. We found over 400 cases of pediculosis last year, for instance, and actually forced parents to kill or remove the parasites. Last week we found a little girl with a large abscess in the ear. In the opinion of three ear specialists her life was in great danger; without treatment, indeed, they considered it probable that the child would soon die. The child has no father. The mother refused to have anything done. Under threat of arrest she allowed the child to go to a hospital, where she is likely to come out all right, though not yet out of danger. I have just come within an hour from a school where I found a little girl of 5 with an ulcer in the eye. The parents had been informed and refused to do anything. The child's condition was pitiable, not to use a stronger word. I shall have the case inspected by the best men in the city, and if they report the need to be as great as it appears I shall actually try to force not only examination, but treatment. In 1910 we found a dozen cases of tuberculosis. I feel sure that our discovery saved the lives of five. Two have gone to a free home for consumptives in Dorchester, where, as per their letters, they are "growing fat." Three have been sent to a state sanitarium, where all are improving. Five went to a tuberculosis camp, where all were benefited. All were cared for in some way.
>
> Two children were found with hip disease, bad cases. Their parents did not know that help was possible. When told, they gladly cooperated in sending the children to a hospital, where after nearly a year of treatment, both bid fair to entirely recover ability to walk. These are a few of the more striking cases in which I am sure we saved life, restored health, gave power to work, relieved pain and added happiness. In all we secured treatment for over 1,100 children.
>
> And strange as it may seem, parents generally like it! Many of them are very earnest in their expressions of gratitude. A few objected to interference with their personal liberty to keep their children as lousy as they pleased and the mother of the child with an ulcer in the ear swore a little at the officer who appeared before her with a warrant charging cruelty to a child, but they are the rare exceptions. Generally parents, not having read your pamphlets and not realizing how they are being abused, approve enthusiastically.
>
> Under the circumstances, therefore, I trust you will excuse us if we keep right on sending our school physicians and school nurse "about doing good" in both schools and homes. Seriously, I would not dare, for my life, to stop this magnificent work. Stopping, I could face neither my God nor myself.

A more effective reply to the objections raised against school inspection could not well be imagined. If the objectors are sincere, this letter is certainly convincing. If they are not sincere, but are fearful lest the work of saving the lives and health of thousands of American school children will imperil their business profits, they will speedily find themselves beneath the contempt of the American people.

It will be difficult to convince the public that in order to secure personal liberty it is necessary to allow 400 school children in one town to suffer from pediculosis. If the members of the National League of Medical Freedom desire the right to cultivate this peculiar form of uncleanness they are quite at liberty to do so provided those compelled to associate with them have no objection, but they have no right, nor will the American public sustain them in demanding the right, to put a stop to the use of any and every means at the disposal of advanced medical science to protect the lives and health of our school children.

COMMUNISTIC OBSTETRIC ATTENDANCE

The municipality of Zurich, Switzerland, has decided to allow the people to vote on the proposition to supply medical assistance and lay attendance free of charge in all obstetric cases in the city, at a maternity or in the home. The only provisions are that the woman must have resided at least a year in the city and the family income not be over $400.

In a communication in the *Correspondenz-Blatt für Schweizer Aerzte*, Häberlin explains why the two medical members of the city council protested against the plan or, at least, against certain features of it. In the first place, he says, the plan is socialism rather than along the lines of insurance. In the latter the recipient contributes something, however small, which principle of self-help for the weak rather than exclusion of his cooperation, is of extreme ethical and economic importance. The plan further conflicts with the present maternity and hospital arrangements with no corresponding advantages, and the expense is not borne by the agencies specially created for such purposes, the poor funds or the sickness insurance societies, but the entire populace is to be taxed for it, while less than a fourth will benefit by it.

The physicians further protested against the assumption that all women should be sent to an institution to be delivered, even though conditions are normal and they prefer to be confined at home. The physicians think that this extension of institutional treatment is based on an exaggerated idea of its advantages. The medical minority were instrumental, however, in having the original plan modified, so as to have even pathologic deliveries at home placed on the free list, a proposition not contemplated at first.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

California: San Francisco, August 1. Sec., Dr. Charles L. Tisdale, 929 Butler Building.

Nebraska: Lincoln, August 9. Sec., Dr. E. Arthur Carr.

New Regulations in Wisconsin

At a meeting of the Wisconsin Board of Medical Examiners, held at Madison, July 11-13, 1911, it was decided that hereafter the board will demand documentary evidence of preliminary education in the form either of a high school diploma or a certificate signed by the proper examiner for the state from which the applicant comes showing that he has an equivalent education. Furthermore, the board will require that hereafter all conditions must be made up before the student is admitted to the junior year.

Probably the most important step taken by the board was the resolution providing that in all examinations hereafter practical tests will be required in physical diagnosis, chemical and microscopic urinalysis, bacteriology, pathology, histology and practical anatomy. It is the belief of the board that practical examinations will more clearly demonstrate the real knowledge, possessed by the applicant, of the fundamental problems of medicine.

The new officers and members of the board are: M. A. Barndt, M.D., president, Milwaukee; J. M. Beffel, M.D., secretary, Milwaukee; W. L. Thompson, D.O., Milwaukee; A. B. Bailey, M.D., Fennimore; C. W. Rodecker, M.D., Holcombe; F. Gregory Connell, M.D., Oshkosh; G. H. Ripley, M.D., Kenosha, and H. W. Abraham, M.D., Appleton.

Book Notices

A Treatise on Diagnostic Methods of Examination. By Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with Additions, by Nathaniel Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York. Second Edition. Authorized Translation from the Fifth Revised and Enlarged German Edition. Cloth. Price, $6.50 net. Pp. 1229, with 471 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The first edition of the translation of Sahli appeared some six years ago and received our favorable comment at that time. This second edition, a translation from the fifth German edition, is in substance the same as the first, though larger by about two hundred pages, which include much real revision and many additions. The chapter on hemodynamics has been completely rewritten; the various polygraphs and their values are discussed; and numerous additions have been made in the sections devoted to the examination of the stomach and the urine. The same is true of Sahli's excellent chapters on the blood and the nervous system. There are new cuts and two new plates. Altogether, the book is decidedly improved by these changes that help to bring it up to date and to make it more complete than the former edition. The failure to include a discussion of the Einthoven string galvanometer is perhaps excusable, because the use of this instrument is so recent and its value still so unsettled that definite conclusions concerning it cannot yet be stated. We feel concerning the Roentgen ray exactly as does the author; the technic is such that only an expert specialist can be expected to master it. But we believe that Sahli has not emphasized, as he might properly have done, the value of the Roentgen ray as a means of diagnosis in diseases of the heart, lungs, stomach, etc. While indorsing every word said as to the importance of retaining and increasing our skill in percussion and auscultation and while agreeing that much is learned from the history of the illness and from chemical and other laboratory examinations, we feel that one should not reject or minimize the help afforded by the different methods of examinations by the Roentgen ray. The technic may belong to the specialist, but the interpretation of the skiagraph, or orthodiagraph, should be made by the physician. What is said of the value of the Roentgen ray is good, but it is not enough. The American editor has added many pertinent notes and references. Some of the best of the illustrations are also his addition. We miss from the title-page of this edition the name of Dr. Francis Kinnicutt. As was said in the review of this work in 1905, it can be commended as one of the best books we have on the subject.

The Human Atmosphere, or the Aura Made Visible by the Aid of Chemical Screens. By Walter J. Kilner, B.A., M.B. Cantab. Cloth. Price, with screens, $9. Pp. 329, with 28 illustrations. New York: Rebman Company, 1911.

The assertions made in this book are so startling that one is puzzled to know whether the author has indeed made one of the epoch-making discoveries or is the victim of hallucinations, such as may affect even the scientific mind. Briefly, the author asserts that the human body is surrounded by a double aura or atmosphere which is ordinarily invisible to the naked human eye, but which rarely manifests itself to such favored beings as clairvoyants, and which can be made visible to anyone by a certain apparatus for sale with the book. The apparatus consists of thin glass cells filled with colored liquids. The aura thus seen is described as extending several inches beyond the body and as having generally a grayish-blue color. It is claimed to differ in appearance in different individuals, but there is said to be a general resemblance in that emanating from the members of a class, such as men, women or children. The auras of persons affected with disease are said to show characters which the author believes can be utilized in diagnosis. Aside from the aura proper, the author claims to find an etheric double next the body and has noticed the emission of rays from various parts of the body. Another method of examination, which is said to bring out details of importance consists in gazing at the aura or at the skin, with an eye temporarily color-blinded by gazing for some time at a card of a certain color. The complementary color will then be seen over the body and the aura, but, it is said, will be modified in brightness at certain points indicating possible effects of disease.

Such are the author's theory and claims. They are presented with conservatism, lack of knowledge and of sufficient observation to establish certain points being frequently admitted. The assertion that any one can verify these things with his own eyes gives the new claims a possibility of being readily established or refuted by others. The author disclaims all connection with occultism, although he has borrowed the terms used from theosophic works.

It does not seem, however, that the author has proceeded in quite the method which would be expected of a true scientist in recording observations which are to establish a discovery, which, if true, must be regarded as of immense importance. We find no indication of any attempt to confirm the facts by the testimony of other observers. The author is a resident of the great city of London, which contains many men of science certainly capable of verifying the author's claim had the opportunity been offered. Is it not strange that the author should have worked alone, that he should not have submitted his discovery to others before publishing it? Of course, we must grant every discoverer the right to present his findings to the world in his own way, but his apparatus could easily have been tested without impairing in any way his proprietorship in spectauranin screens.

It is suggested that the phenomena observed arise from illusion, due to the tiring of the eye by means of gazing at the light through the blue screen. The observer is cautioned against using the screen too much at first for fear an irritation of the eye may be caused. If, then, the material is capable of affecting the eye so powerfully, may it not be a question whether the shadows seen by such an irritated or tired eye have their origin in the play of the ether about the body viewed, or in irregular vibrations in the retinal or brain-cells of the observer?

While acknowledging that there are many things in heaven and earth not set down in our philosophy, the physician should be cautious about his ventures into the region of ethereal doubles, auras, fluidic members, astral bodies and the like.

Modern Diagnosis and Treatment of Diseases of Children. A Treatise on the Medical and Surgical Diseases of Infancy and Childhood, with Especial Emphasis on Clinical Diagnosis and Modern Therapeutics. For Practitioners and Students of Medicine. By Herman B. Sheffield, M.D. (Co-Author of "Practical Pediatrics"), Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital. Cloth. Price, $4.50. Pp. 619, with illustrations. Philadelphia: F. A. Davis Co., 1911.

There is so much in this book that is bad that the good is almost entirely covered up. The style, which is suitable for a novel, not for a text-book on a scientific subject, may be judged of by such passages as "marvelously extricate themselves from the pangs of death," "verily considering the baleful acts," "one is amazed by the ever-swelling hordes of youthful humanity that have apparently escaped the clutches of ignorance—and death. Merciful Nature!" Water is spoken of as "heavenly beverage." Under the heading "Gastroenterocolitis" the subject is handled just as the name indicates—namely a jumble of material that gives one no clear picture of any of the disturbances described. Very little help is afforded the student or practitioner by such statements as the following: "As patient improves a milder course of treatment is of course resorted to."

The pathology is especially weak; one might think that the book had been written fifty years ago if one were to judge by this bit of information: "The lymph in the lungs degenerates into fibrous tissue and caseous matter" (p. 272). Happily there are some redeeming features, as for instance the introductory chapter on the examination of the patient and the many excellent original photographs. The chapter on malformation is complete, the one on spasmophilia, however, just misses the mark because several members are added to the group that do not belong to it, and the others are considered separately as though they were not dependent on the same hypersensitiveness of the central nerve system. It is not in tetany alone that one finds Erb's and Chvostek's signs but also in laryngismus stridulus and eclampsia infantum.

A Text-Book of Medical Diagnosis. By James M. Anders, M.D., Ph.D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College of Philadelphia, and L. Napoleon Boston, A.M., M.D., Adjunct Professor of Medicine, Medico-Chirurgical College. Cloth. Price, $6 net. Pp. 1195, with 443 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The authors of this volume have endeavored to encourage individualization in the examination of patients by a method of investigating the disease which brings the entire organism under consideration. A brief pathologic definition is given of each disease, after which the more prominent points in symptomatology are described, followed by an account of physical signs and laboratory diagnosis where applicable. In several cases there is also a section on differential diagnosis. Diseases receive the usual classification and preceding each division, such as diseases of the respiratory organs, stomach, etc., a brief account of the general methods of diagnosis is given, but the special signs are described under each disease. A careful examination shows that the methods are accurately and clearly given and the latest information is introduced. A peculiar feature, the utility of which may be questioned, is the presentation of numerous views showing the gait of patients in the various nervous affections. These pictures are entitled "moving pictures," but the motion must necessarily be provided by the imagination of the reader. This work has the decided advantage of combining in one volume the various methods of physical, clinical and laboratory diagnosis. This ought to be a useful corrective to the tendency to overestimate any of these various methods. We are surprised, however, to find that the descriptions of laboratory methods are by no means complete. For instance, there is no description of a method for the detection of sugar in urine and the chemical methods for examining urine for bile and blood are not described, but are dismissed with the statement that other methods are preferable. This must be regarded as a serious defect of the work as the addition of a few pages would have put the practitioner in possession of technical details for which he must now consult other text-books.

Nevertheless, this well-illustrated volume must be regarded as worthy of a place among the essential text-books for the medical practitioner.

Food and the Principles of Dietetics. By Robert Hutchison, M.D., Edinburgh, F.R.C.P., Physician to the London Hospital. Third Edition. Cloth. Price, $3 net. Pp. 615, with illustrations. New York: William Wood & Co., 1911.

This book is so well known and has become so popular since it was first issued in 1900 that it is not necessary to discuss it in detail. In this edition it has been thoroughly revised and 67 pages have been added to it since it first appeared. One new chapter appears in this edition entitled "Some Dietetic 'Cures' and 'Systems.'" In it the nature and usefulness of a vegetarian and lacto-vegetarian diet, a purin-free diet, Dr. Hare's system, which is a proteid diet chiefly, an exclusive proteid diet, a salt-free diet and sour-milk diet are considered briefly but judiciously. Most of the additions to the volume are to the chapters and sections devoted to diet in diseases. Dr. Hutchison's book is certainly one of the best of the many which have been published during the last dozen years.

Cesarean Section in Great Britain and Ireland. With Tables of 1,282 Cases of Cesarean Section by over 100 Living Obstetricians and Gynecologists in Great Britain and Ireland. By Amand Routh, M.D. (Lond.), F.R.C.P. (Lond), Obstetric Physician to Charing Cross Hospital, London. Being a Report on the Subject read at the V-me Congrès International d'Obstétrique et de Gynécologie at St. Petersburg in September, 1910. Cloth. Price, 5 shillings net. Pp. 233. London: Sherratt & Hughes, 34 Cross Street, Manchester, 1911.

This carefully compiled abstract of cases of Cesarean section, embracing all the cases that can be certified to by the operators, is preceded by a discussion of the indications for the operation, its relation to other operations that come in competition with it and the technic of the operation as performed in Great Britain. Reference to the most important literature is given and the names of the operators are listed. It will be seen that this report will be of value not only to all teachers of obstetrics but to practical obstetricians who need to keep informed on all important literature on this subject.

Medicolegal

Constitutionality and Construction of Medical Practice Act—What Constitutes Practice of Medicine and Surgery—Test—Chiropractor Violates Law

(*State vs. Smith* (*Mo.*), *135 S. W. R. 465*)

The Supreme Court of Missouri, Division No. 2, affirms, in this case, a conviction of a chiropractor of the offense of treating and attempting to treat the sick and afflicted without first having obtained a license from the State Board of Health.

The statute (Missouri act of 1901) involved does not, in its title, the court says, violate the requirements of the state constitution. The act contains one subject, which is clearly expressed in the title. The title to the act is not "Medicine and Surgery," as the defendant asserted it to be in his brief. The words "Medicine and Surgery" are merely the caption. The title to the act is as follows: "An act to regulate the practice of medicine, surgery and midwifery, and to prohibit treating the sick and afflicted without a license, and to provide penalties for the violation thereof." The one "subject" of this act, within the meaning of the constitution, is, broadly speaking, public health.

Treating the sick is well within this subject, and is specifically covered by the title. It is unnecessary to cite the cases in this state on this proposition. This court has again and again, with patient repetition, expounded the law on this constitutional provision, and the law so expounded is this: Where all the provisions of a statute fairly relate to the same subject, have a natural connection with it, and are the incidents or means of accomplishing it, then the subject is single, it is sufficiently expressed in the title, and the statute is valid. The practice of medicine or surgery, and the treatment of the sick by whatever means employed, are certainly germane to each other, and are germane to the general subject of health. If all the provisions of a bill have a natural relation and connection, then the subject is single, and this, too, though the bill contains many provisions. If the treatment of the sick and the practice of medicine and surgery are not in natural relation, then it will be difficult to conceive of a case where two or more provisions in a bill relate to each other.

The defendant contended that the general words in the statute, "attempting to treat the sick," should by application of the rule of *ejusdem generis* (limiting general words after specific), be limited to attempts to treat by medicine or surgery, which are the special words preceding. But a review of the history of the law affords a complete answer to the claim that the doctrine of *ejusdem generis* applies to this case. It is not a case of general words following a specific designation. There might be some ground for the claim if the general words, "treat the sick," were in the original act, but, until 1901, the only designation was "medicine and surgery." No one will claim that the general words, "and any person attempting to treat the sick," added by amendment, are *ejusdem generis* (of the same kind or nature) with the specific words of the original act. Certainly, the words "medicine or surgery in any of its departments" exhaust the genus or class. It is obvious that the legislature, by this amendment, intended to include those who practice neither medicine nor surgery in any of its departments, but who profess to cure, and who treat or attempt to treat, the sick by means other than medicine or surgery. Evidently the legislature, in order to guard the overcredulous against injury that might result from yielding to the solicitations and professions of men who ignorantly undertake to diagnose and treat human ailments, deemed it proper, in the exercise of its police power, to require all persons who undertake to so treat the sick to show that they possess the qualifications which the lawmakers prescribe as essential.

Next, the defendant argued that the record showed that he did not "treat" his patients. He called what he did, not "treatment," but "adjustment." He said that he did not treat disease; he "adjusted the cause." But, call it what you will, the fact remains that the system of practice called in this case "chiropractic," as explained by the defendant's witnesses and his counsel, involves both diagnosis and physical treatment. The defendant and his witness testified that they made no diagnosis; took no temperature; did not examine the tongue of the patient, nor any part of the body except the spinal column; that they did not treat the disease, but removed the cause, which is invariably found—no matter what the disease, whether consumption, small-pox, or any other ill that flesh is heir to—located in the spine, and in every case consists in an impingement of the nerves caused by a "subluxation"—whatever that may be—of the vertebræ. Yet, notwithstanding all this, the practice does involve skill, knowledge of anatomy, diagnosis and physical treatment.

It is a serious question whether the defendant would not come within the original statute as one practicing medicine or surgery. The practice of medicine is not confined to the administration of drugs; nor is surgery limited to the knife. When a physician advises his patient to travel for his health, he is practicing medicine. Broadly speaking, one is practicing medicine when he visits his patient, examines him, determines the nature of the disease, and prescribes the remedies he deems appropriate. Tested by this rule, the defendant was practicing medicine when he examined the patient's back, determined the trouble to be that a vertebra was subluxated, thereby impinging on a nerve, and proceeded to employ what he considered an appropriate remedy, namely, a sudden downward pressure with the fingers, thereby adjusting the vertebra and relieving the impingement. When the defendant says that he does not "treat," but "adjusts," and that he deals not with the "disease," but with the "cause," he is merely juggling with words. Changing the name does not change the thing.

In the main, the cases regard diagnosis as the test to determine whether a practice or treatment is included in the terms "medicine" and surgery." This is a practical test. A physician who advises his patient to sleep in the open air is treating him. Such advice, however, is based on a knowledge of the patient's condition obtained by diagnosis. The defendant professed to be able to ascertain by examination of the patient the cause of his trouble—a result rather beyond that which ordinarily attends the diagnosis of the regular practitioner. The method or extent of the examination is not the controlling feature. When the practitioner makes such examination of the patient as he regards as sufficient to indicate to him the cause of the trouble, and to indicate its proper treatment, he has diagnosed the case.

Nor does the court agree with the contention that so to construe this statute as to forbid any one to treat the sick without possessing the technical knowledge required to pass an examination before the State Board, where such treatment does not involve such technical knowledge, will result in denying to the people a constitutional right to determine how they shall be treated, and also in denying to citizens the constitutional right to pursue a lawful calling for a livelihood.

The court cannot say that an act which forbids treatment of the sick by one not possessing certain technical knowledge evidenced by a license bears no reasonable relation to the purpose sought to be accomplished by the legislature, namely, the protection of the public health. The legislature thought, perhaps, that this act was necessary to protect credulous sick people from injury at the hands of charlatans and quacks, with their specious promises of a sure cure without drugs; or it may have been thought necessary to forbid harmless practices in order to insure protection against those that are dangerous and hurtful. Sick people sometimes grow desperate in their search for a cure, or their judgment becomes weakened, so that they fall an easy prey to the ingenious and varied devices of the pretended healer. We know that some people are prone to give more weight to a skilfully worded advertisement than to the advice of a competent physician. The legislature, no doubt, thought that in view of all these considerations the welfare of the people required the sweeping law of 1901. The method of practice disclosed by this record may be harmless and useful, but it is a treatment for the sick, related, to say the least, to the practice of medicine or surgery, and so is within the terms of the statute. The legislature may have been mistaken in thinking it necessary to forbid such a method of practice, but the act was passed in the exercise of its police power, and the court is not prepared to say judicially that such exercise of the power was either unreasonable or capricious, or that it bears no relation to the public health.

Waivers of Privilege

(Woods vs. Incorporated Town of Lisbon (Iowa), 130 N. W. R. 372)

The Supreme Court of Iowa says, in this personal injury case, that the statute of that state does not absolutely disqualify the physician from testifying, but it places it within the power of the patient to secure medical aid without the betrayal of his confidence. The patient may, therefore, waive objection, and, the statute expressly provides, permit the physician to testify. The waiver may be made in several ways: It may be done by calling the physician to testify as to privileged matters or by calling other witnesses to testify to the same facts. Manifestly, if the patient himself breaks the seal of secrecy and gives publicity to the whole matter, there is a waiver, and this is true whether publicity is given by the testimony of the physician, by the testimony of the patient himself, or by the testimony of his other witnesses. In other words, when the patient voluntarily publishes the occurrences of the sick-room, he cannot be permitted to insist that the prohibition and privilege of the statute continues to exist as to his physician. If by his voluntary act he lifts the veil, the professional duty of secrecy ceases, and the physician is a competent witness under the statute. It would be a reproach to the administration of justice, even in the absence of the statute, if the patient himself might detail all that occurred with his physician and yet compel the physician to remain silent.

In this case privilege was waived as to the plaintiff's attending physician by the plaintiff testifying at length as to the bearing-down pains she suffered and what the physician did. Privilege was also waived as to a hospital operation, by the plaintiff going into the details thereof. Then, where two or more physicians are engaged in the same operation, a waiver of the prohibition of the statute by making public the otherwise privileged matter, makes them all competent witnesses.

Nature of Action to Recover Penalty for Practicing Medicine Without a License

(People for Use of State Board of Health vs. Gartenstein (Ill.), 94 N. E. R. 128)

The Supreme Court of Illinois affirms here a judgment for the plaintiff in an action of debt begun in the municipal court of the city of Chicago to recover the statutory penalty of $100 for practicing medicine without a license. The court does not consider that this was a "prosecution," within the provision of the state constitution that all prosecutions shall be carried on "in the name and by the authority of the people of the state of Illinois," and conclude "against the peace and dignity of the same," but that it was an action for debt. The suit in this case, the court says, was neither criminal in form nor substance. It was not a crime at common law to practice medicine without a license, and the statute does not make it a crime. Where an offense is created by statute and a penalty is fixed for its commission, which is to be recovered by an action of debt and not by prosecution, the action is civil, and rules of criminal procedure do not apply to it. To practice medicine without a license is no more a crime, either in its nature or by the statute, than to peddle without a license, and in Webster vs. People, 14 Ill. 365, where the action was to recover a penalty for peddling without a license, it was held that the suit was not criminal, either in form or substance; that the act was not an offense at the common law, nor indictable under the statute; that it was not necessary to prove guilt beyond a reasonable doubt; and that either party might appeal. The fact that the defendant may be committed to jail as a method of collecting the debt does not fix the character of the suit as a prosecution. Nor was there error in a refusal to grant an appeal to the criminal court, because there was no statute authorizing an appeal from the municipal court to the criminal court and fixing the terms and conditions of such appeal. The method provided for the review of judgments of the municipal court is a writ of error from this court or the Appellate Court

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Steamboat Springs, Aug. 15-17.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held at Denver, June 19-21, 1911

The President, Dr. Richard H. Harte, in the Chair

The officers elected were named in The Journal, July 22, p. 302.

Surgical Treatment of Epispadias in the Female

Mr. Harold J. Stiles, Edinburgh, Scotland: In two cases I successfully transplanted the ureters into the pelvic colon. If a routine examination of the vulva were made of all children suffering from incontinence of urine, the condition would be shown to be less rare than is supposed. As regards treatment, it is a comparatively simple matter to obtain a satisfactory cosmetic result by restoring the anterior commissure and uniting the two halves of the split clitoris. It is far more important, however, to get rid of the incontinence which results from the imperfect development of the urethra and vesical sphincter. This I succeeded in doing by dividing the ureters close to the bladder, ligaturing the distal stump, and then transplanting the proximal ends into the lower part of the pelvic colon by the intraperitoneal route, implanting the ureters very obliquely into the bowel by a modification of the Witzel gastrostomy principle. One ureter is transplanted at a time, three weeks or so being allowed to elapse between the two operations. In the first patient the right ureter was double, but this did not materially complicate the operation. Both patients made an uninterrupted recovery. The operations were done rather more than three years ago. The younger child, now 6 years old, had no incontinence during the daytime, but she occasionally wetted the bed during the night. The older child, now aged 10 years, had no incontinence whatever, and did not have to empty the rectum oftener than every three or four hours. Both children are well, and there is no sign of kidney trouble.

DISCUSSION

Dr. John B. Murphy, Chicago: The failure to get good results in these cases is due not to the fact that the sphincter is not there, for it is there in every case, but that we do not sufficiently liberate the walls of the bladder and of the base of the urethra, in order to get an approximation of the layers of the urethra, before we produce a condition of retention of urine in the bladder itself. There should be a primary operation on the surface of the bladder and urethra before an attempt is made to close the bladder. In the type where the urethra has penetrated the clitoris and appears on the under surface of the symphysis with just a thin web between the urethral lining and the symphysis, an extensive dissection must be made to bring the bladder down and expose its neck for approximation.

Dr. Howard Lilienthal, New York City: I would like to call attention to a method employed by Dr. Guiteras. After performing the sphincter work, the putting of a small rubber catheter into the ureters and keeping it there during the time of the healing of the plastic work above obviates the constant flowing of the urine over the operated parts.

Dr. Charles H. Mayo, Rochester, Minn.: Several times I have had to remove the bladder for malignancy in the adult. I have brought the ureters out into the back in two cases. It seems to me this method described by Mr. Stiles opens up a wide field for cancer of the prostate and of the base of the bladder involving the trigone.

Dr. James E. Thompson, Galveston, Texas: I do not think sufficient time has elapsed since Mr. Stiles operated in the cases he reports for us to say with any certainty that an infection will not pass up the ureter to the kidneys. I have seen two cases in which the ureters were transplanted into the pelvic colon; one patient did splendidly for three years and a half, was apparently in perfect health, then suddenly fell sick and died in three or four months; the post mortem showed the kidney riddled with abscesses. The other patient lived for about four years and a half, with the same fatal termination.

The Open Treatment of Fractures

Dr. Edward Martin, Philadelphia: In the treatment of transverse or nearly transverse fractures of the femoral shaft, the plating method is far superior to all others. The indication for the open operation is failure to produce partial or complete apposition of broken ends. The incision recommended is one to the outer side of the rectus muscle going through the crureus and coming at once on to the fracture. The method of reduction is that which can be accomplished with the least stripping of periosteum and soft parts, sometimes an iron hook passed into the medullary cavity of the upper end of the lower fragment suffices, aided by longitudinal traction applied to the ankle, or when the lower fragment is tipped back by this traction, by applying the pull just below the bent knee. When the lower fragment cannot be hooked in position this way it is advisable to angle out the fragments, oppose them and straighten the leg, thus using powerful leverage on the resisting muscles. When none of these methods are applicable, and this is usually the case in fractures of more than three or four weeks' standing, the middle of a canvas band is placed over the upper end of the lower fragment; to the long ends of this band are fastened from 100- to 200-pound weights, the band is prevented from angling out by direct pressure through gauze pads, and a wait of from five to ten minutes usually not only accomplishes complete reduction, but a little lengthening. One-quarter of an inch should be obtained before the traction band is taken off. Sometimes more than 200 pounds' pull is required. In old cases where the shortening is so great that it cannot safely be overcome by traction, resection of bone ends is, of course, indicated. Accurate apposition very often requires the application of forcible pressure.

The ultimate results are infinitely better than could be obtained by any conservative means. There was one death immediately after prolonged and forceful efforts toward reduction of fractures of both femora treated some four weeks after injury. The death was due to shock.

Fixation of Oblique Fractures by Bone Clamps Applied Through Small Punctures in Skin

Dr. Leonard Freeman, Denver: A screw with a long projecting end is inserted through a small hole in the skin into the upper fragment, well above the fracture, and another into the lower fragment in a similar manner. The fracture is then reduced by manual extension, and the projecting screws fastened together outside the skin by a firm external clamp, thus preventing over-riding of the fragments. The statement is frequently made that external bone clamps are apt to lead to serious infection, but in the opinion of the author this is not true. If the operation is a clean one, serious infection will not occur. On the other hand, if the operation is not clean, suppuration will take place with any method, but the result will be less disturbing in the presence of the drainage afforded by the screws of an external clamp; and, furthermore, in case of infection, these screws can much more easily be removed than can buried plates, ferrules or wires, with far less inconvenience to the patient and without the use of an anesthetic. To this may be added that properly applied external clamps hold the bones more firmly than do other appliances, and when they are removed the dangers of future complications are done away with completely. The method may also be used in certain other oblique fractures especially those of the clavicle and lower jaw.

Discussion on Papers by Drs. Martin and Freeman

Dr. John B. Roberts, Philadelphia: Dr. Martin speaks of pulling down the lower fragment with 100 pounds; this, I think, is too much. Equally good results can be obtained by the ordinary old-fashioned pulleys with Buck's extension. Pins such as Dr. Freeman describes do not, as a general rule, suppurate, and if suppuration should occur it can readily be controlled.

Dr. Thomas W. Huntington, San Francisco: In dealing with recent fractures we must adopt the rule that the least possible foreign material must be placed under the skin, and with a reasonable hope of its being retained. This does not necessarily mitigate or affect the general question as to the propriety of operative procedure, even though we do now and then have to remove a plate, staple or wire, but the least possible number of removals will tend very largely toward establishing the legitimacy of this undertaking. A point of great importance is, that the further away from the skin you can place your foreign material, the more secure you are in retaining it permanently. A case of fracture of both bones of the forearm in a young girl who gave promise of being a very good pianist, was treated with staples in the radius, and now, fourteen months after the injury, the patient does not know whether she had a fracture or not, the function has been so perfectly restored.

Dr. A. T. Bristow, Brooklyn: One point I would like to call attention to in the after-results. We operate, the patient becomes infected, we jump to the conclusion that the infection is the result of the operation, failing in almost every instance to take into consideration the possibility of a pathogenic infection, a sore throat, etc. Very often the infection is hematogenous in character and not due in any way to the operative procedure.

Dr. Joseph Ransohoff, Cincinnati: I do not believe that this open method of treatment should be generalized, for in my judgment it is one of the most dangerous operations in hands not thoroughly competent in everything pertaining to surgical technic. A most important point is the time at which an operation should be performed. I think either at the time of fracture, or at least within a week thereafter; the longer one waits, the longer the deformity exists, shortened muscles and thickened periosteum, and the more difficult to reduce or wire, and the more difficult to keep the shortened muscles in apposition. We cannot pull too hard on the femur, for it takes at least from 45 to 65 pounds to overcome the pull of the strong musculature around the thigh.

Dr. Fred B. Lund, Boston: One reason, I think, why we have not been more in favor of operating on the femur has been that we have not had the proper apparatus. Do not put on two plates where one will hold. The plates are good in fractures in old people and in those who will not wear cumbersome apparatus. I have operated on twelve cases; in two I had to take out the plates on account of suppuration, one three weeks after operation, and one twelve days. Both were cases of fracture of the forearm, which are very difficult to treat on account of the smallness of the bones. In plating the femur you should have a strong apparatus and should make the size of the foreign body introduced just as small as possible.

Dr. Arthur Dean Bevan, Chicago: I do not believe in the routine employment of the open treatment for fractures, but do believe that this treatment has a very sure place in selected cases in the hands of experienced surgeons. We should employ it in cases in which we find from experience that we cannot obtain a good, useful, functional and clinical result by less dangerous procedures.

Dr. Alexander Primrose, Toronto, Canada: A class of cases very applicable to this treatment is that of fracture at the upper end of the humerus where deformity is caused by rotation. With regard to the use of the open method in compound factures, I think in an aseptic wound where there is sufficient drainage, that the method is of value.

Dr. Arpad G. Gerster, New York City: In several cases of fractures, generally comminuted, involving the lower end of the humerus, of the T or Y shape, where one or both condyles of the humerus have been broken off in such a fashion that no amount of manipulation or fixation by the older methods will be sufficient to reduce the bones into the normal position and so retain them, I have found the plating of very great value; no disagreeable dressings were necessary; the union was very prompt.

Dr. M. L. Harris, Chicago: The use of plates in compound fractures of the leg I have found to be extremely useful. In the severe compound fractures ground full of dirt, in which there is certain to be suppuration, and which are extremely difficult to maintain in apposition by any method of dressing owing to the fact that they must be kept open and drained, I have used plates (knowing they must be removed later) to hold the bones in apposition. This forms a simple, easy fixation dressing with the wound open, thereby materially facilitating the draining of the wound and shortening the period of healing.

Dr. Stanley Stillman, San Francisco: In very heavy individuals the necessity of plating a fracture of the femur is imperative. I use very small and light plates. In fracture of both bones of the forearm, if you get the bones in place, there is not much tendency to displacement unless the fracture is very oblique. In simple fractures, where accurate and absolute apposition has taken place, recovery is usually very slow; the amount of callus thrown out is slight; better and quicker healing is obtained where the apposition is not so accurate.

Operative Cure of Internal Hydrocephalus

Dr. E. Wyllys Andrews, Chicago: Cases of acquired, obstructive hydrocephalus, rather than congenital hydrocephalus, are the ones curable by operations. Operative treatment by drainage can be carried out from various sides, spinal canal, fourth ventricle or lateral ventricles. The difficulty lies in making this drainage permanent without endangering the meninges from sepsis. The drainage of the ventricles must be into some absorbing cavity. Cases in which gold or iridio-platinum tubes were made to connect the lateral ventricle and the subarachnoid space, caused permanent reduction of the distended ventricle. Rapid and permanent cure of one almost hopeless case followed the use of a light glass tube. The glass was used as less irritating and lighter substance than metal, and seemed to give better results. Skiagrams taken after five years showed the tube 2½ inches long exactly in the position placed by me. I therefore advocate the use of glass suitably molded in all these cases. It is absolutely inert to all chemical changes in the body fluids, and is safe against breaking enclosed in the skull.

DISCUSSION

Dr. Lewis L. McArthur, Chicago: The idea came to me, after reading an article by McBurney some years ago, that if instead of draining on the surface of the body, as he had tried to do, I drained through the bony vault beneath the scalp into the cellular tissue of the neck, I would be able to secure a permanent drainage. I found a silver cannula, such as is used in the veterinary departments for milking cows, which having a small flange would prevent its dropping into the skull, and would also prevent its falling out. I used this cannula with much success. The child, from being nervous and irritable, became much more normal in every way, although it died three years after my operation from an intestinal complaint contracted during warm weather. I have operated in two other cases after a similar manner also with good results.

Dr. George E. Brewer, New York City: In 1898 I attempted in a case of internal hydrocephalus to drain the ventricle into the subdural space by the method of making a flap in the back of the head and exposing the posterior lobes, and above this space exposing the tentorium; then, by a puncture into the lateral ventricle, I introduced a small filament of rubber tissue flared to make a number of strands which did not totally close; the flanged surface lay on the tentorium and the perpendicular portion entered into the cavity of the lateral ventricle. The child recovered from the operation, but lived only six or seven weeks. The head diminished in size and the symptoms grew no worse. I tried the same method in two or three other cases, but did not feel that the results warranted my continuing in the use of it. I do believe that any method which will allow the fluid to pass from the ventricles into the subdural space will be found ideal.

Dr. Joseph Ransohoff, Cincinnati: I have tied the common carotid arteries in two children suffering from internal hydrocephalus, with most gratifying results. With regard to the introduction of a foreign body to permit of permanent drainage of the ventricles, it is a simple matter to make a drill hole near the median line and through it pare off the corpus callosum, thus establishing efficient and permanent drainage without leaving anything in the interior of the skull to give rise to possible later trouble.

Dr. Charles H. Frazier, Philadelphia: I recently tied the common carotids in such a case. The child is still in the hospital, but a few days ago was in extremely good condition.

Mr. Harold J. Stiles, Edinburgh, Scotland: In congenital hydrocephalus there is no blocking of the passages at the fourth ventricle; indeed, the foramina in the roof of this ventricle are much larger than normal. That being the case, I do not think you can expect any form of drainage to do good in congenital hydrocephalus. I have never derived anything but temporary benefits from such methods. In congenital hydrocephalus there is a disturbance between the balance which should normally exist between the secretion and absorption of the cerebrospinal fluid. The indication is to diminish the secretion by ligaturing the common carotids, the one a fortnight after the other. The operation should be done early in the disease. I have never found it to do any good when the hydrocephalus is associated with spina bifida. In acquired hydrocephalus the indication is to drain the ventricle, because these forms are due to obstruction.

(To be continued)

AMERICAN NEUROLOGICAL ASSOCIATION

Thirty-Seventh Annual Meeting, held at Baltimore, May 11-13, 1911

The President, Dr. H. M. Thomas, Baltimore, in the Chair

Officers Elected

The following were elected president and secretary, respectively, for the ensuing year: Dr. W. N. Bullard, Boston, and Dr. Alfred R. Allen, Philadelphia.

Analyses of the Results of Rhizotomy in the Treatment of the Spastic State of Cerebral Diplegia

Drs. L. Pierce Clark and Alfred S. Taylor, New York: The value of the operation does not consist simply in securing a better gait. The hope of further mental development is in no small degree bound up in the freedom of movements of the extremities which is made possible after rhizotomy. From a summary of all the cases it may be said that in operating on the lower extremity, the posterior roots of all five lumbar and the first two sacral enter into consideration. In a general way, it suffices in spastic palsy of the leg to resect the second, third and fifth lumbar and second sacral in mild cases; or the third and fifth lumbar and second sacral if the spasticity is attended by adductor spasm largely; or the third and fifth lumbar and first sacral if one desires to limit the completeness of the relief. In very severe cases, however, where there is extreme flexion of the knee, the second, third and fifth lumbar and first sacral or the first, second, third and fifth lumbar and the first and second sacral should be resected. In brachial spasticities, perhaps the best and most complete results follow resection of the fourth, fifth, seventh, eighth cervical and first dorsal roots. It should be borne in mind that a part of the spastic conditions should be left as a physiologic brace for the paretic muscles.

DISCUSSION

Dr. Joseph Collins, New York: The more experience I have with this operation, the more I am convinced that its limitations are very narrow. During the past year I have had the operation done in one case each of spasticity due to disseminated sclerosis, old infantile paralysis, Little's disease occurring in an imbecile child, focal hemorrhagic encephalitis, occurring in the second year of life, and in a birth palsy. In only one of these cases, a child with hemorrhagic encephalitis, has the operation been of any benefit. In that case the results have been brilliant. I am of the opinion that this operation will finally be restricted to those forms of diplegia which are the result of inflammatory or hemorrhagic processes dependent on trauma.

Dr. Carl D. Camp, Ann Arbor, Mich.: I recommended the operation in a case of spastic paraplegia due to myelitis. There was marked spasticity in both legs. The operation consisted of resection of the second, third and fourth lumbar nerve roots. The result was less spasticity and less contracture. Unfortunately the patient had a chronic enteritis at the time of operation which caused death two months later.

Dr. Smith Ely Jelliffe, New York: If the hypothesis of the condition is correct, namely, that the increased spasticity can be relieved by cutting off of certain sensory incoming impulses, then, in the cases to be operated on a clear notion must be held in relation to what sensory impulses are going to be cut off by the operation.

Dr. J. Ramsay Hunt, New York: Is there not a certain risk in cutting only a part of the root? Might there not form there a little tissue nodule which would irritate the fibers that have not been cut and that might retard the result some and produce a sort of false neuroma?

Dr. W. G. Spiller, Philadelphia: Most cases of myelitis are not benefited by the operation because there is a destruction of the motor fibers, and paralysis which is in the same degree or in greater degree than the spasticity. I have had a case of traumatic myelitis in which the benefit from operation was great. In that case the spasticity was far in excess of the paralysis. Of course, the operation is not suitable for spasticity due to disease of peripheral neurons.

Dr. Alfred S. Taylor, New York: It would be wise to operate in cases which offer indication and to observe effects, without specifying too definitely which patients shall and which shall not be operated on. In regard to Dr. Hunt's question concerning partial root section, that operation has appealed to me in those cases where the spasticity covers a large group of muscles. Instead of leaving one root entirely alone we could spread the effect by dividing portions of roots. Whether the theory that a neuroma might form or not, is correct, I do not know. Some of the patients were operated on three years ago and there is no evidence of difficulty arising from that source.

Chronic Hypertrophic Spinal Pachymeningitis

Drs. C. K. Mills and Edward M. Williams, Philadelphia: From the diagnostic point of view this subject is of the utmost importance. The diagnoses made included grave hysteria with inability to walk, circumscribed serous meningitis, rudimentary or supernumerary ribs, syringomyelia and even for a brief season in some of the cases amyotrophic lateral sclerosis. The Charcot-Jouffroy classical type of cervical hypertrophic pachymeningitis was closely simulated in one of our cases; nevertheless, the meningeal and cord lesions were much more widely diffused than in cervical hypertrophic meningitis as usually considered. The case was that of a woman about 45 years old who suffered with recurring pain in the shoulder and arms, especially on the right side; who developed paralysis with atrophy in the distal portions of the upper extremities, impairment of power with exaggerated and abnormal reflexes in the lower extremities and also in the upper extremities dissociated anesthesia, the changes in pain and temperature sense, especially the latter, being much more marked than those for the other forms of sensibility. A striking feature in the case was the great variability in some of the main features of the syndrome. Early in the history of the case the patient lost the ability to stand or walk, regaining and losing it again, and even late in the case the loss of power changed almost from day to day. Foot coldness and the Babinski reflex were present on one day and two or three days later were absent or very slightly marked. Even sensory conditions varied from time to time. Operation revealed marked thickening of the inside of the dura with flattening and displacement of the cervical cord, but the lesions were evidently too diffuse to warrant any attempt at removal of the thickened membranes. The patient died two or three weeks after the surgical procedure and necropsy revealed widespread internal pachymeningitis most definite in the lower cervical and upper thoracic region, but present throughout the entire length of the vertebral canal. The cord was compressed and in some places invaded. The vessels both of the membranes and cord substance were sclerotic, changed in caliber and in some instances obliterated.

Regeneration in the Sensory Root of the Fifth Nerve

Dr. T. H. Weisenburg, Philadelphia: The patient, a man of 30, had pains in the face for seven years for which there were first performed peripheral operations; finally, most of the Gasserian ganglion was removed and the sensory and motor roots cut. Two days after this the pain returned in spite of the fact that there was persistent anesthesia in the fifth nerve distribution. The pains were in the lower part of the jaw within the mouth, back of the tongue and would radiate at times to the ear and down the throat to the shoulder; were especially severe on swallowing and were not of the character that are present in tic douloureux. The patient lived for three years after the ganglion was removed. At necropsy there was found a cerebello-pontile tumor, which grew on the fifth nerve and compressed the pons and so separated the cerebellum from the former that it stretched the ninth and tenth nerves. During the man's life the lingual, the great occipital and the cervical nerves were removed. The recurrence of the pain in this patient was undoubtedly the result of irritation of the ninth nerve. In a study of the sensory and motor fifth roots distal to the tumor there were found distinct evidences of regeneration, marked in the motor root, slight in the sensory. These evidences of regeneration consisted in the formation of definite myeline sheaths and to a less extent of axis cylinders. There was hardly, however, enough regeneration to account for the return of pain.

Rachiocentesis (Lumbar Puncture) in the Treatment of Aural Vertigo

Drs. James J. Putnam and C. J. Blake, Boston, Mass.: Sixteen patients with aural vertigo were treated by us by means of lumbar puncture. The best cases are those in which the symptoms do not indicate any very considerable disorganization of the labyrinth or any high degree of middle-ear disease, but rather an increase in functional excitability. Sometimes the favorable result is obtained at once, sometimes only after some days. Occasionally a second puncture is required. The amount withdrawn is usually 15 to 20 c.c. The only untoward result thus far observed is headache, which may last some days or even a week or more. Good results are obtained in a considerable proportion of the cases.

The Sensory Tract in Relation to the Inner Capsule

Drs. William G. Spiller, Philadelphia, and Carl D. Camp, Ann Arbor, Mich.: In two cases seen by us and studied by microscopic serial sections, the lesion was very sharply defined, the separation of the sensory from the motor tract seems to have been clearly demonstrated, and it may be concluded that the sensory fibers are posterior to the motor, although some of the sensory fibers may pass through the posterior part of the lenticular nucleus.

A Pathologic Study of Türck's Bundle

Dr. John H. W. Rhein, Philadelphia: I have studied two cases. In the first case the three temporal convolutions were entirely atrophied or degenerated and the atrophy cut in large part the optic radiation of Gratiolet and the fasciculus longitudinalis inferior. The fasciculus of Türck was totally degenerated in the foot of the peduncle, though there were a few stained fibers demonstrable in the subthalamic region and some fibers which were probably not longitudinal ones in the foot of the peduncle. The second case showed atrophy of the middle portions of the second and third temporal convolutions with degeneration of the white matter of the first temporal convolution and slight atrophy of the posterior portion of the first temporal convolution. The fasciculus longitudinalis inferior and the optic radiation of Gratiolet were markedly implicated at the level of the subthalmic region. The fasciculus of Türck was in the main preserved, though its volume in the foot of the peduncle was perhaps reduced somewhat. It seems from this that fibers from the occipital lobe do not figure greatly in the formation of the fasciculus of Türck, nor do the fibers from the middle portion of the second and third temporal or the posterior part of the first temporal convolution.

Deviation of the Tongue in Hemiplegia

Dr. Ernest Jones, Toronto, Canada: Three hundred and thirteen cases of hemiplegia were investigated. In 104 cases the tongue was protruded toward the paralyzed side (typical), in forty cases towards the opposite side (atypical), i. e., the contralateral geniohyoglossus was paralyzed nearly three times as often as the homolateral. In sixty-seven cases the tongue could be put into the cheek on the side of the lesion more easily than into that on the side of the paralysis (typical); in twenty-one cases the reverse was the case (atypical), i. e., the contralateral styloglossus was paralyzed more than three times as often as the homolateral. The two atypical symptoms did not tend to occur in the same cases, so that four sets of cases are to be distinguished. There is every reason to believe that the geniohyoglossus, the muscle of most significance in this connection, is represented in both hemispheres. The experimental evidence would seem to show that it is chiefly represented in the homolateral hemisphere, and the clinical evidence that it is chiefly represented in the contralateral. Beevor's explanation of lateral deviation is incomplete, and does not account for all the facts just stated. A final explanation is impossible until the course of the corticohypoglossal tracts is more fully elucidated. The four symptoms just mentioned can probably be accounted for by a varying implication of the four different corticohypoglossal tracts that proceed from each hemisphere; this may depend either on a variation in the crossing in different cases or on a variation in the position of the lesion.

DISCUSSION

Dr. T. H. Weisenburg, Philadelphia: In a case of tumor of the cerebello-pontile angle in which there was irritation of the ninth root, the tongue was deviated to the side of the tumor. In this man there was spasm of the tongue and often when he would open his mouth one could see the tongue in spasm, always to the side of the lesion and never beyond the lips. Sometimes the tongue would be protruded to the side of the cheek but never to the opposite side. This was rather interesting as a physiologic experiment on a human being.

Dr. Harvey Cushing, Baltimore, Md.: I have a feeling that the tongue gets its sense of position from the position of the jaw, and deflection of the jaw may mean that the tongue is getting its sense of position directly from the jaw, and, even though the tongue is deflected, it is really in position when compared with the deflection of the jaw. After trigeminal neurectomy the tongue deflects. The tongue seeks its sense of position in the mid-line when it would appear to deflect.

Etiology of the Occupation Neuroses and Neuritides

Dr. W. E. Paul, Boston, Mass.: Experimental work shows that peripheral nerve injury or trauma can give rise to practically all the symptoms of an occupation neurosis. The majority of the symptoms cannot be explained by the central hypothesis. In ten cases the rule that all other acts than the occupational acts are done fully and freely did not hold. Two hundred cases analyzed from the records of the Massachusetts General Hospital demonstrate the frequency of pain located in many cases near or in joints. The impacts, squeezings, tensions and stresses of excessive physiologic functioning, acting on muscle tissue, or on sensory and motor nerve structures which run in the soft tissues and terminate in muscle, tendon, joints or fasciæ, bring about neurolytic or myolytic changes responsible for the occupation neuroses and so-called occupation neuritis and occupation pain.

Differential Diagnosis Between Maniac-Depressive Insanity and Dementia Præcox

Dr. Alfred Gordon, Philadelphia: A careful analysis of every phase of the mental affections in four cases observed for several days leads me to the following conclusions: In spite of the fact that everyone of the four patients presented, at one time, alternating phases of maniac and depressive outbreaks, and, at another time, symptoms of dementia præcox, there were certain features which constituted very important differential diagnostic elements, to wit, if in an individual affected with outbreaks of depression and exaltation, each characteristic of mania and melancholia, a change of his affective and intellectual faculties and particularly of the first is observed, the presumption is in favor of an eventual dementia præcox. If the patient begins his mental disorder with symptoms of dementia præcox and later develops the picture of maniac-depressive psychosis, but one following closely the other, the latter may carry with it some important features of the first, and these very same features present, then, a very significant diagnostic element.

The Early Symptoms of General Paralysis

Dr. Philip C. Knapp, Boston: I wish to report a study of 100 cases of general paralysis in ninety men and ten women, seen on the average of a year and eight months after the onset of morbid symptoms. Twelve were cases of taboparalysis. A comparison was made between the symptoms which were reported as the initial symptoms of the disease, and the symptoms presented at the time of examination. Sensory symptoms, headache, pain and paresthesia were the commonest initial symptoms, although of less relative frequency later in the disease. Apoplectiform and epileptiform attacks were relatively more frequent as initial symptoms than as symptoms of later onset. Motor symptoms were not very common at the beginning of the disease, but were almost universal later, occurring in eighty-seven cases. Nearly every patient presented alterations of the knee-jerk (ninety-six cases) and of speech or handwriting (ninety-three cases). Mental symptoms were noted among the initial symptoms in forty-nine cases. There was no case which did not present alterations either in the knee-jerks or in the pupils, or in the speech or handwriting. There were three cases in which no mental disturbance was detected and twelve more in which the mental disturbance was insignificant. This warrants the classification of paresis among the diseases of the nervous system in general rather than as a distinctly mental disease.

DISCUSSION

Dr. H. R. Stedman, Boston: General paralysis is primarily and essentially a disease in the cortex, whose highest functions are the mental processes. Therefore, it seems to me to go without saying that mental enfeeblement must be present. There must be some shade or degree of enfeeblement in the beginning of general paralysis. Then, again, the average person is far less likely to notice, remember and give due weight to the purely mental, the minor mental changes, like impairment of attention and slight changes in character and disposition and all that, while, on the other hand, the physical changes, like tremor and the pupillary changes, because they are more noticeable and tangible, would be far more likely to make an impression on him and be remembered.

Dr. Morton Prince, Boston: There is a very great fallacy in statistics of this kind. That the patient cannot give an accurate account in a case of insanity goes without saying. A number of cases come to my mind, where the relatives say that the person is a very intelligent individual; they are unwilling to admit that any mental symptoms have developed, partly because of their unwillingness to face the truth, and partly to find some way of explaining those symptoms.

Dr. G. L. Walton, Boston: I agree with Dr. Knapp that the mental symptoms are far less prominent than the physical signs at the onset. The practical bearing is that if a patient presents himself with a mental condition suggesting paresis, if there are no pupillary or other reflex disorders, no trouble in speech or writing, no tumor and no history of apoplectiform or epileptiform attacks or other of the physical signs of the disease, the chances are overwhelmingly against the diagnosis of paresis.

Dr. M. Allen Starr, New York: In a study of 200 cases from my clinic made by Dr. Hunt, one fact came out which has not been brought forward here, that is, among the early mental symptoms we found it was very much more common to have a period of mental depression than one of exaltation. A study of my cases confirmed the statement of Dr. Stedman that when the patients begin to fail, it is the highest centers that go first, and that in these cases it is not quite fair to make our estimation of the early symptoms from the statements of the patient when the disease has developed or from the statement of relatives, notoriously inaccurate witnesses, but we should bear in mind our own mistakes of undiagnosed cases which subsequent events have shown were cases of paresis.

Dr. C. L. Dana, New York: Dr. Knapp has ignored the fact that in those symptoms which he describes as early symptoms of paresis, the sensory, the motor and the mental are all three important symptoms of a luetic disorder of the central nervous system. My experience is this: that paresis usually, or often, attacks a person first through a condition which we call luetic neurasthenia or luetic depression and more rarely luetic mania. If the disease goes on, as it usually does, then paresis develops, but if proper treatments are applied the sensory symptoms and motor symptoms are sometimes arrested and no paresis ensues. Now the test by which we can determine whether a luetic condition is one of luetic ischemia or early paralysis is to be found ultimately in a careful study of the blood and cerebrospinal fluid, and already we have got pretty near to the formula by which we can tell.

Dr. Theodore Diller, Pittsburg, Pa.: I am sure there are many cases of paresis with physical signs which are perfectly well developed before the appearance of the mental symptoms.

Dr. Ernest Jones, Toronto: My experience is that the first symptoms to be noticed by the patient are physical, but the first symptoms of which he complains and which lead him to seek advice are of the mental kind, and that when the physician sees the case, the mental symptoms are the most constant and pronounced.

Dr. Henry A. Cotton, Trenton, N. J.: From the viewpoint of the hospital physician, I think we see, in some cases, the physicial signs appear first, and, in others, the mental signs appear first. Unless paresis is in a stage where there can be no mistake as to diagnosis, we should make lumbar puncture. The lumbar puncture taken in the early stages will show a lymphocytosis in cases in which one hardly suspects general paralysis from the physical or mental signs.

Methods of Curing Idiopathic Epilepsy

Dr. L. Pierce Clark, New York: Statistics and percentages of cures are of no value unless backed by actual data. So-called spontaneous cures are almost invariably brought about by the reliance of the patient on a hygienic system more or less adequately adhered to. Special drug therapy, especially the sedative, are thoroughly discouraged in treating idiopathic epilepsy. Seventy-five per cent. of all idiopathic epilepsies show some metabolic defect. No patient showing real mental deterioration has recovered. The rather frequently reported cures at 4 or 5 years of age are probably but reflex convulsions; many such might in time develop into genuine epilepsy if they are not checked. Spontaneous cures rarely occur between 5 or 6 and 20 years of age. The chances of spontaneous cures improve greatly with advancing years, between 20 and 40 especially. Relapses in cured cases are not uncommon, even after fifteen or twenty years of arrest. The cause for relapses is a breaking away from the hygienic regimen, or emotional and mental stress. Restoration to a second arrest is very difficult of accomplishment.

Dr. James J. Putnam, Boston: I have tried the hygienic treatment without bromids in several instances; I have been very well satisfied with the results and mean to continue this treatment. If we are going to rely on hygiene, we must carry it to the point of adopting something equivalent to the careful training of a person who is about to enter some sort of athletic contest.

IOWA STATE MEDICAL SOCIETY

Sixtieth Annual Meeting, held at Des Moines, May 17-19, 1911

The President, Dr. M. N. Voldeng, Cherokee, in the Chair

A list of the officers for the coming year was published in The Journal, June 10, p. 1729.

Typhoid Bacilli-Carriers

Dr. Henry Albert, Iowa City: I have tabulated eighteen instances of epidemics or endemics of typhoid traceable to typhoid bacilli-carriers. Chronic typhoid bacilli-carriers must be regarded as a menace to public health, it having been shown: (*a*) probably 5 per cent. of all typhoid patients become chronic typhoid bacilli-carriers; (*b*) 3 per cent. continue to excrete typhoid bacilli for more than one year after recovery; (*c*) 25 per cent. of all chronic typhoid bacilli-carriers have never had typhoid; (*d*) 1 in every 1,000 of the general population is a carrier; and (*e*) 10 per cent. of all cases of typhoid are traceable to carriers. Whenever there are household epidemics or a series of outbreaks of the disease in a locality or an institution, or among soldiers in the field, we should consider that a bacilli-carrier is the most probable source. If an individual has an attack of cholecystitis or biliary colic soon after an attack of typhoid, we should suspect that such has been caused by typhoid bacilli, and that such a person is a typhoid bacilli-carrier. Chronic typhoid bacilli-carriers transmit the germs to others practically only by the handling of articles of food consumed without being cooked or handled after being cooked. Persons who have recovered from an attack of typhoid should preferably not engage in dairying, kitchen work, etc., for at least one year after the attack. Persons who have ever had typhoid, or within a year have been exposed to infection with it, should thoroughly wash their hands with soap and water before handling any article of food which is to be consumed without being cooked or reheated to the boiling point. The administration of hexamethylenamin and typhoid vaccines, and occasionally the performance of a cholecystotomy, may be advantageously employed to remove the carrier condition.

DISCUSSION

Dr. W. L. Bierring, Des Moines: One is impressed with the longevity of typhoid bacilli in the human body. The gallbladder seems to be an especially good habitat for their growth or life. On the other hand, one wonders to what extent convalescents really become dangerous as carriers, when we recall the many cases that pass out from under our hands, without opportunity to keep up disinfection, and still very few instances of subsequent infection occur in the neighborhood or environment of these patients. Undoubtedly a great many of the pathogenic organizations lose much of their vitality as soon as they get outside of the body; and yet, as representing the spirit of the State Board of Health, all typhoid patients who are convalescent should be kept under observation for a certain time, and those tracts or channels where these germs are harbored disinfected.

Dr. T. F. Duhigg, Des Moines: It seems obvious that typhoid bacilli under certain conditions do live for a considerable length of time outside of the body. They have been recovered from ordinary earth where it was dry enough to pulverize, and from that dust cultures made after a period of two weeks. In certain soil, being nurtured on pollution, they have stood up and answered to roll call over 300 days after being planted. It is unreasonable to trace every case of typhoid fever to a carrier, and it is unreasonable also to expect a bacillus to die promptly where conditions are favorable to its life. When a multitude of destroying organisms are present, obviously it will disappear very rapidly; but a polluted soil combined with a low water level will sustain typhoid bacilli for a considerable length of time.

Treatment of Carcinoma of the Breast

Dr. L. W. Littig, Davenport: To secure the best results an early diagnosis and correct conception of the manner in which cancer cells are disseminated, and a properly planned and efficiently performed operation, are absolutely essential. There is diagnostic significance in even the slightest dimpling of the skin in the slightest pull, of asymmetry of the breast, of the shortening of the quadrant of the breast in which the tumor is located, and of the multiple dimpling of the skin, known as "peau d' orange." A discharge from the nipple is suggestive but not conclusive. A thin, bloody discharge is strong evidence of cancer, while a mucoid discharge points to benign growth. A discharge of bloody fluid suggests an intracystic papilloma. About 50 per cent. of cysts are malignant, and every cyst must be inspected carefully and the condition of its wall noted. The faintest difference in color and texture, a slight thickening at one point, a slight nodule, point to cancer. A smooth cyst containing blood without a papilloma, and a cyst containing granular, grumous contents, is cancer; likewise a cyst containing a fungoid mass. If the strawberry or raspberry shape of a papilloma be preserved, and the contents be hemorrhagic, it is benign. A smooth wall cyst without a papilloma means a cancer. The exploratory puncture should never be used, as it is dangerous and may disseminate cancer cells. A free incision and immediate microscopic diagnosis, and immediate radical operation, is the best procedure in doubtful cases. The dissemination of cancer cells by way of the lymphatics lying on the deep fascia must be considered to get the best results. The relative infrequency of recurrence in the axilla, and the relatively great frequency of recurrence in the scar, indicate that the Halsted operation does not pursue cancer cells in the fascia with the same efficiency that it does in the axilla.

The Handley operation, which assumes that cancer is disseminated by a process of permeation, and that permeation occurs in all directions, against the lymph current as freely as with it, must be the basis of a properly planned operation. The Tansini operation has a place. The best results are obtained by removing a 4 or 5 inch circle of skin and a 10 or 12 inch circle of fascia, the tumor always being taken as the center of the circle. This area includes the upper portion of the sheath of the rectus of both sides, the perforating branches of the internal mammary artery on the opposite side, that portion of the serratus magnus muscle under the breast, the fascia over the anterior edge of the latissimus dorsi, the pectoral fascia, and the pectoral muscles, except the clavicular portion of the greater pectoral. The axilla is to be cleaned with the Halsted thoroughness. Regardless of the plan of attack, all suspected tissues must be handled with gentleness until removed, that cancer juice may not infect the wound, or cancer cells be forced to distant parts by way of the lymphatics. Procrastination in the treatment of tumors is to be condemned, the cancer cells creeping onward in an ever-widening circle while the patient waits for cooler weather, and while the doctor waits for all the typical symptoms.

DISCUSSION

Dr. D. S. Fairchild, Clinton: Dr. Littig has pointed out the very great importance of the removal of the adjacent fascia by making a wide dissection. A well-planned scheme should be adopted of including all the tissues that the anatomists have shown might contain these cancer cells. I have removed quite a number of tumors of the breast, that were shown afterward not to be cancer, with the idea that they were. It is generally impossible for us to determine whether it is cancer by any sort of laboratory examination such as we have at hand at the time of operation, and make a limited dissection on the ground of adenoma or cystic growth. I think the last five cystic tumors of the breast that I removed were not malignant, and yet I have never regretted that I made the radical operation, because it was impossible for me at that time to determine with absolute certainty that they were not malignant, and I assumed that they were because I had no proof to the contrary.

Dr. Ira A. Crow, Marengo: Dr. Littig seems to think that it does not matter whether you begin at the outer edge and dissect in, or begin at the gland and dissect out. It seems to me the Jackson incision, which is made from the axilla in toward the mammary gland, exposing the large axillary vessels with their accompanying lymphatics first, is the easier and more proper method, for two reasons. First, you encounter the blood-vessels at their origin, where you can clamp or ligate them, and thus make a more nearly bloodless dissection as compared to beginning at the mammary gland and working toward the axilla, meeting the numerous muscles. Secondly, by beginning at the outer edge we cut off the source of invasion of the lymphatics and lessen the danger, I believe, of squeezing the carcinomatous cells out into the adjacent tissues.

Dr. D. C. Brockman, Ottumwa: I do not agree entirely with Dr. Fairchild in the removal of every breast because there is a tumor in it. If a young girl comes to me with a tumor that has existed for a year or two, I assume that it is probably an adenoma, and I enucleate by a sweeping incision under the breast, turn the breast over and remove the tumor; and if it is not malignant I do not touch the breast. Another thing. Let us stop operating on young women with cancer of the breast. It does no good; it does harm every time. I will never again attempt to remove a cancer of the breast of a woman under 35, whatever her build is, and never under 40 if she is fat. The older the patient, the better the results, because the old, wizened-up woman has wizened-up lymphatics that will not carry the cancer cells; while the fat young woman will die just as quickly as if she had not been operated on.

Dr. George W. Crile, Cleveland: I have recently had occasion to review practically all of the cases of cancer of the breast that I have had under my care—a little over 200. I divide all cases at the time I see them first into three classes: first, those in which the cancer is still limited to breast tissue, which we would call a favorable group; second, those cases in which the skin and some additional tissue are involved, which we call the unfavorable group; third, those that are hopelessly involved. Of this series, 80 per cent. of Group 1 remain cured for three years and over, while in Group 2 this percentage drops to 25 per cent. This is a tremendously strong argument that we must not allow our patients to go until they get into the second class, and we will have 80 per cent. cured.

The Symptomatology and Treatment of Early Tubal Pregnancy

Dr. Max Emmert, Atlantic: Tubal pregnancy is an abnormality of many variations, and frequently it is very difficult to differentiate it from normal uterine pregnancy. It often occurs in women who have borne children and have become pregnant after a long period of sterility. The early symptoms vary somewhat from those of normal uterine pregnancy, but a positive diagnosis before rupture cannot be made from the symptoms alone. Cessation of menstruation occurs in only 43 per cent. of the cases, and consequently is of little importance unless present. Morning sickness occurs about as frequently as in uterine pregnancy, or in one-half to two-thirds of the cases. As this symptom does not appear until the end of the first month, it is of little use for an early diagnosis. The nervous phenomena of pregnancy, such as despondency and tinnitus auris, are said to be exaggerated in tubal pregnancy. Intermittent colicky pains in one or both ovarian regions is one of the most characteristic symptoms. These pains vary in severity, but in all cases are intense enough to attract the patient's attention. They may or may not radiate to the back or thighs. Abnormal menstrual flow at a time when not expected is another suggestive symptom, and is of great value in establishing a diagnosis. Vomiting when present is the most deceptive symptom, as it often points to a lesion along the digestive tract, and especially in the appendix, if the pregnancy be on the right side. Each case must be treated according to its individual merits. If the hemorrhage is profuse and shows no signs of abating after one or two hours of expectant treatment, operation is demanded. If the hemorrhage ceases, the patient may be treated expectantly, but always bearing in mind the danger of secondary hemorrhage, which is more fatal than the primary.

Too much stress cannot be placed on the necessity for absolute rest in cases of rupture. The patient should not move her body or be moved during the first twenty-four hours. She should not be permitted to move herself for at least three days. Immediately following the rupture morphin should be used freely to secure complete relaxation, ease the pain and quiet the nervous system. After the hemorrhage has ceased, salt solution is indicated, either by venous infusion, hypodermolysis or proctoclysis. The bowels should not be moved for three days, and then by a mild enema. Any woman who during the child-bearing age shows any abnormal signs or symptoms during pregnancy should be examined carefully with the intention of eliminating the possibility of tubal pregnancy. If this is done, the mortality from tubal pregnancy will be greatly reduced and the proficiency of the practitioner greatly increased.

DISCUSSION

Dr. A. L. Wright, Carroll: It may be said that the diagnosis of tubal pregnancy rests largely on the following clinical manifestations: An early history of pregnancy; pain in one side, severe at times; irregularity of the menstrual flow, and, prior to rupture, a tumor in one side of the uterus. After rupture, in addition to the pain, the patient presents a history of some profound disturbance. If seen at the time of shock, due to the loss of a large quantity of blood, she is not only suffering from the most intense pain, but there is unmistakable evidence that she is bleeding somewhere.

Dr. J. F. Herrick, Ottumwa: It has seemed to me that at times too great an effort is made to clean out blood-clots in cases of this kind. Unless the clots are infected, it is quite as well to close the bleeding point, and if the fetus is in the field, remove it and leave the clot to be taken care of by Nature. My experience is somewhat limited, but I know of three cases in which large clots were left in, and there was no evidence of any disturbance afterward. But, of course, very careful asepsis should be maintained in every phase of the operation, so that those clots may not become infected.

Dr. George E. Crawford, Cedar Rapids: A personal experience with fifteen cases has convinced me that the clots are very likely to become infected on account of their contiguity to the bowels. What could possibly be the idea of opening the abdomen and tying the bleeding surface and leaving the clots? I think the sooner we get those clots out the better for the patient.

Dr. C. E. Boyd, Newton: My colleague and I have had an experience with twenty of these patients, and about one-fourth of them have been operated on per vaginam. It is our rule wherever hemorrhage has occurred, and wherever the clot has become infected and there is pus present, to do the vaginal operation. Sometimes you will have to operate to correct the disease in the tubes, but usually you will just have to do a cul-de-sac operation. As to leaving the clots of blood in, take them out every time. You take them out in other abdominal operations, and why not in this? They are more likely to be infected than ordinary clots in the abdominal cavity.

Dysmenorrhea and the Popular Errors Concerning It

Dr. C. F. Wahrer, Fort Madison: Few subjects in medicine are more frequent than cases of dysmenorrhea, and few are more unsatisfactorily treated, as far as permanent relief is concerned. There is too much routine, all tending to dilation and curetting, and even ultra-radical surgical measures, such as would not be dreamed of were the patient a man with analogical ailments. Dilation cures less than 20 per cent. of all cases, as contracted cervixes are the exception and not the rule. And if done, it must be maintained for some time—several months, at least—by some cannula, or it will prove unsatisfactory in most instances. Nervous causes, faulty education, etc., are more to blame than real pathologic conditions, which in most cases are wanting. The wise family physician can do more here than all the surgeons and gynecologists in the world—though there would seem to be nothing to hinder a surgeon or gynecologist from being wise, unless blinded by greed or operative furor.

DISCUSSION

DR. M. E. WITTE, Clarinda: The typical patient who comes to you is a pale, anemic neurotic individual. Surely she is not the subject for a surgical operation. If she came to you complaining of any other trouble than pain at the menstrual period, you would probably think of building her up instead of looking for a surgical instrument to cut away something or to dilate some cavity. It seems to me that the treatment must be prophylactic, aside from individual cases. If we teach our women how they should dress, how they should live, the exercise that they should have, dysmenorrhea as a disease will disappear. or at least become less common than it is at the present time. The uncivilized woman is comparatively free from this trouble; it is the individual who wears fashionable clothing and does the things that a woman of fashion must do who suffers, not only from dysmenorrhea, but from the other diseases that are prone to produce this condition.

DR. C. W. BAKER, Stanwood: Dr. Wahrer made the statement that about 30 per cent. of the patients normally have pain. I would not want to believe him as saying that it is normal for any one to have pain, either in menstruation or in childbirth. I feel that if nearly one-third of all the patients with menstrual trouble have pain, it is because of a nervous taint that has been ingrown. The young girl has been forced and strained in such a way that her nervous system is broken, in a sense; she is a partial nervous wreck. Many of these patients cannot be relieved with anything but narcotics. Dr. Witte's suggestion that they be built up with tonics or in any way we can rebuild them is the treatment that will relieve most satisfactorily.

DR. J. F. HERRICK, Ottumwa: I have come to the conclusion that the pain of dysmenorrhea usually is not due to obstruction, but to a spasm of the uterine tissues, especially of the cervical region, and is of the same nature as the pains of labor. We have colic or spasm of the intestinal canal when there is no obstruction, due to the contraction of a hollow viscus. And so I believe that in dysmenorrhea the pain is due to faulty habits of life. These habits must be corrected otherwise no treatment, curettage or stem pessary will cure I do not believe all menstrual pain is abnormal; I believe a slight discomfort is perfectly normal, as I believe pain in labor is always normal, not only in the human family, but in all animal creation.

DR. CHAS. F. WAHRER: My plea is for the profession to get out of the ruts—to give the go-by to nostrums that are usually compounded with opium. My further plea is not to subject every woman to the knife and to the dilator, because it simply robs her of money, if she has any, and gives her a vast minority of relief and a great majority of disappointment.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Philippine Journal of Science, Manila

February

1 *Nutrition and Growth. H. Aron, Manila, P. I.
2 *Indications of Acid Intoxication in Asiatic Cholera. A. W. Sellards and A. O. Shaklee, Manila, P. I.
3 *Study of Intestinal Parasites in Tobacco Haciendas of the Cagayan Valley, Philippine Islands. D. G. Willets, Manila, P. I.
4 *Anthrax in the Philippine Islands. W. H. Boynton, Manila, P. I.

1. **Nutrition and Growth.**—The relationship between nutrition and growth was made the subject of a very exhaustive experimental study by Aron. He made four sets of experiments on fourteen dogs, and noted (1) the influence of a restricted diet on growing dogs; (2) effect on the weight and appearance of the animals; (3) relative amount of change in certain parts of the body as compared with other parts; (4) changes in the chemical constitution of the body; (5) energy requirement and food consumption. Then he studied (1) the biologic considerations concerning the suppression of growth by restricting the food; (2) energy required during growth, and (3) the increase in weight as an index to growth, with special reference to children. The most important results of his experiments may be summarized as follows: A growing animal which receives only sufficient food to keep its body weight constant, or to allow a slight increase, is in a condition of severe starvation. If by a restriction of food the increase in weight is inhibited, the skeleton grows at the expense of other parts of the body, especially of the flesh. Most of the organs retain their weight and size, while the brain grows to reach its normal weight. The composition of the body, when at a constant weight, undergoes remarkable changes: Fat is consumed more or less entirely, the quantity of protein, especially of the muscles, but not of the organs, is diminished and a great proportion of the body tissues is replaced by water; thus, this water and the increase of the skeleton together, replace the body materials lost. The caloric value of 1 gm. body weight of an animal which has undergone such a process to its extreme limit may amount to only one-third of the normal value. It is possible by supplying suitable amounts of food to maintain a dog in an emaciated condition, apparently in good health, and at the weight of a puppy, for nearly one year, while its weight at the end of the year should be three times as great. If such an animal is thereupon fed amply, it fattens and rounds out, but does not reach the size of a control animal which from the beginning has been normally fed. It is unable to make good the growth suspended by the long restriction of food. The growth principally depends on the tendency to grow possessed by the skeleton. The skeleton loses its capability of growing in more advanced age regardless of the size which the animal has reached.

2. **Acid Intoxication.**—Certain features in Asiatic cholera afforded an interesting opportunity to Sellards and Shaklee for the study of acid intoxication. They found that the stage of reaction and uremia in cholera and the acid intoxication of diabetes have the following features in common. There is a well-marked tolerance for alkalies, as much as 90 gm. in cholera and even 200 gm. of sodium bicarbonate in diabetes may fail to render the urine alkaline. In certain stages of both diseases, sodium bicarbonate possesses pronounced diuretic properties. The relative and absolute amounts of ammonia in the urine are considerably increased in both diseases. The administration of alkalies, even in large amounts, sometimes fails to reduce the excretion of ammonia. In cholera the urine frequently shows a pronounced diminution in the amount and percentage of urea; some evidence was obtained which suggests that the nitrogen may fail to be excreted as urea or ammonia, even when the organs which form urea are capable of performing their function and the kidney is able to excrete urea. Preliminary tests made by the authors indicated that there may be a definite reduction in the carbon dioxid content of the blood in the uremia of cholera as well as in diabetic coma. In both diseases, a diminished alkalinity of the blood has been reported. The injection of alkalies in the late stages of either disease usually modifies the course without affecting the ultimate termination. The early administration of alkalies in cholera has been effective in preventing death from uremia without any apparent increase in the number of deaths from other causes. The exact significance of these analogies can be determined only by a thorough investigation. Acetone and aceto-acetic acid have been noted in the urine of cholera patients but no excess of acid has been found which corresponds to the quantities of β-oxybutyric occurring in diabetes. Two forms of acid intoxication are distinguished by Naunyn, namely, a relative and absolute type. Loss of alkali from the body apparently may result from a pronounced diarrhea, this loss giving rise to a relative acidosis. It also is conceivable that there may be an excessive quantity of acid present, resulting in the production of an absolute acid intoxication in cholera.

3. **Study of Intestinal Parasites.**—An examination of 4,278 persons by Willets in the Philippines disclosed the fact that 85.46 per cent. of them harbored intestinal parasites of some kind. The ascaris was present in 62.04 per cent., the hookworm in 54.37 per cent. and the trichuris in 7.09 per cent.

Oxyuris, tenia, hymenolepis, strongyloides and trematodes were also present in from .02 to 1.50 per cent. In Willetts' opinion, three factors are acting to produce a high percentage of hookworm infection at the haciendas, namely, the nature of the soil, the tobacco plants, and the occupation of the people. The soil is composed of clay with which sand is generously admixed, the tobacco plants furnish shade-conditions which are favorable for the propagation of the hookworm, and the cultivation of the tobacco keeps the people in the field daily during the greater part of the year. The belief that the infections are obtained in the fields is supported by the facts that the hookworm percentage increases rapidly when the age is reached at which work in the fields is begun, that males, who are in the fields more than females, give a higher percentage of infection than the females, and that a greater percentage of persons are infected in the lowlands than in the uplands.

4. **Anthrax in Philippines.**—From the results derived from cultures, staining reaction and animal inoculations, Boynton was led to the conclusion that anthrax exists in the vicinity of Taytay. Since the animals, which were proved to have died of anthrax, were pastured in Libis, Mahabang Sapa, Mapandan, Lambac and San Isidro, the infection is shown to be widely disseminated around the town of Taytay. As it is almost impossible to procure definite information as to the number of animals and the manner in which they died in these places, Boynton says, one cannot state whether the infection is recent or of long standing in this vicinity. The general opinion of the veterinarians is that it is of long standing, but has not been recognized as anthrax prior to this time.

Illinois Medical Journal, Springfield

June

5 Gifts of Science to the World. W. E. Quine, Chicago.
6 Perineal Plastic Operations. J. Price, Philadelphia.
7 Aids in Abdominal Diagnosis. W. M. Harsha, Chicago.
8 Metastatic Ophthalmia. W. H. Wilder, Chicago.
9 Cases of Heart Disease Treated by Surgery. B. Holmes, Chicago.
10 Value of Psychic Influences. W. B. Eicher, Peoria.
11 Congenital Torticollis. C. M. Jacobs, Chicago.
12 Complete Suturing of Bladder After Suprapubic Section. G. Kolischer and H. Kraus, Chicago.
13 Blood Findings in Last Stages of Chronic Pulmonary Tuberculosis. J. C. Warbrick, Chicago.
14 Medical Profession of Douglas County. J. L. Reat, Tuscola.
15 Analysis of the Weber Test in One Hundred Cases. R. Sonnenschein, Chicago.

Yale Medical Journal, New Haven, Conn.

May

16 Eyestrain. G. H. Wright, New Milford, Conn.
17 Vital Statistics. J. H. Townsend, New Haven, Conn.
18 *Unusual Case of Gas Bacillus Infection. P. W. Bill, Bridgeport, Conn.

18. **Gas Bacillus Infection.**—The unusual features of Bill's case were (1) that the original wound was a punctured, sharp-cut, non-pulpifying one. (2) In the cases already reported the longest period of time elapsing from the moment of injury to the onset of symptoms is four days—here it was twelve days. This is accounted for by considering the infection due to the development of spores that were not removed at the original operation. It was suggested that the patient was infected at the second operation, which immediately followed the amputation of a leg crushed by a railroad train. The objection to this is that the gas bacillus patient had the chill and rise of temperature and signs of infection twelve hours before the second man was injured. This man, too, kept a perfectly clean wound. (3) The thigh from the knee up at no time showed any distention nor emphysema, while the leg below the knee showed these signs to a marked degree. This has not been accounted for. Notwithstanding the fact that the *B. aërogenes capsulatus* developed in the stump after amputation, the patient recovered. It seems that the good to be gotten from this case may be summed up as follows: That in all wounds into which soil has been carried the treatment must be: open widely, irrigate thoroughly and then irrigate again, and drain. Also, bodies of persons dying from infection by the *B. aërogenes capsulatus* are not to be buried as soon as the diagnosis is made; prompt radical treatment is well worth trying

Lancet-Clinic, Cincinnati

July 8

19 Cardiospasm. D. W. Palmer, Cincinnati.
20 Syphilis. C. Aryn, Milwaukee, Wis.
21 Surgery in the Female. D. D. Deneen, Cincinnati.

Wisconsin Medical Journal

June

22 Annual Address of President of State Medical Society of Wisconsin. B. M. Caples, Waukesha.
23 Operative Treatment of Long-Bone Fractures. P. F. Rogers, Milwaukee.
24 Retroversion of Uterus, Etiology and Symptoms. F. J. Gaenslen, Milwaukee.

Bulletin of Manila Medical Society, Philippine Islands

May

25 Treatment of Burns. H. E. Schiffbauer, Philippines.
26 Incidence of Gastro-Intestinal Disturbances in Infants and Children R. Leynes, Manila.
27 *Duration of Passive Immunity, Especially that Against Tetanus. E. H. Ruediger, Manila.
28 Technic of Surgical Clinic of Philippine General Hospital, Manila. J. R. McDill and H. E. Schiffbauer, Manila .

27. **Duration of Passive Immunity.**—Ruediger found experimentally that passive immunity seems to be of short duration, perhaps of shorter duration than has been commonly believed. Five weeks after injection of 1,000 units of tetanus antitoxin a guinea-pig seems to be as susceptible to tetanus toxin as is a normal guinea-pig.

Journal of Medical Research, Boston

June

29 Inheritance of Tuberculo-Protein Hypersensitiveness in Guinea-Pigs. A. K. Krause.
30 Protective Influence of Leukocytic Substances on Experimental Plague Infection in Rats. H. Zinsser, G. W. McCoy and C. W. Chapin, San Francisco.
31 Ovarian Infection with Bacterium Pullorum in Domestic Fowl. G. E. Gage.
32 Hirudin and Hirudin Immunity. D. M. Cowie, Ann Arbor, Mich.
33 *Passage of Bacteria Through Intestinal Wall. M. P. Ravenel and B. W. Hammer, Madison, Wis.
34 *Elimination of Tubercle Bacilli from Infected Cattle. V. A. Moore, Ithaca, N. Y.
35 Vacuum Desiccation of Bacteria. B. W. Hammer, Madison, Wis.
36 *Opsonins in Pleurisy. L. Breskman and L. J. Tint, Philadelphia.
37 Pseudo-Nuclei of Erythrocytes. M. F. Boyd, Iowa City.
38 Ciaccio's Method for Demonstration of Lipoids. E. T. Bell, Madison, Wis.

33. **Passage of Bacteria Through Intestinal Wall.**—An emulsion of *B. prodigiosus* was injected into the rectum for the purpose of studying the passage of the organism into the blood as well as to give further evidence on antiperistalsis. The shortest time which elapsed between the injection and the making of the cultures was one hour and twenty minutes, and the longest time five hours and twenty minutes. Cultures were made from the stomach, large intestine, small intestine, cecum, blood and rectum. In no case was the *B. prodigiosus* recovered from the stomach, large intestine, small intestine, cecum or blood. In two cases it was not recovered from the rectum. Both of these cases had gone five hours and twenty minutes. The number of animals experimented on was only twelve, but the uniformity of results was striking. The conclusions which Ravenel and Hammer feel justified in drawing from this work are that: (1) Antiperistalsis will not, as a rule, carry bacteria above the ileocecal valve. (2) The passage of bacteria into the blood from the rectum does not occur rapidly nor surely.

34. **Elimination of Tubercle Bacilli.**—In order to secure information concerning the safety of the milk from occult cases of tuberculosis in cattle and to ascertain the extent of the immediate danger of such animals to others, a study of the elimination of tubercle bacilli was undertaken by Moore. Thirteen animals were used in these repeated tests. Moore examined microscopically 491 samples of milk and 580 samples of feces. Acid-fast bacteria were found in milk fifty-three times and in feces 209 times. His findings have convinced him that cows with tuberculous udders eliminate tubercle bacilli with the milk. In such cases these organisms are usually present in large numbers. Cows with glandular or pulmonary tuberculosis, in which the lesions are discharging into the bronchi, eliminate tubercle bacilli with the feces and with the droolings. In cases of intestinal tuberculous ulcers the organisms are excreted with the feces. Milk is usually infected with tubercle bacilli when it is taken from cows with tuber-

culous udders. It may, through contamination with feces or uterine discharges, be infected when drawn from cows with open lesions in the respiratory and digestive tracts or organs of reproduction. Tubercle bacilli are not, as a rule, present in the milk of cows that react to tuberculin and which on a careful physical examination exhibit no evidence of disease. Moore believes that the number of tubercle bacilli in market milk would be greatly reduced, and possibly entirely eliminated, by having frequent and thorough physical examinations of the dairy cows and the removal of all individuals showing evidence of disease.

36. **Opsonins in Pleurisy.**—The authors believe that a low opsonic index to streptococci and pneumococci in primary pleurisy may prove an aid to the diagnosis of a susceptibility to tuberculosis. Their studies showed that a subnormal tuberculo-opsonic index in the cases of primary pleurisy examined was associated with a low pneumococcic and streptococcic index. In cases of tuberculous pyothorax, a low streptococcic and pneumococcic index were associated with a high tubercle index.

Annals of Ophthalmology, St. Louis

July

39 Intra-Ocular Sarcoma and Sympathetic Inflammation. J. Meller, Vienna.
40 Case of Small Round-Cell Sarcoma of Sheath of Optic Nerve. W. C. Posey, Philadelphia.
41 Some Experiences with Ophthalmodiaphanoscope, with Exhibition of Lamp. H. F. Hansell, Philadelphia.
42 Strabismus Hook: Useful Instrument in Extirpation of Lacrimal Sac. E. A. Shumway, Philadelphia.
43 Case of Optic Atrophy with Horizontal Heteronymous Hemianopia. J. W. Sherer, Kansas City.
44 Chancre of Eyelid, with Demonstration of Spirochæta Pallida. W. T. Shoemaker, Philadelphia.

American Journal of Obstetrics, New York

July

45 *Vaginal Cesarean Section in Treatment of Eclampsia. R. Peterson, Ann Arbor, Mich.
46 *Treatment of Placenta Prævia at the Sloane Hospital for Women. E. B. Cragin, New York.
47 *Placenta Prævia. E. P. Davis, Philadelphia.
48 *Brief Analysis of Forty Consecutive Cases of Placenta Prævia. J. C. Edgar, New York.
49 *Best and Worst Methods of Treating Placenta Prævia. H. D. Fry, Washington, D. C.
50 Treatment of Placenta Prævia. F. S. Newell, Boston.
51 *Investigation of Use of Iodin in Skin Sterilization for Surgical Purposes. J. W. Bovée, Washington, D. C.
52 *The Funnel Pelvis. J. W. Williams, Baltimore.

45. Abstracted in The Journal, July 8, 1911, p. 161.

46, 47, 48 and 49. Abstracted in The Journal, June 10, 1911, pp. 1745 and 1746.

51. **Iodin in Skin Sterilization.**—So far as could be ascertained by Bovée by culturing epidermic scrapings, weak dilutions of iodin, even to 5 per cent. of the official tincture, thoroughly sterilize the surface of the skin after a period of time from two minutes to fifteen minutes from its application. These cultures incubated three days have not shown any colonies. Beyond that period of time investigations with this dilution of iodin in skin sterilization have not been made. While the inhibitive action of absolute alcohol is quite potent, this property is greatly enhanced by the addition of iodin to an equivalent of 5 per cent. of the U. S. P. tincture. Pubic hair placed in iodin dilutions of 5, 10, 20, 30 and 40 per cent. strength (of the official tincture), respectively, for two, three, five, eight, ten, twelve and fifteen minutes, respectively, all showed growths after three days' incubation, while using 50 per cent. dilutions under the same conditions practically always prevented growths. Control scrapings of skin taken from the abdomen above the umbilicus over periods of time varying from two minutes to two hours when 40 per cent. dilutions were used always showed negative results as to colonies. Cultures from hair and skin that had been subjected to 50 per cent. dilution of tincture of iodin never produced growths. Tincture of iodin diluted with an equal amount of absolute alcohol is considered reliable by Bovée as a local application in preparation of the skin or mucosa in any part of the body. Dilutions of less strength are unreliable if hairs or large hair follicles are in the field of operation He says that the 50 per cent. dilution of tincture of iodin, if not carelessly applied, is not likely to injure the skin.

52. Abstracted in The Journal, June 24, 1911, p. 1911.

Kentucky Medical Journal, Bowling Green

July 1

53 Preventable Blindness. W. Cheatham, Louisville.
54 Tuberculosis. J. F. Young, Monticello.
55 Early Recognition and Treatment of Tuberculosis. W. F. Boggess, Louisville.
56 General Sanitation and Hygiene. D. G. Simmons, Adairville.
57 The Ear, Nose and Throat in Relation to General Medicine. W. J. Thomasson, Newport.
58 Acute and Chronic Nephritis. J. H. Chrisman, Owenton.
59 Eugenics. G. J. Hermann, Newport.
60 Acute Articular Rheumatism. D. E. Lusby, Owenton.
61 Fees. C. W. Holland, Scottsville.
62 Castration for Neurasthenia. W. H. Edwards, Danville.
63 Fractures. R. H. Moss, Henderson.
64 Cerebral Decompression. G. A. Hendon, Louisville.

American Journal of Diseases of Children, Chicago

July

65 *Treatment of Sepsis in Scarlet Fever with Antistreptococcus Serum. M. Nicoll, New York.
66 Accessory Sinus Suppuration in Scarlet Fever. T. Hubbard, Toledo, Ohio.
67 *Studies in Metabolism of Atrophic Infants. C. A. Fife and B. S. Veeder, Philadelphia.
68 *Preparatory Study of Bacillus Acidophilus in Regard to Its Possible Therapeutic Use. T. M. Rotch and A. I. Kendall, Boston.
69 Anaphylaxis in Its Relation to Pediatrics. G. R. Pisek and M. C. Pease, New York.
70 *Fundamental Requirements of an Infant's Nutrition. J. Howland, St. Louis.

65. **Antistreptococcus Serum in Sepsis in Scarlatina.**—Nicoll's experience was obtained at the Scarlet Fever Hospital of the Department of Health of New York City during February, March and April, 1910, in the course of a very extensive epidemic of the disease. The serum used consisted of eleven strains of streptococci from scarlet fever patient's blood, throat, glands, etc., and one of streptococcus from a case of endocarditis. Owing to a somewhat limited supply at the time, it was thought advisable to give but 50 c.c. as an initial dose.

In so far as was possible in a badly overcrowded hospital, with overworked staff and nurses, every patient who showed markedly grave symptoms, regardless of the day of disease, was injected. By no means all the fatal cases during these months were the patients injected, as measles, diphtheria and other complications accounted for their unfavorable progress and often death. Again, patients who, in spite of the severity of onset, seemed to be in no immediate danger, not infrequently took so sudden a turn for the worse that there was no opportunity to make use of the serum.

There were injected in all, thirty patients, of whom seventeen died. Of these seventeen cases, four patients were brought in the hospital in a moribund condition, immediately injected, and died within a few hours. Of those who were ward patients twenty-four hours or longer, one died within two hours after receiving injection, two others within twelve hours, a length of time too short to hope for any relief from a subcutaneous injection. Another patient, after seeming to respond favorably, contracted measles and ileocolitis; another measles, followed by gangrenous varicella. The condition of three others was shown to be due to a complicating diphtheria which failed to yield to large doses of antitoxin following the serum. One patient was injected late in the disease, with the hope of affecting a double mastoiditis, 100 c.c. being given intravenously. The result was inconclusive, as an operation was thought desirable. Following this, the patient received 100 c.c. subcutaneously, grew gradually weaker, with no marked lowering of the temperature, which had been exceedingly high, and died two weeks later in extreme emaciation.

Nicoll has had an opportunity to observe the effect of large doses of this serum given intravenously, and with the exception of one case he has not seen any alarming results which could be attributed to this method of administration. However, he is not prepared at this time to recommend its general use in this way, except in those cases in which a delay of twelve hours would probably determine a fatal outcome. Here, intravenous injections are by all means to be preferred. Until there is some method of standardization and concentration of the serum, Nicoll believes, it would be highly desirable to use a dosage believed to be essential to the best results by those who have had most experience with it, namely, for older children and adults, 200 c.c. injected, by preference, one-half into each side of the lower abdomen; for infants and young children, 100 to 150 c.c. in all. He concludes that in all severe cases of scarlet fever, the serum, if attainable, should be made use of in full doses and without delay.

67. **Metabolism of Atrophic Infants.**—In a study of two cases of infantile atrophy, the results of which are similar, the following conditions were noted: The fat absorption was less than in normal infants, although the infants were able to absorb large quantities of fat. The percentage absorption was better with a large amount of fat in the food than with low amounts. The amount of carbohydrate in the food did not influence the fat absorption. The amount of fat in the form of soaps in the feces was neither proportional to the amount of calcium in the feces nor to the amount of the carbohydrate in the food. Both the actual and percentage amounts of soaps were greater when the fat intake was low. The nitrogen retention was greater than in normal infants of the same age and weight. Increasing the amount of the carbohydrate produced an increased nitrogen retention, but the nitrogen retention was not influenced by the amount of fat in the food.

68. **Bacillus Acidophilus.**—The observations made by Rotch and Kendall are designed to show the feasibility of encouraging the growth of *B. acidophilus* by suitably modifying the food of the patient; if, however, acidophili are not present in the alimentary tracts of patients, it is apparent that they cannot be encouraged to grow even by the most careful dietary regulation. In such cases the authors deem it advisable, from the theoretical point of view, to introduce cultures of acidophili, provided they have been obtained from sources known to be normal and absolutely free from objectionable conditions. Cultures were readily obtained from two different patients by feeding maltose or lactose in moderate amounts. The details of the feeding experiments are given. It is not a matter of indifference, the authors say, which fermentative bacteria are encouraged to develop in the intestines; furthermore, certain organisms appear to elect the small intestine, others the large intestine. As a well-known example of the former, *B. bulgaricus* may be mentioned, while *B. acidophilus* is found most plentifully in the large intestine. Applying these principles clinically, it would appear that putrefactive conditions in the small intestine might be controlled more readily by an organism that generated lactic acid in that portion of the alimentary canal, and *B. bulgaricus* would be selected for this purpose, while *B. acidophilus* theoretically, at least, would be more promising for putrefactions of the large intestine.

70. **Infant's Nutrition.**—Howland emphasizes that the salts of potash, sodium, magnesium and calcium are all vitally necessary for the life processes. They are all present in the proper proportion in woman's milk, and are sufficiently represented in any dilution of cow's milk that would be used for any considerable length of time. In the majority of instances, they are in excess in the dilutions given to children, but this excess is not a factor of importance with the healthy child, which is the one that is under consideration. The salts of iron are, however, deficient both in human and, especially, in cow's milk. The large supply of iron present in the liver and other organs of the newly-born, may gradually be drawn on, and evidently is intended to be drawn on, during the first year, but this deficiency of iron is one important reason why an exclusively milk diet should not be persisted in too long. The fats and the sugars are the great providers of energy, and together they furnish approximately 90 per cent. of the body's requirements. To a large extent they may be used interchangeably, and an excess of one may for a time compensate for the deficiency of the other, though not indefinitely. Whatever disturbances these produce, are chiefly recognized by gastro-intestinal symptoms such as vomiting, diarrhea, or soapy stools, and so forth. A deleterious effect of either of these on metabolism, so far as the exchange of energy is concerned, has not been demonstrated. With the protein it is different. This must be furnished in a digestible and assimilable form to repair the loss by wear and tear and to provide for growth, but beyond a certain point there is a marked disadvantage in giving protein. Howland thinks it probable that slightly less protein is required for maintenance and growth in breast-feeding than in cow's milk feeding, owing to the better utilization that can be made of the homologous protein, but the excess required with cow's milk feeding is undoubtedly slight. When feeding a normal child, protein should furnish not less than 8 per cent. and not much more than 10 per cent. of the total energy in the food. When it furnishes 15 per cent., the specific dynamic action becomes noticeable, and when it furnishes 20 per cent., the effect is very marked. Howland emphasizes that in addition to the quantity of the food provided, a proper disposition of the energy among the various constituents is always seriously to be kept in mind.

Journal of Oklahoma State Medical Association, Muskogee

July

71 Diagnosis of Surgical Lesions of Kidney. J. H. White, Muskogee.
72 The General Practitioner as a Surgeon. A. S. Risser, Blackwell.
73 Treatment of Gonorrhea in Women by General Practitioner as Preliminary to Operation. J. F. Kuhn, Oklahoma City.
74 Pernicious Malarial Fever. G. A. Reber, Okemah.
75 Necessity for the Early Recognition of Peritonitis. G. H. Butler, Tulsa.

New Orleans Medical and Surgical Journal

July

76 *Amebic Colitis (Amebic Dysentery). W. E. Deeks and W. F. Shaw, Ancon, C. Z.
77 *Medical Treatment of Amebic Dysentery. W. V. Brem and A. H. Zeiler, Cristobal, C. Z.
78 Speech Defects; Treatment. S. Spyker, New Orleans.
79 Roentgen-Ray Examination of Gastro-Intestinal Tract. A. Granger, New Orleans.
80 Indications and Contra-Indications to Curettage. J. C. Hardy, Lecompte, La.

76. **Amebic Colitis.**—The analysis of case records leads Deeks and Shaw to the following conclusions: Amebic colitis is due to a specific organism, the *Entameba histolytica*, probably water-borne and symbiotic in character. There is no endemic center. Immunity, as we understand it, does not exist. Age, locality, nationality, or occupation plays no rôle in the etiology. The pathologic lesions are peculiar and characteristic. Amebicidal irrigations are useless. The bismuth-milk-saline method of treatment gives, in almost all cases, a perfect result. Occasionally, in extreme cases, surgical interference, after A. B. Herrick's method, is indicated. This method of treatment gives a maximum of cures with a minimum of recurrences and metastatic development, the most frequent of which is liver abscess. This offers a serious complication in the treatment, particularly if of the acute or fulminating types.

77. **Treatment of Amebic Dysentery.**—The most logical and most important criterion of the efficacy of any treatment of amebic dysentery, Brem and Zeiler point out, is the eradication of the infection. The general treatment consists in rest, appropriate diet, and opiates when indicated. For specific treatment, irrigations with solutions of various parasiticidal agents have proved unsatisfactory. The great superiority of the bismuth treatment over irrigations or even over treatment merely by rest and diet has not been proved. Eradication of infection has not been discussed in the reports of the bismuth treatment. Ipecac treatment has given satisfactory results in their hands. In a series of twenty-one patients with dysentery the amebic infection has been eradicated in twelve that were followed, with frequent examinations of stools, for from one to fifteen months. The infection was apparently eradicated in eight others followed less than one month. In only one instance of amebiasis with dysentery have they failed to get rid of the amebas with ipecac treatment. Failure occurred in four cases of amebiasis without dysentery, but in these the treatment was not satisfactorily carried out. Two cases indicate that, when ipecac fails to eradicate the infection when given by mouth, success may attend its administration per rectum or through the appendix after appendicostomy.

Maryland Medical Journal, Baltimore

July

81 Complete Transverse Destruction of Spinal Cord from Pistol Wound Without Penetration of Spinal Canal. R. Winslow, Baltimore.
82 Treatment of the Baltimore Drinking-Water with Hypochlorite of Calcium. W. R. Stokes, Baltimore.
83 Case of Trigger Finger. N. Winslow, Baltimore.
84 Douching and Fanning vs. Cold Sponging in Puenmonia. R. L. Hammond, Woodsboro.

Bulletin of the Medical and Chirurgical Faculty of Maryland, Baltimore

July

85 *Phylogenetic Association in Relation to Exophthalmic Goiter and Sexual Neurasthenia. G. W. Crile, Cleveland.

85. **Exophthalmic Goiter and Sexual Neurasthenia.**—Some of the principal points made by Crile are: The mechanisms by which the motor acts are performed, and the mechanisms by which the emotions are expressed are one and the same. These acts in their infinite complexity are performed by association, i. e., phylogenetic association. When our progenitors came in contact with excitation in their environment, action ensued then and there. There was much action—little restraint. Civilized man is subjected to innumerable stimulations without action. When these stimulations are sufficiently strong, but no action ensues, an emotion is produced. A phylogenetic fight is anger; a phylogenetic flight is fear; a phylogenetic copulation is sexual love—and so one finds in this conception an underlying principle which may be the key to an understanding of exophthalmic goiter. When through pathologic changes there is a constant stimulation of the whole motor mechanism from a hyperexcitability of the motor mechanism or what amounts to the same—a lowered threshold of the receptors that lead to action, and form an increase of activating internal secretions that apparently reciprocally excite each other—exophthalmic goiter is produced. Rest, which breaks the pathologic chain at the brain, or excision of the thyroid, which breaks the pathologic chain at the thyroid, are the two recognized forms of treatment.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

July 1

86 Venous Anesthesia. A. C. Strachauer, Minneapolis.
87 Epidemic Jaundice. A. N. Collins, Austin.
88 Absence of Appendix aud Gall-Bladder. A. A. Law, Minneapolis.

Mississippi Medical Monthly, Vicksburg

July

89 *Twelve Months' Work in Obstetrics. B. L. Culley, Jackson.
90 *Acute Hydramnios, Complicated with Ascites. F. J. Underwood, Nettleton.
91 *Limitations of a Laboratory. H. B. Wood, Jackson.
92 *Observations Made in Six Cases of Mechanical Ileus. H. R. Shands, Jackson.

89, 90 and 92. Abstracted in THE JOURNAL, May 27, 1911, pp. 1609, 1610 and 1612.

91. Abstracted in THE JOURNAL, May 20, 1911, p. 1503.

St. Paul Medical Journal

July

93 Diagnosis of Syphilis. J. M. Armstrong, St Paul.
94 Prophylaxis of Venereal Diseases. E. Klaveness, Sioux Falls.
95 Value of Blood Examinations in Surgical Infections. R. N. Andrews, Mankato, Minn.
96 *Some Suggestions and Personal Experience in Dealing with Hay Fever and Asthma. H. A. Beaudoux, St. Paul.

96. **Treatment of Hay-Fever and Asthma.**—Beaudoux believes that more diligent and painstaking investigation in regard to the condition of the nose and sinuses would increase the number of cures in this class of sufferers manifold. When an examination does not reveal accessory sinus disease, either by transillumination, intranasal examination, etc., with very rare exception, does he consider that as evidence that there is no disease present. In such cases he resorts first to the irrigation of the sinuses, second to the hardening of the mucous membrane by means of drugs and destruction of the nerve supply to sensitive areas; and should this prove to ameliorate the condition in a minor degree, he does not hesitate to resort to further investigation by surgical means. Barring such attention to conditions suggested and recommended by ordinary laws of hygiene, he has directed treatment to the organs and parts that are seemingly affected and included in hyperesthetic rhinitis and believes that measures less strenuously directed toward these parts are a waste of time. Whenever patients do not feel inclined to follow such recommendations as indicated, his advice is for them to seek some other locality where they may be free from their symptoms and enjoy their time and money in a less arduous way than to stay at home and attempt to fight the disease by less direct means.

Journal of Michigan State Medical Society, Battle Creek

July

97 Is Poliomyelitis of the Epidemic Type Transmitted Through Inhalation? J. G. R. Manwaring, Flint.
98 Simple Method for the Intravenous Administration of Salvarsan. J. J. Fabian, Grand Rapids.
99 Gastric and Duodenal Ulcer; Its Surgical Treatment A. McLean, Detroit.
100 Cancer. F. A. Hargrave, Palo.
101 Acute Mastoiditis. C. R. Elwood, Menominee.
102 Immunology of Acute Infections. C. M. Stafford, Detroit.

Journal of Infectious Diseases, Chicago

June

103 Etiology of Canine Distemper. N. S. Ferry, Detroit.
104 *Contribution to the Pathologic Anatomy of Rocky Mountain Spotted Fever. E. R. Le Count, Chicago.
105 *Use of Active Human Serum in the Serum Diagnosis of Syphilis. F. B. Gurd, Louisiana.
106 Institutional Outbreak of Cerebrospinal Meningitis Restricted by the Elimination of Carriers. F. W. Hachtel and E. H Hayward, Baltimore.
107 *Hand Infection Apparently Due to Bacillus Fusiformis. W. H Peters, Cincinnati.
108 Attempt to Modify the Agglutinability of Bacillus Typhosus by Selective Isolation of Individual Bacilli. V. H. Moon.
109 *Murrina, a Trypanosomal Disease of Equines in Panama. S. T. Darling.
110 Paratyphoid-Like Bacillus Isolated from a Dog. E. H. Ruediger, Manila.
111 *A Bacteriologic and Cellular Study of the Lung Exudate During Life in Lobar Pneumonia. E. C. Rosenow, Chicago.

104. **Pathologic Anatomy of Rocky Mountain Spotted Fever.**—Le Count reports the results of six post-mortem examinations made by Ricketts on the bodies of persons dying of the disease. The cutaneous hemorrhages were general in all and varied from petechia no more than pin-head sized to large confluent and grotesquely shaped, bluish-black hemorrhages covering all parts of the body except the palms and soles. In a few of the bodies hemorrhages were observed in the pleura or omentum, in one instance in the substance of the lungs. The superficial and visceral lymph-glands were moderately enlarged. An icterus was always present. Enlargement of the spleen is quite characteristic of the disease. It was from two to three times the normal size in all the bodies examined. In other respects it was but little altered, fairly firm, and moderately hyperemic. A large infarct was present in one instance. The large veins and right chamber of the heart were distended with blood. The liver and kidneys were enlarged and hyperemic and in both organs varying degrees of cloudy swelling and fatty degeneration were met with. The changes in the other organs were neither marked nor constant enough to deserve mention, with the exception of the bone-marrow. In two bodies in which this was examined the marrow of the long bones was red to bluish-red.

105. **Active Human Serum Diagnosis of Syphilis.**—It was ascertained by Gurd that the natural complement content of human serum can be utilized in the serum test for syphilis if the serum be properly preserved and used when fresh. In addition the natural hemolysin against guinea-pig corpuscles can be employed in the hemolytic series in infants. The results obtained in over 600 tests have been uniformly trustworthy and have shown fewer errors than controls performed by the original Wassermann reaction and the Noguchi modification. Errors liable to give a false reaction, such as those occurring as a result of contamination of the serum with lipoids capable of binding the syphilitic antibody with the normal complement, giving a negative result with positive sera, are more readily noted if the complement present in the serum tested be determined at the time the reaction is performed. The fact that but very little agglutinin is present in human serum against guinea-pig corpuscles renders the

reading of the reaction easier than by methods using an artificially induced amboceptor, since in rabbit serum a sufficiently large quantity of agglutinin is produced to clump the erythrocytes, rendering the identification of a partial hemolysis very difficult. If serum to be tested is preserved in a uniform manner, preferably two hours in the incubator and subsequently in the ice-chest, it will be found to maintain its complement content usually for forty-eight hours and always for twenty-four hours. Older serum should not be used. For the testing of cases not adapted to examination by this method the author prefers the Noguchi system, utilizing quantities employed by Wassermann and with inactivated serum.

107. **Hand Infection Due to Bacillus Fusiformis.**—Peters' paper consists, essentially, in a preliminary study, microscopic and bacteriologic, of *B. fusiformis*. Two cases are recorded of direct transmission from one individual to another. The fusiform bacilli were not accompanied by spirochetes. The organism grew luxuriantly on Dorset's egg medium, and in various sugar broths containing a small amount of defibrinated rabbit blood. Mention is made of its resistance to moist heat, antiformin and hydrogen peroxid.

109. **Murrina, a Trypanosomal Disease.**—There has been an epidemic of trypanosomiasis among American mules and work horses in the Canal Zone. The disease resembled other trypanosomal diseases such as nagana, surra, mal de caderas, and Senegambian horse disease; but it presented a group of symptoms and pathologic features which stamp it as a distinct disease. It is distinctly a disease of mules and horses, for cattle are insusceptible. The pathogenic agent, *T. hippicum*, has morphologic and biologic characters which differentiate it from other species of trypanosomes. The chief distinguishing features of the disease are: anemia, weakness, emaciation and edema, conjunctival ecchymoses, conjunctivitis, pyrexia and some posterior paresis. The pathologic findings are constant and characteristic: splenic capsular ecchymoses, acute hemorrhagis nephritis, with acute glomerulitis and petechia; hemorrhages in renal lymph-nodes, epicardial and endocardial ecchymoses, and less constantly pleural, peritoneal, and conjunctival ecchymoses, and pleural effusion. The blood changes are those of anemia with lymphocytosis. There is much phagocytosis of blood-pigment by endothelial cells of the liver and spleen. Darling believes that the disease is probably transmitted mechanically by flies through the broken skin of cuts and various wounds. Saddle horses were not infected, and there are no evidences that any animals were infected by means of stomoxys or tabanids or by ticks or bats.

111. **Lung Exudate in Lobar Pneumonia.**—The most striking fact brought out by Rosenow's study is the great difference in the number of viable pneumococci in the consolidated lung in the later stages of the disease in the cases which recover and in those which die; in the former they are relatively few, in the latter they are very numerous.

Denver Medical Times and Utah Medical Journal, Denver

July

112 Mental Influence in Digestion. E. J. A. Rogers, Denver.
113 Financial Side of Dentistry. R. P. McGee, Denver.
114 The Social Evil. W. Anderson, San Francisco.

Buffalo Medical Journal, New York

July

115 Three Years with the Army of the Potomac. W. W. Potter, Buffalo.
116 Cerebral Compression. E. R. McGuire, Buffalo.
117 Early History of Medicine in America. R. Park, Buffalo.

New York Medical Journal

July 8

118 Recent Developments in Physiology and Pathology of the Thyroid. S. P. Beebe, New York.
119 Simple Method of Viewing Roentgenograms in Three Dimensions. M. Girsdansky, New York.
120 *Simplified Technic for Retrodisplacement of Uterus in Performing Baldy-Webster Operation. A. L. Soresi, New York.
121 Improved Technic for Intravenous Administration of Salvarsan by Means of Vacuum Burette. A. A. Uhle and W. H. Mackinney, Philadelphia.
122 In What Treatment May the Tuberculous Have Confidence? P. Paquin, Asheville, N. C.
123 *Effect of Artificially Induced Fever on Some Chronic Inflammatory and Ulcerative Lesions. H. Neuhof, New York.
124 Diagnosis by Inspection. J. G. Wilson, Ellis Island, N. Y.
125 *New Diluting Fluid for Counting Leukocytes. R. L. Pitfield, Philadelphia.

120. **Retrodisplacement of Uterus.**—In the technic proposed by Soresi a hairpin is used instead of the two forceps to catch the round ligaments and push them through the broad ligaments. The hairpin will perforate the broad ligament close to the uterus and directly under the ovarian ligament on each side of the round ligament. Until the sutures are put in, the uterus can be held up by the two hairpins, which are then withdrawn.

123. **Effect of Artificially Induced Fever on Chronic Inflammatory and Ulcerative Lesions.**—Coley's fluid was employed by Neuhof to secure observations of the effects of artificially induced pyrexia on chronic inflammatory and ulcerative lesions. The following experience first indicated that artificially induced fever might be beneficial in cases of chronic ulcerative disease. A man, aged 40 years, had been suffering for several years from a slowly progressive ulceration of the nose that had resisted all forms of therapy. Finally he had an attack of acute osteomyelitis of the femur accompanied by high temperature for several days. During this attack the patient noted the first improvement he had ever observed in the appearance of the ulcer—the lesion was cleaner and healthier looking. Soon after the attack had passed off, the ulcer assumed its original appearance. After some preliminary study, suggested by the improvement observed during the attack of osteomyelitis, injections of Coley's fluid were begun. The doses were made large enough to produce sharp febrile reactions. After each injection, redness and swelling of the base and edges of the ulcer were observed. In a few weeks, during which time the mixed toxins were injected every third or fourth day, the ulcer entirely healed. Several other similar cases are reported, the result in each case from the use of the fluid being the same. Neuhof has not yet determined on the exact amounts of Coley's fluid to be administered to these groups of cases, but it appears best to begin with small doses and gradually increase the amount until sharp general and local reactions are experienced. Patients sometimes feel depressed and miserable for a day following injections, even though there may have been but slight elevation of temperature. No other untoward manifestations have been observed after the administration of mixed toxins to these patients.

125. **New Diluting Fluid for Counting Leukocytes.**—The fluid used by Pitfield is as follows: Acacia gum, 20 gm.; distilled water, 50; mix, dissolve, and add glacial acetic acid, 50; gentian violet, 1 dg.; mix, warm and filter while warm through a wet filter. He finds that this makes a superior diluting fluid in counting leukocytes because it is viscid and for this reason does not flow out of pipettes easily, and these can be filled more accurately because the fluid flows much more slowly. Neater drops and of definite size may be slowly put up on the counting chamber. The pipette filled may be carried without fear of spilling the contents. The leukocytes do not settle in the mixing chamber quickly and remain evenly distributed throughout the fluid. The end of the pipette must be wet before the fluid can be blown out. The end of the pipette is sealed with the acacia. These are the chief advantages. There are disadvantages. It takes longer to suck up the diluting fluid and a little longer to mix blood and fluid; the fluid is sticky; pipettes are harder to clean. But the greater ease of controlling the fluid and accuracy makes one recommend it to busy doctors who make leukocyte counts from the patient.

Virginia Medical Semi-Monthly, Richmond

June 23

126 Roentgen Irradiation—Its Local and General Effects. J. W. Hunter, Norfolk.
127 The Ileo-Cecal Fold and Chronic Appendicitis. J. S. Horsley, Richmond.
128 *Is Pellagra a Disease Primarily of the Alimentary Tract? J. C. Johnson, Atlanta, Ga.
129 Doctor's Duty to Himself in the Face of Adequate Public Prophylaxis. R. K. Flannagan, Richmond.
130 Care and Management of the Breasts. C. W. Doughtie, Norfolk.

July 7

131 Surgical Treatment of Indigestion. J. E. Rawles, Suffolk.
132 Case of Progressive Muscular Dystrophy (Primary Myopathy). B. E. Washburn, Charlottesville.
133 Tracheotomy—Report of Cases. O. A. M. McKimie, Washington.
134 Germ Diseases—Analogy of, Nature's Means of Cure, Bacteriology, etc., Specific Treatment—Report of Cases. H. E. Jones, Roanoke.
135 Internal Podalic Version—Its Technic and Indications. E. B. Claybrook, Cumberland, Md.
136 Differential Diagnosis in Abdominal Injuries in Railway Surgery. S. S. Gale, Roanoke.
137 State Sanitarium for Drug Habitués. A. B. Grubb, Cripple Creek.

128. Abstracted in The Journal, June 10, 1911, p. 1753.

American Journal of Surgery, New York

July

138 *Relation of the Cervical Smear to the Diagnosis and Treatment of Diseases of the Fallopian Tubes. A. H. Schmitt, New York.
139 Anesthesia as Exciting Factor in Causing and Exaggerating Organic Disease. H. B. Ingle, Philadelphia.
140 Reply to a Criticism of the Technic of Ureteral Catheterization of Dr. Howard A. Kelly. H. A. Kelly and C. F. Burnam, Baltimore.
141 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
142 *Rapid Method of Healing Abscess of Breast. I. Seff, New York.
143 *Removal of Foreign Body from Right Bronchus by Upper Bronchoscopy, New Method of Passing Bronchoscope. R. H. Johnston, Baltimore.
144 *Otitic Meningitis Presenting Unusual Symptoms. S. Oppenheimer, New York.
145 Multiple Fungoid Papillomata of Larynx. W. W. Carter, New York.
146 Penetrating Stab Wound of Abdomen Involving Mesentery, Jejunum and Transverse Colon; Recovery. W. C. Cramp, New York.

138. **Cervical Smear.**—Based on observations made in thirty-nine cases, Schmitt recommends that if the history of the case be acute, and the cervical smear positive, palliative treatment should be instituted and continued for at least four weeks. Abdominal section should not even then be preferred unless the cervical smear is negative and the blood-count and temperature normal. If at any time during this period an extra-tubal pelvic abscess should develop the proper treatment is to open it by vaginal section. Should the history date back one or two months, with a normal temperature and blood-count, and a negative cervical smear, abdominal section may be safely undertaken at any time, provided the patient's condition warrants.

142. **Healing Abscess of Breast.**—In the case of abscesses situated in other parts of the body, Seff found that by simple puncture and evacuation of pus followed by irrigation with a solution of bichlorid of mercury and the subsequent injection of tincture of iodin or Lugol's solution, the abscesses healed with extraordinary rapidity, usually within five to ten days and with practically no scar. So far as breast abscesses are concerned, Seff's experience has led him to formulate the following rules for guidance in the treatment of suppurative conditions of the mammary gland: On the first appearance of localized pain, tenderness and induration, he advises the constant application of heat in the form of hot compresses for twenty-four to forty-eight hours. Under this treatment the indurated area becomes absorbed and the breast returns to the normal in a few days. However, if pus is already present, the application of heat hastens the softening of the indurated area and indirectly leads to the earlier evacuation of the pus by surgical means. As soon as a definite area of softening makes its appearance, a very small stab wound or puncture is made with a scalpel, and the pus is allowed to escape. The cavity is then washed repeatedly with a 1-5000 solution of bichlorid of mercury. With a small hand syringe the abscess cavity is then filled with undiluted tincture of iodin. The application of the iodin usually produces a moderate amount of pain of a burning character, which lasts but a few minutes. Within a very short time there develops an area of redness extending for a considerable distance beyond the confines of the abscess. This usually persists throughout the whole period of healing. Seff employs neither packings nor drains of any kind. A wet dressing of liquor Burowii is usually applied. The bichlorid of mercury solution and the tincture of iodin are used at subsequent dressings (usually at intervals of twenty-four to forty-eight hours), as long as the discharge continues to be purulent in character. When the discharge becomes serous, iodin alone is injected and a firm, dry dressing is applied. Within twenty-four hours after the first application of the bichlorid of mercury and the tincture of iodin there develops a well-marked zone of induration in the abscess wall. This persists during the entire period that the abscess discharges and gradually disappears within ten days after the abscess cavity has completely healed. In the majority of the cases healing takes place within ten to fourteen days. The original incision being practically a puncture wound leaves a barely visible scar. Six cases have been treated by Seff by the above method, four in lactating women and two in virgins. In none of these were complications present, nor was a repetition of the incision necessary. Secondary abscesses did not occur. Lactation was resumed at the end of the sixth day in all the nursing women.

143. Abstracted in The Journal, June 8, 1911, p. 165.

144. **Otitic Meningitis.**—The points of interest in Oppenheimer's case are: The undoubted existence of areas of cerebellar meningitis, present at the time of the primary mastoid operation, but with no recognizable evidences of the lesion. The development of aphasia, which is a very unusual symptom in connection with an uncomplicated meningitis. This latter symptom is due to the fact that the temporal lobe on the base has no known function, and, according to Starr, if the disease advances upward on the left side, a sensory aphasia may result.

Journal of Cutaneous Diseases, New York

July

147 Progress in Dermatology. D. W. Montgomery, San Francisco.
148 Sarcoid Tumors of the Skin, with Report of Case of Boeck Type. G. H. Fox, New York.
149 Histologic Changes Occurring at Site of Injection of 0.6 Gram of Salvarsan. E. D. Lovejoy, New York.

Louisville Monthly Journal of Medicine and Surgery, Kentucky

July

150 Chronic Dyspepsia. C. G. Lucas, Louisville.
151 Optic Atrophy from Enlarged Pituitary Body. S. G. Dabney, Louisville.
152 Carbuncle. J. E. Hays, Louisville.
153 Arteriosclerosis; Report of a Case. B. C. Frazier, Louisville.
154 Hemophilia in an Infant; Report of Case. B. C. Frazier, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

June 24

1 *Early Recognition and Prevention of Cancer of Stomach. J. Sherren.
2 Acute Jejunal Obstruction in Case of Advanced Pregnancy: Operation: Recovery. E. A. Roberts and F. C. Wallis.
3 Treatment of Appendicitis in Children. W. A. Rees.
4 *B. Pyocyaneus Infection in Dogs and Its Similarity to Rabies. W. F. Harvey, R. M. Carter and H. W. Aeton.
5 Case of Blackwater Fever in England. J. Booth.
6 *Rapid Treatment of Gonorrhea. A. C. Magian.
7 *Epidemic of Infectious Jaundice. K. R. C. Hallowes.
8 *Chloroform During Sleep. I. Jefferiss.

July 1

9 Case of Sporotrichosis. N. Walker and J. Ritehie.
10 *Carcinoma of Larynx. R. H. Woods.
11 Some Cases of Chronic Jaundice in which Opening of Duodenum was Required. H. B. Robinson.
12 *Two Cases of Removal of Part of Pericardium, Its Repair by Means of Pectoral Muscle. A. W. M. Robson.
13 Sulphur Miners of Sicily: Their Work, Diseases and Accident Insurance. Sir T. Oliver.
14 Experiments on Restoration of Paralyzed Muscles by Means of Nerve Anastomosis. R. Kennedy.
15 *Subtemporal Decompression Operation for Intracranial Pressure. J. Stewart.
16 *Blue Sclerotics and Brittle Bones. H. Burrows.
17 *Temperature in Croupous Pneumonia. William Downing.
18 Gastro-Intestinal Hemorrhage in New-Born Infant. T. Fentem.

1. **Cancer of Stomach.**—Inasmuch as at least one-third of all cases of carcinoma of the stomach arise in connection with gastric ulcer, Sherren believes these cases could be prevented. There is little doubt, he says, that acute gastric and duodenal ulceration is a septic disease. Acute ulcers of the stomach and duodenum are frequently found post mortem in cases of

appendicitis, urinary sepsis, burns, etc. Cell poisons circulating in the blood lower the resistance of the gastric cells so that autodigestion takes place, or minute suppurative foci occur in the lymphatic follicles along the lesser curvature. Sherren emphasizes that oral sepsis is a fertile cause of gastric ulcer, and hence one of the predisposing causes of cancer of the stomach. It is no uncommon thing for him to have to delay operation on patients with undoubted organic gastric disease of long standing until carious stumps have been removed. It is not known with certainty why many acute ulcers heal and others do not. Sherren suggests that it may be that oral sepsis has something to do with it. Every acute ulcer, whether of the type found in the disease called gastrostaxis or not, should be treated by rest in bed and suitable medical measures after all carious teeth have been dealt with. Chronic gastric ulcer should be treated in the same way unless signs of pyloric stenosis or hour-glass stomach are present, or hematemesis occurs, when the surgeon should be called in. If rest fails to relieve or symptoms recur on resuming work, surgical treatment should be adopted. Chronic simple ulcers of any part of the stomach or duodenum will heal after a well-planned gastrojejunostomy and efficient after-treatment. If the ulcer is large, or markedly indurated, or if there is any suspicion of malignancy, it should be excised in addition. Attention to the hygiene of the mouth, thorough treatment of acute and early chronic gastric ulcer, handing over to the surgeon those in the latter group that fail to respond to or relapse after treatment, would, Sherren says, greatly diminish the incidence of carcinoma of the stomach.

4. **B. Pyocyaneus Infection in Dogs.**—The authors attempt to make out something of a case for the existence of a *B. pyocyaneus* infection occurring naturally in dogs, and that such infection may, both as regards symptoms produced and tests applied, lead to confusion with rabies. The result of a bacteriologic examination in rabies should, of course, be negative. Some of the authors' cultivations from brain substance did not develop growths of *B. pyocyaneus* for more than seventy-two hours after inoculation. The point is an important one. Further, if subpassages are made by subdural inoculation, and the same train of paralytic symptoms leading to death appears as in the original experiment, the diagnosis of rabies would be considered as completely established. But they show that the brains of animals which have succumbed to subdural inoculation, and which have yielded pure cultures of *B. pyocyaneus*, are capable of giving rise to the same symptoms as in the original when reinoculated after the manner for rabies diagnosis. They have carried this experiment to as many as eleven subpassages in one case.

The disease produced in rabbits and guinea-pigs by *B. pyocyaneus* is well known. The points of differentiation from rabies are:

1. Absence of Negri bodies from the hippocampus major of the animal suspected of rabies, if a microscopic examination is available. The absence of Negri bodies from the brain of the animal inoculated is not absolutely to be relied on. The authors have been able to show scanty Negri body formation in the brains of guinea-pigs inoculated with pure cultures of *B. pyocyaneus*. 2. The paralysis induced in the inoculated rabbit is somewhat different in character, although not necessarily in incubation period, from that of rabies. It is very typical, and may easily be distinguished from that due to rabies when attention is drawn to it. The paralysis in its final stages could not be distinguished from that of rabies. 3. Cultures from heart's blood or liver or brain give a pure growth of *B. pyocyaneus*.

6. **Treatment of Gonorrhea.**—The treatment endorsed by Magian consists of large (3 gallons) irrigations with 1-5,000 potassium permanganate, followed by a similar washing with distilled water, then 3 gallons of water containing 1 ounce of protargol, 30 grains of chlorid of gold in 1 quart of water and repeated irrigations with one-half per cent. protargol in the course of the next twenty-four hours. These irrigations are repeated in increasing strength on the second, third and fourth days. On the fifth day, use 3 gallons of weak sulphate of zinc solution, and on the sixth day a similar amount of weak nitrate of silver. The exact strength of these last irrigations varies according to the severity of the case. The cure is said to be almost invariably complete. In a very few instances an additional day or two is required. Microscopic examination of urethral swabs reveals no gonococci at the end of the week, and there is no trace of any discharge. The urine shows no threads or any other deviation from the normal. Magian has used this method in 100 consecutive cases, and in only three instances was a cure delayed beyond the seventh day.

7. **Infectious Jaundice.**—Of twelve cases reported by Hallowes, eleven occurred in the same locality. In one family three sisters were affected in three weeks. A school teacher had jaundice on February 10, and in about fourteen days was quite well. A girl came to live in the house early in March, and in a few days she developed a severe attack of jaundice.

8. **Chloroform During Sleep.**—On two occasions Jefferiss has given chloroform to children without awakening them. The anesthetic was given on a modified Skinner's mask, which until the breathing showed signs of the patient being under the influence of the chloroform was held slightly away from the face. Before the corneal reflex disappeared the child allowed the mask to be laid on the face, and, although some slight movement of the head was made, there was no disturbance. The pupil, of course, could not be examined from the beginning of the anesthetic, but when first examined was moderately contracted and responsive to light. Both children were about 6 years of age.

10. **Carcinoma of Larynx.**—Woods cites a case of carcinoma of the larynx in which there was extirpation of primary and secondary growths, glandular recurrence, treatment with thyroid extract and disappearance of growths. So far as Wood knows the only cases in which success by this treatment has been recorded have been those of lymphatic recurrences in which the primary growth was first extirpated. Cancer can sometimes be made to undergo a recessional cure under the influence of an animal extract.

12. **Removal of Part of Pericardium.**—In the first case cited by Robson the operation for removal of a columnar-celled carcinoma of the fifth rib was begun with the knowledge that it might be necessary to open the pericardial sac, but without any intention of having to take away a considerable portion of it. On separation of the tumor, by dividing the costal cartilage close to the sternum, a large gap in the front wall of the pericardium was left, fully exposing the heart, which was seen beating, the apex rotating to the right with each beat. From the size of the gap it at once became evident that it would be impossible to close it by bringing together the edges, and the question arose as to how the operation must be completed. Robson decided to cover in the gap by separating from the chest wall the pectoral muscle and sliding it over, taking care to ligate every bleeding point and to leave the wound perfectly dry. After bringing over the muscle and stitching it in position so as to leave the heart in a closed cavity, the flap of skin with the subcutaneous tissue was brought back into position and fixed there by silkworm-gut sutures and Michel's clips. The patient gave no anxiety during the whole course of the operation, except at the moment of opening the pericardium, when the pulse suddenly flagged for a short time. The patient lived for some months and ultimately died from metastases in the bones. The second patient is alive, four years after the operation, but is suffering from recurrence of growth in the chest wall too extensive for removal.

15. **Subtemporal Decompression Operation for Intracranial Pressure.**—A man, aged 37, had been injured by the fall of a crane across his chest, fracturing several ribs, which crushed into his lungs. Within an hour his condition became hilarious. He vomited and some blood was mixed with the food. Drowsiness came on. He mentioned some stiffness in the right leg and arm. He asked to go to bed, and within two hours after walking into the hospital he was comatose. Six hours after the accident he was still comatose, pulse 50 per minute. The left pupil was dilated. It was decided to do a decompression operation. A fracture of the vault was found in the temporal

region and an extradural hemorrhage. The whole exposed area was cleared of blood clot. The effect of these measures was immediate. The pulse improved to 72. The dilatation of the left pupil disappeared. The breathing changed its character. Within a few minutes the patient moved his right arm and leg. He made an uninterrupted recovery.

16. **Blue Sclerotics and Brittle Bones.**—In the pedigree prepared by Burrows, which represents four generations, two interesting facts may be observed. In the first place, there is no instance of transmission of blue sclerotics except from a parent who actually showed that condition. The children of those members of the family who had white sclerotics themselves had white sclerotics without exception. Second, not a single case of fracture was known to have occurred among the members who had normal sclerotics, although the other individuals suffered with exceptional frequency from broken bones. The fractures had, in many instances, been caused by relatively slight violence. For example, a child sat down suddenly on the nursery floor, and was found to have broken its femur. A lady thought she had reached the bottom of the stairs when there was one step more, and she fractured her tibia. Of the twenty-nine individuals concerned, thirteen had blue sclerotics, and of these no fewer than nine suffered from brittle bones. No details are obtainable with regard to two persons. Among the remaining fourteen individuals, who had white sclerotics, there was not a single one who was known to have sustained a fracture. Of the nine persons said to have had brittle bones, seven have suffered from multiple fractures.

17. **Temperature in Croupous Pneumonia.**—In the case reported by Downing, the morning temperatures were higher than the previous evening temperatures and the accompanying symptoms appeared aggravated during the day. Crisis took place during the daytime.

Lancet, London

July 1

19 Temperaments: Is There a Neurotic One? R. Jones.
20 Outlines of Medical Hydrology. R. F. Fox.
21 *Chemical Study of a Case of Cyclic Vomiting, with Some Remarks on Creatinuria and Acidosis. E. Mellanby.
22 The Physiologic Ideal in the Artificial Feeding of Infants. J. Snowman.
23 Success or Failure in Electrotherapy. S. Sloan.
24 Case of Troph-Neurotic Anemia. T. W. Parry.

21. **Chemical Study of Cyclic Vomiting.**—Even if the causal connection between acidosis and diabetic coma is accepted, Mellanby says there can be but little doubt that the acidosis as such, accompanying fever, gastro-enteritis, delayed chloroform poisoning and cyclic vomiting, and many other conditions, is never of symptomatic significance. In other words, the term acid intoxication, in the real sense of the word, applied to these conditions, is a misnomer. The quantities of β-oxybutyric acid and other acetone bodies excreted in these conditions are small—i. e., 10 to 15 gm. at the most—compared with the quantities excreted in diabetes, e. g., one of Magnus Levy's patients excreted 160 gm. per diem, and it is difficult to see how they could possibly produce symptoms. As regards the case described, acidosis was merely a symptom and had nothing whatever to do with the attacks of cyclic vomiting.

Journal of Tropical Medicine and Hygiene, London

June 15

25 Egyptian Schistosoma Hematobium and Allied Forms. A. Looss.
26 Epidemiology of Amebiasis in Southern United States and Absence of Liver Abscess in the Same Regions. H. D. King.
27 Report of a Case of Blackwater Fever in British North Borneo. H. J. McGregor.

Bristol Medico-Chirurgical Journal, London

June

28 Rhizotomy. E. W. H. Groves.
29 School Hygiene. J. O. Symes.
30 Design for an Elementary Radiographic Camera. W. Cotton.
31 Medical Aspect of Boswell's "Life of Johnson," with Some Account of Medical Men Mentioned in That Book. B. M. H. Rogers.
32 *Auricular Fibrillation. C. E. K. Herapath.
33 Furunculosis. L. S. Smith.
34 Four Cases of Cysts in the Neck of Similar Character, and Possibly Developed in Connection with Branchial Clefts. C. A. Morton.
35 Ataxia in Child Aged Three and a Half Years. E. C. Williams

32. **Auricular Fibrillation.**—In Herapath's opinion auricular fibrillation can be recognized without resort to polygraphic tracings. He says that if one relies on a continuous and complete irregularity, not on an occasional one, a visible systolic pulsation in the veins of the neck, and signs of venous engorgement with the absence of a presystolic murmur, there will be few cases in which the diagnosis will be wrong.

Bulletin de l'Académie de Médecine, Paris

June 13, LXXV, No. 24, pp. 655-674

36 *Cerebrospinal Meningitis with Primary Localization in the Ventricles. Recovery After Trephining and Intraventricular Serotherapy. H. Triboulet and Others.
37 *Gymnastic Exercises for Education of the Intestines as Treatment for Habitual Constipation. (De la gymnastique abdomino-rectale appliquée au traitement de la constipation habituelle.) C. Fernet.

36. **Intraventricular Serotherapy in Cerebrospinal Meningitis.**—One child, 2 years old, showed no improvement after intraspinal injection of antimeningitis serum, the twentieth day of the disease, and 15 c.c. of the serum was then injected directly into the lateral ventricle, after which the child recovered. Meningococci were found in the ventricles, but not in the cerebrospinal fluid until a few days after the intraventricular injection. When this injection was made the affection was extremely grave, the head enlarging and the child apparently idiotic and blind, unable to sit up or stand. Improvement was very gradual, but in two or three months the child was apparently normal once more.

37. **Gymnastic Exercises in Treatment of Constipation.**—Fernet says that if a mother would take the trouble to hold her baby over the vessel at regular intervals the child would soon learn to defecate and urinate at these times and could be kept clean and dry all the time. Regular habits should be continued into childhood, and he urges that teachers should insist on the children's having defecated before they come to school. The exercises which he has found an effectual aid in training the adult intestines to regular functioning are a series of deep breathing movements before rising in the morning, expanding and retracting the abdominal walls, alternating this "abdominal dancing" with light automassage of the large intestine, repeating these procedures four or five times. They can be repeated anew after breakfast, with a series of moderate retracting and expelling movements of the anus. These exercises act indirectly by reflex influences on the rectum higher up. The sluggish musculature throughout the abdomen feels the effect of all these exercises and the vicious circle of the bad habits of the lazy bowels is broken up. In the discussion that followed Fernet's communication, Monod said that among primitive peoples, ignorant of seat closets, habitual constipation is rare, and that the squatting attitude at defecation protects the inguinal canal against hernia during straining.

Bulletins de la Société de Pédiatrie, Paris

May, XIII, No. 5, pp. 221-252

38 Enlarged Tracheobronchial Glands. (Adénopathie trachéobronchique.) H. Barbier and V. Veau.
39 The Cerebrospinal Fluid in Tuberculous Meningitis. A. Netter and A. Gendron.
40 The Respiration Index in Mouth Breathers. (L'indice respiratoire dans l'insuffisance nasale de la seconde enfance.) P. Merklen.

Lyon Médical, Lyons

June 4, CXVI, No. 23, pp. 1001-1044

41 Occupational Dermatitis. (A propos des dermites professionelles.) P. Jourdanet.

June 11, No. 24, pp. 1045-1100

42 Persisting Communication Between the Auricles with Anomaly in the Coronary Valve. C. Lesieur, J. Froment and R. Crémieu.

Presse Médicale, Paris

June 17, XIX, No. 48, pp. 501-516

43 Action of Organic Arsenical Preparations on the Ear. (Accidents auriculaires au cours du traitement de la syphilis par les produits arsénicaux organiques.) H. Gaucher and H. Guggenheim.
44 Treatment of Paralytic Pes Cavus. (Paralysie du triceps sural.) M. Ducroquet.
45 Mobilization After Dislocation of the Shoulder. A. Yvert.

Semaine Médicale, Paris

June 28, XXXI, No. 26, pp. 301-312

46 Blood-Count During Sleep. (Variations de la formule leucocytaire pendant le sommeil.) G. Fulpius.

Berliner klinische Wochenschrift

June 19, XLVIII, No. 25, pp. 1113-1164

47 *The Dilatable Sound in Diagnosis and Treatment of Stenosis of the Esophagus. J. Schreiber.
48 *Action of Tropical Sunshine on Man and Animals. (Experimentelle Untersuchungen über die Wirkungen der Tropensonne auf Mensch und Tier.) H. Aron.
49 Hemorrhage in Adrenals in the Newly Born. (Nebennierenblutungen beim Neugeborenen.) G. Magnus.
50 Psychic Disturbances After Lightning Stroke. (Zur Kasuistik der nach Blitzschlag auftretenden psychischen Störungen.) H. König.
51 *Retrospective Diagnosis of Industrial Accidents from Necropsy Findings. (Feststellung der Unfalltatsache aus den Ergebnissen der Obduktion.) L. Feilchenfeld.
52 Etiology of Prolapse of Genitalia in Virgins. T. Rosenthal.
53 High Shoulder. (Zur Frage des sogen Schulterhochstandes.) M. Cohn.
54 Old Custom of Testing Temperature of Bath with the Foot. (Der Fuss als Thermometer des Mittelalters.) J. Kocks.
55 *Parabiosis and Xiphopagi. H. Coenen.

47. **Dilatable Sound in Diagnosis and Treatment of Stricture of the Esophagus.**—Schreiber's dilatable sound has not fulfilled all his hopes when he first devised it eighteen years ago, but it is doing good service in many conditions, especially in revealing occult stenosis of the esophagus and in permitting gradual dilatation of the passage. The sound is so fine that it can be worked through almost any stricture. When it has been introduced to the cardia, the envelope enclosing the tip is inflated. As the sound is then slowly withdrawn, the bulging tip is arrested by the stricture, and it can be manipulated in such a way as to aid in stretching the stricture.

48. **Action of the Tropical Sun on Man and Animals.**—Aron is professor of physiology at the University of the Philippines, and he has been making a special study of the conditions confronting would-be colonists in the tropics. His extensive experimental research all sustains his assertions that the ability to live and thrive in a climate is in reality merely a matter of avoiding the injurious factors in the climate or learning to protect one's self against them. This is shown in a striking way by his experiments with monkeys in their native home. Exposed to the direct rays of the sun, the monkeys all died; they are able to live in the tropics only by their habit of keeping in the shade of the trees. He found that vigorous native monkeys (*Macacus philipp. geoff.*), chained to permit a range only in an unshaded area, died in seventy or eighty minutes even during the coolest season of the year, December or January, and even as early as 8 or 9 a. m. In the shade of a tree or protected by an umbrella, the animals bore the hottest sunshine indefinitely without harm. He found, further, that the monkeys were able to bear the hot sunshine, unprotected, for three hours without harm if a breeze from a ventilator was kept blowing on them, while a control monkey, kept out of the breeze, died in fifty-eight minutes. A still more striking experiment was the placing of monkeys in a box, sheltering the body, but the head projecting unprotected above the box, while through openings in the box the breeze played constantly on the monkeys' bodies. One monkey thus had his head exposed to the direct sunlight for fifty-four hours in the course of twelve days, without showing the least sign of injury. The temperature in the scalp was often found over 116, but as the constant breeze prevented stagnation of heat in the body, no harm seemed to result. By ensuring the throwing off of the heat under the action of the breeze, monkeys were able to stand temperatures to which they promptly succumbed under other conditions. Aron's other experiments show the danger of fatal collapse from loss of water in the body, when there has been prolonged sweating with much evaporation. The collapse observed is similar to that in cholera. The details of his experiments are soon to be published in the *Philippine Journal of Science.*

51. **Retrospective Estimation of Traumatic Element in Fatalities.**—Feilchenfeld analyzes 120 accident insurance cases and his own experience in this line to estimate the causal importance of a trauma in the death of the insured. Cases frequently arise in which the exact diagnosis is impossible during life, and only the necropsy clears up the matter. Among the typical cases cited is that of a man of 53 who fell against a railing, hitting his left chest. He soon developed sharp pains in the heart region and attacks suggesting angina pectoris, and succumbed ten weeks later to heart failure in the course of influenza and pneumonia. The hemorrhagic pericarditis found at necropsy was accepted as the result of the accident, death being the result of a chain of causes, the accident being the first link—"The accident does not have to be *direct* cause of the death." In another case a man falling from a ladder caught and hung with his left hand and felt a severe pain in the heart region and thereafter had irregular pulse, abnormal murmurs at the apex and dyspnea. Necropsy five weeks later revealed laceration of the tricuspid valve. Any unusual muscular exertion or ordinary exertion under unfavorable circumstances may break down the heart when it is weak or degenerated, as also ordinary work done with an excess of energy. When the trauma involved the head and hemorrhages were found at points other than the usual sites of cerebral hemorrhage, the causal connection with the trauma was generally recognized. Feilchenfeld concludes further that apoplexy or rupture of an aneurysm, the consequence of chronic disease of the vessels, should not be regarded as coming under the head of an industrial accident unless the accident was directly concerned in its production as by sudden, severe increasing of the blood-pressure in the vessels of the brain. The connection between tardy apoplexy and a trauma can be accepted only when all other causes for the hemorrhage can be excluded and the skull is directly injured in the accident, the patient young and the interval not too long. Hernia at the usual points cannot be regarded as an industrial accident; there must be some preexisting predisposition.

55. **Parabiosis and Xiphopagi.**—Coenen reviews the five operations to separate twins joined at the thorax and pelvis which have been recorded in the literature, and discusses the conditions before and after the separation and the physiology in general of these double monsters and of parabiosis. He remarks that experimental parabiosis is liable to throw much light on metabolic affections and on the cancer problem, as well as on the prospects of operations on double monsters or united twins.

Deutsche medizinische Wochenschrift, Berlin

June 22, XXXVII, No. 25, pp. 1153-1200

56 *Vincent's Angina. (Zur Frage der Spezifizität der Plaut-Vincentschen Anginaerreger.) K. Blühdorn.
57 Syphilis of the Arteries. (Ueber syphilitische Erkrankungen des arteriellen Gefässsystems und einen Fall von Aortitis und Arteriitis obliterans peripherica bei kongenitaler Syphilis.) J. Biermann.
58 *Counting Machine for the Blood-Count and Arneth's Formula. (Ein praktisch und zur Demonstration brauchbarer Differentialleukozytometer mit Arnethscher Verschiebung des Blutbildes.) V. Schilling-Torgau.
59 *Colic with Cholecystitis without Cholelithiasis. (Ein pathogenetisches Moment der Gallenkolik bei einigen Formen der Cholecystitis ohne Steine.) S. Solieri.
60 *Simple Technic for Reduction of Recent Dislocation of the Shoulder. (Neues, einfaches und schonendes Verfahren der Reposition frischer Schultergelenksluxationen.) A. Wagner.
61 Chronic Frontal Sinusitis Healing Under Radio-Active Emanations and Epinephrin Spray. E. Pick.
62 Present Conceptions of Aim and Purpose of Life, from Standpoint of Science. (Der Sinn des Lebens und die Wissenschaft.) F. Müller-Lyer.

56. **Vincent's Angina.**—Blühdorn has been examining the throats of 222 patients for fusiform bacilli and spirilla during the last few months, and states that he found one or the other, or both, in all but twenty-seven of seventy-six patients with diphtheria; in all but thirty-one of forty-two with scarlet fever; in all but thirteen of twenty-six cases of streptococcus or staphylococcus sore throats; in two of the four cases of ulcerative stomatitis; in all but ten of thirty-one cases of syphilitic mouth or throat lesions, and in all but eighteen of forty healthy persons. They were found generally close to the teeth in the "healthy" mouths, and it is probable that they are responsible for certain ulcerative mouth processes. Before assuming Vincent's angina, diphtheria must be positively excluded, as the clinical picture and stained preparations are liable to be inconclusive.

58. Counting Machine for Differential Leukocyte-Count.—The apparatus described shows at a glance the percentages of the various types of cells and simplifies the work while impressing the findings and the principles of the Arneth blood-formula on students. The count is made with steel ball-bearing balls poured into eight graduated glass tubes arranged in an upright standard, each tube corresponding to a special type of blood cell and graduated in divisions corresponding to the diameter of the balls and calculated for a hundred balls. The details of the apparatus are shown in eight illustrations, and it is commended as very simple and reliable.

59. Colic with Cholecystitis Without Gall-Stones.—Solieri reports a case in which hemorrhages in the gall-bladder induced typical gall-stone colics, although there were no concrements in the bile passages. The patient was a girl of 20, who was convalescing from typhoid when the first colic was experienced, acompanied by signs of cholecystitis. The colics recurred once or twice a month, and in the fifth month a laparotomy revealed an ulcerative hemorrhagic affection of the mucosa of the gall-bladder. The efforts of the gall-bladder to expel the accumulated blood had evidently been the cause of the colics, as was confirmed by observation of a recurring attack of the kind during convalescence from the operation. The fistula into the gall-bladder was kept open for a time to permit complete healing of the lesions, which had evidently been persisting since the typhoid fever, but the patient was finally entirely cured by the end of three months.

60. Reduction of Recent Dislocation of the Shoulder.—Wagner extols the advantages of the method described as not requiring assistance and as seldom requiring general anesthesia, while the pain is much less than with other methods of reduction and there do not seem to be any by-effects. He summarizes the details of twelve cases in which he has applied it with excellent results in all but two; no anesthetic was needed in eight of the cases, and merely the ether *Rausch* in the ninth. In another case nothing but prolonged extension with pressure on the head of the humerus finally conquered the dislocation. The fall on the outstretched hand or elbow forces the arm into extreme abduction, and the edge of the glenoid cavity toward the acromion acts as the fulcrum of a lever, prying by leverage action the head of the humerus out of the glenoid cavity, the capsule tearing at its weakest point, the lower and internal part. Reduction is done by applying a fulcrum at another point and levering the head back into its place again by reversing the leverage action. This he acomplishes with a fulcrum in the axilla in the form of a long roll of cotton about 10 cm. in diameter pressed tignt and fastened in the axilla by a band around the other side of the neck. The elbow is then pushed toward the body, over this fulcrum in the axilla, drawing the elbow a little forward and relaxing the pressure if muscular resistance is offered, waiting for it to relax before continuing the movement aiming to lever up the head of the humerus. At the same time the forearm is lightly rotated outward; the head then glides noiselessly or with a little jerk into place, and all are astonished at the ease with which it was done. If the patient has complained much of pain before reduction is attempted, it may be wise to give a small dose of morphin. With a recent subcoracoid dislocation this procedure is almost certain to prove successful in a few seconds or minutes, Wagner insists.

Deutsche Zeitschrift für Chirurgie, Leipsic

June, CX, Nos. 1-3, pp. 1-310

63 *Stenosis After Reduction of Incarcerated Hernia. (Genese der nach Reposition eingeklemmter Hernien entstehenden Darmstenosen.) H. Matti.
64 Abdominal Colloid Cysts. (Grosser gallertiger Erguss in der Bauchhöhle; Cysten mit gallertigem Inhalt im Bauchfell und in der Bauchwand; Umwandlung von Cysten in bindegewebige Knötchen.) E. Moser and G. Ricker.
65 *Connection Between Contusions and Cancer. (Zusammenhang von stumpfen Träumen mit der Entstehung von Carcinomen und Sarkomen.) A. Theilhaber.
66 Action of Thiosinamin on Cicatricial Tissue. (Experimentelle und klinische Untersuchungen über die Wirkung des Fibrolysins auf narbiges Gewebe.) P. Sidorenko.
67 Extension in Treatment of Fracture of the Upper Arm. O. Grune.
68 Cure of Invagination of the Ileum by Resection. (Beitrag zur Behandlung der Darmeinstülpungen.) T. Haagn.
69 Multiple Spleen-Like Formations Found in the Peritoneum Six Years After Splenectomy. R. Faltiu.
70 Thrombosis of Cavernous Sinus Not of Otitic Origin. K. Otto.
71 Dislocation of the Pelvis. (Beckenluxationen.) H. Finsterer.
72 Extension in Treatment of Fractures of the Legs. O. Grune.
73 Gangrenous Inner Loop with Retrograde Incarceration. (Brandige "innere Schlinge" bei Vorfall nur einer Schlinge im eingeklemmten Leistenbruch.) W. Mintz.
74 *Operations Under Differential Pressure. (Ueber Druckdifferenzoperationen.) K. Friedmann.
75 Movable Cecum. (Das Coecum mobile.) T. Hausmauu.
76 Incarcerated Intersigmoid Hernia. A. W. Krall.

63. Stenosis of the Intestine After Incarcerated Hernia.—Matti reports a case from Berne and reviews similar ones from the literature, his conclusion being that in case of doubt it is better to resect the intestine. Especially is this necessary when the groove left by the constriction does not recuperate with the rest of the intestine after reduction, but remains thin, showing that the mucosa has probably been injured beyond repair, and will lose its vitality either directly or secondarily, so that stenosis is liable. An exploratory incision is scarcely necessary, as even direct inspection is unable to decide the question of its vitality. He protests against all attempts at taxis that require force. The important point to bear in mind is that the stricture can develop from the mucosa and submucosa alone, the other layers of the intestine being still intact. Also that it is a mistake to ascribe very much vitality to a loop that has been incarcerated.

65. Cancer Following Contusions.—Theilhaber reviews 148 cases of carcinoma and 324 of sarcoma developing at the site of a contusion. The interval was minimal in fifty-nine of the carcinoma cases and in 180 of the sarcoma cases; six months in eleven and sixty-nine, respectively; a year in eighteen and forty; two years in fourteen and thirteen; from three to five years in twenty and fourteen; from five to ten years in eleven and three, and over ten years in fifteen and five. The location of the cancer was in the breast in 148 of the cases of carcinoma and in ten with sarcoma; on the legs in two of the former and 140 of the latter. The carcinomas were most frequent between the ages of 40 and 70, while the sarcomas were most frequent under 40. In prophylaxis he warns that the traumas affecting the breast had left a lump which persisted unmodified for years sometimes before the cancer developed. It is important, therefore, to treat every contusion of the breast with great care and strive to promote the absorption of any hard lump left. Theilhaber has long advocated hyperemia in treatment of parts of the body threatened with cancer. He applies superheated air regularly after removal of a cancer, as all large scars afford a predisposition to malignant disease. His results, he states, have been very gratifying, and they justify the use of superheated air as a prophylactic measure after all contusions of the breast. He also suggests that more energetic measures against inflammation should be applied at all points of the body where a sarcoma is liable to develop after a contusion, and that they should be kept up longer than is generally customary.

74. Operations Under Differential Pressure.—Friedmann reviews the experiences in this line at the surgical clinic at Berlin in charge of Bier. Thirteen operations on the chest or stomach were performed under this technic, including seven on account of cancer or tuberculosis requiring extensive resection of the chest wall, and a case of extensive cancer of the stomach and cardia. Details are given showing advantages of the various technics, results being tabulated for comparison. The general impression is not very favorable, the mortality having been 50 per cent., scarcely 40 per cent. having been benefited by the operation. It is the rule at the clinic, however, to have the differential pressure apparatus ready at every operation on the chest, but it is not used unless conditions are very serious, so that only the gravest cases are included in this review, the differential pressure being applied as the operation is attempted only as the last resort.

Medizinische Klinik, Berlin

June 18, VII, No. 25, pp. 955-990

77 *Unusual Forms of Diabetes Mellitus. J. Grober.
78 Practical Importance of Dimples, Fistulas and Dermoid Cysts in Sacral Region. (Sakrale Dellen, Fisteln und Dermoidcysten.) F. Honigmanu.
79 *Gastric Hyperacidity and Gastric Ulcer. (Ueber Hyperaciditätsschmerzen und Ulcus ventriculi.) H. Schur. Commenced in No. 24.

80 Therapeutic Combinations of Physical Forces. A. Bum.
81 Thiosinamin in Treatment of Cancer of Esophagus or Cardia. (Vorschlag zur Behandlung des Oesophagus und Kardiacarcinoms.) Kuester.
82 Question Blank to Collect Data in Regard to Asthma Patients. (Ein Asthmafragebogen.) Pescatore.
83 Experimental Research on the Anaphylaxis Toxin. G. Salus and F. Schleissner.

77. **Atypical Diabetes.**—In two of the cases reported by Grober the diabetes had developed in the course of tuberculous peritonitis, and there is reason to ascribe the diabetes to some tuberculous affection of the pancreas; these patients were a girl of 16 and a man of 30. In another case a woman of 63 developed rapidly progressive diabetes, whose fatal termination was hastened by severe arteriosclerosis and degeneration of the myocardium; necropsy revealed such changes in the vessels in the pancreas as readily explained the development of the diabetes. In another case a woman was brought to the hospital unconscious, with the diagnosis of typhoid, and it was learned that the woman had been under treatment for some time for anemia, and that she had been drinking exceptional amounts of coffee of late and had no appetite except for acid foods. Otherwise she had been in apparently perfect health up to the day of her collapse into diabetic coma, attending to her duties as a working housekeeper. The diarrhea accompanying the coma and the unconsciousness justified, then, the assumption of typhoid. Grober has encountered a number of diabetics whose face had become extremely thin, so that he now is able to recognize diabetes by this "mask of skin and bones," the fruity odor of the breath completing the clinical picture before examination of the urine has confirmed the diagnosis.

79. **Hyperacidity and Gastric Ulcer.**—Schur concludes this review of his experiences in this line by asserting that pain one or more hours after eating is almost invariably a sign of gastric ulcer and not merely a symptom of existing hyperacidity. He comments on the fact that ulceration from autodigestion never occurs in the gastro-intestinal tract below the field of action of the peptic ferment. There are no "tryptic ulcers," like the "peptic ulcers," and this difference in their action he explains by the ability of the peptic ferment to digest raw connective tissue, which the tryptic ferment is unable to do. The aim in treatment with these "hunger pains" is to reduce the acidity of the gastric juice, to modify the diet to reduce the stimulation for its production and to have the stomach emptied as soon as possible and kept at rest. Milk is excellent on account of its fat content, reducing the stimulus for secretion of gastric juice; feeding by nutrient enemas may prove useful. He considers surgical treatment indicated sometimes for these hunger pains alone if they are so incessant and so severe as to interfere with attendance to business and show no improvement under medical measures. The excellent results of a gastro-enterostomy seem to be due more to the resulting reduction of the proportion of free acid rather than to the accelerated emptying of the stomach, as he shows by analysis of the findings in twelve typical cases after gastro-enterostomy. This suggests that ulcers anywhere in the stomach are liable to be benefited by the operation just as effectually as those located near the pylorus. Bile was found in the stomach content after the operation in every case. The "hunger pains" he explains are not due to the hyperacidity alone nor to a neurosis; some anatomic lesion must be the underlying factor. In eight cases in his experience the "hunger pains" were the only symptom of what proved at the operation to be a typical gastric ulcer. In several other cases there were no other symptoms but the "hunger pains" and gastric hemorrhages. One such case was particularly instructive: the first sign of trouble was a hematemesis; this was followed by periods of "hunger pains" and recurring hemorrhage from the stomach. An ulcer was found close to the pylorus with perigastritic adhesions. These eight cases in which the assumption of gastric ulcer was confirmed by the operation were encountered in a total of fifty-nine cases of "hunger pains," and he is convinced that an anatomic factor was at work in the other cases, although he has been unable to demonstrate it to date. The "hunger pain," he adds, is generally described as a cramp-like pain.

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June, XXXIII, No. 6, pp. 679-836

84 *Excision of Sound Breasts for Eclampsia. (Das Martyrium der heiligen Agathe im 20. Jahrhundert.) W. Bokelmann.
85 *Vaginal Hysterectomy for Cancer of the Cervix. (Die erweiterte vaginale Operation bei Carcinoma colli uteri auf Grund zehnjähriger Erfahrung.) F. Schauta.
86 *Wertheim's Technic for Hysterectomy for Cancer of the Uterus. A. Mayer.
87 *Campaign Against Cancer. (Bekämpfung des Krebses im Königreich Preussen.) G. Winter.
88 Oleic Acid in Etiology of Eclampsia. (Rolle der Oelsäure bei der Eklampsie.) L. Mohr and R. Freund.
89 *Missed Abortion. M. Rosenstein.

84. **Excision of Sound Breasts for Eclampsia.**—Bokelmann protests with horror against the idea of amputating sound breasts as a means of treating eclampsia. Sellheim did it (as reported in The Journal, Jan. 21, 1911, page 230) as a last resort for an almost moribund young woman with post-puerperal eclampsia, and he believes that her survival was due to this measure. It is based on some vague analogies with what is observed in animals, suggesting some toxic connection between the mammæ and the eclampsia. But to date this theory has not the slightest scientific basis, Bokelmann remarks, and yet Herrenschneider has already followed in Sellheim's footsteps, and has recently reported a case in which he amputated the sound breasts of a girl of 18 whose eclampsia persisted after Cesarean section. Bokelmann recalls that amputation of the breasts was a common form of persecution applied to the early Christians. The martyred Saint Agatha is depicted in Art as bearing on a tray her amputated breasts. He reproduces one of these pictures and entitles his article "The Martyrdom of St. Agatha in the Twentieth Century," remarking that we are more humane than the Roman persecutors, as we anesthetize the women, but, he adds, "possibly the Romans might have given an anesthetic if they had known of one." He warns, in conclusion, against the "productive enthusiasts" who go off half-cocked. It is not ideas alone that make for progress, he remarks, but the patient, loyal plodding work of the many. And these faithful workers plodding along in the paths of tried and tested experiences will never wreak the damage which is inseparable from the uncritical acceptance and reckless application of many of the new ideas promulgated.

85. **Vaginal Hysterectomy for Cancer.**—Schauta reviews ten years of experience with the comprehensive vaginal operation for cancer. Forty-four patients declined the operation, and it was done in 445 out of his total of 910 cases of carcinoma of the cervix. The total operative mortality was 8.9 per cent., but during the last three years it has been only 3.7 per cent. He gives an interesting statistical table which shows the operability, permanent cures, mortality and absolute recovery percentage during the ten years. The enlarged vaginal technic seems to be especially advantageous for elderly women, the mortality in this group not surpassing that in the younger women. The vaginal route is particularly adapted for the cases with incipient cancer, obesity, myodegeneration of the heart, extreme anemia, cachexia and advanced age, and Schauta thinks that his technic guarantees results which are fully equal to those of the best abdominal technic. His percentage of absolute cures has gradually increased from 12.7 to 23.9 per cent., while Wertheim's percentage during the same period has increased only from 8.7 to 20 per cent. in a parallel group of cases (174). Schauta has found the operability of his cases increase from 43.9 to 64.9 per cent., and the absolute cures in the total material with an interval since of over five years has increased from 34.2 to 48.8 per cent.

86. **Hysterectomy for Cancer.**—Mayer presents the picture of the results of the application of Wertheim's technic by Döderlein in 248 cases of uterine cancer, 1902-1905. The percentage of absolute cures in 203 cases of carcinoma of the cervix is 16.7 per cent., while it was 46.4 per cent. for the twenty-eight women with carcinoma of the body of the uterus. The operative mortality was 18.3 per cent.

87. **Campaign Against Cancer of the Uterus.**—Winter has been striving for twenty years to educate midwives and practitioners to suspect and detect cancer in its incipient stage, and The Journal has reproduced his arguments in due order. His method of conducting the campaign against cancer has

been adopted by twenty different medical societies in Germany and in ten other countries in Europe and in parts of the United States. The fear that the public might become overanxious in regard to dread of cancer has proved groundless, as the physician's assurance of the absence of cancer reassures completely the patients who seek advice fearing malignant disease. The trouble is too often, Winter says, in the practitioner's failure to recognize incipient cancer, and here is where measures are urgently needed. Medical students should be trained especially to detect incipient malignant disease, and postgraduate courses and the medical press should treat this subject with special insistence. He urges the publication from time to time of articles dealing with the early recognition of cancer and detailed reports of cases in which it was overlooked. He also urges the authorities to publish a pamphlet on the early diagnosis of cancer and treatment of the early stages of inoperable cancer and place this pamphlet in the hands of every practitioner in the country. The midwives should be trained likewise, and the district physician should reexamine them every three years on this subject. All other persons, nurses, etc., should be debarred from having anything to do with the management of cancer, and every quack should be prosecuted for every case in which it can be proved that he has allowed a cancer to progress without proper treatment. Even more important, he declares, is the education of the public. It should be impressed on the public that cancer is curable, but only by an operation and only by scientific hands, and the public should be instructed in the signs suspicious of cancer and in the necessity for consulting a physician at once. Winter had 150,000 circulars of this kind distributed in 1909 throughout his province, and he urges that this should be done throughout the country. He also appeals to the central cancer research committee to notify all clinicians and members of medical faculties of the advisability of publishing occasionally enlightening articles on this subject in the medical press. He also urges the central committee to get up an educational pamphlet to be sent to every practitioner and to exert its influence to have lectures on the early recognition of cancer introduced into courses for graduates, midwives and nurses, and have warning bulletins printed on certain official circulars. The success of similar measures in his province justifies their adoption on a wider scale, he declares.

89. **Missed Abortion.**—Rosenstein reports two cases, one fatal, and insists on the necessity for promptly emptying the uterus on account of the progressive degeneration of the vessels which was striking in his fatal case. The uterus wall and vessels were transformed into a homogeneous mass in one part. The sooner the uterus is cleared out, the less severe these changes. The hemorrhage stopped in his cases as long as the Momburg constricting belt was applied, but began again whenever it was removed. But it will permit the emptying of the uterus and thus be of great assistance. In desperate cases hysterectomy should not be deferred too long.

Münchener medizinische Wochenschrift

June 20, LVIII, No. 25, pp. 1337-1384

90 *Cancer of the Gall-Bladder. (Zur Diagnose und Therapie des Gallenblasenkarzinomes.) B. Riedel.
91 *Filling Kidney Pelvis with Oxygen as Aid in Pyelography. (Darstellung des Nierenbeckens und Ureters im Röntgenbilde nach Sauerstofffüllung.) A. v. Lichtenberg and H. Dietlen.
92 Metabolism of Albumin, Etc. (Ueber einige Fragen des Stoffwechsels und der Ernährung.) A. Gigon.
93 The Meiostagmin Reaction with Cancer. G. Izar.
94 Typhoid Abscess in the Spleen. (Zur Diagnose und Behandlung des typhösen Milzabszesses.) K. Propping.
95 Appeal for Data on Nervous Fluctuations in Pulse-Rate. (Wechsel in der Pulsfrequenz.) R. Geigel.
96 Transient Mishaps with Salvarsan. (Ischiadikuslähmung mit Entartungsreaktion nach intramuskulärer, schwerer Kollaps nach subkutaner Injektion von Salvarsan.) W. Rindfleisch.
97 Induced Petechiæ not Pathognomonic for Scarlet Fever. (Zur Beurteilung des Rumpel-Leedeschen Scharlachphänomens.) A. Mayr.
98 Ichthyol in Local Treatment of Furuncles. F. Bruch.
99 *Importance of Diazo Reaction for Prognosis and Treatment of Pulmonary Tuberculosis. (Bedeutung des Urochromogens bei Lungentuberkulose.) M. Weisz.
100 *Water Closed Flushed by Knob Pressed by Foot. (Ueber die Spülvorrichtungen der Klosettanlagen.) E. Hartung.

90. **Diagnosis and Treatment of Gall-Bladder Carcinoma.**—Riedel expatiates on the importance of teaching the lay public that cancer may develop and progress for a time without pain, and that the very fact of the absence of pain when any anomaly is observed should suggest the possibility of malignancy. In the gall-bladder especially, cancer generally develops on the basis of a gall-stone not causing any trouble. When pains are experienced, the trouble is often too far advanced to be operable. Jaundice then develops insidiously, a knobby tumor becomes palpable, ascites appears and the complexion becomes an ashen gray while the patients lose appetite, especially for meat. The legs swell and the patients die without ever having presented any fever. When cancer develops in the gall-bladder without jaundice it generally runs the above course or it may come on under the clinical picture of a first attack of cholecystitis with fever, vomiting and rapid growth of the tumor. Or there may be repeated attacks of acute cholecystitis or a chronic form. The cancer may come on with the clinical picture of perforation of a gastric ulcer in the lesser curvature, simulating a perforation occurring gradually under development of a hard tumor in the left rectus muscle. Great was the surprise in a case of this kind when a gall-stone was found in the supposed "escaping stomach contents." The pain and tumor in this case were under the left costal arch, and he has frequently encountered cases in which the patients complained of pains in the median line only. On palpation of a tumor a pyloric cancer was assumed, while the trouble was really merely a gall-bladder tumor which did not happen to be malignant in any of his cases in this group. He has operated for cancer of the gall-bladder in a number of cases among the hundred he has encountered, but never with a permanent cure; the patients had all died by the end of the ninth month after the operation although in some of the cases the operation was done at the first attack of "cholecystitis." Even when the region is exposed it is difficult to state whether the trouble is really malignant, and he is inclined to suspect that in the cases of permanent cures on record the trouble was in reality not of a malignant nature or else an individual with an incipient cancer may have had an intercurrent attack of true cholecystitis, thus permitting the discovery of the growth in its incipiency. The only way to be sure to escape gall-bladder cancer, he says, is to have the bladder removed with its stones, but unfortunately the majority of cancers develop with stones in the latent stage. But for those persons who are aware of the presence of their stones he proposes the harmless operation done to ensure them against danger. The patients generally reply, however, that the chances are so small they will take them rather than undergo the operation. And yet this prophylaxis seems to be the only weapon against cancer of the gall-bladder. The patients kill two birds with one stone by permitting the operation; they not only ward off all danger of cancer from this source but they get rid of the annoying gall-stone trouble. With a positive diagnosis of cancer of the gall-bladder he does not attempt now to operate, believing that the disease is whipped up possibly by the extensive operation necessary while the lack of benefit deters other patients with non-malignant troubles from the surgical interference which would bring such blessings in their cases.

91. **Pyelography.**—Lichtenberg and Dietlen have found that filling the kidney pelvis with oxygen is of great advantage in Roentgen-ray examination of the region, as they show by skiagrams in three cases. The simplicity and ease of this method and the absence of by-effects commend it, they say, as a notable progress in roentography. Any excess of the oxygen flows back outside the catheter in the ureter down into the bladder, distending the wall along the way.

99. **The Diazo Reaction in Pulmonary Tuberculosis.**—Weisz calls the substance which causes the diazo reaction in the urine, "urochromogen," and his extensive research on the reaction has convinced him that it is a most sensitive and reliable index of the progress of pulmonary tuberculosis. Determination of the urochrom and urochromogen in the urine at regular intervals gives instructive oversight of conditions. From this point of view, he adds, no measure has proved so completely successful as the induced pneumothorax in treatment of pulmonary tuberculosis; this alone seems to be able to transform the diazo reaction back to normal. Determination of the elim-

ination of urochromogen in the urine is also proving a useful guide for dosage of tuberculin during this specific treatment. The findings with the diazo reaction confirm the necessity for greater caution in the dosage of tuberculin for children and for women. Weisz thinks that women should not be given over a tenth of the dose customary for men and children not over a hundredth. It is then a simple matter to increase the dose if the diazo findings indicate tolerance. He explains the diazo reaction as the expression of some toxic disturbance of the cell metabolism throughout the organism, but it does not occur until the toxins produced get into the circulation, and consequently it does not appear so early in tuberculosis as in measles and typhoid, tuberculosis being more of a local affection at first. When the tubercle bacilli secrete enough toxins to induce a general toxemia, then the diazo reaction becomes positive and it fluctuates with the vital activity of the bacilli, dying out as the latter become quiescent or die. He ascribes the production of cavities to the destructive action on the environing tissues of the bacilli toxins when the oxidating power of the cells in question has been impaired; urochromogen appears in the urine in consequence. He has never witnessed a cure under tuberculin when the diazo reaction was previously positive and he inquires what has been the experience of others in this line. Patients with processes advanced to the stage of the diazo reaction do not seem to bear tuberculin well.

100. **Water-Closet Plunger Worked by the Foot.**—Hartung expatiates on the insanitary features of having the water closet operated by a handle or chain to be taken in the hand. He suggests that a knob or pedal worked by pressure of the foot would be far more sanitary and prevent much contagion.

Therapie der Gegenwart, Berlin

June, LII, No. 6, pp. 241-288

101 *Therapeutic Lumbar Puncture. H. Curschmann.
102 *Liver Syphilis. (Fall von tertiärer Leberlues.) H. Günther.
103 *Permanent Cure of Sarcoma of Stomach. (Dauerheilung eines Magensarkoms durch Resektion vor 7½ Jahren.) O. Hesse.
104 Sex, Age and Constitution Afford no Predisposition to Plague. (Gibt es eine Prädisposition von Geschlecht, Alter und Konstitution bei Infektion durch die Lungenpest?) B. Budberg.
105 *Treatment of Measles and Bronchopneumonia. A. Baginsky.
106 *Local Treatment of Chronic Cough. (Radikale Therapie des chronischen Hustens.) W. Wolfram.

101. **Therapeutic Importance of Rachicentesis.**—Curschmann has witnessed complete recovery follow a single lumbar puncture in a number of cases of serous meningitis and of the meningeal trouble which seems to be the equivalent in the meninges of circumscribed edema elsewhere. One patient was a girl of 20 brought to the hospital in profound coma, all the reflexes abolished, the Babinski sign positive, and all the signs of severe pressure on the brain for several days. The patient collapsed after the lumbar puncture, and injections of camphor were necessary at first, but she then rapidly recovered and has been in good health for over three years since. In another case a man of 58 has had six recurring attacks of serous meningitis in the course of the last year; rachicentesis gave great relief, releasing a clear and sterile fluid under high pressure each time. Lumbar puncture with suppurative and infectious serofibrinous meningitis is less promising but even then the results are better than with any other measure known to date. In two cases of severe influenzal meningitis with bacilli in the fluid and polynucleosis, the intense headache and pains in the back of the neck subsided entirely after the lumbar puncture and the patients rapidly recovered. These cases when compared with the tedious convalescence and paralysis and atrophy observed in influenzal patients not treated by lumbar puncture testify eloquently, he remarks, to the value of this procedure. He has also witnessed similar good effects in a case of streptococcus meningitis following erysipelas of the head. Meningitis originating in the ear does not respond so well to lumbar puncture, but it is one of the most valued measures in treating epidemic meningitis. Curschmann does not approve of injecting a disinfectant into the spinal canal, although a very weak saline or boric acid solution might occasionally have a favorable effect. Sir Victor Horsley's intradural injection of mercuric bichlorid solution in progressive paralysis and cerebrospinal syphilis is looked on askance by German neurologists. Lumbar puncture is useful in differentiation of tuberculous meningitis but is of little avail in treatment, although the disease in some cases has a tendency to spontaneous remissions. He reviews the various other affections in which rachicentesis has proved useful, and in conclusion urges the general practitioner to familiarize himself with the technic until it becomes as much of a routine procedure as puncture of the pleural or abdominal cavity.

102. **Syphilis of the Liver.**—In the case reported the patient was a woman of 31, apparently healthy, until she began in 1906 to have pains in the gall-bladder region, gradually growing more severe and sometimes accompanied with vomiting. By 1908 the attacks of pain recurred every day and there was persisting jaundice. The gall-bladder was opened and some gall-stones removed, but persistence of the pains led to cholecystectomy in January, 1910. The continuance of trouble suggested cancer of the liver with metastasis, but a tentative course of potassium iodid was commenced in February and the assumption of syphilis was confirmed by development of a gumma on the leg. An injection of salvarsan was given in September but the progress of the tertiary syphilis did not seem to be arrested and the patient succumbed a month later. Necropsy revealed gummatous cirrhosis of the liver. The amenorrhea might have earlier suggested a syphilitic affection, as also the shifting symptomatic picture, the partial improvement under potassium iodid, the fever as indicating absorption of the products of the gummatous tissues—the breaking down of the gummata inducing recurring attacks of chills, high fever, increase in the jaundice and acholia, the terminal attack being accompanied by progressive peritonitis and heart weakness. The patient had been under hospital care at intervals since 1908, but syphilis does not seem to have been suspected until early in 1910, and death followed before the end of the year.

103. **Successful Resection of Sarcoma of the Stomach.**—Hesse's patient was a woman of 41 who had had no appetite for years and showed signs of chlorosis and neurasthenia when she applied for relief from spasmodic pains in the region of the cardia, coming on from half an hour to an hour after eating and also fasting. Nothing was found to explain the pains and they subsided after gastric lavage for a time but returned during a pregnancy not long after and became more intense after delivery, radiating to the back and accompanied by vomiting after nearly every meal. A new examination a year after the first, revealed a compact, knobby tumor near the umbilicus, evidently not obstructing the pylorus, and it proved to be a fibrosarcoma in the anterior wall of the stomach, as large as a fist. After resection of two-thirds of the stomach all trouble was at an end, and the patient is in good condition to date, seven and a half years later, working eleven hours a day in a laundry.

105. **Measles and Bronchopneumonia.**—Baginsky remarks in the course of his general lecture that 7,612 persons had died from measles at Berlin in the twenty years before 1906, a mortality of about 5 per cent., and certain epidemics have a far higher mortality. He urges constant oversight of the ears with the speculum as the only means to detect ear complications in their incipiency; local disinfection seldom does much good in measles otitis until after perforation when suitable measures usually lead to a rapid cure. In case high fever or symptoms of meningitis accompany the otitis, the membrane should be incised without delay. When diphtheria accompanies measles each disease should be managed as if isolated. The special danger of this association is that the diphtheria is generally not recognized until far advanced. When diphtheria bacilli are found in the secretions, antitoxin should be given at once without waiting for symptoms. In conclusion he warns that children who have recently passed through measles are exceptionally susceptible to tuberculosis and hence should be guarded with special care against this infection.

106. **Local Treatment of Chronic Cough.**—Wolfram treats both acute and chronic tracheal and bronchial catarrh, and the cough with it, by direct injection into the trachea of

a warm disinfecting and astringent solution. He inserts Fränkel's laryngeal syringe with the aid of the laryngoscope and has been amazed at the tolerance of the trachea and bronchi. Insufflation of a powder is liable to induce spasmodic contraction of the larynx; but he has never observed this with the intratracheal injections. He injects two or three syringefuls, using weak boric acid, tannic acid, silver nitrate or other disinfectant solutions, and has found this by far the most effectual treatment for low-seated cough.

Wiener klinische Wochenschrift, Vienna

June 22, XXIV, No. 25, pp. 891-926

107 *Indirect Palpation of Liver and Stomach. (Das Beklopfen der Leber und des Magens und der Vibrationsdruck.) W. Jaworski.
108 The Secretion of the Prostate. (Ueber Prostatasekretion.) R. Fischel and K. Kreibich.
109 Advantages of Expectant Treatment of Retained Scraps of Fetal Membranes. (Zur Behandlung retinierter Eihautreste.) M. Steinsberg.
110 Recommendation of Moving Pictures to Teach Management of Electric Accidents. (Kinematographie im Dienste der Elektropathologie.) S. Jellinek.
111 Mechanism of Pulmonary Emphysema. (Zur Mechanik der Lungenblähung.) M. Sihle.

107. **Indirect Palpation of Liver and Stomach.**—Jaworski has found that striking the skin with the ulnar side of the hand in the interspaces parallel to the ribs is liable to cause pain in a deep-seated organ below if it is inflamed, even when there is nothing otherwise to suggest tenderness in the organ. Finger-finger percussion is also liable to elicit this internal pain. In a number of dubious cases the results of this indirect palpation first cleared up the diagnosis of cholelithiasis by confirming or excluding the presence of inflammation. Differentiation by this means has done valuable service in a number of cases suggesting both cholelithiasis and round ulcer, one or the other being excluded by the localization of the pain deep below the surface when this tapping or percussion was applied. The pains with downward displacement of the viscera also frequently simulate gall-stone colic or vice versa, and here the tapping pain is of decisive importance. Positive findings indicate active local irritation and consequently they may be transient, and gall-stones may be present without active inflammation. Tapping in this way is unable to differentiate trouble in the right kidney from gall-stone disturbances, but the diagnosis is generally cleared up when the percussion is applied from the rear. When there is doubt whether the pain is purely nervous, he applies vibration to the percussing hand, inducing a kind of vibration massage, which is liable to have a beneficial effect in purely nervous troubles, while in a case of actual ulcer or gall-stone mischief, the pain is aggravated by the vibrations. Jaworski relates the details of a number of typical cases to illustrate the various points he emphasizes.

Zeitschrift für Kinderheilkunde, Berlin

II, Nos. 2-4, pp. 123-346. Last indexed July 1, p. 56

112 *Attenuation of Scarlet Fever by Prophylactic Serotherapy. (Abschwächung des Scharlachs durch prophylaktische Seruminjektionen.) E. Benjamin and O. Witzinger.
113 Hydrocephalus in Infants After Hemorrhage in Dura. W. Fischer.
114 Roentgen-Ray Stomach Findings in Infants and Young Children. (Ergebnisse von Magenuntersuchungen mittels Röntgenstrahlen im Säuglings- und späteren Kindesalter.) H. Flesch and I. Peteri.
115 Anthracosis of the Lungs Result of Inhalation. L. Findlay.
116 Comparative Development of Nurslings in Same Family. (Ueber schlechte Entwicklung von Geschwistern während der Stillung.) G. Tugendreich.
117 Obese Children and the Exudative Diathesis. (Adipositas und exudative Diathese.) H. Pisel.

No. 5, pp. 347-436

118 Physical Properties of Infants' Blood. II. (Der osmotische Druck des Blutes des Säuglings.) B. Salge.
119 Clinical and Metabolic Research on Action of Sodium, Potassium and Calcium Salts on Infants. (Wirkung verschiedener Salze beim Säuglinge.) L. F. Meyer and S. Cohn.
120 Chemistry of Infant's Stomach. (Zum Chemismus des Säuglingsmagens.) H. Davidsohn.
121 Central Origin of Salt Fever in Infants and Older Children. (Zum Kochsalzfieber.) S. Cobliner.

112. **Favorable Effect on Scarlet Fever of Prophylactic Serotherapy.**—The long article by Benjamin and Witzinger relates their experiences with scarlet fever developing in children who had been given one or more injections of diphtheria antitoxin on entering a contagious disease ward—a total of 138 cases of scarlet fever following diphtheria, measles or varicella, in the course of fifteen years in two cities. That the serotherapy had an attenuating influence on the scarlet fever they think is beyond question. Among the other data cited to sustain this view is that the fever lasted only one day in 76.2 per cent. of the cases, two days in 4.8 per cent. and over three days in 19 per cent. in the serum-treated cases after uncomplicated diphtheria, while in the control, untreated cases of primary scarlet fever, these figures were respectively 8.5, 16.4 and 75 per cent. Still more conclusive testimony is afforded by the exceptionally mild course of the scarlet fever in a child given a prophylactic injection of antitoxin at home after a brother or sister had developed scarlet fever. Only one child in each of the seventy families was given the antitoxin, and in this child the disease developed in such a mild form that the diagnosis was only retrospectively positive when desquamation set in, while the other children developed a serious form of the disease. This phase of the research was hampered by the fact that in the prevailing epidemics there was contagion of other members of the family only in about 10 per cent. of the cases—an unusually small proportion. A number of questions bearing on the influence of antitoxin on scarlet fever are discussed and the facts emphasized that whereas in former years the mortality was extremely high in scarlet fever following diphtheria, under serotherapy the superposed scarlet fever did not prove a dangerous complication in the experiences related. In conclusion Benjamin and Witzinger suggest the advisability of a prophylactic injection of antitoxin as early as possible when the first case in the family is unusually severe and isolation is impracticable for any reason. Unfortunately, they add, the duration of the efficiency of the serum is limited and individually variable. It may be possible to prolong this period of efficiency by injection of serums of different origins. Their research did not include the question whether complications were rarer and milder than under other conditions. They append summaries of all their cases of *scarlatina mitigata*, the work filling 128 pages.

Zentralblatt für Chirurgie, Leipsic

June 22, XXXVIII, No. 25, pp. 857-888

122 *Cosmetic Technic for Treatment of Complicated Harelip. (Rückverlagerung des prominenten Zwischenkiefers bei komplizierten Hasenscharten ohne Einziehung der Nasenspitze.) A. Reich.

122. **Operation for Harelip.**—Reich gives an illustrated description of a method for correcting harelip without disfiguring the profile of the nose when the upper jaw protrudes. The main point in the technic is an osteotomy of the nasal septum, utilizing the part containing the groove at the median line of the upper lip to form a new septum, before proceeding to the usual osteotomy on the vomer.

Zentralblatt für Gynäkologie, Leipsic

June 24, XXXV, No. 25, pp. 889-920

123 *Tincture of Iodin Sterilization in Obstetrics. H. H. Schmid.
124 *Pregnancy with Double Uterus. R. Klages.

123. **Tincture of Iodin in Obstetrical Sterilization.**—Schmid states that the tincture of iodin method is used currently at the Prague maternity as a preliminary to all obstetric maneuvers, and that it has fulfilled all expectations. After the vulva and vicinity have been wiped dry the tincture of iodin is applied from the pubis to beyond the anus and past the tuberosities of the ischium on each side. If the women were not under the influence of an anesthetic they complained of smarting wherever the tincture touched the mucosa, but this smarting lasted less than a minute.

124. **Pregnancy in a Double Uterus.**—Klages opened the abdomen of a woman on suspicion of extra-uterine pregnancy causing trouble, and found that the four-months' fetus was in the right half of a double uterus with a single cervix. The woman had passed through four apparently normal pregnancies and deliveries previously. The existing pregnancy did not seem to be molested by the laparotomy, and is progressing to term, the operation having been followed by retrogression of the symptoms for which it had been done.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 15, XXXII, No. 72, pp. 763-770

125 *Pure Mitral Stenosis and Tuberculosis. V. Fusco.

June 18, No. 73, pp. 771-786

126 *Improved Technic for Determination of Spirochete of Syphilis. (Un semplice artifizio di tecnica applicabile all' ultramicroscopio per ricerche biologiche e terapeutiche sulla spirocheta pallida.) F. de Napoli.

125. **Pure Mitral Stenosis and Tuberculosis.**—Fusco regards pure mitral stenosis as the result of defective development, and thinks that tuberculosis should be incriminated. In a case described in detail the mitral stenosis developed at puberty in a girl with an inherited tuberculous taint and the phthisical habitus, although apparently healthy.

126. **Improved Technic for Examining Spirochetes.**—Napoli has found that work with the ultramicroscope is much facilitated by placing a few drops of salt solution or distilled water on the sides of the slide holding the specimen under examination. This starts osmotic currents which show up the specimens much better. By adding a chemical to the water it is possible to study its microbicidal action on the spirochetes in the microscopic field. He has thus obtained interesting results with salvarsan and other substances that act on these germs.

Riforma Medica, Naples

June 19, XXVII, No. 25; pp. 673-700

127 Multiple Tuberculous Joint and Tendon Lesions. (Sinovite articolare e tendinea tubercolare multipla.) A. d'Antona.

128 *Vertebral and Paravertebral Hepatic Dulness on the Left Side. (Su di un'aia di ottusita vertebrale e paravertebrale sinistra alla base del torace.) L. Ferrannini.

128. **Vertebral and Paravertebral Hepatic Dulness on the Left Side.**—Grocco here gives further details in regard to this sign, with nine illustrations showing the exact localization and the interpretation of the area of dulness. (His previous communication was summarized in THE JOURNAL, March 4, page 707.)

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

SCIENTIFIC MEMOIRS BY OFFICERS OF THE MEDICAL AND SANITARY DEPARTMENT OF THE GOVERNMENT OF INDIA. THE PREPARATION OF A SAFE AND EFFICIENT ANTIRABIC VACCINE. By Lieut.-Colonel Sir D. Semple, Kt., M.D., D.P.H., R.A.M.C. (Retired), Director, Central Research Institute, Kasauli. New Series, No. 43. Paper. Price, 9 pence. Pp. 32.

THE RELATION OF TETANUS TO THE HYPODERMIC OR INTRAMUSCULAR INJECTION OF QUININ. By Lieut.-Colonel Sir D. Semple, Kt., M.D., Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Department of the Government of India. New Series, No. 44. Paper. Price, 1 shilling 2 pence. Pp. 61.

LEHRBUCH DER AUGENHEILKUNDE IN DER FORM KLINISCHER BESPRECHUNGEN. Von Dr. Paul Römer, o.ö. Professor der Augenheilkunde, Direktor der Universitäts-Augenklinik zu Greifswald. Paper. Price, 22 marks. Pp. 1,028, with 209 illustrations. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

KURSUS DER NORMALEN HISTOLOGIE. Ein Leitfaden für den praktischen Unterricht in der Histologie und mikroskopischen Anatomie. Von Rudolf Krause, a.o. Professor der Anatomie an der Universität Berlin. Paper. Price, 22.50 marks. Pp. 441. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

HAUTKRANKHEITEN SEXUELLEN URSPRUNGS BEI FRAUEN. Von Dr. Oskar Scheuer, Facharzt für Haut- und Geschlechtskrankheiten in Wien. Paper. Price, 9.50 marks. Pp. 204. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

THE HUMAN ATMOSPHERE, OR THE AURA MADE VISIBLE BY THE AID OF CHEMICAL SCREENS. By Walter J. Kilner, B.A., M.B. Cantab. Cloth. Price, with screens, $9. Pp. 329, with 28 illustrations. New York: Rebman Company, 1911.

THE MEDICAL REGISTER. Printed and Published Under the Direction of the General Council of Medical Education and Registration of the United Kingdom. Cloth. Pp. 1,784. London: Spottiswoode & Co., Ltd., 1911.

TWENTY-FOURTH ANNUAL REPORT OF THE BOARD OF MANAGERS OF THE ST. LAWRENCE STATE HOSPITAL, OGDENSBURG, N. Y., to the State Commission in Lunacy for the Year Ending Sept. 30, 1910. Paper. Pp. 38.

THOUGHTS OF A CATHOLIC ANATOMIST. By Thomas Dwight, M.D., LL.D., Parkman Professor of Anatomy at Harvard. Cloth. Price, $1 net. Pp. 243. New York: Longmans, Green & Co., 1911.

ACTAS Y TRABAJOS DEL SEGUNDO CONGRESO MÉDICO NACIONAL, HABANA, Febrero 24-28, 1911. Leather. Pp. 504. Dr. Mario G. Lebredo.

TWENTY-FIRST BIENNIAL REPORT OF THE MANAGING OFFICER OF THE ELGIN STATE HOSPITAL AT ELGIN, ILL. July 1, 1910. Paper. Pp. 72.

SIXTH ANNUAL REPORT OF THE AMERICAN NATIONAL RED CROSS, Covering the Period from Jan. 1 to Dec. 1, 1910. Paper. Pp. 168.

STUDIES IN TYPHOID FEVER. By the Washington State Board of Health During 1909-1910. Pp. 110.

New Patents

Recent Patents of Interest to Physicians

976550. Surgical binder. Rebecca V. Coddington, Gallup, N. Mex.
976266. Fumigator. Joseph C. Kemball, Arden, Wash.
976812. Mouth speculum. John F. Koenler, West Hammond, Ill.
976665. Apparatus for impregnating liquids with coagulants. John W. Ledoux, Swarthmore, Pa.
976200. Vibratory apparatus for ear treatment. Eugene Méyer, New York.
976699. Mechanism for grinding or mixing emulsions. Wilhelm G. Schroder, Lubeck, Germany.
976307. Hydraulic invalid lifter. Thomas M. Smith, Baltimore.
976423. Massage machine. Edward E. Ziegler, Philadelphia.
977154. Window tent. John G. Allen, Peoria, Ill.
976993. Massage vibrator. Axel E. Ellis, Quincy, Mass.
976862. Medical eye cup. Jason S. Fox, Honolulu, H. T.
977383. Cord for surgical ligatures and other purposes. Paul H. J.-P. M. C. de Gery, Nantes, France.
977312. Fumigator. Otto Immermann, Halle-on-the-Saale, Germany.
977098. Truss. John W. Kayser, Madison, Wis.
976883. Combined abdominal supporter and catamenial sack. Rudolph H. Keagy and M. L., Canton, Ohio.
977029. Pasteurizer. William J. McKee, Detroit, Mich.
977243. Invalid lifting apparatus. Garrett White, Chapel Hill, Tenn.
977353. Disinfector and deodorizer. Joseph W. H. and E. R. Williams, Sharpsburg, Pa.
977583. Physician's tablet holder. Harber C. Beardsley, Lakewood, Ohio.
977952. Surgical syringe. Adolf Heilmann and B. Tauss, Leipsic, Germany.
978031. Massage machine. Arthur A. Kent, Philadelphia.
977635. Medicated article. Arthur B. Klein, Covington, Ky.
977825. Surgical instrument. George N. Murphy, Paducah, Ky.
977968. Siphon. Lonis Riebe, Summithill, Pa.
977842. Magnetic specimen holder for microscopes. Albert Sauveur, Cambridge, Mass.
977974. Artificial limb. William E. Showalter, Harrisonburg, Va.
977489. Speculum. Victor von Unruh, New York.
978534. Hand rubber. Morris Angert, New York.
978708. Surgical device for expanding collapsed lungs. John S. Dean, Wheatland, Iowa.
978142. Disinfecting compound. Wilhelm Dreyfns, New York.
978728. Apparatus for the administration of general anesthetics. Carroll H. Frink, Jacksonville, Fla.
978760. Surgical table. Solon M. Langworthy, Cedar Rapids, Iowa.
978313. Pump for medicating air. James A. Lee, Bellsville, Ohio.
978331. Litter carrier. Gustav A. Olson, Albert Lea, Minn.
978332. Litter carrier. Gnstav A. Olson, Albert Lea, Minn.
978200. Disinfecting lamp or candle. Walter L. Plnmb, Glen Ridge, N. J.
978488. Hypodermic syringe and cartridge therefor. Alfred Roesch, New York.
978540. Litter carrier. Fred and A. Strand, Dennison, Minn.
978794. Bandage. Greenleaf S. Van Gorder, Pike, N. Y.
979247. Oxidizing borneol to camphor. Geza Austerwell, Neuilly, near Paris, France.
978985. Syringe. Jesse R. Burdick and R. T. Fultion, Boulder, Colo.
979260. Invalid and like bed. Horace S. Collier, London, England
978988. Medicine dose dropper. Malcolm Cunningham, Savannah, Ga.
979386. Disinfector. Theodor Druzbach, Hoboken, N. J.
979147. Articulated mounting for bones of a body. Harrison H. Fryette, Chicago.
979005. Sanitary receptacle. Frank L. Hoffman, Denison, Iowa.
979329. Appliance for removing corns. Otto P. Muller, New York.
978940. Metallic bed pan. David Saks, New York.
979395. Pile remedy. Michael Straub, San Francisco.
979362. Apparatus for making extracts. Wilhelm Wiegand, Merseburg, Germany.
981628. Medical radiator for use in beds. Carlo Ferrari and C. Gallo, Turin, Italy.
982211 Sputum cup. Charles L. Knudsen, New York.
981256. X-ray apparatus. William S. Fullerton, St. Paul, Minn.
981090. Artificial foot. Harry W. Karn, Pittsburg, Pa.
981102. Electrolytic device for generating pure oxygen and hydrogen. Rene Moritz, Wasquehal, France.
981103. Apparatus for making sulfuric acid. Rene Moritz, Wasquehal, France.
980996. Device for generating and administering oxygen. David E. Parker, Niagara Falls, N. Y.
980756. Device for charging capsules. Domingo Brescia, Quito, Ecuador.
980896. Ophthalmometer and certain other sight-testing instruments. Egbert and C. S. Gowlland, Croydon, England.
980292. Food for diabetics. Eduard Lampe, Frankfort-on-the-Main, Germany.
980319. Take-up for flexible suspensories. John W. Milam, Frankfort, Ky.
980457. Artificial limb. Justin K. Toles, Stockton, Cal.
979416. Menthylated oil of wintergreen. Gustav Blieberger, New York.
979505. Surgical instrument. Henry Johnson, Woodford, Wis.
979959. Combined crutch and chair. Samuel J. Johnson, Fort Worth, Texas.

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SOME AMERICAN MEDICAL BOTANISTS *

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BALTIMORE

One of the first reuniting links between England and the Pilgrim Fathers was a floral one. Confronted at the outset with epidemics incidental to acclimatization and poor sanitation, the few doctors in America eagerly scanned the ponderous herbals they had brought over and searched the country in hopes of finding the well-known febrifuges and other remedies they had used in the old country. Ship's captains were given letters to friends asking for plants and seeds required, but these, too, received after interminable delays, had to become acclimatized. In searching for remedies many new and wonderful plants were discovered and sent as specimens or exchanges to the great European botanists, arousing their eager interest in the new country and a great desire to have such plants in the botanic gardens then flourishing.

Boerhaave at Leyden was in the habit of making large exchanges, and Dr. Fothergill, who sent us the anatomic pictures for the University of Pennsylvania, now in the museum of the Pennsylvania Hospital, had 4,000 plants in his botanical garden near London. Dr. John Mitchell, who came over to Virginia in 1700, sent plants to Linnæus and to Bartram, and in 1763 refers to the white double daffodil brought over by the first settlers. American oaks planted centuries ago still flourish in England, while wistaria and "Virginia creeper" still climb over the walls of hundreds of houses in foggy London. Sponsorial compliments abounded in floral godchildren such as the *Mitchella, Gardenia* and *Bigelowia,* which were as tenderly reared in Europe as were the *Boerhaavia, Meadia* and *Lettsomia* in America. There were anxious periods of waiting; for a voyage of seventy days or more wrought havoc with plants, insects and reptiles. Even war did not upset botanical sympathies and the published correspondence in times of warfare and Indian raid shows chiefly anxiety lest, a ship being captured by the enemy, seeds and plants should be thrown overboard. Michaux, the great botanist, speaks of the French Revolution (1789) merely as a hindrance to his gathering specimens from abroad. John Bartram, in 1763, laments that a government scheme of exploring Louisiana cannot be carried out because the scientists would be exposed to "the greatest savage cruelty of the gun, tomahawk and torture" by the Indians. He did venture once with a guide, but says, "An Indian met me and pulled off my hat in a great passion and chawed it all around to shew me how he would eat me if I came again."

Of the young British doctors who came over here, John Mitchell was the earliest. This botanist, the date of whose birth is uncertain, as there were several scholarly John Mitchells of that time, was born, educated and took his M.D. in England. He came to America about 1700 and lived in Virginia at Urbana on the Rappahannock. The climate and people must have pleased him for he stayed about forty-seven years, interested in everything scientific, especially in botany, making long excursions to gather plants. He wrote also on electricity, yellow fever and politics, and published a map of the British and French dominions in America which is said to "mark an era in the geography of North America." Like most doctors and scientists of that time, he kept his interests wide by corresponding with European confrères, especially with Linnæus, who named the partridge vine or checkerberry after him (*Mitchella repens*).

Mitchell returned to London about 1747 and became an F. R. S., the fruits of his literary solitude in America being given to the Royal Society in several addresses, among them one on "The Preparation and Use of Various Kinds of Potash," and one on "The Force of Electrical Cohesion." His biographers simply state that "he died in March, 1768." Where he was buried, no one knows and few even know that he is immortalized in the sweet, lowly little *Mitchella repens.*

Like Mitchell, John Clayton was born and educated in England and came over to America to join his father, the Governor-General of Virginia, about five years after Mitchell came here. He had, too, a similar compliment from Linnæus in having one of our most delicate, graceful, much-loved little flowers, the spring beauty, called after him *Claytonia virginica.*

Whether Clayton was a graduate physician or not, he practiced as one, but it is only as a botanist that any record of his work survives. He kept a noted botanical garden and published a work of two volumes on botany, and made a collection of dried plants, a "Hortus Siccus," of folio size, with marginal notes and directions to the engraver in preparing the plates for the proposed work. These were left in the charge of the county clerk of New Kent and were unfortunately burned, together with the county records at the beginning of the Revolution.

Numerous articles descriptive of the plants he discovered were published in the *Philosophical Transactions of the Royal Society of London.* Several of these treated of medicinal plants, others of the species of tobacco and their cultivation. His chief work was his "Flora Virginica," editions of which were issued from the press at Leyden in 1739, 1743 and 1782, which is referred to by all writers on North American plants.

When over 70 he made a botanical exploring tour of Orange County, Virginia, then largely a wilderness.

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* The substance of an Address before the Medical-Historical Society of Chicago, 1910. The article is here somewhat abbreviated, for reasons of space, but it appears in full in the author's reprints.

This old naturalist was a pious member of the Church of England. It was impossible, he declared, that a botanist could be an atheist, seeing, as he did, the infinite wisdom and skill displayed in the smallest plant. A scientist of world-wide reputation and a citizen of sterling integrity, after a long and useful life, he passed away Dec. 15, 1773.

The third link in the botanic chain was another young doctor from Britain, "a truly great philosopher and a very great and ingenious botanist," who came to be lieutenant-governor of New York. He was the son of the Rev. Alexander Colden, minister in Dunse, Scotland, and was born Feb. 17, 1688; he was educated at and took his M.D. from Edinburgh University. Attracted by the fame of William Penn's colony, he came over to America and practiced in Pennsylvania for seven years, and then returned to England.

From London he made a short visit to Scotland, long enough, however, to get him a wife, Miss Christie; then he returned to Pennsylvania and became a public character, holding in succession the offices of surveyor-general, master in chancery and lieutenant-governor.

The Linnæan system was introduced by Colden into America only a few months after its publication in Europe. To the author himself Colden sent a description of some three or four hundred American plants and Linnæus gracefully acknowledged the gift by publishing the record in his "Acta Upsaliensa," and by giving the name *Coldenia* to a genus of boraginaceous herbs of the tribe *Ehretieæ,* though a prettier version is that Miss Jane Colden sent him a specimen and he named it after her, a compliment he was fond of paying ladies.

Colden made up his mind in 1775 that the stamped paper made necessary by Grenville's Stamp Act should be used, but the official distributor of stamps refused to receive it, so Colden, sympathizing with the English, went off to Fort George with a garrison of marines. When the New York populace protested, he ordered the marines to fire. They would not, and the people seized Colden's carriages and burnt them along with effigies of Colden and the devil. The following year brought the Declaration of Independence, but Colden had already retired to a large grant of land called Coldenham, near Newburgh, where he wholly gave himself to science, especially to botany and mathematics. Here he wrote, in 1774, his "Plantæ Coldenhamæ," the earliest treatise on the botany of New York. His home was a rendezvous for all learned men; his greatest pleasure was to receive them there. On Sept. 28, 1776, he died, leaving a son distinguished as a mathematician and a philosopher.

Two of our greatest pioneer botanists, John Bartram and Humphrey Marshall, of North England stock, were not physicians. They had settled in Pennsylvania and were most enthusiastic, genial friends with all the European botanists and intimate with our own men, Colden among them.

It is Humphrey Marshall's son, Moses, a physician, who next claims our attention. The fame of this expert medical botanist has been somewhat eclipsed by that of his uncle Humphrey, of whom Darlington left studious and loving record in his "Memorials of Bartram and Marshall," but Moses made several long exploring journeys through the wilds of the West and rendered valuable assistance to his uncle in preparing the "Arbustum Americanum."

He was the son, as I have said, of James and Sarah Marshall, and the grandson of Abram Marshall, who came to Delaware in 1697 from Gratton, Derbyshire, England. He studied medicine under Dr. Nicholas Way of Wilmington, but never held a medical degree, none being required at that time for practicing in Pennsylvania; but, as it was customary to attend a course of lectures, he went to those by Shippen and Rush in Philadelphia.

Then followed a year or two employed in desultory medical work, including inoculations round about Londongrove, Pennsylvania, and in keeping an apothecary's shop "which came to nothing and less." The truth was that he had not found his true vocation—botanizing. His uncle writes to Franklin in 1785, and Moses himself to Dr. Lettsom in London, suggesting a government-supported exploration of the Western States. In 1786, Sir Joseph Banks wrote to Humphrey Marshall asking for one hundredweight of fresh ginseng roots. Moses spent twenty days in the Alleghanies getting these and charged Lettsom $1.25 a pound. Lettsom and he seem to have carried on a brisk correspondence, especially concerning the *Talinum teretifolium,* hitherto undescribed by botanists. He sends Lettsom three tortoises and some plants, one of which, a polygala, is thus mentioned in a letter.

> "Should this prove to be a new genus, I have designed the appellation of *Lettsomia,* with this provision, that it might not be unpleasing to thee, and that in the interim I should not be able to discover a plant more exalted, conspicuous and worthy."

He also asks for "a surgeon's pouch of instruments" to be sent him, and Lettsom hastens to acknowledge the compliment of a floral godchild and encloses 10 pounds in case Moses should be out of pocket for seeds asked for. A plant was also named *Marshallia* after Moses, which many authorities have claimed for his uncle. Two letters of 1792 have recently come to light which settle the question.

Marshall's letters speak of many long trips which meant fatigue, danger and expense. His appointment as justice of the peace curtailed excursions, but he continued exchanging specimens and seeds with European confrères. About 1797 he married Alice Pennock and had six children. After his uncle's death, there is not much told of his scientific work, and he died Oct. 13, 1813, leaving behind a friend whom I now introduce:

Alexander Garden was the greatest friend of Marshall Senior. He had followed in the wake of many English doctors and scientists eager to drink in all that London and Edinburgh and European doctors could teach them.

Travel fever had laid strong hold in 1750 on this Scotch lad in Aberdeen, who was destined to be a botanist in America. Born about 1728, a son of the Rev. Alexander Garden of Aberdeen, he not only came to the United States but stayed thirty years, yet not one in a thousand, either here or in England, knows after whom the genus *Gardenia* was named.

His medical education was obtained with the celebrated Dr. John Gregory in Edinburgh and at Aberdeen University. He arrived in South Carolina about 1750 and settled down to practice with a Dr. Rose in Prince William parish. At once he started on his favorite study of botany, but ill health compelled a voyage northward and he was offered, but declined, a professorship in the New York Medical College. Returning to Charleston, he began a successful practice. An odd little glimpse of his life at this time is given in a letter to John Bartram, the botanist:

> Think that I am here, confined to the sandy streets of Charleston, where the ox, where the ass, and where men as

stupid as either fill up the vacant space while *you* range the green fields of Florida.

The study of zoölogy, especially fishes and reptiles, filled up the leisure left from a large practice and botanizing, and he kept up an active correspondence also with Linnæus. It was John Ellis, the botanist, who named the beautiful Cape jessamine *Gardenia* in his honor.

About 1772 Garden was made a Fellow of the Royal Society of London and eventually its vice-president. Eager to extend his knowledge, in 1755 he accompanied James Glen, governor of South Carolina, when the latter penetrated the Indian country and formed a treaty with the Cherokees.

He introduced into medical use the *Spigelia marilandica* or Maryland pinkroot, as a vermifuge. Anyone who would like to know more of Garden's travels and pretty, reverent letters about Nature should get the "Linnæan Correspondence," edited by Sir J. E. Smith, London, 1821.

Tuberculosis, hitherto successfully fought, began to tell on Garden's health in 1783, although it was hoped, in vain, that "revisiting the haunts of his youth and the pleasing recollections of juvenile scenes would have salutary influence in arresting the disease. The good time every learned man tried to give him as guest during his progress homeward and while traveling in Europe exhausted his strength. He stayed with his wife and two daughters in Cecil Street, off the Strand, London, a narrow street up which to-day as then creep fog and mists from the river; a bad exchange for Carolina sunshine. There, patiently realizing that nothing could be done, he put on paper all he could of his Carolina work, enjoyed the men who flocked to him and got ready for his last long journey. He died peacefully in London, 1792.

Meanwhile, botanists were increasing in number in the States, in Pennsylvania especially, which gave us our next worthy, Adam Kuhn.

Kuhn was born at Germantown, near Philadelphia, Nov. 17, 1741. His grandfather, John Christopher Kuhn, and his father, Dr. Adam Simon Kuhn, came from Heilbronn, Swabia, to Philadelphia in September, 1733. Adam first studied medicine with his father, then sailed for Europe in 1761 and arrived at Upsal by way of London.

Linnæus, following a pretty fancy, named an American plant Kuhnia (*Kuhnia eupatorioides*), after his pupil, and when the latter returned to Philadelphia wrote very intimate and graceful letters to him in Latin. One has this injunction in it: "I pray and entreat send me some seeds and plants, among which I ardently desire the seeds of the *Kuhnia*, which perished in our garden."

Kuhn went to London in 1764 and studied there awhile, and in 1767 was in Edinburgh, where he took his M.D. the same year. His thesis on "De Lavatione Frigida," or the use of cold bathing in fevers, was dedicated to his friend Linnæus. He visited France, Holland and Germany, but whether before or after Edinburgh is not clear. In 1768, after his return to Philadelphia, he became professor of materia medica and botany in the University of Philadelphia, being the first professor of the latter science in America.

He did not marry until he was 39; "he had two sons, respectable characters," by his wife, Elizabeth, daughter of Isaac Hartman of St. Croix.

When 73 he "grieved" his patients by giving up practice, and in June, 1817, began to feel conscious that life was ending. After a short confinement of three weeks to the house, but suffering no pain, Adam Kuhn passed away on July 5, 1817, in full serenity of mind and heart, leaving behind him a friend and fellow-worker in natural science named Caspar Wistar.

Wistaria, the beautiful flowering vine, is known, of course, to all: "Wistar parties" to most of us, so it comes to pass that the memory of one of our great surgeons is conserved in two emblems of festivity rather than, as he perhaps imagined, in his original observation and "Description of the Posterior Portion of the Ethmoid Bone with the Triangular Bones Attached." (Thacher.)

His grandfather, Caspar Wistar, a German, came to Philadelphia in 1717, and Dr. Wistar was born there in 1761. He had the advantage as a medical student of sitting under Morgan, Shippen, Rush and Kuhn, after which, like most men of his day, he went to Europe, taking his M.D. at Edinburgh University. His inaugural thesis, "De Animo Demisso," was dedicated to Franklin and Cullen. He studied under Cullen and, rare honor for a youthful stranger, was twice president of the Royal Medical Society of Edinburgh.

On his return to Philadelphia after three years, he was associated with Dr. John Jones, author of the first work on surgery which appeared in America, who was delighted with Wistar's surgical skill. Wistar became professor of chemistry and physiology in the College of Philadelphia, and held other appointments, among them the adjunct professorship of anatomy and surgery with William Shippen. He wrote "A System of Anatomy" for his students, and spared no pains in securing models for his class. His memory has been perpetuated in the Wistar Institute of Anatomy and Biology in West Philadelphia. The work of the Historical and Literary Committee of the American Philosophical Society aroused his keenest interest and he did much to stimulate the society to collect the fleeting materials of American history. He kept up a delightful correspondence with Correa da Serra, the botanist who named the wistaria and was a frequent guest at Wistar's house. Wistar also kept in touch with Humboldt, Soemmering, Camper, Michaux, Marshall and various English scientists.

His biographers tell us that soon after his return "he was united in matrimony" with Isabella Marshall, but she died childless. Eight years later he married Elizabeth Mifflin, who made him happy with two sons and a daughter. He was a Quaker and a religious man, and brought up his children to revere God's word, of which he carried a cherished copy given him by Dr. Charles Stuart of Edinburg. He often took his children out in the carriage with him to talk of the teachings of the Bible.

Troubled for many years with an organic affection of the heart, he died comparatively young, on Jan. 18, 1818, working almost to the last.

Among Wistar's college friends was the handsome Benjamin Barton, destined to become one of America's foremost botanists. He was the son of the Rev. Thomas Barton, an Episcopal minister, and was born Feb. 10, 1776, in Lancaster, Pa. He was but 8 when his mother died and but 14 when left an orphan. He went to live with an elder brother and studied at the College of Philadelphia, beginning to study medicine under Dr. William Shippen, Jr. While still Shippen's pupil, young Barton journeyed with his maternal uncle, David Rittenhouse, and the other commissioners appointed to survey the western boundary of Pennsylvania, and thus had his attention directed to the study of the Indian tribes, a subject which possessed the greatest interest for him throughout life. In 1786, he went abroad to pursue his medical and scientific studies, first in Edinburgh and London, afterward going to Göttingen, where he received his medical degree.

His reasons for not taking the degree of M.D. to which he was entitled by his studies at Edinburgh University were set forth in a letter to his brother, written in London, 1789, in which he states that he preferred getting his diploma from Göttingen because he was dissatisfied with the discourteous manner in which two of the professors at the University of Edinburgh treated him.

While living in London, he published a tract entitled "Observations on Some Parts of Natural History, to Which is Prefixed an Account of Some Considerable Vestiges of an Ancient Date Which Have Been Discovered in Different Parts of North America." This little book he afterwards characterized as a "premature work" and regretted its many deficiencies.

Dr. Barton returned to Philadelphia and practiced medicine in 1789, in the same year being appointed professor of natural history and botany in the College of Philadelphia, a position he held after the union of the College of Philadelphia with the University of the State of Pennsylvania in 1791.

On the resignation of Dr. Griffith from the chair of materia medica in Pennsylvania, Dr. Barton was appointed. When Benjamin Rush died, Barton was appointed professor of the theory and practice of medicine, and continued to hold also the chair of natural history.

His published works include "The Elements of Zoölogy and Botany," or "Outlines of the Natural History of Vegetables"; "Collections for an Essay toward the Materia Medica of the United States"; "Fragments of the Natural History of Pennsylvania"; "Essay on the Fascinating Power Ascribed to Serpents, etc."; "Views of the Origin of the Tribes and Nations of America."

In 1805 he started publishing the "Medical and Physical Journal" and also wrote many short articles on topics connected with medicine and history and archeology, much of his work appearing in the *Transactions of the American Philosophical Society*.

During his early years he was greatly afflicted with hemorrhage and gout. He had given only two courses as the successor of Rush when he had to seek relief by a sea voyage. He sailed to France in 1815, returning disheartened by way of England. At New York he was afflicted with hydrothorax. Finally, reaching home very ill, he became rapidly worse and was found dead in bed on the morning of Dec. 19, 1815. Feverishly anxious to work, three days before his death he wrote a paper concerning a genus of plants named in his honor by Nuttall, a young English botanist whom Barton had financed for a scientific tour in the southern states. The plants were of the class *Icosandria monogynia* (Linnæan system) found in hilly districts between the Platte and the Andes and named *Bartonia polypetala* and *Bartonia superba*.

William Darlington was another of the famous group of scientists exploring, writing and keeping up a keen scientific correspondence with each other.

The seeming hardship of having to work on a farm and lead an outdoor life may have stimulated William Darlington's botanical interests. His great grandfather, Abraham Darlington, had come over from England to Pennsylvania when a young man and settled near Chester. William had simply a common-school education and, hungry for more, persuaded his father to let him study medicine with Dr. John Vaughan of Wilmington, Delaware. He took also private French lessons, studied hard at Latin, Spanish and German, and received his M.D. from the University of Pennsylvania in 1804.

A voyage to India as ship's surgeon gave him leisure for study and reflection. The following year he settled down to practice in West Chester after marrying Catherine, daughter of General John Lacey of New Jersey.

In the midst of much civic business, he finds time to botanize, also to found the Chester County Cabinet of Natural Science and to publish his first botanical work: "Florula Cestrica, or Catalogue of Plants Growing Round West Chester, Pennsylvania."

That which pleased him most was the perpetuation of his name in flower form. Professor de Candolle of Geneva named a genus after him, but it did not prove to be sufficiently distinct, and another friend, Professor Torrey of New York, dedicated to him a finer plant of the order *Saraceniaceæ* (pitcher-plants), which grow in California. Darlington certainly deserved the honor, for a more generous man never lived. This was shown in his gathering together all the letters and memoranda of Dr. William Baldwin, a zealous botanist who died still young while on a botanizing expedition up the Missouri. Darlington called the book "Reliquiæ Baldwinianæ" (1843), and six years later made all botanists his debtors by his loving work shown in "The Memorials of John Bartram and Humphrey Marshall" (1849), the careful footnotes alone constituting valuable references to the botanical lore of that period.

The loss of a soldier son from fever off the African coast and the death of his wife in 1845-6 broke his health, and in the spring of 1862 Darlington had a slight attack of paralysis, followed in 1863 by another, from which he died on Thursday, April 23, 1863, nearly 81 years old and with mind still unimpaired.

Massachusetts has the honor of giving us a great educational reformer, one of America's most learned botanists, Jacob Bigelow, closely associated with the leading scientists of the world. He was of New England ancestry, his people coming over about 1640 and settling in Watertown, Mass. Jacob was the son of Jacob Bigelow, a Congregational minister who married a daughter of Gershom Flagg.

Jacob the younger was born Feb. 27, 1787, and his childhood was passed in the country at farm work, with scanty schooling. Painfully his father managed to send him to Harvard, where he graduated in 1806, and in 1808 attended the medical lectures there as a pupil under Dr. John Gorham and taught in the Boston Latin School. Then he went to Philadelphia to attend the lectures of Rush, Wistar, Barton and Coxe and to receive the doctor's degree. To bring himself early before the professional public he took to writing and secured the Boylston prize four successive years. So promising seemed his career that the elder James Jackson chose him as associate in practice. He was a born artist, craftsman and inventor. When occasion came for illustrating his "Medical Botany" with colored engravings and before modern photography and lithography were invented he devised a means of illustration which proved both practical and beautiful and furnished sixty plates and 6,000 colored engravings for this monumental and now rare work.

Botany was his great hobby and his "Florula Bostoniensis" was a simple, charming book, well known to our grandfathers. In 1815 he was appointed lecturer on materia medica and botany, and two years later when he was 30 his title was changed to professor. Then, too, it is pleasant to believe that Count Rumford left behind him in his native state a young disciple as first Rumford professor who fulfilled all his desires.

But the work which brought Bigelow into closest contact with European savants and gave him honor in his own country was the elaborate series published under the title "American Medical Botany," which was noted for its finish and beauty and avoidance of technical terms. In 1820, when 33, he was associated with Spaulding, Hewson, Ives and Butts in editing the United States Pharmacopeia. He followed up this labor by adding Bigelow's Sequel, a perspicuous commentary on current remedies.

Three years previously he had married Mary, daughter of Colonel William Scollay of Boston, and they had five children, one son, Harry, becoming a doctor.

Bigelow was still active in his declining years and became a most distinguished and approachable old-man oracle. He was blind nearly five years, and bedridden, but with mind undimmed at 92. "His religion, not for speech, discussion or profession, was that of a serious man living very near the realities of life!" Unforgotten to the end, though long inactive, he died January, 1879, and was buried in the beautiful Mount Auburn Cemetery which he himself had originated (Mumford).

Among the pupils who loved Caspar Wistar, and was ever a welcome guest at his house, was a Kentucky lad named Charles Short, son of Peyton Short, born in Surrey County, Virginia, in 1794.

I can touch now only on the botanical side of Short. He graduated from the University of Pennsylvania when 21 with a thesis on the "Medical Virtues of Juniperus Sabina," and turned his attention that same year to wooing and wedding his stepsister, Jane Churchill. The young couple traveled home to Kentucky in a spring cart, Short botanizing on the way, and the journey, whether owing to Jane or to the specimens, is described as "replete with interest." So also was the scene of his first settled practice, Hopkinsville, then a wild, romantic district where he gathered patients and plants, soon getting into touch with scientific men everywhere by exchanging specimens. This gave him reputation, and led eventually to an invitation, which he accepted, to become professor of natural medicine and medical botany in Transylvania University. Benjamin W. Dudley and Daniel Drake were his colleagues. Short's heart was thoroughly in his work and he stayed there until internal dissensions in 1837 made Short and Drake accept the same professorships in the University of Louisville, whence, in 1849, Short went away to Hayfield, his country home, five miles from the city, and for the last fourteen years of his life cultivated plants and friendships, wrote and read, took long journeys and made the finest herbarium in the country.

Among his most prominent writings were "Notices of Western Botany and Conchology," a paper published jointly by himself and Mr. H. Halbert Eaton (1830); "Instructions for the Gathering and Preservation of Plants in Herbaria"; a "Catalogue of the Plants of Kentucky";. "The Bibliographia Botanica" (1836); "Sketch of the Progress of Botany in Illinois" (1845).

The name of Dr. Short is commemorated by a number of plants: the genus *Shortia, Vesicaria shortii, Phaca shortiana, Solidago shortii and Carex shortiana.*

Books, too, were a huge delight to Dr. Short. He gathered a fine library, about 3,000 books, one-fourth botanical, but left wall space for engravings of his literary heroes, Walter Scott and Fielding. Some—most, perhaps—of his books came from London. We hear of his rebinding with his own hands those which required it, which marks him as a real book-lover.

One grieves a little to learn that a curious debility and ennui came over him when he was 67; that the old interests failed to attract, and two years later pneumonia, following on typhoid, ended his life on March 7, 1863.

Among the other doctors—some not botanists—who have had plants named after them, are notably: Goodyear, William Baldwin, David Townsend, Douglas Houghton, William Douglass, Benjamin Franklin, James McBride, Peter Kalm, Nathaniel Chapman, Asa Gray, John Torrey, George Engelmann and Joseph Le Coute. Some of these I propose to include in a volume on "American Medical Botanists" I have in hand, and I shall be grateful for any names additional to my list or interesting facts concerning our botanical confrères.

1418 Eutaw Place.

END-RESULTS IN GALL-BLADDER SURGERY *

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Notwithstanding the enormous literature on the subject of gall-bladder surgery which has accumulated during recent years, there have, as yet, been only a few papers published which deal in a comprehensive manner with the final results obtained by operation.

All who have had any experience with gall-bladder surgery know that, on the whole, the end-results have been very satisfactory, but that they can be improved in the future admits of no doubt. Such improvement must come largely through careful study of the successes and failures of the past, and the investigation on which this paper is based was undertaken with the idea, that the knowledge so gained might enable us in the future to eliminate a certain proportion of the unsatisfactory late results.

This study has consisted of a review of the literature on the subject, together with a critical analysis of the end-results obtained in 350 operative cases.

For the material which forms the chief basis of this paper, I am indebted to my former chief, Dr. A. J. Ochsner, of Chicago, who has kindly placed at my disposal the large number of cases of gall-bladder disease in which he has operated at the Augustana Hospital. During the past year my assistant, Dr. Mason, and I have corresponded with 290 of Dr. Ochsner's patients and have been able to ascertain definitely the end-results of the operative treatment in this number.

In addition to Dr. Ochsner's, I have included sixty cases in which my associate, Dr. McMullen, and I have operated at the Ellis and Physicians' Hospitals, Schenectady, N. Y., making in all a total of 350 cases.

In the literature, I have been able to collect only the papers of Taite,[1] Kehr,[2] McWilliams[3] and Munroe,[4] which deal in anything like a comprehensive manner with the final results obtained by operation. A summary of the facts given by these writers is shown in Table 1, from which it is seen that the cures have ranged from 65 to 98 per cent., and that Kehr, who reports the largest series of cases, has had from 84 to 90 per cent. of cures.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Taite, L.: Edinburgh Med. Jour., 1889, xxxv, 305.
2. Kehr, H.. München. med. Wchnschr., 1904, li, 602; 1908, clv, 2073.
3. McWilliams, C. A.: New York Med. Jour., 1906, lxxxiii, 1109.
4. Munroe, J. C.: Boston Med. and Surg. Jour., 1909, clx, 359.

In attempting to estimate the end-results obtained in gall-bladder patients, one encounters varying degrees of improvement in individual cases, so that it is often difficult to say whether a given patient has been really cured or not. In this study the estimates given by the patients themselves have been taken almost at their face value. Only those patients who, in answer to our questions, have stated that they were entirely cured of the trouble from which relief was sought, have been classified as cured. Those who really consider themselves as cured, but who have qualified the statement by mentioning any minor discomforts, which may have resulted either from the operation or from the former disease, have been classified as satisfactorily improved, the patients themselves being perfectly satisfied with the results of the operation. Patients still complaining of any symptoms referable to the biliary system, even though they consider themselves greatly benefited by the operation, have been classified as improved. All patients in whom the benefits derived from the operation have not been unquestionable, have been classified as no better.

For purpose of comparison, gall-bladder cases coming to operation may be conveniently divided into four chief groups as follows:

1. True gall-stone cases with the stones in the gall-bladder or ducts or both.
2. Cases of cholecystitis with symptoms of gall-bladder or duct disease and presenting at operation more or less definite pathologic changes in the gall-bladder or ducts, without the presence of stones.
3. Cases in which the symptoms are due to the traction on the gall-bladder or ducts by adhesions, the gall-bladder being otherwise apparently normal.
4. Malignant tumors involving the gall-bladder or ducts.

GALL-STONE CASES

Of the 350 patients whose cases are included in this analysis, gall-stones were found in 245, and of these, 194, or 79 per cent., report that they were entirely cured by the operation, and an additional fifteen, or 6 per cent., consider themselves as cured, although still suffering from minor discomforts. This gives 85 per cent. in whom the results are all that could reasonably be desired.

Twenty-one, or 9 per cent., are classified as improved, and fifteen, or 6 per cent., are doubtfully improved or no better than before operation. These gall-stone cases may be further classified into groups according to the position of the stones and the complicating lesions present at the time of operation, as shown in Table 2.

1. *Gall-Stones Confined to the Gall-Bladder Without Noteworthy Complicating Lesions in the Ducts or Other Organs.*—In this group there are 107 patients, of whom ninety-six, or 90 per cent., are completely cured, and five, or 4.6 per cent., satisfactorily improved, making in all 94.6 per cent. of satisfactory results. Of the six uncured patients, five are classified as improved and one as no better. Of the five improved patients, three state that they were entirely well for a period of three years following the operation, at the end of which time one developed jaundice, which was later apparently cured at Carlsbad, while two have had a recurrence of their old painful attacks. A fourth patient has developed a troublesome postoperative hernia, and the fifth has a persistent sinus which causes but little discomfort. The unimproved patient still suffers from attacks of pain.

When we take into consideration the almost ideal end-results obtained in this group, together with the fact that the operative mortality in these uncomplicated cases is almost nil, it is difficult for us to understand the position taken by Kehr, who believes that operative interference should be limited to cases of empyema and chronic duct obstruction.

2. *Stones in the Cystic Duct.*—Of the thirty-two patients in this group, twenty-nine, or 90 per cent., are cured, two improved patients still suffer from adhesion-like pains and the one unimproved suffers from pains radiating to the right shoulder.

Nine of the twenty-nine cured patients and the one unimproved in this group had cholecystectomies, while the remaining twenty-three had cholecystotomies.

TABLE 1.—SUMMARY OF REPORTED RESULTS

Surgeon	Date of Report	No. of Cases	Cured No.	Cured %	Improved No.	Improved %	Not Improved No.	Not Improved %	Stones Overlooked No.	Stones Overlooked %	Secondary Operations No.	Secondary Operations %	Postoperative Hernia No.	Postoperative Hernia %	Persistent Fistula No.	Persistent Fistula %	Adhesion and Sympt No.	Adhesion and Sympt %	Stomach Dislocations No.	Stomach Dislocations %	Recurrence of Calculi No.	Recurrence of Calculi %
Taite	1889	52	51	98	1	..	..	..	..	..	..	..	..	..	1	..	..	...	..	..	0	..
Kehr	1904	350	311	89	..	..	..	..	9	2.6	..	..	11	3	2	..	12	3.4	..	..	0	..
McWilliams *	1906	69	45	69	7	10	16	23	7	10	12	..	6	9	7	10	4	7	4	7	1	..
Kehr	1908	885	84	90	..	..	..	16	2–3	....	..	..	..	5	..	..	..	8.7	..	..	..	..
Munroe	1909	172	...	79	..	..	..	..	..	..	..	..	..	..	..	..	6	2.2	..	..	..	..
Ochsner-Stanton	1911	245	209	85	..	9	15	6	3	1	5	2	7	3	1	..	10	4.2	..	..	3	1

* Presbyterian Hospital.

TABLE 2.—END-RESULTS GALL-STONE CASES

Ochsner	196
McMullen and Stanton	49
Total	245

Pathological Diagnosis	Total No.	Cured No.	Cured %	Satisfactorily Improved No.	Satisfactorily Improved %	Improved No.	Improved %	No Better No.	No Better %
All cases	245	194	79	15	6	21	9	15	6
Stones uncomplicated in gall-bladder	107	96	90	5	4.6	5	4.6	1	1
Stones in cystic duct	32	29	90	..	...	2	...	1	..
Stones in common duct	19	13	70	2	10	2	...	2	..
Stones with cholecystitis	27	23	85	2	7	1	...	1	..
Stones with empyema of gall-bladder	12	12	100	..	...	..	...	..	..
Stones with chronic pancreatitis	11	10	91	..	...	1	...	..	..
Stones with extensive adhesions	19	16	84	..	...	3	...	..	..
Stones with coincident pelvic operations	42	28	66	4	10	6	15	4	10
Stones with other miscellaneous operations	16	13	81	2	...	1	...	..	..
Stones with fistula into duodenum	1	1	..	..	...	..	...	..	..
Stones with gastric ulcer	3	2	..	..	...	..	...	1	..
Stones with carcinoma of stomach[1]	1	1	..	..	...	..	...	..	..
Stones with chronic medical complications	1	..	..	..	...	1	...	..	..
Stones overlooked	3	..	..	..	...	..	...	3	..
Cured by second operation	5	5	..	..	...	..	...	..	..

1. Anatomical diagnosis at operation; stomach not operated on; reports well four years later.

3. *Stones in Common Duct.*—Thirteen, or 70 per cent., of the nineteen patients in this group report as being entirely cured. Of the remaining six, five were undoubtedly so much benefited as to justify the operation. The other patient classified as no better still suffers from intermittent attacks of pain and jaundice.

Two of the cured patients in this group had cholecystectomies and the remaining seventeen, cholecystotomies.

4. *Gall-Stones with Empyema of Gall-Bladder.*—The twelve patients in this group all report as being entirely cured. Only three underwent cholecystectomies.

5. *Gall-Stones with Chronic Pancreatitis.* — In this group there are eleven patients with ten cured and one improved. The patient classified as improved states that she was well for three and one-half years following the operation, but that recently she feels that the old pains are returning.

6. *Extensive Adhesions in Region of Gall-Bladder.*—There are nineteen patients in this group and sixteen, or 84 per cent., report that they are well; the other three who are classified as improved, still complain of symptoms apparently referable to the adhesions.

7. *Complications from Coincident Pelvic Operations.*—This group of forty-two patients with only twenty-eight, or 66 per cent. of cures, is by far the most unfavorable in the series. Several in this group state that they did not know they had gall-stones before the operation, but have suffered greatly from them since their removal, a fact which would strongly suggest a neurotic element. The majority of the remainder complain of symptoms referable to the pelvis, or are very indefinite in their answers.

CAUSES OF FAILURES

An analysis of the symptoms and causes producing the discomfort in the patients not cured, gives some interesting and instructive data. Thus twelve patients still complain of symptoms indistinguishable in kind from those existing before operation and believe that the gall-stones are still troubling them. In four other cases stones are known to have been overlooked, and it seems more than probable that stones would be found at operation in at least several of the twelve cases, if the patients were subjected to a second operation. In others the symptoms are undoubtedly due to imperfect drainage, the result of inflammatory strictures or adhesions.

Probably of equal practical importance to the foregoing is a group of fourteen patients, who feel that their operation was not entirely successful and yet, whose symptoms are apparently for the most part not referable to the gall-bladder. All the patients in this group had more or less extensive pelvic work done at the time of the gall-stone operation, and still complain of distressing symptoms for the most part referable to the pelvis. Strictly speaking, these failures should not be charged against gall-bladder surgery, but from the view-point of the patient and family physician, surgery is probably held responsible for the results.

Next in point of frequency and importance we find ten patients suffering from symptoms quite definitely referable to crippling adhesions. As this post-operative condition will probably be one of the last to be eliminated in gall-bladder surgery, it is worthy of note that all of the patients in this group think the benefits derived, entirely sufficient to justify the operation.

Seven patients state that they have postoperative hernias, but in only three instances are the hernias mentioned as causing any particular discomfort. Three patients report a return of their old symptoms, three years after operation, while a fourth one had an attack of jaundice beginning three years after operation, but was later apparently relieved by taking the cure at Carlsbad. Clinically these cases may properly be considered as instances of recurrence of stones which would give an apparent recurrence of stones in about 1 per cent of cases (see Table 3).

TABLE 3.—GALL-STONE CASES, CHIEF SYMPTOMS AFTER OPERATION IN UNCURED PATIENTS

Original symptoms referable to gall-bladder (more or less improved)	12	Pain under right shoulder	2
Symptoms referable to complicating pelvic lesions	14	Persistent sinus	2
Adhesion-like symptoms in region of gall-bladder	10	Postoperative phlebitis and sequelæ	2
Postoperative hernia (only three producing discomfort)	7	Return of symptoms three or more years after operation	4
Stones overlooked (found at subsequent operations)	3	Since operation "has passed large number of stones"	1
Slight drag in region of wound (temporary only; classed as cured cases)	3	Slight jaundice at times (a common duct case)	1
		Gastric ulcer (gastro-enterostomy)	1
		Vomiting and eructation of gas	1

TABLE 4.—END-RESULTS CHOLECYSTITIS WITHOUT STONES

Ochsner	92
McMullen and Stanton	7
Total	99

Pathological Diagnosis	Total No.	—Cured— No.	—Cured— %	Satisfactorily Improved No.	Satisfactorily Improved %	Improved No.	Improved %	No Better No.	No Better %
Total	99	46	46	10	10	23	23	19	19
"Cholecystitis;" description of lesion not given	54	26	48	5	9	10	18	13	24
Empyema gall-bladder	3	2	..	..	..	1	..	..	..
Gangrene gall-bladder	1	1	..	..	..	..	..	..	..
"Tarry bile"	3	3	..	..	..	..	..	..	..
Sandy bile	10	5	50	2	..	3	..	..	..
Cholecystitis with adhesions	14	7	50	1	..	5	..	1	..
With intermittent jaundice	4	1	..	1	..	2	..	..	..
With acute pancreatitis	1	1	..	..	..	..	..	..	..
With chronic pancreatitis	3	..	..	1	..	..	..	2	..
With postoperative sinus	2	1	..	..	..	1	..	..	..
With enteroptosis	3	..	..	..	..	..	..	3	..
With gastric ulcer	4	..	..	1	..	3	..	..	..
With complicating pelvic ops	1	..	..	..	..	1	..	..	..

In six of the cured and one of the satisfactorily improved cases cholecystectomies were performed. Remaining ninety-two all cholecystostomies.

CHOLECYSTITIS WITHOUT STONES

In this group I have included ninety-nine patients in whom the clinical symptoms were strongly suggestive of gall-bladder disease, and whose cases were at operation considered to be cholecystitis without stones. This group of ninety-nine patients presents in many ways a striking contrast to the true gall-stone group. In the gall-stone cases the results are well defined and of such a nature as to allow quite accurate classification, while in the cholecystitis group the patients themselves seem to have a good deal of difficulty in answering the questions. Furthermore, the gall-stone results are decidedly satisfactory, while the late results in the cholecystitis cases are often disappointing.

Of the ninety-nine patients, forty-six (46 per cent.) may be classified as cured, and most of them date their cure from the time of operation, although a few state that the return to health was a gradual one, extending over months or years, which gives one a suspicion that in these latter the operative treatment may at least have been aided by a considerable tendency toward a spontaneous subsidence of the trouble.

Ten (10 per cent.) are classified as satisfactorily improved, the patients' own estimate being taken as regards the amount of benefit derived.

Twenty-three (23 per cent.) are classified simply as improved, the majority of these patients stating that they were apparently cured for a period ranging from a month to a year or more after the operation, at the end of which time the symptoms again returned much the same as before operation.

Nineteen patients state that their trouble was either not benefited or was made worse by the operation.

Table 4 gives an analysis of the ninety-nine cases as far as the data at hand will permit.

ADHESION CASES WITHOUT STONES

In six cases the only operative interference was the loosening of adhesions between the gall-bladder and duodenum or colon, the adhesions being so placed as to make it appear at operation that the gall-bladder or ducts were kinked by the pull of the adhesions. Five of these patients now report being cured by the operation, and the uncured patient is an example of a severe grade of enteroptosis.

MALIGNANT CASES

It is possibly a significant fact that we have, so far, been unable to trace any of the patients with malignant tumors who made a primary recovery.

CONCLUSIONS

1. In the hands of those qualified to undertake the work, the operative treatment of gall-stone disease is one of the most satisfactory branches of surgery, and the cures may be safely estimated at over 80 per cent., while the majority of the remainder are so greatly benefited as fully to justify the operation.

2. The most favorable cases in all respects are those in which the stones are still confined to the gall-bladder. The operative mortality in these uncomplicated cases is almost nil, and the proved end-results are practically all that could be desired. These two facts in themselves should enable us to settle any question as to the proper time for operation.

3. The most important principle of gall-stone surgery is the complete removal of the stones, with the least possible damage to the biliary tract. Overlooked stones are probably the most important simple cause of uncured patients.

4. If, as a result of the operation, all obstructions within the biliary tract are removed, a cure is almost certain to result.

5. No evidence has been found in this series of cases to show that cholecystectomy should ever be the operation of choice in gall-stone cases, unless there be chronic cystic duct obstruction or the gall-bladder so diseased as to make a cholecystectomy technically safer and easier to perform than a cholecystostomy.

6. Every effort should be made to guard against postoperative hernia.

7. A guarded prognosis should be given in cases complicated by pelvic lesions.

8. In our series, operations for cholecystitis without stones have not shown better results than could probably have been secured by medical means, and unless better results are obtained in this class of cases in the future, surgeons should learn to avoid them.

FACTORS HOSTILE TO SUCCESS IN GALL-BLADDER SURGERY *

B. B. DAVIS, M.D.

OMAHA

In the mass of literature flooding the medical periodicals during the past few years, the technic and operative mortality of the surgery of the gall-bladder have been considered exhaustively. Final results have rarely been alluded to. This is natural during the developmental period of any surgical procedure, and results can be determined only after the lapse of considerable time.

Enough has been proved so that all can agree that in the larger number of cases of gall-bladder disease in which the treatment is surgical, the results are ideal; the patients are cured and pass quickly from a state of suffering and invalidism into a condition of health and comfort. There can, therefore, be no difference of opinion regarding the great benefits obtained in this comparatively new field.

But not all are cured. Some are not benefited, and occasionally one is found whose sufferings after operation are as bad or even worse than before. It is to a consideration of this comparatively small minority that attention is directed at this time.

The causes of non-relief, the conditions which the usual surgical methods do not cure, have been the object of much interest for a number of years. No important discovery has been made, but many little details are worthy of our earnest consideration.

For clearness, the factors interfering with complete postoperative relief may be divided into four classes:

I. Causes intrinsic to the gall-bladder and bile-ducts.
II. Causes extrinsic to the gall-bladder and bile-ducts.
III. Inadequate operative technic.
IV. Neglect of after-treatment.

I. CAUSES INTRINSIC TO THE GALL-BLADDER AND BILE-DUCTS

Under the first class are any and all pathologic conditions arising before operation which render a continuation of normal function impossible. These conditions are chiefly mechanical, and include all the factors that make for bile stagnation—everything that inhibits the free and normal flow of the bile from the liver and gall-bladder into the duodenum. All changes in the lumen and directness of the ducts which will hinder the free flow of the bile through the common duct, from the hepatic ducts through the cystic into the gall-bladder and from the gall-bladder through the cystic duct into the common duct, will naturally, according to the extent

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

of the interference of normal bile circulation, prevent complete and perfect convalescence.

These several factors consist of enough destruction of mucous membrane of the common, hepatic or cystic ducts to produce stricture of caliber small enough to retard the free passage of the bile. The duct walls are also sometimes so infiltrated that the muscular layer is replaced partially or wholly by fibrous tissue. Thus the normal elasticity is forever lost and I know of no process by which it can be restored. A duct thus deprived of its elasticity is still capable of acting as a channel through which the bile will flow when the pressure behind is sufficient, but it permits at best a stagnant stream and is a poor substitute for the elastic, muscular duct through which a peristaltic wave is supposed to pass three to four times a minute during the period the stomach contents are passing through the duodenum.

The gall-bladder also undergoes periodic contraction and helps to force the bile through into the duodenum. If its contractility is retarded or destroyed, another important aid to the active excretion of the bile is lost. A gall-bladder with a very thick infiltrated wall resulting from an intense or prolonged infection; or thinned and the muscular coat replaced by a fibrous coat; or if the gall-bladder is already much atrophied, having a capacity of only one or two drams, the peristaltic aid to quick and forcible propulsion of the bile into the duodenum will be lost. This loss is small compared with the results of bile remaining stagnant in the cavity of the gall-bladder, inviting infection and permitting an undue precipitation of bile-salts and the formation of gall-stones.

That myriads of microorganisms make their way from the intestinal lumen via the portal vein to the liver, thence through the bile-passages to the duodenum is an established fact.

When the bile is ejected freely these germs may pass and continue to pass through for a life-time and do no harm. But if the contractility of the gall-bladder is destroyed and the microorganism-containing bile lies stagnant in the gall-bladder for hours and days, reinfection of that gall-bladder is almost certain and, as a sequel, infection of the common duct and of the hepatic ducts. This establishes a vicious circle which spells disaster sooner or later.

II. CAUSES EXTRINSIC TO THE GALL-BLADDER AND BILE-DUCTS

Several conditions extrinsic to the gall-bladder are frequently encountered which must be overcome before normality can be reached. First among these extrinsic factors are pericystic adhesions, however produced. They may be the sequel of a previous cholecystitis which has been entirely recovered from. They may be the result of a former appendicitis. They may result from a duodenal or gastric ulcer which has almost or completely perforated, a general peritonitis having been prevented by the prompt formation of adhesions. They may be due to a general peritonitis from whatever cause. Sometimes the suspension of the gall-bladder to the anterior abdominal wall is the source of not only painful adhesions, but they may be so placed as to materially lessen the ability of the viscus to contract and expel the bile. The general effect of adhesions is to produce stagnation of bile in the gall-bladder. Its ability to contract and expel its contents is not only interfered with but the effort to contract is often very painful and may produce a variety of serious symptoms. Several times I have encountered adhesions between the gall-bladder and the duodenum or pylorus which have produced enough angulation to interfere seriously with the normal emptying of the stomach, and all the symptoms of pyloric obstruction were present.

Adhesions of the gall-bladder may also be so situated that the cystic duct is so bent or twisted that bile cannot flow through.

One case was encountered in Wise Memorial Hospital presenting all the characteristics of obstruction of the common duct. There were pain, vomiting, and repeated attacks of deep jaundice. Operation was undertaken under the mistaken diagnosis of stone in the common duct. No stone was found but the interesting condition was demonstrated of a right kidney, not prolapsed, but so twisted on its pedicle as to cause obstruction of the duct. The abdominal incision was closed and the kidney anchored. Complete relief of all the previous symptoms was obtained — relief which has now continued more than six years.

Prolapse of the liver may seriously interfere with normal bile excretion. The stagnation may be due in part to gravity and in part to angulation of the ducts.

III. INADEQUATE OPERATIVE TECHNIC

With all the variety of conditions which may be present it is not possible to lay down any hard and fast rules in operating. The man who essays to do gall-bladder surgery not only must be equipped with a good clean surgical technic but must have a quick and elastic surgical instinct. He will have to be endowed with a mind capable of coping not only with pathological but with mechanical problems.

The very nicety in which bile-drainage is normally carried on calls for a nicety and exactness in surgical technic not demanded in many of the other surgical areas. If he lacks in a clear comprehension of the entire problem, while relieving one painful condition he may substitute another as bad or worse.

Those who have had much experience in surgery of the gall-bladder will agree that this is not a mere fanciful whim, but a stern reality. Many patients have gone to a surgeon to be relieved of occasional attacks of biliary colic. After recovery from the operation they have found that instead of being occasional, the pain has become constant. A secondary operation is likely to reveal universal pericystic adhesions. A number of personal experiences of this kind have impressed me with the view that postoperative adhesions are to be greatly dreaded, and all efforts should be made to avoid them. The method so universally followed a few years ago of suspending the fundus of the gall-bladder to the abdominal wall was a fruitful cause of postoperative pain and discomfort. If the purse-string about the drainage tube is accurately applied ventro-suspension is never needed and I discarded it several years ago, with the effect of less pain during the convalescent period and a very much less number of cases incompletely cured.

All rough handling of the gall-bladder and the surrounding viscera is likely to produce postoperative adhesions. For this reason all the tissues encountered should be treated with the greatest consideration. The man who mauls and maltreats the tissues with which he deals will not only find his operative mortality large, but many patients unrelieved or only partially relieved. The greatest nicety in all intra-abdominal work is of the utmost importance if adhesions are to be avoided.

Drainage by means of tubes or gauze about the gall-bladder is decidedly inimical to postoperative comfort and should never be used if any means can be employed to avoid it. A firm mass of adhesions always results from the free use of drainage. Fortunately the adhesions do not always do harm, but they are so frequently disastrous that every means to prevent them should be employed.

If adhesions are already present before operation the problem becomes more complex. But it is not usually insurmountable. In operating for painful adhesions one can always have the feeling that even if they form again they may be so situated as to do little harm. Much can often be done to prevent the reformation of dense adhesions by covering up the denuded area with normal peritoneum, at least where adhesions are most likely to cause pain or stagnation.

A gall-bladder which has been completely covered over with adhesions that have produced great suffering is frequently better removed. After having resorted to this procedure a number of times I have concluded that adhesions to the under surface of the liver where the gall-bladder was formerly located is much less serious than adhesions to the gall-bladder itself.

When operating for gall-stones no effort should be spared in searching and recovering every stone. The search should be very gentle but very thorough. Stones in the hepatic ducts and in the duodenal end of the common duct are most elusive, but careful search will usually be rewarded even in these localities.

A gall-bladder with a fibrous wall totally lacking in muscle fiber is a menace and if merely drained is prone to give so much future trouble that a second operation for its removal is often necessary. For this reason this type of viscus is better removed at the primary operation. I fully concur with those who look with alarm on the indiscriminate excision of gall-bladders. As long as there is a reasonable hope of its resuming its normal function there is every reason for retaining it. But a functionless gall-bladder is worse than no gall-bladder. By its production of stagnation it is a constant invitation for germs to do their worst.

For these reasons I would remove all gall-bladders whose mucous membranes have been destroyed as well as those whose cystic ducts are no longer patulous and cannot be made patulous. When the obstruction is evidently due to temporary inflammatory swelling as soon as the infection is relieved by the establishment of drainage the lumen is likely to regain its normal diameter.

When there is a general cholangitis, especially when the infection extends into the smaller hepatic ducts, the dangers are great and the necessity for exceptionally free drainage is of the utmost importance. Here duct drainage not only lowers the immediate mortality but aids greatly in bringing about a complete cure. I am convinced that there is a tendency in this class of cases to withdraw the tubes too soon. No harm can result from prolonged drainage, and a great risk is taken by stopping the drainage before the infection is relieved. When the infection is deep, if the drainage is kept up until the bile becomes sterile, the number of patients permanently relieved will be greatly increased. It may frequently be necessary to continue drainage several weeks, but that will be time well expended if it results in permanent recovery.

A paper with the limits of time allotted must of necessity be more suggestive than exhaustive. Great care in adapting the operation to the conditions found is of the utmost importance if we would increase the percentage of complete cures.

Careful operation in cases not complicated by fibrosis of the gall-bladder, wide destruction of the mucous membrane or distorting adhesions is almost universally followed by complete relief. This leads logically to the corollary that if in every diseased gall-bladder the patient could be operated on before the long array of secondary complications have occurred, disastrous postoperative sequelæ could be almost certainly avoided. Every painful attack adds to the total of the diseased conditions. Therefore the sooner a diseased gall-bladder that is not relieved promptly by non-surgical treatment is drained, so much the lower will be the operative mortality and the higher the percentage of complete cures.

IV. NEGLECT OF AFTER-TREATMENT

The discharge of patients operated on for gall-bladder disease as soon as they have completely convalesced from the operation without further treatment, I look on as one of the most unfortunate customs that surgeons have fallen into. The operation is for the purpose of removing as far as possible the gross diseased conditions. By the few days' drainage the infection so frequently present is mitigated. The practice in continental Europe of undergoing a cure at Carlsbad is along the correct lines. Not all of our patients can take the Carlsbad cure, but by a thorough understanding between the surgeon and the family physician a very good imitation of it can be carried on at home.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. STANTON AND DAVIS

Dr. Robert T. Morris, New York: I will make but four points: 1. Closure of a sinus after gall-bladder removal. One case in which the gall-bladder and stone were removed had such adhesions that I could not make an opening into the common duct, and a sinus followed, with secretion of mucus from the remains of the cystic duct. It was a question if this could be closed by injection of bismuth paste while the active mucous glands were secreting. I asked the patient to go to Chicago and see Dr. Beck. He quoted a case in which a sinus with secreting kidney had been closed. In this case bismuth paste closed the sinus. That is worth recording.

2. Why is it that gall-stones do not often reform when we have removed them once? It is probable that gall-stones begin to be formed in some one toxic attack. I doubt if stagnation has very much to do with it. The theory on which we may assume that gall-stones begin to form in some one toxic attack is (1) that they are not often reformed; (2) all sorts of concretions are now believed to be due to colloid materials making combination with insoluble salts and cholesterin. This you may prove by taking a kidney-stone or gall-stone and putting it into a weak solution of sodium hypochlorite (antiformin) and in a short time it will become powder, because of the solution of the colloid material in the hypochlorite solution.

3. Dr. Stanton thinks cases of cholecystitis without stones have not shown better results than could probably have been obtained by medical treatment. That states a different point of view from mine. Some of my most successful surgery has been in cases of cobwebs in the attic of the abdomen—the toxic cobwebs which form with epithelium a desquamating plastic exudate. Adhesions form, engaging the pylorus, the gall-bladder, the hepatic flexure of the colon and the various structures in this region. These patients may give practically every symptom of gall-stone, but on operating we find no gall-stone. We have to explain the situation to the family, and it is sometimes a difficult matter to explain. Do not talk about gall-stones; make a diagnosis of cholecystitis, and if we find gall-stones incidentally, that is all velvet—but they are exceptional and we must go way back to this process which leaves the toxic insignia in the form of the cobwebs

in the attic before we can unravel and analyze our cases of symptoms referable to the gall-bladder.

4. Pancreatitis is one of the most common complications of infection in this region, and I do not mean the pancreatitis which gives such definite symptoms that it is readily diagnosed; I mean an interstitial pancreatitis found post mortem, if we look for it. We will find that it is an unsuspected cause for many of the distressing symptoms subsequent to operations on the gall-bladder.

DR. A. J. OCHSNER, Chicago: I believe that Dr. Stanton is on precisely the right track. In order to determine what to do for these patients we must first determine what happens after we have treated them according to the different methods. If we find that there is a certain class of cases in which a certain form of treatment gives satisfactory results then it is proper to call that form of treatment good and to continue it.

Concerning the unsatisfactory cases we must classify them as cases in which either there is something wrong about the diagnosis or about the treatment. Then we must continue until we either come to the conclusion that surgical treatment for these cases is bad, or we must continue to experiment until we find some operation that is good.

I believe that in this class of cases in which there was so large a percentage of unsatisfactory results, there must have been many in which the cholecystitis was simply one of a number of troubles. We have found, for instance, many patients suffering from the intestinal intoxication due to stasis caused by a Lane's kink, and in that particular portion of this classification we should have performed a short-circuiting operation to overcome this intestinal stasis.

There is another class of patients that I wish to speak of, which we formerly treated very badly. I refer to the patients suffering from acute biliary colic. In the early treatment of these patients we foolishly thought they were so terribly sick that they had to be relieved at once. We consequently operated on them immediately and increased our mortality far beyond what would be reasonable now. There is no sense in operating on patients who are suffering from a severe acute surgical condition which must of necessity be temporary. What our distinguished president told us yesterday in his address holds good. We must use better judgment in these cases. Why do these patients have a severe acute colic? It is simply because something is trying to pass from the stomach, past the papillæ, into the small intestine. You make it impossible for anything to pass by washing out the mucus or whatever is in the stomach by gastric lavage and not putting anything further into the stomach. Many patients in whom the pain could not be controlled by ½ grain., or 1 gr., or 2 gr., of morphin, will go to sleep and have no more pain. After a week or two the acute condition has subsided and the patient will recover with 1/10 of 1 per cent., instead of a relatively high mortality which we had when we did not have the wisdom to use this preliminary treatment.

What Dr. Morris has just told us about pancreatitis is of very great importance. I have had cases in which I found an obstruction due to pancreatitis which in itself caused the cholecystitis, and the passing of the products of the cholecystitis through the common duct caused an increased irritation and increased the pancreatitis, causing a vicious circle, and yet that class of patients recovered permanently with the cholecystotomy.

We should bear in mind the fact that practically all of the patients in whom there were severe gastric symptoms, due to the presence of gall-stones, recovered permanently. All of the symptoms of obstruction, the apparent pyloric obstruction which was not due to an obstruction at all of the pylorus, but to an obstruction in the duodenum, due to irritation caused by gall-stones, subsided; the apparent dilatation of the stomach and all other stomach symptoms subsided. It is not difficult to understand this when you simply look on the stomach, gall-bladder and duodenum as a coordinated machine, with this one point of interference.

DR. J. F. PERCY, Galesburg, Ill.: I regret very much that Dr. Deaver was not here with his paper this morning, because it brings up or discusses a subject that has already been suggested by Dr. Morris and that is chronic interstitial pancreatitis in its relation to diabetes, and I speak of this point here because I believe that it is germane to the subject. I do not believe that Dr. Deaver could prove from his paper that chronic interstitial pancreatitis involving the islands of Langerhans invariably, or even in a small percentage of cases, produces the symptom-complex diabetes. Yet there is something in this subject that has not been worked out, and one of the questions that is going to be acutely before us in the days to come is the working out of this subject. It is not an uncommon experience to find postmortem sclerosis in the islands of Langerhans, although during life there were absolutely no symptoms either of diabetes or even of ill-health; and so with reference to this part of the subject, so far as the infections from the gall-bladder are concerned, or from the duodenum, from ulcer of the stomach and from that great unworked field of infections from the colon, we do not know the etiology.

It is a curious and interesting thing that the spleen has none of the diseases that the pancreas has. The spleen practically has no inflammatory diseases, and the probable explanation of it is that the spleen has no ducts. The pancreas has ducts. The spleen has no neighbors, the pancreas has neighbors and very dangerous neighbors—the duodenum, the gall-bladder, the stomach and the colon. The spleen does not come, therefore, within the zone of these environmental dangers, and therefore we do not have the sclerotic changes that we see in the pancreas. All of us have had the experience that in opening the abdomen we find enlargement—when the pancreas is involved—of the head of the pancreas. It is a rare thing to find the body or the tail of the pancreas involved. Why this is I do not know. How much do the epidemic infections of the gall-bladder, occurring in childhood, have to do with these later changes in the gall-bladder or in the pancreas? These I throw out merely as mooted points. I am unfortunate in not being able to answer them.

DR. FRANK LEMOYNE HUPP, Wheeling, W. Va.: I wish to speak of gall-stones complicating complete left transposition of the liver. That patients with this anomalous condition of affairs are rare is shown by the literature. After a diligent research I found three cases in addition to my own; one reported by the lamented Dr. Carl Beck of New York (*Annals of Surg.*, xxix, 670), one by Dr. Billings of Chicago (*Phila. Med. Jour.*, Oct. 6, 1900), and one by Dr. W. J. Mayo, (Keen's "Surgery," iii, 970). It was my privilege to come across one of these rare and interesting cases within the last eighteen months. A woman, aged 33, with the usual history of bilious spells, pain and jaundice, was admitted to our city hospital, emaciated, jaundiced, four and one-half months pregnant and suffering almost constant pain in the epigastrium, occasionally radiating to the left. The precordial area and apex beat of heart were to the right of the usual situation. The hepatic area of dulness was decidedly diminished. The malposition of the liver was not suspected until the abdomen was opened with the usual right rectus incision, and a careful exploration failed utterly to reveal the offending gall-bladder. Bevan's incision was made, cutting entirely through the right rectus and with wide retraction to the left.

The anomalously placed organ was found completely transposed and filled with gall-stones. The stones were removed and drainage effected and the patient made a perfect recovery and gave birth to her child in due time.

DR. E. M. STANTON, Schenectady, N. Y.: One of my main thoughts in starting this work was to determine the type of cases which really needed cholecystectomy. Of course in classifying groups like these, there are innumerable ways in which it may be done. I grouped all of the so-called badly diseased gall-bladders and studied the cures with and without cholecystectomy, and I must admit that I was greatly surprised to find that, even in the case of thick-walled gall-bladders—the almost functionless gall-bladders, as we ordinarily consider them—the results were better in the cholecystotomies than in the cholecystectomies, provided only that there was no obstruction to the cystic duct at the time of operation.

In regard to cholecystitis without stones, we can only say that these cases necessarily include patients operated on a number of years ago, and therefore represent the pioneer days of cholecystitis surgery.

In some of these cases the results are brilliant; but in most of them the results are not satisfactory. The 46 to 50 per cent. of cures represents the final cures. There is no evidence that so large a percentage were cured by the operation. Some of the patients now reported as well recovered only a number of months or years after the operation. Very many patients who were apparently cured for the first six months or so (the time that the surgeon ordinarily keeps track of his patients) report a few years afterward that they are no better than before the operation.

Undoubtedly as we know more of the real pathology of cholecystitis we shall be able to improve the results. The type of cholecystitis described by Dr. Mayo as a strawberry gallbladder, and the type spoken of by Mr. Moynihan in which the mucosa is covered by crystalline material, are apparently cured by cholecystectomy.

My studies have convinced me that we must be very careful in the treatment in these cases, even though we are sure that they are real cases of so-called cholecystitis, under our present-day concept of this lesion. Cholecystectomy alone does not give satisfactory results.

Dr. B. B. Davis, Omaha: There is only one point I wish to speak of and that is the point brought out by Dr. Morris with respect to the frequency of chronic pancreatitis in these cases. I fully concur with him in his statement; and I believe that we should recognize and always examine carefully for this condition; and in all instances in which we find there is a good deal of induration of the pancreas—in other words, a chronic pancreatitis—we should drain a much longer time than we do in the ordinary, simple, uncomplicated case.

MERCURIC-CHLORID POISONING

ASSOCIATED WITH SECONDARY HEMORRHAGE FROM VAGINAL DOUCHE GIVEN SEVEN DAYS AFTER DELIVERY

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In the unfortunate case which I desire to report, on Thursday, Feb. 3, 1910, I ordered a mercury bichlorid vaginal douche, two quarts, strength 1 to 4,000. The patient, 34 years of age, delivered on January 27, had completed seven full days of her puerperium. This was her second confinement.

While the nurse was giving the douche, the patient suddenly experienced a sharp pain in the left side of the pelvis, and at the same time there was a hemorrhage so alarming that the nurse, having in mind nothing but danger from loss of blood, quickly prepared and gave a second douche the same as the first, as the best means of controlling the bleeding. The patient in the meantime felt frightened, faint, and chilly, and her pulse was just over 100. The nurse then telephoned to me.

On arriving at the house I examined the patient with a speculum, and finding a laceration of the left side of the cervix from which the bleeding had evidently occurred, I packed against the cervix with dressing forceps two small pledgets of gauze, wrung as dry as possible out of a bichlorid solution of the same strength as the douche. (If the gauze tampons contained a teaspoonful of the solution, this would have been about one-sixtieth grain of bichlorid. They probably contained less.) Up to that time and for twenty-four hours afterward, the accident seemed to be important only as a case of secondary hemorrhage from the lacerated cervix. Within six hours the pulse had fallen to 84. The tampons were removed the following morning, there was no further hemorrhage, and the patient was supposed to be doing well.

On the second day, however, a little sanguinolent mucus was passed from the rectum and mercurial poisoning was recognized. Still it seemed so mild that it was hoped it would pass off without further developments. Castor oil by mouth and high saline enemas, several quarts of continuous flow, were included in the treatment. But after three days, ptyalism developed, and on the fourth day vomiting and diminished secretion of urine with albuminuria and casts. During the fifth day there was almost total suppression of urine. But the volume of urine was quickly restored to almost normal within two or three days afterward, vomiting ceased, temperature remained normal, pulse was slow and of good quality, and our consulting physician, who saw her first on Tuesday, February 8, and daily (or almost daily) thereafter, at all times during the remainder of my attendance expressed the opinion that the patient would recover and that there would be nothing the matter with her kidneys. She would not die, because she had not absorbed enough of the poison to kill her.

The patient had a distressing stomatitis and was averse to taking food. In the middle of the second week after the accident she obstinately refused food, even all kinds of liquid nourishment. But she drank water freely, and we were assured that this difficulty would pass off before her strength would be seriously impaired. A brother of the patient, who is an eminent physiologist, concurred in this opinion. Three weeks from the date of confinement, and two weeks after the absorption of the poison, the patient was turned over to the family physician, by whom she had been referred to me. All her organs with the exception of the stomach were believed to be functionating in a satisfactory manner, and her recovery was supposedly assured. This prognosis was confidently expressed by all the physicians in attendance. Laboratory reports on the urine were equally reassuring. Unfortunately, however, a few days later she took a change for the worse and died of intercurrent bronchopneumonia and edema of the lungs on February 24, just three weeks from the date of poisoning, and four weeks after delivery.

I had recently seen a case of secondary hemorrhage after late repair of the cervix, the hemorrhage occurring spontaneously when no treatment was in progress, presumably from the separation of a small slough or the cutting out of a suture. Hirst refers to cases of this kind sometimes due to the dislodgment of a clot several days after delivery. In the present instance, however, it is more natural to assume that the douche in some manner caused the hemorrhage.

It is assumed that several elements contributed to the fatal result. The general health of the patient was not robust. Her strength was certainly impaired by the hemorrhage, which occurred during the giving of the first douche. And, although (in the light of later events), one might possibly have interpreted the pain and symptoms of shock at that time as being associated with the absorption of the mercury, they were originally, and probably correctly, ascribed to relaceration of the cervix and the loss of blood. Such a clinical picture may accompany almost any internal injury. The young men on my house staff at the New York Infant Asylum were strongly of the opinion that the poison was chiefly absorbed from the second douche, a certain amount of which would be rapidly taken up to restore the volume of blood depleted by the hemorrhage. (Curiously enough, the nurse afterward denied that the second douche, or the fluid used for the tampons, contained anything but hot sterile water.) There was no reason to believe that fluid was retained in the uterus or vagina or any pocket or cavity to be absorbed later. It was assumed by the consulting physician that there was an idiosyncrasy to mercury. The final result may have been determined by the patient's obstinate resistance to treatment and refusal to take nourishment. This obstinacy may have been entirely foreign to her natural disposition. The same intractability is particularly noted in the case of bichlorid poisoning from tablets inserted in the vagina, reported by Dr. B. Lankford.[1]

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[1] Lankford, B.: The Journal A. M. A., April 9, 1910, p. 1203.

Bichlorid vaginal douches are still very commonly employed by physicians and midwives, and accidents are exceedingly rare. A vaginal douche at the end of labor, 1 to 4,000 bichlorid, is recommended in the last edition of King's "Manual of Obstetrics" in the conduct of normal labor. Davis gives identical advice. Such douches, whatever harm they may have done, have doubtless accomplished a world of good in preventing sepsis where examinations have been made, and where infection may have been present and unsuspected.

Infection is still, undoubtedly, the greatest danger which threatens the obstetrical case. Statistics published in the Monthly Bulletin of the New York State Department of Health indicate that the deaths of fifty-two women were ascribed to puerperal septicemia in the state of New York alone in the month of March, 1911.

Williams frowns on the routine use of the vaginal douche as predisposing to morbidity and fever, and sounds warning against the danger of fatal bichlorid poisoning from even a single intra-uterine douche. Simple saline solutions and safer antiseptics are now being presented which may prove efficacious and harmless. Jewett, Edgar, and others recognize the need of great caution. My own practice was outlined in a paper published in the *New York Medical Journal* in 1905, under the title "Asepsis and Antisepsis in Midwifery." I had discontinued the use of the vaginal douche entirely, before, during, or after labor, except when urgently required, or as stated in my paper, during the second week after delivery, to promote involution and on account of the grateful sense of cleanliness afforded to the patient. In the more recent years, even this treatment had been omitted in most of my cases, as being unnecessary rather than harmful, being used only among the so-called better class of cases, in which a trained nurse was present to give it properly, exercising care to be sure that no fluid were retained. At the time of this case reported, I was attending a patient in her fourth confinement, all of which had been under my care, and for whom no douche had ever been ordered.

A review of obstetric teaching, as found in the latest editions of leading American text-books, and such as I have since made, would not have influenced my practice, apart from this unfortunate case. The case here reported, however, teaches that a combination of conditions is possible, under which poisoning may occur from a vaginal douche given a whole week after labor. This must certainly be a warning against the use of douches at any time, except when very definitely indicated. I can only regret that my previous knowledge and experience had permitted me to use them within the limitations here stated, without any misgivings as to the vaginal douche at a period so remote from delivery.

19 Fifth Avenue.

Weak Protoplasm.—C. B. Davenport (*Popular Science Monthly*) says that a heavy incidence of disease in any county does not always mean unfavorable environment. He has plotted the imbeciles received by an institution in a small state. The ratio of incidence of this condition to the entire population is high in some counties (chiefly rural) and low in others, due to the presence or absence of foci of the defect. Similarly the varying rate of deaf-mutism is determined by the density of defective germ plasm. So, also, despite its fine climate, the rising generation in California is characterized by diseases of the mucous membranes, because a generation ago much weak protoplasm was attracted to this state as a sanatorium. Blood, he says, is as important a factor in determining the occurrence of disease as climate.

GOITER AMONG THE INSANE

A STUDY BASED ON AN EXAMINATION OF 4,184 PATIENTS *

AXEL WERELIUS, M.D., and C. G. RYDIN, M.D.
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INTRODUCTION

The conception of a disfunctionating thyroid being a causative factor in insanity is based on the highly interesting theory of internal secretion and that of auto-intoxication. As early as 1730, Haller mentions that Ruysch advanced the supposition that the "blood-vessel glands" manufactured some substance that was thrown into the blood-stream. The term "internal secretion" is said to have been used first by Claude Bernard.

No particular interest was manifested in this supposed glandular internal secretive process until Brown-Séquard,[1] in 1899, began experiments on himself with testicular extract. He finally concluded that all tissues gave an internal secretion, characteristic of its source. This idea, has, however, been discredited by the subsequent work of others, and it is now fairly well established that this process is in the main, characteristic of glandular organs, and not only of the ductless ones, but of the typical glands as well, as, for example, the pancreas, and probably also the kidney, liver, etc.

The important rôle played by perverted secretion of these special glands in psychoses has been specially emphasized by numerous authors. The condition created by such changed secretion, or a hyper- or hypo-elimination of the aforesaid organs, would then be in the nature of an intoxication, or rather auto-intoxication.

The prominence of intoxication in relation to disease was first brought to attention by Bouchard[2] in 1830, who gave a series of lectures on the subject. Rigo later emphasized its importance in mental disease. In 1884, Senator[3] spoke of a self-infection, originating from the digestive apparatus, as specially affecting the nervous system.

The notion of the internal secretion of the thyroid being an etiologic factor in insanity was conceived by noting the occurrence of mental phenomena in myxedema and Graves' disease. Thus it was assumed that mental change might be occasioned by a hypersecretion, a hyposecretion or a perverted secretion of this organ.

HYPERTHYROIDISM VERSUS PSYCHOSES

Antedating Basedow's description in 1840 of the symptom-complex that now bears his name, were the reports of a few earlier authors, who, it seems, described the condition and also mentioned that it may be associated with mental phenomena (Parry, 1825; Bruck, 1835). No doubt even the laity, observing the wildly staring eyes in typical cases of hyperthyroidism, considered the condition as one of deficient mentality.

As early as 1862 Bruck, and in 1866 Geiger, recorded cases of Graves' disease associated with symptoms of insanity. Graves, himself, noted the frequency of severe hysteria in this condition.

Trousseau early considered mental manifestations as cardinal symptoms of Graves' disease. In opposition to Trousseau, Raymond and Sérieux concluded that Basedow's disease had no etiologic significance in mental conditions.

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* Read at the meeting of the Chicago Medical Society, March 22, 1911.

[1] Brown-Séquard, C.: Repr. from Arch. de physiol. norm. et path., 1889, Series 5, ii, 190.

[2] Bouchard: Translated Lectures on Auto-Intoxication, F. A. Davis & Co., 1906.

[3] Senator: Ztschr. f. klin. Med., 1884, p. 325.

Since Moebius,[4] in 1887, advanced his theory, there has been more unity among authors, most men considering mental symptoms in Basedow in the nature of an intoxication psychosis, probably of thyroid origin.

Paul Sainton,[5] in a splendid article reviewing the literature, separates the symptoms in two groups: one of maniacal agitation and the other a depressive type. Cases with mania are reported by Andrews, Robertson, Boeltger, Johnstone, Savage, Drummond, Hirschl, and many others. Melancholia, more or less severe, is described by Devay, Solbrig, Witkowsky, Noetel, Jensen, Gilmour, etc. Hallucinations occurred in cases of Meynert, Broecker, Jensen: ideas of persecution, in cases of Solbrig, Baumler, Benda, Ballet.

Gilmour[6] says the most common features are intense, indefinable agitation, inability to settle long on any occupation, chorea of ideas, insomnia, disagreeable dreams, changes from the most marked depression to joyous buoyancy, etc. Such mental diseases as chronic paranoia, dementia præcox, maniac depression or general paresis may be associated with Graves' disease. (Wiegert).[7]

Packard[8] analyzed eighty-two cases of Graves' disease presenting psychoses. Symptoms enumerated were, depression, fifty-three; exhilaration, twenty-three; excitement, fifty-one; irritation, thirty-three; apprehensiveness, thirty-seven; hallucinations, twenty-three; delusions, forty; incoherence, thirteen; delirium, eleven; memory defect, seven; paralysis, three; phobia, three; seizures, eight. It is significant that 63 per cent. of these patients showed hereditary tendency to mental disease.

From the above it seems that any symptoms of deficient mentality may appear in this condition. Still can it yet be said with reasonable surety that these phenomena are due entirely to increased thyroid activity? Have the various factors to be considered been carefully enough studied? Are not these symptoms only coincidental? What is the per cent. of Basedow cases showing mental symptoms? What per cent. of these cases give a mental family history? What per cent. exhibited mental symptoms previous to the onset of Graves' disease? What per cent. showed marked nervous taint, hence strong predisposition to mental disease? Could not any wasting disease, such as Graves' disease, bring out latent mental symptoms in a predisposed individual?

These, and probably many other questions, must be thoroughly answered before direct relationship can be established between exophthalmic goiter and insanity.

TABLE SHOWING OCCURRENCE OF GOITER OF DIFFERENT FORMS IN 4,184 INSANE PATIENTS.

Classification of Cases		No. of Patients	No. of Goiters	Percentage		Males				Females		
						No. of Patients	No. of Goiters	Percentage		No. of Patients	No. of Goiters	Percentage
Dementia præcox	...	1,549	124	8.0	...	766	22	2.87	...	773	102	14.5
Manic depressive	...	497	32	6.5	...	197	4	2.08	...	300	28	9.33
Anxiety psychoses or invol. melancholia	...	335	24	7.22	...	151	4	2.65	...	184	20	10.86
Depressions—												
Simple	(6)	...	..	.....	(3)	...	0	....	(3)	...	..	.....
Undifferentiated	(4)	...	2	13.33	...	...	..	....	(4)	...	2	18.18
Depressive hallucinosis	(5)	15	..	.....	(1)	4	..	....	(4)	11	..	.....
Paranoiac state	...	466	33	7.08	...	204	5	2.45	...	262	28	10.68
Infective exh. psych	...	33	6	18.1	...	9	0	....	...	24	6	25.0
Intoxication psychoses—	...	...	..	.....	(170)	...	..	....	(48)	...	..	.....
Acute and chronic alcohol	(218)	...	4	1.7	(8)	179	2	1.15	...	...	2	3.9
Korsakoff's disease	(10)	...	..	.....	...	...	..	....	(2)	...	..	.....
Morphinism	(2)	230	..	.....	(1)	...	..	....	(1)	51	..	.....
Psychoses associated with organic brain disease—												
Diffuse and focal lesions; traumatic arteriosclerosis	...	58	1	1.7	...	35	0	....	...	23	1	4.3
Huntington's chorea	...	3	..	.....	...	1	0	....	...	2	0	.....
Multiple sclerosis	...	2	1	50.0	...	...	..	....	...	2	1	.....
Cerebral syphilis	...	4	..	.....	...	3	0	....	...	1	0	.....
Senile dementia	...	210	11	5.24	...	78	1	1.26	...	132	10	7.5
General paralysis of the insane	...	311	6	1.9	...	223	1	0.45	...	88	5	5.7
Locomotor ataxia	...	1	..	.....	...	1	0	....	...	...	..	.....
Epileptic insanity	...	234	12	5.1	...	144	3	2.08	...	90	9	10.0
Psychogenic neuroses—												
Hysteria	...	12	..	.....	...	...	..	....	...	12	0	.....
Neurasthenia	...	8	1	12.5	...	1	0	....	...	7	1	12.8
Psychasthenia	...	3	..	.....	...	1	0	....	...	2	0	.....
Hypochondriasis	...	2	..	.....	...	1	0	....	...	1	0	.....
Psychopathic personality	...	4	1	25.0	...	3	1	33.3	...	1	0	.....
Defective mental development	...	185	11	5.9	...	106	5	6.6	...	79	6	7.6
Unclassified	...	20	..	.....	...	18	0	....	...	2	0	.....
Puerperal insanity	...	12	1	8.3	...	...	..	....	...	12	1	8.3
	...	4,184	270	6.45	...	2,125	48	2.25	...	2,059	222	10.78

From the above it seems that goiter probably is more prevalent among insane than among sane people.

HYPOTHYROIDISM VERSUS PSYCHOSES

Artificial hypothyroidism by experimental excision of the thyroid was first attempted in the forties by Astley Cooper and Bardeleben with doubtful results. In 1856, Schiff, after numerous experiments on dogs, reported that all the animals died. Later, in 1882, Reverdin and Kocher reported the enormous disturbance created in man by complete thyroidectomy. By this total thyroid ablation the peculiar condition termed "cachexia thyreopriva" was produced and its close resemblance to myxedema noted.

These experiences in the human being and experiments on animals then established the condition of myxedema or hypothyroidism, or athyroidism on a sound etiologic and pathologic basis. The relation of myxedema, especially the congenital form, to insanity, is so clear that no argumentation is necessary.

Clinically, hypothyroidism is divided into myxedema of infants and adults. In the young, there is the congenital myxedema (cretinism) and infantile myxedema

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[4] v. Moebius, J. P.: Centralbl. f. Nervenh., Psychiat. u. gericht. Psychopathol., x, 225.

[5] Sainton, Paul: L'Encephale, Jour. de psychiat., 1906, i, 242.

[6] Gilmour, J. R.: Jour. Ment. Sc., London, 1909, p. 668.

[7] Von Wiegert: Hygeia, Stockholm, 1909, 2 f., ix, 701.

[8] Packard, F. H.: Am. Jour. Insanity, Baltimore, 1909-10, lxvi, 189.

(endemic and sporatic myxedema); in the adult, the sporadic and the postoperative. In the congenital form, idiocy is an essential part. These individuals are always stupid, apathetic, not easily excited, of poor memory, indecisive, etc.

Sometimes they can be trained to perform certain household duties, and are then often spoken of as "beast-men." When less mentally developed, they are called "plant-men." In the sporadic cases, the mental condition varies greatly; as a rule there is moderate idiocy. Cases without idiocy have been reported (Grancher,[9] Comby[10] and Marfar,[11] 1897).

In the adult, the condition comes on spontaneously or postoperatively, and is characterized mentally by a greatly diminished cerebral activity, viz., impaired memory, fatigue from simplest intellectual operation, difficulty of fixing attention, apathy, hallucinations of sight and hearing, etc. In this brief description, there stands out prominently one significant factor, and that is that the earlier the onset, the greater the mental deficiency.

WITH ANALYSIS OF TYPE OF INSANITY, TYPE OF GOITER, SEX, NATIVITY, AGE, ETC.

Situation of Goiter																		
Female					Male				Both Sexes					Type of Goiter				
Right	Left	Bilateral	Middle	Exoph	Right	Left	Bilateral	Middle	Right	Left	Bilateral	Middle	Exoph.	Simple	Fibroid	Cystic	Exoph.	Age Limit
51	8	61	4	..	6	2	14	..	47	6	47	4	..	118	6	..	..	17–79
9	4	17	2	..	1	..	3	..	8	4	14	2	..	28	4	..	..	27–74
13	2	7	2	..	3	..	1	..	10	2	6	2	..	20	3	1	..	32–62
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
1	..	..	..	1	..	..	..	..	..	..	..	..	1	1	..	..	1	33–38
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
3	7	19	4	..	1	1	2	1	2	6	17	3	..	29	2	2	..	30–68
4	..	2	..	..	..	..	..	..	4	..	2	..	..	55	1	..	..	33–56
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
2	..	2	..	..	1	..	1	..	1	..	1	..	..	3	..	1	..	42–55
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
..	..	1	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	38
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	47
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
4	2	5	..	..	1	..	..	..	3	2	5	..	..	8	3	..	..	57–83
3	..	3	..	..	1	..	..	..	2	..	3	..	..	6	..	..	..	34–66
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
4	..	7	..	1	..	..	3	..	4	..	4	..	1	11	..	..	1	14–37
..	..	1	..	..	..	..	..	..	..	..	1	..	..	1	..	..	..	35
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
..	..	1	..	..	..	..	1	..	..	..	..	..	..	1	..	..	..	12
5	1	5	..	..	2	1	2	..	3	..	3	..	..	10	..	1	..	20–51
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	.....
1	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	..	45
101	24	131	12	2	16	4	27	1	85	20	104	11	2	294	19	5	2	

This, it seems, would tell us that the disturbance is not due directly to the absence of thyroid secretion, but to enormous metabolic disturbances following its absence, as evidenced in the young by the incomplete or pernicious development of the entire system, mental manifestations here clearly being due to defective brain development.

In the old, this is not quite so clear, but the great metabolic phenomena surely also cause cellular brain changes, with consequent mental symptoms.

THYROID VERSUS DEMENTIA PRÆCOX

Berkley,[12] believing that he saw a symptomatic similarity between catatonic dementia præcox and hyperthyroidism, and reasoning along the line of the auto-intoxication theory (of insanity), concluded that catatonia might be due to a hyperthyroidism or a perverted secretion of the thyroid. According to such theorizing, hyperthyroidism, then, would manifest itself in two different conditions: on the one hand as a Basedow's disease, and on the other as a dementia præcox. On the face of it, that seems very improbable.

Berkley[12] states that on palpation the thyroid in these cases had a soft, mushy feel with an occasional hard knot, and that the gland as a rule was of normal size and sometimes smaller than normal.

This we were unable to verify in our cases. In fact, we must confess that we are unable to palpate a normal-sized gland. We examined several patients whose necks had a mushy feel, but these were not at all confined to the præcox cases, and we attributed this condition to a slight excess of subcuticular fat. In our experiences, both in the human being and the dog, we have often found quite an enlargement of the thyroid, although the gland was not palpable before operation.

If the condition would be caused by a disfunctionating thyroid, we might suspect some similarity in the pathologic picture, but in the cases in which operation was performed, almost all differed histologically. If we accept the condition of hyperplasia as a picture of increased activity of the thyroid, then hyperthyroidism probably could not be a factor in the production of catatonia, as most of the glands showed a fibroid or colloid change, consequently rather a lessened secretion. Thus only a perverted secretion (if such a condition exists at all) could be considered, and in view of the subsequent experiences of others, even this factor seems very unimportant.

Kanavel and Pollock[13] operated on twelve patients, and in reporting gave very conservative and guarded conclusions. They thought at first that the acute cases were somewhat benefited, but subsequent events have shown that this was erroneous. Kanavel[13] tells us that as far as he is able to judge, there is absolutely no justification for thyroid surgery in this condition.

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[9] Grancher: (1897) Centralbl. f. Nervenh., 1887, x, 225.
[10] Comby: Traité des Maladies de l'enfance de Grancher, iii, 910.
[11] Marfar: Jour. de Méd. int., 1900, No. 3, p. 596.
[12] Berkley: Am. Jour. Insanity, January, 1909.
[13] Kanavel: Am. Jour. Insanity, January, 1910, xcvi, 437.

Winslow briefly reports five cases in which operation was done, with rather discouraging results; still he believes there is some connection between the thyroid and the condition in question.

Norbury, who has had an enormous experience among the insane, and who is also a keen observer, fails to see any resemblance between Graves' disease and catatonia, and strongly doubts that the thyroid is the offending member in the last named condition.

SUMMARY OF WORK

The object of this research was to ascertain the percentage of goiter among the insane and the proportional presence of struma among the various forms of insanity.

For this purpose we examined 4,184 insane patients, 2,000 at Kankakee and the rest at Dunning. In palpating the necks of these patients we aimed to be as thorough as possible. Whenever we were in doubt as to the presence of an enlarged thyroid, we consulted between ourselves and with others, and if still in the least doubt the case was discarded. In this way, undoubtedly, some enlarged glands escaped us, but the cases enumerated as goitrous were unmistakably such.

In diagnosing the type of gland we have called a soft gland, simple goiter; a firm hard one, a fibroid, and a distinctly fluctuating one a cystic goiter. Here again, of course, several errors may have been committed.

Among the 4,184 cases there were 270 distinctly palpable thyroids (goiters), 6.45 per cent.

There were 2,125 males with forty-eight goiters, 2.25 per cent.; and 2,059 females with 222 tumors, 10.78 per cent. The relation of goiter between males and females was then about one to four or five. In these goiters the right gland was enlarged 101 times, and the left twenty-four, thus making the relative proportion one to five.

There were 131 bilateral enlarged glands, and in these almost invariably the right gland was the larger.

The middle lobe was enlarged in twelve cases.

There were 244 simple, twenty fibroid and four cystic goiters. Only two cases of typical exophthalmic goiters were found in this series.

Undoubtedly some cases of Basedow's disease, in which the symptoms were not very pronounced, escaped our attention, but it seems that in the territory tributary to Kankakee and Dunning such patients do not often manifest mental symptoms prominent enough for confinement in an asylum.

Leaving out a few types of insanity comprising a small number of cases, dementia præcox presented the greatest percentage of goiters and also the greatest number of insane. As the catatonic form of dementia præcox had been considered due to thyroid disturbance, we expected to find the greatest number of goiters in this type; but we found that the hebephrenic form had 93 per cent. of the goiters.

Next to dementia præcox came involution melancholia and then the paranoic state.

By far most of the goiters, 133, almost 50 per cent., were present in native born; Germans thirty-six, Irish seventeen, Swedish thirteen.

Further summary of the work is given in the accompanying table.

TETANY IN ADULTS

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The first definite description of the peculiar group of symptoms to which Lucian Corvisart afterward gave the name "tetany" was by a German, Steinheim, in 1830. A year later Dance, a Frenchman, published several cases under the name of "intermittent tetanus" and during the next thirty years the French school was most active in recording clinical features of the affection, the classical papers of Trousseau being the most notable of this period. After 1870 the scene of activity was shifted to the other side of the Rhine, probably because the disease appeared less frequently in France and became more common in Germany. The most important communications of the next decade were those of Kussmaul, Riegel, Erb and Chvostek, senior, while the description of the relation of tetany to total thyroidectomy in 1880 by Nathan Weiss, writing from Billroth's clinic, and the many papers which followed slowly the discovery of the parathyroids by Sandstroem in the same year, gave new impetus to the study of etiologic factors. The endemic occurrence of the disease in Vienna afforded particularly favorable opportunity for investigation which has borne fruit in the excellent reports of Frankl-Hochwart, Chvostek junior, Escherich, Pineles, Erdheim, Schlesinger, Biedl and others. The important work of W. G. MacCallum, Halsted, Beebe and Berkeley in this country is well known. The monograph of Frankl-Hochwart (1907), or the more recent works of Ochsner and Thompson ("Thyroid and Parathyroid Glands"), or of Biedl ("Innere Sekretion"), contain extensive bibliographies.

In tetany the characteristic feature is the occurrence of intermittent tonic, usually symmetrical spasms affecting most often the extremities, particularly the arms, and rarely leading to any disturbance of consciousness. In the milder forms the arms alone may be affected and the hands brought into the peculiar position, with fingers extended and approximated, the thumb extended and adducted—*la main d'accoucheur* of Trousseau. The position of the fingers can be imitated by electrical irritation of the ulnar nerve. These illustrations and the sketch by Dr. Sterling Bunnell of a patient of mine during a seizure show the typical tetany hand. In severe types spasm may involve not only the extremities, but the face, jaw, larynx, abdomen, diaphragm and even the eyes. The seizures may last a few moments or, rarely, for hours or days. Nearly always sensory phenomena accompany or precede the motor. Extensive and prolonged spasm occasions intense suffering. Numbness, tingling, prickling and coldness of the surface; heaviness, aching, soreness, tenderness and stiffness of the muscles are the sensations most frequently described. In chronic cases secretory and trophic changes may occur—sweating, edema, pains and swelling in joints, loss of hair and nails. Isolated myotonic phenomena may be manifested and myotonia congenita (Thomsen's disease) simulated. Following or occasionally replacing the spasmodic seizures flaccid or spastic weakness of the lower extremities has been noted. Clouding and loss of consciousness are not infrequent in tetany of gastric origin. Psychoses have been described by Frankl-Hochwart. The relations of tetany and epilepsy are important and will occupy us later.

THE TESTS FOR MILD TETANY

From the study of mild cases during epidemics and of chronic cases following lesions of the parathyroids, or due to stomach disease, it is evident that, in addition to typical tetany with characteristic spasms, a number of latent, atypical or *fruste* forms exist that are only to be unmasked with aid of certain tests. These tests or signs depend on the increased irritability of sensory and motor nerves to mechanical and electrical stimulation. A knowledge of them is essential in diagnosis.

1. *The Trousseau Phenomenon.*—Trousseau found that by compressing the arm or leg of a patient with tetany, the characteristic spasms could be brought about at will. The phenomenon is best elicited by grasping the upper arm firmly, the thumb externally, the four fingers compressing the brachial plexus strongly against the humerus. Gradually, in positive cases, after an interval varying from a few seconds to four or five minutes, the forearm stiffens, the wrist is flexed and the fingers straightened and adducted. This sign is almost pathognomonic; the muscular contractions following pressure in hysterical individuals occur suddenly and do not bring the hand into the typical position. It depends, as Frankl-Hochwart has demonstrated from animal experiments, on mechanical irritation of the nerves and not of the blood-vessels, as was first supposed. It is a reflex phenomenon and may rarely be occasioned by irritation of more distant nerves.

I have examined several hundred patients for the Trousseau sign and have never found it apart from tetany. In January this year a man entered the University Hospital complaining of paresthesias and occasional severe pain in the extremities, with aching in the muscles, tenderness and intermittent cramps. The character of the muscular spasms and the presence of typical Trousseau and Hoffman phenomena determined the diagnosis of tetany.

2. *The Erb Phenomenon.*—This is perhaps the most characteristic of all tetany signs when present. The irritability of the motor nerves is greatly increased to the galvanic current, much less constantly to the faradic. Very weak currents cause tetanic contractions—even anodal opening or closing tetanus can be frequently demonstrated.

3. *The Chvostek Phenomenon.*—This depends on increased mechanical irritability of the nerves and is most readily demonstrated in the facial distribution. Frankl-Hochwart describes three degrees of irritability; in the highest grade (Chvostek No. 1) a tap on the facial nerve in front of the ear causes twitching in all the muscles supplied by it. In Chvostek No. 3 twitching of the muscles at the corner of the mouth alone occurs. Chvostek, junior, has recently emphasized the importance of this sign, first described by his father. Frankl-Hochwart, Schlesinger and others, without denying its value, have insisted on the fairly frequent occurrence in other conditions, especially neurasthenia, hysteria, tuberculosis.

4. *The Hoffmann Phenomenon.*—This is of much less significance in diagnosis. There is increased irritability of the sensory nerves to both galvanism and faradism and slight currents may cause tingling or pain. Chvostek, junior, has shown that the nerves of special sense may be in a similar state of hyperexcitability. The leg phenomenon recently described by Schlesinger and the methods of producing spasms of the hand by forcible abduction of the arms, thus stretching the brachial plexus, or evoking spasm in the feet by stretching the sciatic nerve by forcible flexion of the trunk on the thighs, are merely modifications of the Trousseau procedure. In a case seen recently the Chvostek and Erb phenomena were most marked, but the Trousseau sign could not be demonstrated. Extension of the leg on the thigh and forcible flexion of the thigh on the trunk caused spasmodic extension of the foot in equinovarus position—the Schlesinger leg phenomenon.

The above phenomena and the peculiar muscular contractions are identical in all forms of tetany. Following Frankl-Hochwart, it is usual to distinguish seven groups of varied etiology or associations.

THE FORMS OF TETANY

1. Idiopathic, professional or endemic tetany is seen most frequently in Vienna and Heidelberg, occurs most often in young men—particularly in shoemakers and tailors. I saw a number of cases in the clinics of Frankl-Hochwart and Chvostek in 1895 and 1896, but have failed to find any typical ones in California. As goiter is frequent with us the observation of Chvostek is interesting, that tetany rarely occurs in regions where goiter is endemic.

2. Tetany of gastro-intestinal origin is seen most frequently in connection with pyloric stenosis, but has been described with varied diseases of the intestines, gall-bladder, appendix and pancreas, after long-continued diarrhea, or associated with intestinal parasites.

3. The tetany of acute infectious diseases—typhoid most commonly—cholera, influenza, measles, scarlatina.

4. Tetany after poisoning by chloroform, morphin, ergot, filix mas, cocain, novocain, lead, phosphorus; organic intoxication as in nephritis. The experiments of Rudinger have important significance in this connection. Poisons such as atropin, morphin, tuberculin, mercurial salts and ether were injected into cats with no appreciable effect on their nervous system. When, however, the outer parathyroids were removed, after such injections, tetany developed in certain animals and increased electrical excitability of nerves in others.

5. The tetany of pregnancy, the puerperal period and lactation. MacCallum believes that the drain of calcium in lactation or for formation of the fetus in pregnancy may alone in certain cases be sufficient to cause tetany. If parathyroid insufficiency already exists tetany is all the more certain to occur. It has long been known clinically that women with chronic tetany (idiopathic thyreopriva) were subject to exacerbations during pregnancy and lactation. Vassale and Generali early in their important work on the physiology of the parathyroids (1896) noted that animals with partial parathyroidectomy, showing few if any symptoms of tetany, developed severe manifestations of the disease in pregnancy and the puerperium. The experiments of Erdheim, Pineles, Thaler and Adler have served to confirm and elaborate their observations. Vassale would refer considerable importance to parathyroid insufficiency in the production of eclampsia, and Zanfrognini is inclined to think he has seen good results follow administration of an extract derived from beef parathyroids.

6. Tetany following extirpation of the thyroid or, as we know now, of the parathyroids.

7. Tetany in association with other nervous diseases—brain tumors, syringomyelia.

In recent years the essential identity of symptomatology in the tetany of these different groups has sought explanation in a possible common cause—the insufficiency of the parathyroid glands. In 1880 the Swedish anatomist, Sanstroem, described certain small glands constantly to be found in the neighborhood of the thyroid and distinctly different from accessory thyroids; these he names parathyroid glands. This anatomic fact was confirmed by other observers, but was first vitalized by the brilliant experiments of Gley, who found that tetany following operations on the thyroid was due to loss of the parathyroids and not the thyroid. Vassale and Generali removed the parathyroids alone and left the thyroid uniformly producing tetany. From the work of these authors, of Jeandelize, MacCallum, Erdheim, Pineles, Biedl and a host of others it has been firmly established that tetany follows extirpation of the parathyroids in all animals. Tetany in man after thyroidectomy is no longer, therefore, attributed to loss of thyroid function, but to removal or injury of the parathyroids. Simple thyroidectomy leads to myxedema alone.

The etiologic unity of all forms of tetany on a basis of parathyroid insufficiency, first suggested by Jeandelize in 1902, has received the support of such investigators as Chvostek, Pineles and Escherich. Pineles has pointed out that not only are the common symptoms identical in the various groups, but that rarer ones, such as cataract, loss of hair and nails, epileptiform attacks observe the same rule. Frankl-Hochwart has shown that tetany of all varieties is subject to the same seasonal fluctuations; most cases occur in March and April, the flood tide being in March. Very few cases are met with in summer or fall. The fact that chorea is most common in the spring months is of interest in this connection. There is yet no satisfactory pathologic evidence that the various forms of tetany depend on parathyroid lesions. In Escherich's clinic Yanasse found hemorrhagic changes in the glands in thirty-three out of eighty-nine children who had presented tetanoid symptoms. MacCallum and Koenigstein reported proliferative cell-changes suggesting hyperfunction in cases of gastric tetany. Erdheim found the parathyroids perfectly normal in two cases and Opie could find nothing abnormal in a case reported by Kinnicutt. Chvostek has assumed circulatory disturbances with disturbed function as the cause of symptoms even without morphologic changes in the glands.

Although it seems to me premature to adopt the theory of parathyroid insufficiency as the cause of all the clinical conditions to which the name tetany has been given, the vital importance of the glands cannot too strongly be impressed on the mind of the clinician and the surgeon. The anatomic relations of the glands are best shown in these plates from Halsted and Evans and Ochsner and Thompson. "With great regularity these little epithelial bodies are situated on or very near the posterior border of the lateral lobe of the thyroid gland and more or less in line with an important landmark, the 'channel' of anastomosis between the superior and inferior thyroid arteries" (Halsted). The dangers in thyroid operations are chiefly from crushing or from interference with the blood-supply and the safest procedure would seem to be the "subcapsular" operation of C. H. Mayo, with very careful ligature of vessels as near the gland as possible.

Injury of the parathyroids at operation is not necessarily followed by fully developed tetany. In animals with apparent complete parathyroidectomy a peculiar slow cachexia has been observed. In partial thyroidectomy chronic nutritional and trophic disorders such as loss of hair, emaciation, changes in the teeth have been described. Halsted has given a graphic account of postoperative symptoms following thyroidectomy due to insufficiency of the parathyroids. Peculiar nervous states —anxiety, waves of numbness and paresthesias, prostration, depression, coldness of the skin, slight hard edema of the legs, arthritic pains, loss of weight—were noted during a long period of observation. Alarming symptoms of the earlier days after operation were relieved by large doses of dried parathyroid glands and the later condition of invalidism with its manifold distressing symptoms was almost entirely cured by subcutaneous administration of the parathyroid nucleoproteid prepared by Beebe. Halsted has proposed the names hypoparathyreosis or status parathyreoprivus for the condition. The readiness with which such states could be mistaken for hysteria or neurasthenia is obvious. As will be noted later they occur apart from operative injury to the parathyroids. They are the cases of "latent tetany," chronic tetany or tetanoid conditions described by Frankl-Hochwart, Chvostek, Schlesinger and others.

Lundborg has written most entertainingly of the relations of tetany to other spasmodic affections such as myotonia congenita (Thomsen's disease), myoclonia and paralysis agitans, and has referred them all to parathyroid insufficiency or hypoparathyroidism. On the other hand, he would regard myasthenia gravis and periodic myotonia as affections due to hyperparathyroidism—or dysparathyroidism. Chvostek has recently adopted this view of myasthenia gravis and Berkeley and Camp have seconded the hypothesis of Lundborg concerning paralysis agitans. R. L. Thompson, who compared the parathyroids from nine cases of Parkinson's disease with those of thirty-nine cases of individuals who died of other diseases, failed to substantiate such theory; he writes: "The parathyroid glands in individuals dying with this disease (paralysis agitans) present no change either in number, size, position, or histologic structure that would serve to distinguish them from the parathyroid glands in individuals dying from other diseases."

The exact manner in which parathyroid removal or disease gives rise to tetany is not yet determined. The present state of our knowledge is excellently reviewed in the recent article by Beebe in Hare's "Modern Treatment," from which the following quotation is taken:

> "We may summarize the present ideas in regard to this matter by stating that one set of investigators maintain that a deranged calcium metabolism is the origin of the disturbance, while others believe that it is an essential damage to the nitrogenous metabolism. McCallum and Voegtlin find that parathyroidectomy is followed by an actively increased excretion of calcium, amounting to a calcium diabetes. The evidence in favor of what may be called the calcium deficiency theory may be summarized as follows:
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> 1. There is a low retention of calcium during the eclamptic period of gastric tetany, a condition probably similar to that of tetany parathyreoprivus (Cybulski, Pineles).
> 2. Surgical removal of the parathyroid gland is followed by an increased excretion of calcium, and the brain of an animal dead of tetany contains less calcium than is found in the brain of a normal animal (McCallum and Voegtlin).
> 3. Intravenous administration of a soluble calcium salt promptly relieves the symptoms of tetany parathyreoprivus.
> 4. The inactivation of the circulating calcium by means of intravenous injections of trisodic citrate is accompanied by muscular twitching and convulsions identical in character with those of tetany, and these may be relieved by the injection of soluble salts in sufficient quantity to restore the equilibrium (Sabbatini).
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> The evidence in favor of the symptoms having their origin in a metabolic toxin may be summarized as follows:
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> I. The symptoms have a central origin.
> II. Symptoms are shown best in young animals, and are more severe if the animal has been kept on a meat diet.
> III. The symptoms have close relation to certain clinical conditions which are accompanied by severe nutritional disturbances.
> IV. Gastric tetany is accompanied by severe metabolic disturbance, it has similar symptoms, and is promptly relieved

by intravenous calcium injections and by parathyroid nucleoproteid.

V. Bleeding, followed by intravenous infusion, relieves the animal, a procedure well suited to free the body from a circulating poison.

VI. Symptoms are promptly relieved by the injection of fresh parathyroid nucleoproteid.

VII. Injection of known simple poisons, such as ammonia and xanthin, produce symptoms which can be promptly relieved by the injection of calcium or strontium salts, similar to the relief obtained by the same means in tetany.

VIII. Parathyroid tetany has a deranged metabolism, accompanied by a large increase in the excretion of ammonia.

It is certain that the symptoms are caused by removal of the parathyroids and that they may be relieved by the administration of parathyroid proteid. For therapeutic purpose, the most effective method of administering the gland extract is hypodermic injection.

CLINICAL REPORTS

CASE 1.—In February, 1906, a man aged 50 was seen in St. Luke's Hospital with severe gastric symptoms. There was a definite history of ulcer some ten or twelve years previously, with a period of comparative health following, and of vomiting attacks during the last two years. During the last six months the man had been in hospital several times with typical symptoms and signs of a greatly dilated stomach. Three or four quarts of material would be vomited at different times. Examination of the content showed free hydrochloric acid and sarcinæ. There was most marked gastric peristalsis. Operation was obstinately refused and therapy was limited to diet and lavage. Two weeks before the final examination the phenomena of tetany were looked for but not found. After leaving the hospital, the patient had several severe vomiting spells, and on the day previous to being seen, had a convulsive seizure which lasted some hours, and was succeeded by stupor. When seen there were typical spasms of hands and feet with involvement at times of the abdominal muscles and of the mouth and eyes. There was low delirium and no complaint of paresthesias or pain. The Chvostek and Trousseau phenomena were readily demonstrated. The seizures lasted a few minutes only and were repeated several times during the day. No vomiting occurred. The patient was given salt under the skin, thyroid extract by mouth and rectum, and bromid and chloral enemata. Stupor gradually deepened and death occurred forty-eight hours after the first seizure.

CASE 2.—In April, 1907, a woman of 40 was seen in consultation because of attacks of vomiting severer than any of those to which she had been long accustomed. There was a history of indigestion dating back fifteen years. From the occurrence of severe pain in previous attacks and of blood vomiting, there was no doubt of a chronic ulcer as the chief cause of the condition. For three years she was known to have had pyloric stenosis and a dilated stomach. With careful dieting and stomach washing she had been fairly comfortable, but in the last month, had been losing weight and strength. The amount of material vomited was far in excess of what she had taken—as much as six quarts were collected in twelve hours. Previous examinations had shown hyperchlorhydria and constant presence of sarcinæ. In the past two weeks she had grown extremely nervous, had slept badly, had grown weak, and twice, after having the stomach washed and emptied of several quarts of stagnating content, had suddenly lost her sight, complained of general numbness and had lost consciousness. On examination stomach-splashing was elicited just above the pubes, the stomach outline was plainly apparent and waves of peristalsis rolled across the hypogastrium. There was a peculiar anxious, rigid facies that suggested examination for the phenomena of tetany. A history was elicited of painful cramps in the left leg and arm during the past month, and of numbness and tingling of the hands apart from the vomiting attacks. The Chvostek, Trousseau and Hoffmann signs were most marked and contraction of the abdominal muscles could be occasioned by percussing the epigastrium. There were no signs of organic nervous disease. The eye-grounds were normal. The thyroid was moderately enlarged. Operation was strongly urged, but was refused. The patient fell into the hands of a quack and died two months later.

CASE 3.—A woman aged 31 was first seen April 5, 1905. She had facial erysipelas as a child and always had considerable nose and throat trouble. This, by the way, has an important bearing on thyroid disease. For five or six years vomiting had been frequent. The least nervousness would bring it on. Sometimes there was nausea but most often not. Two years previous there had been severe recurring cramps in the right hand and arm and she had to stop work as a bookkeeper on account of this and extreme nervousness. The past year there had been palpitation, trembling and sweating.

In 1901 curettage was done for painful and irregular menstruation, with relief for six months. In October, 1904, the patient was curetted again and this was followed by infection, with considerable pain about the appendix and up along the colon. Her first examination suggested a *fruste* form of exophthalmic goiter. There was a moderate goiter, marked tremor of eyelids, tongue and hands, Moebius' sign positive, pulse 90 to 100. One sister had a moderately enlarged thyroid.

After long observation it became apparent that she had a dilated ascending colon and cecum, due presumably to adhesions of the hepatic flexure, of gall-bladder or stomach origin, or possibly a result of infection following curettage. Under bromids and rest the thyroid symptoms disappeared. There was ptosis of the stomach with atony, ptosis of the colon, but very little displacement of the kidneys.

In August, 1906, Dr. W. I. Terry made an exploratory incision and found extensive adhesions about the hepatic flexure, with an acute kinking of the colon. There were some adhesions of the colon to the duodenum, but no gastric or duodenal ulcer was demonstrable. The adhesions were freed and nothing further done. Recovery was made eventful by persistent cramps in the thigh and calf muscles. No signs of tetany were elicited. The patient did not do well, and in October, 1907, signs of more serious stomach trouble became apparent. The stomach became dilated, the lesser curvature being 2 cm. above the umbilicus, and the greater curvature reaching into 2 or 3 cm. above the pubes. There was no visible peristalsis, but vomiting was more frequent and stomach tests showed stagnation. Free hydrochloric acid varied from 27 to 35, and total acidity from 47 to 65.

Under regular lavage, improvement took place for a time, but operation was demanded later by the continued vomiting, pain and malnutrition. Dr. Terry operated in February, 1908. There were dense adhesions about the hepatic flexure and pylorus, the stomach was greatly dilated and prolapsed, the transverse colon was long and hypertrophied. Adhesions were loosened and a posterior gastro-enterostomy done. Owing to encasing of the pylorus in adhesions a Finney operation was not deemed possible.

During the days following operation there was much vomiting, often of large amounts of greenish fluid. On the 17th another of these attacks occurred and stomach peristalsis was seen. Sudden loss of vision for a few minutes occurred next day. There was much complaint of general pain and aching in the muscles. On the 19th there was vomiting of 900 c.c. at one time and this was followed by an attack of faintness, numbness and tingling in the extremities. A stomach-tube, which was well borne up to this time, now caused great distress and a feeling of constriction in the throat, and its use was discontinued. On the 21st Chvostek and Trousseau phenomena were quite marked and there was a spontaneous spasm involving the hands, arms and feet. During the next three days these typical paroxysms of tetany were repeated several times a day. They seemed to follow vigorous peristalsis of the dilated stomach, which caused intense abdominal pain, or they were brought on by excitement or other emotion. In several seizures there was great distress in the chest, a feeling of constriction in the neck and throat, and rigidity of the muscles of the face. The vomiting continued and the patient was given large amounts of water in order to wash the stomach out without the use of the tube; food was discontinued by stomach and enemata of salt solution were given every four or six hours. As the attacks continued, treatment with parathyroid extract was begun, at first dried powder and later by hypodermics of an aqueous solution of the nucleoproteid from beef parathyroids. These extracts were prepared by the method kindly given me by Dr. McCallum. The use of the parathyroids seemed both to Dr. Terry and myself to have a distinct influence in controlling the attacks. After February 26 there were no spontaneous spasms, although there would be occasional complaint of paresthesias in the hands. Chvostek and Trousseau phenomena could be elicited on almost every examination.

It became apparent that the patient could not be kept alive under existing conditions and on March 1 an enterostomy was done by Dr. Terry in order to shunt out the stomach and permit of sufficient feeding. Consequent on the patient's removal to the hospital and the preparation for operation, spasms of the arms and feet returned. The spasms were much more marked in the left arm, as had been noticed a number of times previously. Operation was done under ether and it was interesting to note that during the operation, although reflexes were everywhere abolished, the rigidity of the hands persisted. Throughout the operation also, there was a rhythmic tremor in the interossei muscles identical with the tremor of Parkinson. There were four to six oscillations to the second and the movements of the fingers, when coming out from ether after the spasm had relaxed, were the same as in paralysis agitans. At the end of the anesthesia, the electric irritability of the hand muscles was tested both to faradism and to galvanism and found to be greatly increased. Unlike what is usually noted, there seemed to be the same increase of irritability to faradism as to galvanism.

As a precautionary measure, two or three doses of parathyroid extract were given subcutaneously and for a few days three hashed-up beef parathyroid glands were given through the enterostomy tube. For three or four days the patient did well, but after that vomiting occurred, there was great complaint of abdominal pain and it became apparent that there was regurgitation from the jejunum into the stomach. Despite the vomiting, considerable food passed into the bowel and marked attacks of tetany did not recur. There was still complaint of paresthesias and the Chvostek phenomenon could at times be obtained. The patient's general condition for a long time was miserable. She was unable to see well, but an examination of the eyes by Dr. Alexander failed to show cataract or fundus changes. Gradual improvement took place during April and May and the patient was able to go to the country. Death from drowning occurred the same summer through an unfortunate automobile accident.

It is interesting that the attacks of tetany came only after gastroenterostomy. Signs of it were looked for but never found until some days after the first operation. It is noteworthy in the history that severe cramps occurred after the first operation and that the patient had for years been subject to muscle cramps in different areas. The spasms seemed to be excited by violent peristalitic contraction of the stomach or by emotional disturbances. They did not seem to have any particular reference to the amount or character of the vomitus. After operation, although the vomiting continued, peristalsis of the stomach almost wholly ceased, and with this cessation the attacks of tetany disappeared. The toxic theory of gastric tetany would harly seem to be borne out by our observations.

Case 4.—In December, 1909, a man of 48 was seen on account of stomach symptoms dating back seven years. For three years distress, vomiting, pain and occasional blood vomiting had been the chief symptoms. Then he began to vomit large amounts occasionally and to notice residue from meals eaten days before. Since beginning the regular use of the stomach tube there had been comparative freedom from vomiting and serious attacks until the spring of 1909. He then grew very weak and nervous, was troubled greatly by numbness and twitching in the extremities, with spasmodic seizures involving the hands, feet and calf muscles. Two days before being seen he vomited and subsequently had numbness of the extremities and cramping of the hands and feet. Examination Dec. 10, 1909, showed a tremendously dilated stomach with peristaltic stiffening on tapping the epigastrium, and 1,000 c.c. were evacuated after an Ewald meal, with grape-seeds said to have been eaten three weeks previously; free hydrochloric acid 24, total acidity 104, sarcinæ numerous. The man was emaciated, weak and nervous. The Chvostek, Trousseau and Erb phenomena were all positive. Deep reflexes were increased. The thyroid was not enlarged. The urine contained a slight trace of albumin. After three days' preparation with lavage, salt solution by rectum and 4 gm. (60 gr.) calcium lactate daily by mouth, he was operated on by Dr. Stanley Stillman. A greatly dilated stomach with marked stenosis of the pylorus was found and a posterior gastro-enterostomy was done. Recovery from operation was uneventful, there were no signs of tetany when examined three weeks later and the man was well when last heard from six months prior to this report.

Three other cases of gastric tetany, with less typical symptoms, might be reported in detail if time allowed. In a woman of 28 seen in March, 1909, dilatation of the stomach resulted from duodenal adhesions following gall-bladder disease. Operation relieved the condition and tetany did not recur.

In a man of 50 seen in February, 1908, epileptiform attacks ended in stupor and death. At autopsy the stomach was found tremendously thickened but not dilated; there was pyloric stenosis of long standing.

A man of 40 was seen in consultation in January, 1910. There had been symptoms of a dilated stomach for two years and severe tetanic seizures had been occurring in the last month. The man was moribund when seen. No autopsy was obtained.

Gastric tetany was first described by Kussmaul. It is, on the whole, a rare condition. Fleiner, in 1903, collected reports of forty cases and reported eight of his own. Since 1903 there have been reports of about thirty additional cases. The condition is generally associated with ulcer of the stomach or duodenum, with resulting stenosis and gastric dilatation. Most of the cases have been with benignant stenosis, but several cases of carcinoma have been reported. Cases have occurred with stenosis of the duodenum due to pressure from a pancreatic cyst or following stenosis due to gall-stone ulceration or from stricture of the bowel lower down. Warbasse has reported a case of tetany due to foreign bodies in the stomach, with cure after removal of the offending agents. As a rule hyperchlorhydria has been found, but this is not at all necessary, as several cases have been reported with an acidity. All degrees of spasm may be noted and isolated muscle cramps should always suggest, when they occur in a patient with pyloric stenosis, with or without a dilated stomach, the possibility of latent tetany. It is necessary in these cases, to test the Trousseau, Chvostek and Erb phenomena. In the majority of cases, however, gastric tetany is of a severe type, is of bad prognosis and in a great majority of the cases reported the patients have died. In 1898 Mayo Robson reported several cases of gastric tetany in patients treated by gastro-enterostomy, and since then about thirty patients thus treated. The results are far more favorable than by any other method and it becomes our duty to urge operation in all cases.

As noted above, it has been attempted to refer gastric tetany, as the other forms of tetany, to parathyroid insufficiency or to calcium deficit, but practically all questions concerning gastric tetany still await solution. We do not know why some cases of pyloric stenosis, particularly those associated with dilatation of the stomach, are followed by tetany while the great majority of apparently similar cases never show any symptoms of the disease. It may be perfectly well that in persons with parathyroid insufficiency brought about in other ways, the added intoxication from the stomach is sufficient to call forth an attack. With removal of the stomach factor by operation the tetany is apparently cured. It would be interesting to observe such cases in future years and to see whether the tetany has actually disappeared or is merely latent. In women, pregnancy would be rather a crucial test of the completeness of the cure. It is worthy of note, as Frankl-Hochwart has indicated, that the gastric cases follow the general rule and are decidedly more common in the months from December to May. Of the cases above noted, one was seen in December, one in January, three in February, one in March, one in April.

Case 5.—A married woman of 41 was first seen Feb. 28, 1908. She had two children 19 and 13 years of age; a pelvic infection had followed the first birth. She had lived for years in malarial districts but remembers no infections except so-called grip in the spring of 1905. In September, 1905, without obvious cause she had an acute collapse and was for some weeks prostrated and without appetite. Gradually she partially regained her strength but in May and September, 1906, she had a repetition of what she called her severe attacks. These recurred about twice a year, usually in spring and fall, apparently without cause. They were characterized by general nervousness, prostration, loss of weight and appetite, indefinite gastric symptoms and peculiar paresthesias—prickling and tingling of the extremities and numbness that comes in waves and extends all over the body. With this numbness was associated a peculiar anxiety, a feeling of "goneness" and of dread. The important data on examination were an absence of the usual physical stigmata of neurasthenia or hysteria, slight signs in hair and skin of thyroid insufficiency, a decided soft enlargement of the thyroid gland, enteroptosis with a large atonic stomach and a dilated colon. The pulse varied from 90 to 96, there was slight tremor of the eyelids and fingers. Pressure on the arms in the attempt to elicit the Trousseau phenomenon caused disagreeable paresthesias in the ulnar distribution and a general numb feeling such as she had already described. Neither Trousseau nor Chvostek signs could be demonstrated. A year later the patient was seen again with approximately the same sensory symptoms. During one of the periods of exacerbation in January, 1909, typical spasms of the hands had occurred. In April, 1909, Trousseau and Chvostek signs were both positive. Considerable improvement had occurred from abstaining from meat, regulation of constipation, small doses of thyroid extract and frequent administration of calcium lactate. The tetany was more probably due to parathyroid insufficiency, associated with the evident goiter and slight thyroid insufficiency, rather than of gastro-intestinal origin.

Case 6.—A woman aged 45 was first examined March 22, 1909. She had always been subject to periodic headaches, evidently migraine. Her mother and mother's mother had suffered from headache of the same type. Both parents died of tuberculosis and in childhood she had had suppuration of the cervical glands and glands had been removed by operation. In recent years there had been some distress in the right hypochondrium at times, much flatulence and marked constipation. There had never been definite signs of appendix or gall-bladder disease. A laceration during birth of her only child, now 25 years old, had been repaired eight years previously and since that time she had not been so well. There had been occasional attacks of cramps in the muscles of the back of the neck and of the legs. She thought that her muscles had always been unusually sore and tender and she had always been bruised easily. Since an attack of bronchitis in January, 1908, she had felt weak and tired mentally and physically. The periods had become irregular the last few months. The facies suggested myxedema, which further examination confirmed. There was a large fat pad at the nape of the neck and tender pads were prominent over the back, arms and inside of the knees. There were old scars beneath the jaw and along the anterior margin of the right sternomastoid. The tissues below the jaw and over the front of the neck were decidedly thickened. The thyroid gland could not be felt. The eyebrows and scalp hair were thin, the temperature subnormal, the voice slow and weak. The heart was moderately dilated; the urine contained a slight trace of albumin. The abdomen was lax and the colon dilated. The blood-count on two occasions showed a moderate secondary anemia, leukocytes 9,000 to 10,500, and a relative increase of mononuclear elements. There were no phenomena of tetany at this time. Under small doses of thyroid extract, 0.06 to 0.20 gm. (1 to 3 gr.) daily, she felt much better, headaches were less frequent and objective signs improved. Thyroid could not be taken in larger doses as it caused palpitation and dizziness. It was omitted in June and July, and in August, during a day of headache, there was numbness and tingling from elbows to the fingers followed by characteristic cramping of the fingers. On Aug. 31, 1909, there were strongly marked Chvostek and Trousseau signs. During the winter and spring of 1909-10, the attacks were controlled by occasional administration of calcium lactate, a diet without meat, and small doses of thyroid extract and arsenic. She went abroad in the summer of 1910 and took no regular treatment. On Sept. 21, 1910, she came complaining of a feeling of tension, aching and stiffness all over and not confined to the extremities as formerly. During the past weeks she had had painful spasms in the feet associated with arching and inversion of the foot. The Trousseau, Chvostek and Hoffmann phenomena were marked. The same night there were repeated severe attacks with general rigidity and contractions of the muscles of the abdomen, jaw and face. Under rest, diet, calcium lactate 4 gm. (60 gr.) daily for a week, and later on tablets of parathyroid extract, the attacks have been controlled. Her general condition at the time of writing is still far from good, however. Weakness, nervousness and paresthesia are prominent symptoms. The Chvostek sign is still positive; Trousseau sign not obtained. The prognosis is grave. Hypodermic treatment with the parathyroid nucleoproteid or transplantation of both parathyroid and thyroid glands is contemplated in the future.

Two months since a woman was sent me for examination on account of protean nervous symptoms. The history of peculiar epileptiform attacks and the presence of a most marked Chvostek phenomenon suggested the possibility of tetany, and treatment with calcium salts was advised. Only continued observation will decide if such cases are really *fruste* forms of tetany or hysteria. During the month previous to making this report a girl of 16 had been under observation to determine the nature of epileptiform seizures that had been recurring during the previous two years. There was a history of loss of consciousness with some of the attacks. Those seen in hospital were hysteroid and not epileptic. Since the age of 16 there had been irregular motor phenomena—twitching and jerking, but no tonic spasms. In the hospital the Chvostek sign No. 1 was constantly present and the Erb phenomenon most marked. The Trousseau sign was not elicited, but the Schlesinger leg phenomenon was obtained. This would seem a case of tetany plus hysterical symptoms, rather than hysteria. Treatment with calcium salts and parathyroid extract is indicated. In this connection may be mentioned the frequent association of tetany and epilepsy; Dr. C. M. Cooper has recently reported an instructive case of this type. An article by Saiz[1] reviews the literature of the subject. We may recall that reports are accumulating which show apparent benefit in idiopathic epilepsy from treatment with calcium salts. Other spasmodic affections, blepharospasm and other tics, seem at times to improve under calcium or parathyroid administration. Berkeley has reported definite improvement in eighteen of twenty-six cases of paralysis agitans in which the patients were treated for long periods by small doses of parathyroid nucleoproteid prepared after the manner described by Beebe.[2] I have records of three patients with Parkinson's disease treated for months with fresh beef parathyroids and of one patient treated with injections of the nucleoproteid. No influence on the disease could be determined.

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[1] Berl. klin. Wchnschr., Feb. 6, 1911.

[2] Modern Treatment, i, 561.

PROGNOSIS

Prognosis in tetany will naturally vary according to the etiologic factors and to the severity and acuity of the seizures. Operative tetany has become rare since careful methods of thyroid extirpation have been adopted and due regard paid to the preservation of the parathyroid. In gastric tetany the mortality is still 50 to 75 per cent. With prompt control of severe attacks by calcium intravenously or by hypodermic administration of parathyroid nucleoproteid, many more cases may be brought to operation and permanently cured. Frankl-Hochwart, from a recent review of fifty-five cases seen ten to fifteen years before, concludes that the prognosis of the idiopathic tetany is not nearly so good as was supposed. Of the patients eleven died, seven had chronic tetany, nineteen had slight symptoms described as "tetanoid," six had myxedema; only nine remained well.

TREATMENT

In the treatment of tetany causal factors should be remembered. In children rachitis should be treated with phosphorus and cod-liver oil. In gastric tetany surgery must remedy the underlying mechanical conditions that are the cause of stagnation, dilatation and intoxication. Emotional disturbances, exposure to heat or cold must be avoided. Meat should be excluded from the diet. Milk is well tolerated and may be of advantage by reason of its large calcium contents. Moderate catharsis and diaphoresis, saline irrigations and the ingestion of large amounts of water may be of slight value in elimination of metabolic poisons. Formerly thyroid preparations were frequently given and apparently with benefit. Kocher has seen disappearance of tetany symptoms under thyroid and thyroid preparations. Frankl-Hochwart and others have seen no benefit from thyroid preparations; rather the reverse.

There can no longer be any question about the efficiency of calcium and parathyroid administration. In severe acute attacks, whether postoperative, idiopathic or of gastric origin, 3 to 5 gm. (45 to 75 gr.) of calcium lactate in 400 or 500 c.c. of normal salt solution should be given intravenously. The action of calcium on control of symptoms is evanescent and the dose may have to be repeated in twelve or twenty-four hours. The parathyroid proteid prepared according to the directions of Beebe is of equal value and should be given hypodermically, 1 c.c. of a 1 per cent. solution every three or four hours for two or three days and then less frequently. Good results from both calcium and the parathyroid proteid in chronic cases have been reported by Beebe, MacCallum, Halsted, Putnam, Poole and others. Dried extracts of the gland have proved less efficacious. Pal reported marked benefit from the use of pituitary extracts in a boy with severe tetany. Ott from experiments on cats concludes that pituitary extract given hypodermically is equal to calcium in the control of spasm. In man the 20 per cent. infundibular extract that is now on the market may be given intramuscularly 7 to 10 drops three times daily. Transplantation of the parathyroids may be of great service in the future in chronic cases of tetany. Christiani has transplanted parathyroids in rats and cats and found the grafts successful after periods of two to five years. Von Eiselsberg transplanted a parathyroid obtained during a goiter operation into the rectus muscle of a woman suffering from chronic tetany, the result of a total thyroidectomy that had been done twenty-seven years before. The tetanic seizures disappeared except for occasional slight spasms of the glottis and electrical irritability became normal.

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A REVIEW OF 542 CASES OF PROSTATECTOMY *

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Included in this study are all of the cases in which a total or partial prostatectomy had been performed previous to April 1, 1911, in St. Mary's Hospital. Four hundred and sixty-one operations were performed for benign hypertrophy of the prostate, seventy-four for cancer, and seven for tuberculosis. The relative occurrence of cancer and hypertrophy was about one in six. Cancer and hypertrophy were observed together in several instances.

Although we were unable to determine any specific etiologic factors in this type of hypertrophy, the cases under our observation differed in this respect from those reported by von Frisch[1] and others. We noted that the condition occurred twice as frequently in men living in the country as in those living in the city. Only a small percentage of them had ever had specific infection.

The greater number of these patients were operated on between the ages of 60 and 70 years. In the series of 542 cases, eleven were under 45 years, 105 were from 50 to 60 years, 268 were from 60 to 70 years, 131 were from 70 to 80 years, fifteen were over 80, and the ages of the remaining twelve were unknown.

Regarding the civil state: 417 were married, ninety-four were widowers and nineteen were single.

The average duration of symptoms before the patient came for operation was 5.96 years. Although we have not chosen our patients because they were good risks for operation and have operated on patients many times that we knew had lesions of vital organs, we have endeavored to operate only on patients whose specific symptoms were dependent on prostatic enlargement. In our experience it has not always been easy to determine this point.

The primary symptoms of mechanical obstruction at the neck of the bladder are frequency, burning, pain and tenesmus. The secondary symptoms are loss of appetite, insomnia, loss of strength and weight. These secondary symptoms may be caused by damming back in the ureters and pressure in the kidneys; or they may be caused by intoxication from the presence of residual urine. The symptoms are identically the same and are probably caused by the same factors which produce symptoms in patients having insufficient kidney elimination. It is then very important to determine whether the patient is suffering from renal insufficiency alone, or whether he is suffering from auto-intoxication resulting from absorption and interference with kidney function, which interference is caused primarily by mechanical obstruction of the enlarged prostate.

Thompson[2] and Guyon[3] state that 34 per cent. of men 60 years of age and over are affected with genuine hyper-

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] von Frisch, A.: Die Krankheiten der Prostata, Leipsig, 1910.

[2] Thompson: Quoted from Die Krankheiten der Prostata by von Frisch, Vienna.

[3] Guyon: Quoted from von Frisch.

trophy of the prostate, and in only 16 or 17 per cent. are symptoms present. It is not unusual in routine examinations to discover a very decidedly enlarged prostate which is not producing obstruction to the urinary flow.

If a catheter be introduced into the bladder and but a slight amount of residual urine be found in a case having marked secondary symptoms without great difficulty in voiding, we may expect little or no benefit from a prostatectomy, no matter how great the tumor's size. Moreover, in such a case, we would operate with great risk. On the other hand, if a great quantity of residual urine is obtained with the catheter (and atony is excluded) the case is one for prostatectomy, even though the tumor be small.

During the past few years we have not only been able to reduce our mortality materially, but have secured a more satisfactory convalescence and better results by spending a little more time in preparing these patients for operation. With a permanent catheter in the urethra or through a suprapubic stab wound we place the patient in the same condition, so far as emptying the bladder is concerned, as he will be after the prostate is removed. In other words, we divide the treatment into two stages, relieving the secondary symptoms first. This will enable the patient to eat, drink, sleep and improve generally in health. We have observed that these patients drink very small quantities of fluids in order to diminish the amount of urine, as a great deal of suffering is caused in voiding. Their arteries are hard and inelastic, and if we allow the condition to prevail it will be difficult to fill up the circulation; therefore, we encourage the patient to take a great quantity of fluid for several days, which fills the circulation and throws the kidneys into marked activity.

It is interesting to note that in almost every instance in which there was any quantity of residual urine, by the introduction of a permanent catheter the specific gravity became much lower within a few days. We have frequently seen it change from 1020 to 1008 or 1009 within a short time. An operation should not be performed until this reaction has taken place and the specific gravity has risen, which may occur in from one to several weeks. Thus the effect of the prostatic enlargement is overcome before the cause is removed.

In determining whether or not to operate for enlargement of the prostate we should consider first the specific symptoms dependent on the enlargement from which the patient is suffering at the time. These symptoms, according to Freyer,[4] may be tabulated as follows:

1. There may be from 3 to 15 ounces of residual urine and the patient not using a catheter.
2. Extreme over-distention and dribbling.
3. Retention from time to time.
4. Ability to void some urine although the patient is obliged to employ a catheter to obtain rest and comfort.
5. Entire dependence on catheter.
6. Complete retention.

As a rule it is not advisable to operate if there be only two to three ounces of residual urine and only slight symptoms. This condition may exist for years without becoming worse.

One-fifth of the patients who presented themselves for operation were using a catheter either all of the time or occasionally. Nearly four-fifths of them had used a catheter at some time during their trouble. Eighty-one (15 per cent.) in the series had had a recent acute retention.

The cystoscope was not often used in prostatic cases as a means of diagnosis when it was first introduced. Within the past five years, however, we have employed it in over 95 per cent. of our cases and have found it of the greatest value in differentiating between tumors, cystitis, diverticulæ, in determining the presence of stones and in selecting the type of operation for a given case.

The perineal operation is the one ordinarily chosen because usually, a shorter and easier convalescence follows this method. But if the cystoscope shows a stone of any size in the bladder, if the median and lateral lobes are enlarged so as to make an intravesical tumor, or we are not able to reach the upper border of the gland with a finger in the rectum, we do a suprapubic operation.

The mortality in these cases is not affected by the type of operation. The suprapubic sinus, as a rule, requires a longer time to close, although the control is absolute from the time the urine is first voided through the urethra. The suprapubic operation is less likely to be attended with the painful complication, inflammation in the epididymis or testicle. The rectum has not been injured in any of our operations for benign lesions.

Of the 532 cases of which we have complete records, 323 were perineal operations for benign hypertrophy; twenty-five of these had stones in the bladder also. Fifty of the series were perineal operations for carcinomata. One hundred and forty benign cases were done by the suprapubic route; forty-one of these were associated with stones. Nineteen carcinomata were removed by the suprapubic route; two of these cases had stones in the bladder. Stones were present in 12.7 per cent. of the cases.

Closure of the urethral orifice is cared for in the first place by the smooth sphincter internus muscle which remains in a condition of constant tonus. This tonus must relax when there is need to void urine, and then comes the effect of the detrusor muscle.

The functional result, referring to the power to retain the urine after operation, is almost as important as the question of mortality. We rarely see patients with complete incontinence and consequently obliged to wear a urinal who can be kept at all comfortable, and many times they are much worse off than they were previous to the operation. Both the external and internal sphincters at the neck of the bladder must play some part in the control. In a case reported by Freyer (an autopsy following a suprapubic operation) the vesical sphincter was greatly dilated, yet there had been no incontinence. We know also that frequently after the tube has been removed following a perineal operation the patient has control by means of the internal sphincter before the perineal wound has become healed.

If the case be not complicated with cystitis, in most instances the symptoms will be entirely relieved by the removal of the obstruction, and it is not unusual for a patient to pass an entire night without voiding urine. We must bear in mind that a polyuria exists in these cases and that the intervals between emptying the bladder will increase as time elapses.

We have been able to trace 90 per cent. of our patients and nearly all of them report that they are absolutely relieved from pain. A number of patients operated on had partially lost control before there was any interference. Two of these patients, operated on by the suprapubic method, regained control after the operation. Two other patients in whom the same operation had been done were not relieved of this symptom. We have had no patients with incontinence following the suprapubic operation for benign hypertrophy. There were two patients in whom the suprapubic operation was done for cancer, who had good control for some time after the operation, but who gradually developed an incontinence on recurrence of the old trouble. The presence of a stone in the bladder may be the cause of dribbling.

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[4] Freyer: Lancet, London, 1909, i, 12: 5-1238

In practically all of our perineal cases we have done the intra-urethral operation through a median incision, being careful to preserve all of the prostatic capsule, especially in the region of the neck of the bladder. It has seemed to us most important to preserve the capsule, but not so important to save the elongated and distorted prostatic urethra. Seven perineal patients had some degree of incontinence, some of which had been dribbling for some time before operation. Three had old specific histories, though there was no evidence of the specific trouble at the time of operation. Besides these, there were eleven patients in whom the retentive power was not strong, but who were able to retain several hours before starting to dribble. Some of them had more difficulty in holding urine when lying down, while others could keep perfectly dry in bed, but would leak a few drops as soon as they got up. Several of the patients did not have good control immediately following the operation, but regained it in a few weeks.

To aid in recovering control we have employed the exercises suggested by Alexander and found them of great value. The procedure consists in filling the bladder and, as soon as dribbling begins, the patient is allowed to pass part of the fluid, holding the remainder as long as possible, then passing more, and so on until the bladder is emptied.

Ten patients report that it is occasionally necessary for them to use a catheter. In most instances this is not due to a mechanical obstruction, but the inability of the bladder to empty itself because of stretched muscle.

Seventy-four cases of carcinoma of the prostate were operated on, in most instances removing only a part of the gland. The immediate result has been quite as good as the results in benign cases. One patient is alive and comfortable four years and a half after the operation; one has lived over three years; four two years and six over one year.

Operation in these carcinoma cases should be advised only when obstruction and bladder symptoms exist. If the patients complain of radiating pains through the pelvis and back, in all probability the operation will not relieve them. We have observed seventy cases clinically diagnosed carcinoma of the prostate on which, for the above stated reasons, it did not seem advisable to operate. Two of these patients lived over four years with more or less discomfort and gradually increasing symptoms.

The average time required for a fistula to heal in perineal cases is twenty-one days. The average time in suprapubic cases is forty days. In our suprapubic cases three persistent fistulæ remain; in the perineal cases there were six fistulæ, although four of these healed and remained so for some time and then opened again.

Epididymitis and orchitis have seldom occurred except in patients having had previous attacks. This complication has been more common following the perineal than following the suprapubic operation.

In fourteen cases in which there was considerable infection at the time of operation or in which there had been previous attacks of epididymitis, just before doing a prostatectomy an incision was made through the base of the scrotum, pressing the vas deferens through, then severing and ligating the cut ends. This procedure only adds a few minutes to the operation. In none of these fourteen cases has there been any lighting up of the old trouble in the epididymis or testicles.

Fourteen of the 542 patients have returned on account of the formation of stones in the bladder following removal of the prostate. Two have returned a second time.

Sixty per cent. of this entire series are living and enjoying reasonably good health. Of the eighty-one patients who have died since leaving the hospital, thirty had carcinoma and twenty were reported as having been well for some time and then dying of other trouble. Twenty-nine died from kidney lesions at some time before the end of the second month. Autopsies were performed in nearly all of the twenty-nine cases and in each instance there was evidence of old infection or nephritis and acute nephritis superimposed.

This data would indicate that a great many if not all of these old men already had some sort of interference in kidney function. This impaired working ability should be interfered with as little as possible.

We consider that the treatment preliminary to operation is the most important factor which has entered into our work on these cases during the past few years. While it is not always necessary to employ a permanent catheter in the treatment, at the same time by its use we are able to eliminate from our mortality list a goodly percentage of the cases that previously had died from kidney changes.

ABSTRACT OF DISCUSSION

Dr. Archibald MacLaren, St. Paul: I recall some deaths that occurred during my early experience, wherein I did not recognize the danger from damming back of the urine and the infection of the kidneys, the post-mortems showing that the operation should not have been done at that time, if at all, on account of pyelitis, nephritis and shock.

The proposition that Dr. Judd makes regarding drainage is very good. I have seen him place a suprapubic catheter through a cannula and it is a very pretty aid in helping to clear up these cases, so that we can watch the patients and find out whether they ought to have any operation.

The common error in all of these cases has been, to my mind, surgical snap judgment, not taking time enough to work out their surgical possibilities.

Recently I removed a large obstructing prostate through the perineum in a man of 70, and he stood the operation so well that before he left the hospital I repaired a bad inguinal hernia which he could not control with a truss; and at that time in exploring the abdomen I found that he had a carcinoma of the large intestine which had never produced obstruction or bleeding. I did not know then and I do not know now how I would go about it to avoid making this same surgical error again.

I believe that Dr. Judd takes the only rational position in regard to the kind of operation. No single surgical method of attack is suitable for all cases. The decision between the suprapubic and the perineal operations ought to be settled by careful cystoscopic examination in each case. In my experience the mortality and the immediate results of the two operations are practically the same.

There is another type of case than the ones described by Dr. Judd, which I have never seen mentioned; and indeed I have never seen but one case myself. In this case the man had a partially controllable, overdistended, leaking bladder. He could urinate about every hour and a half, passing a couple of ounces. In his lower abdomen he had a large irregular tumor which had been under observation by two excellent men for over six months. This man was supposed to be suffering from a malignant tumor of the lower abdomen. I never got quite so nearly caught in my life as on this man who had been confined to his bed for nine months. He had never had a catheter passed into his bladder. The gradual catheterization and later prostatectomy proved a perfect cure even with potency, which was a very important element so far as his judgment went.

I feel that the so-called conservative operation for carcinoma of the prostate should be very carefully considered. I believe that Dr. Judd will tell you that many of these cases of carcinoma were not diagnosed, perhaps, before the operation; but if a large, hard tumor of the prostate can be determined by the finger to be a carcinoma of the prostate, I doubt very much whether many of them ought to be operated on, in spite of Dr. Judd's proposition. Recently I sent a man, not to Dr. Judd, but further east, who had a conservative operation for carcinoma of the prostate. He came home in three weeks and almost immediately had the most terrific hemorrhages into his bladder. He was much more uncomfortable; his life was shortened. I believe that if these people can be taught the intelligent use of the catheter it will be much better for them than to undergo an operation, when only a part of a cancerous tumor is removed.

DR. GRANVILLE MACGOWAN, Los Angeles: Not all of us can have great hospital facilities like the Mayos, and are compelled to operate without them; and we do not have such unusually competent laboratory assistants to examine our pathologic specimens. Consequently any statistics we might give with regard to the number of cancers found among the prostates we have removed, would not have any value. I am satisfied to accept as a standard the statistics prepared at St. Mary's and Johns Hopkins.

After an experience of twenty years in these operations, which very closely approximates Dr. Judd's figures in total number, I am frank to confess that I frequently cannot tell by my finger in the rectum, whether or not a man has cancer of the prostate. If there is much induration extending out along the seminal vesicles and including one or both of them, or the rectum is bound onto the prostate, I am satisfied that I am dealing with a cancer. If there is an ulcerative condition in the posterior urethra which can be seen through a large straight urethroscope, and it appears hard to the eye and is unyielding when touched with a swab, or if by a cystoscope or a straight urethral tube one can see similar ulcers at or within the neck of the bladder on projecting prostatic lobules, there is but little doubt that the condition is cancerous; but I have been deceived more than once when all these conditions were present.

I agree perfectly with Dr. Judd in regard to the necessity of preparing patients when there is polyuria, low specific gravity, low output of urea and symptoms of pyelitis. When the blood-pressure runs from 160 to 220, a similar need for preliminary preparation exists.

I know it is not necessary, and believe it is highly injudicious and cruel, to get a man out of bed in two or three days after operation.

You need not hurry in removing a prostate, any more than you need hurry excessively about any other form of operation. Take whatever time is necessary to complete what you started out to do. The old man who has placed himself in your care expects to urinate with ease, and he wants to empty his bladder and have his nightly rest; and you have no right, by operating on him against a split second stop-watch, to leave a portion of his prostate to obstruct and continue the condition in which he came to you. I have never seen a case of pneumonia following a prostatic operation. I think the fear of pneumonia is a bogey in these cases. I never insist on my patient getting out of bed until he is satisfied to do so and can move comfortably, and an extremely low percentage of fatalities justifies me in this course.

DR. CHARLES D. LOCKWOOD, Pasadena: I have done something like sixty prostatectomies in Pasadena, and there are one or two points that I want to speak of in connection with the operation.

1. As to hemorrhage. Dr. Judd did not speak of hemorrhage as a complication. The two patients that I have lost have died of hemorrhage, one a perineal, and the other a suprapubic operation, and I have had one patient whom I nearly lost from hemorrhage coming about the seventh day after operation. I have noticed that these men who heal up very quickly (this man healed so that he could pass his urine on the seventh day) are more likely to bleed than those who heal more slowly.

2. As to epididymitis, this has been a rather frequent complication with me, and I have noticed that it came on when I used a sound early. I was in the habit of passing a sound when I would remove the tube on the sixth or seventh day. Since I have abandoned that practice, epididymitis is rare. But I have had one case that occurred on the day the man began to pass his urine, and I think that is the time we are most apt to get epididymitis.

I believe too much emphasis cannot be laid on the necessity of preliminary treatment in these old men with distended bladders and with low vitality.

DR. EDWARD STARR JUDD, Rochester, Minn.: Dr. MacLaren stated that he did not believe it advisable to operate in all cases of carcinoma of the prostate. It was not my intention to convey the impression that we always advised operation. In a great many cases of hard carcinomas, as Dr. MacGowan has described them, which we run across in doing routine examinations, in which there had been no troublesome symptoms, nothing could be accomplished by doing a partial prostatectomy. But in the cases of carcinoma in which we have operated the patients came for treatment on account of obstruction to the flow of urine, and by removing a portion of their prostates we can relieve them of just those symptoms. As I have stated we have had something like seventy cases that were diagnosed as carcinoma in which we did not advise operation, because a good many of these patients complained not so much of the symptoms of difficulty in voiding urine, as of pains radiating around the back and down the sciatics. Very possibly a good many of them already had metastatic lesions in the lumbar vertebræ or some of the other bones. Dr. MacGowan says he is not always able to diagnose carcinoma of the prostate. Of our seventy-four cases of carcinoma, sixty-five were referred to us for carcinoma; nine cases were supposed to be benign and turned out to be malignant after microscopic examination.

Regarding the point of hiccup we have always considered that an evidence of insufficient kidney elimination; when the patient begins to hiccup it means that he is not eliminating. We were usually able to relieve that condition by sweats and increasing the amount of fluids. I do not know the exact percentage of cases in which we have observed this symptom.

SHORTENING OF AN OCULAR MUSCLE BY TUCKING *

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The literature of operations designed to increase the power of ocular muscles contains descriptions of more than fifty methods. All of these may have served and many of them may be still serving their originators and others in the field for which they were designed.

It must be difficult, however, for the inexperienced operator to select from this number the one which will best serve his purpose. Naturally, in making his choice he should be guided by the following considerations: First, the safety of the method; second, its effectiveness, immediate and permanent; third, the cosmetic result; fourth, ease of performance; fifth, period of convalescence.

All these operations may be divided into three classes: First, those in which a new insertion is made nearer the cornea (the advancement operation proper); second, those in which the muscle is shortened but the natural insertion preserved, as (a) the tucking operation and

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

(b) resection of a portion; third, those which are intended both to resect and to advance. This is the method most frequently employed. The consideration of these methods is still further complicated by the fact that the muscle alone may be dealt with, or the muscle together with its overlying capsule or muscle, capsule and conjunctiva together. None of these operations is generally considered unsafe, certainly not by the originator. There is, however, a real danger in any operation in which the attempt is made to secure an artificial insertion nearer the cornea, whether the tendon is resected or not. Those methods in which the conjunctiva is advanced or resected have the further disadvantage of leaving more or less permanent disfigurement at the site of operation.

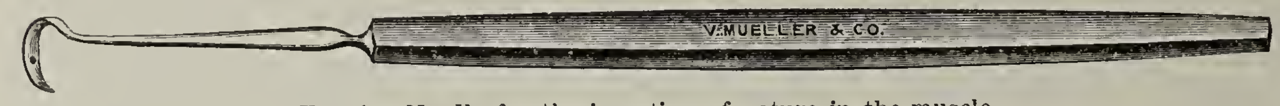

Fig. 1.—Needle for the insertion of suture in the muscle.

SUMMARY OF LITERATURE

Howe,[1] in describing advancement operations, says:

> One of the greatest difficulties in all these operations is that they require the anchorage to be made in what is usually described as the "episcleral tissue," but in reality these sutures are seldom or never in the episcleral tissue only. They are either in the conjunctiva, which is elastic and easily torn, or the needle enters the sclerotic itself. That layer near the cornea is only about 1 mm. thick. The smallest needles are usually more than 0.5 mm. thick, including the curve, and with a good thread such a needle, near its eye, measures often from 0.6 to 0.8 mm. If we use a larger needle it either does not penetrate the sclerotic or, if it does so, it is at the risk of passing through into the ciliary region.

Howe further relates the following incident:

> The danger of attempting to anchor the stitches in the episcleral tissue was once impressed on me by an accident which might occur to any one. The operator, at that time one of our leading colleagues in Berlin, was making an advancement and on passing a small needle through this episcleral tissue the needle broke. The rough end of the part in the globe could be felt only as a point. It could not be extracted by the cilia forceps nor in any similar way. After many efforts, it was necessary to abandon the original operation, to make an incision which opened the globe, and even then the fragment could be found only after careful search for a long time.

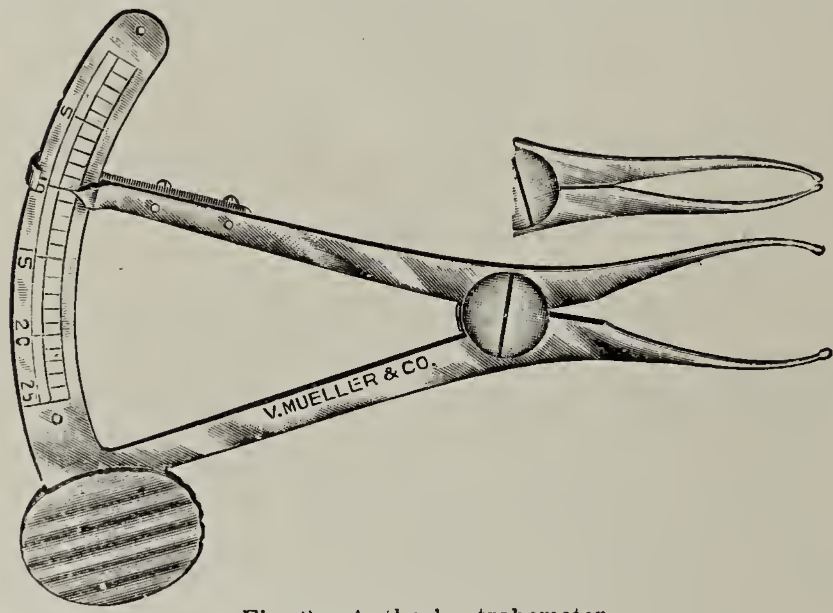

Fig. 2.—Author's strabometer.

I have seen one case of sloughing of the sclerotic, two of perforation of the sclera, and two in which the caruncle was drawn toward the cornea.

R. Wirtz[2] reports a case of phthisis bulbi following an advancement operation, as a result of suppuration of the cornea in a patient just recovered from an attack of angina.

In a discussion of a paper by Dr. Callan[3] before the American Ophthalmological Society, in 1908, Dr. David Webster stated that following the advancement operation he had seen one eye lost by panophthalmitis, three or four cases of corneal ulceration and on more than one occasion the operator's needle had entered the anterior chamber.

Dr. Warwick Cowgill[4] reports a case of ulcer of the cornea following an advancement operation in which there was no injury to the cornea. He attributes the ulcer to the reduction of corneal nutrition from the severing of the conjunctiva and the pressure of the anchoring suture. The eye was preserved but with a leukoma occupying one-fifth of the corneal surface and extending to its center.

Jackson says:[5]

> A large part of the difficulties regarding advancement operations arises from the character of the tissue dealt with. The conjunctiva and subconjunctival tissue being extremely loose, easily dragged away from their normal position and readily cut by sutures, offer a poor anchorage for supporting sutures.
>
> . On the other hand, the firm tissue of the sclera offers an ideal anchorage for sutures. The objection to its use is the risk of perforating the whole thickness of the sclera and opening a channel for infection to the interior of the eye-ball. . . Even with care and in competent hands it is likely that complete perforation of the sclera is not very rare. Cogan, passing sutures in pig's eyes, found the sclera perforated in half of them.

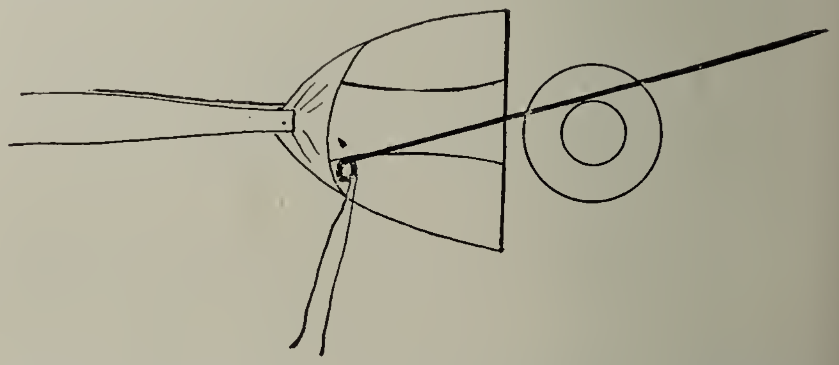

Fig. 3.—Showing method of inserting suture in the muscle border.

H. D. Noyes,[6] referring to deep anchorage at cornea sclera junction, wrote: "I have seen the needle points sometimes appear in the anterior chamber."

My chief criticism of the so-called advancement operation, however, is the insecurity afforded the sutures in muscle and in sclera. Beard says:[7]

> A great deal has been said about the advantage of this or that advancement procedure in that the arrangement of the suture or sutures in the tendon tends to prevent its cutting out. From an abundant experience with his own method both as performer and onlooker, the writer has long since come to the conclusion that it is far easier for the average surgeon to obtain a firm hold for the thread in capsule and tendon than in the globe.

The reason serious accidents do not follow the advancement operation oftener is that the operator, erring on the side of safety, prefers insufficient anchorage to perforation of the sclera.

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[1] Howe: Muscles of the Eye, ii, 350.

[2] Wirtz, R: Ztschr. f. Augenh., January, 1910.

[3] Tr. Am. Ophth. Soc., 1908, ii, Part 3.

[4] Cowgill, Warwick M.: Ophth. Rec., x, 3.

[5] Wood, C. A.: System of Ophthalmic Operations, i, 734.

[6] Noyes, H. D.: Text-Book on Disease of the Eye, p. 172.

[7] Beard: Ophthalmic Surgery, p. 203.

The authors of the various advancement operations claim ease of performance, and it is difficult for one to judge by description alone as to this point. None of them is as simple as tenotomy and for this reason one is often tempted to cut the stronger muscle when his better judgment tells him that the weaker should be strengthened. One of the strongest claims for the advancement operation has been that the muscle takes its attachment alone from the new insertion, thereby increasing its power very much. Müller[8] has pointed out that the only effect of advancement is to shorten the muscle, for the advanced muscle probably grows fast to the bulb along the entire interval between the side of the wound and that of the old insertion and does not unwrap itself from the globe even in extreme rotation. Hence the advanced muscle is practically inserted at the site of the original tendinous insertion.

Froelich says:[9]

> If the end of an ocular muscle is transplanted over its natural insertion toward the cornea, the inner surface of the advanced muscle grows fast to the outer surface of the sclera. This was shown in the following case: A young man needed a readvancement of his right external rectus which had been advanced some years before. The conjunctiva was undermined outward from the scar at the margin of the cornea, so as to lay bare the dark red muscle which had to be separated from the sclera with scissors. The attachment was firm and extended exactly to the physiologic insertion, beyond which the relations between the muscle and sclera were normal.

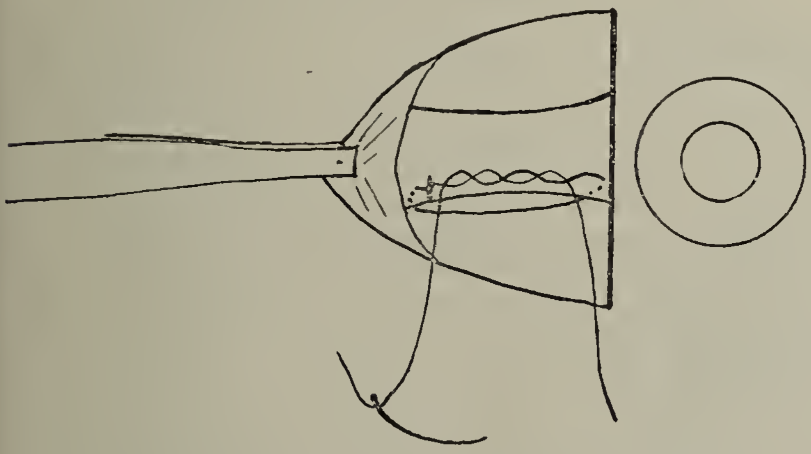

Fig. 4.—Illustrating method of tying the Worth suture.

In the same article, Froelich further says:

> The usual explanation of the effect of an advancement is that because the advanced muscle girdles the globe to an extent increased by the distance between the original insertion and the margin of the cornea, its efficiency is increased so as to enable it to produce greater motility of the eye-ball. But this is not the true explanation as I demonstrated in the following way: During the advancement of an external rectus of a leukomatous eye, I measured the distance of the insertion from the corneal margin with a pair of compasses. Frequent measurements of the excursions of the eye were made during the next six weeks, and at the end of that time I made a curved incision 1 cm. long, parallel to the line of insertion, down to the sclera, at the distance from the cornea previously determined. This incision completely isolated the transplanted end of the muscle from the rest, and yet the efficiency of the muscle was not in the least impaired. This showed that after the operation the anatomic insertion still formed the point of termination and insertion of the muscle which had been shortened by the portion advanced and thereby rendered more able.

Jackson says:[10]

> It has been assumed that an advancement operation causes the tendon of insertion to form a new attachment to the eye-ball at its anterior extremity, and to act on this attachment as it did on the original insertion. It is on this assumption that the beautiful demonstration of the superiority of advancement over tenotomy of Landolt and his followers has been based. But the writer's experience in secondary operations agrees with that of others to indicate that the advanced tendon does not become attached to the eye-ball simply by its anterior extremity, but rather that the attachment extends at least as far back as the original insertion of the muscle and sometimes farther.

It is evident, then, that other operators have recognized these disadvantages as indicated by the history of the tucking operation. It is supposed to be the result or rather the outgrowth of the operation of de Wecker who first advanced the muscle without severing the tendon. Since then various operations have been described by Lagleyze,[11] Savage,[12] Suffa,[13] Bourgeois,[14] Maxwell,[15] Clark,[16] Bruns,[17] Green,[18] Todd,[19] Levinsohn,[20] Briggs,[21] Valk,[22] Colburn,[23] Suker.[24]

These methods vary in the manner of making the tuck, insertion of the sutures and the use of special instruments or tuckers. Some make the fold on the distal side of the tendon insertion and some on the proximal side. These latter do not differ in principle from the de Wecker method. It being necessary to suture to the sclera, the only advantage over advancement with severance of the tendon is that if the suture tear out the result can be no worse than at first.

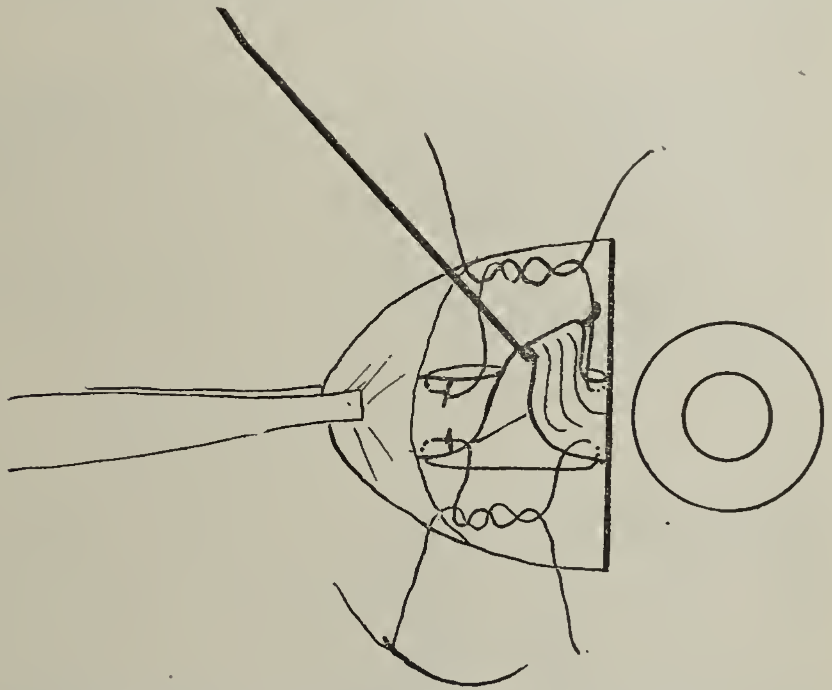

Fig. 5.—Portion of the muscle held up on a strabismus hook which becomes the tuck when the sutures are tied.

TECHNIC

My experience with the tucking operation began about nine years ago at the Illinois Eye and Ear Infirmary. My favorite advancement operations at that time were of Worth and Wooten and, in what I will call the simple tucking operation, I have retained the important features of each. At that time, Dr. Henry Boettcher sug-

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8. Müller: Klin. Monatsbl. f. Augenh., xxxi, 127.
9. Froelich: Arch. Ophth., xxxiv, 622.
10. Wood, C. A.: System of Ophthalmic Operations, i, 736.
11. Lagleyze: Arch. d'opht., 1892, xxii, 668.
12. Savage: Ophth. Rec., March, 1893.
13. Suffa: Arch. f. Ophth., 1910, xxxviii, 254.
14. Bourgeois: Bull. et mém. de la Soc. franc. d'ophth., 1906.
15. Maxwell: Brit. Med. Jour., 1896, ii, 819.
16. Clark: Tr. Sec. on Ophth., Am. Med. Assn., 1900, p. 164.
17. Bruns: Ophth. Rec., 1904, p. 267.
18. Green: Ophth. Rec., 1899, p. 462.
19. Todd: Ophth. Rec., 1902, p. 73.
20. Levinsohn: Klin. Monatsbl. f. Augenh., September, 1909, p. 299.
21. Briggs: Tr. Am. Acad. Ophth. and Oto-Laryngol., 1908, p. 212.
22. Valk: Post-Graduate, July, 1895.
23. Colburn: Ophth. Rec., April, 1902.
24. Suker: Am. Jour. Ophth., May, 1904.

gested trying Todd's new tucker and we performed a number of operations according to this method, finally doing away with the tucker. At the March, 1910, meeting of the Chicago Ophthamological Society,[25] I showed six patients who had been operated on for strabismus, and described the operation. Since then, I have still further demonstrated the fitness of the operation, and have derived considerable satisfaction by the use of the special needle shown in Figure 1, suggested to me by Dr. Tivnen, and by a pair of compasses (Fig. 2), by the use of which an approximate idea of the relationship between the amount of tucking and angle of correction may be obtained. This strabometer is graduated in millimeters. On the back of the scale is a cog which slips into a depression at every millimeter and rests there securely. This arrangement is the same as that on the ophthalmoscope and was suggested by Dr. Schneider of Elgin. Also, during the year I succeeded in correcting divergence of 65 degrees by double tuckings of the interni with tenotomies of the externi, securing binocular single vision.[26] This patient was shown at the December, 1910, meeting of the Chicago Ophthamological Society.[27]

TECHNIC OF OPERATION

The operation is now performed as follows: Local anesthesia is secured by the injection of from 20 to 30 minims of a 1 per cent. solution cocain with 5 minims of epinephrin solution added beneath the conjunctiva over the site of the muscle. The resultant swelling is massaged until it has almost disappeared. A vertical incision is made through the conjunctiva only, over the site of the tendon insertion about 15 mm. in length. The flap is dissected up from the underlying capsule as far back as 15 or 20 mm. While this flap is held out of the way by an assistant, the capsule is incised along the upper border of the tendon as far as the conjunctival dissections. A similar incision is made along the lower muscle border. Formalized pyoktanin catgut No. 00, is inserted into the muscle by the use of the needles shown in the cut; these needles resemble aneurysm needles on a small scale. It is simply necessary to pass the needle point through the muscle border (Fig. 3) about one-quarter of its width drawing the thread through with the forceps. The suture is firmly tied in a double knot and one end threaded through an ordinary curved needle is again passed through the muscle posterior to the knot from without, inward, according to Worth[27] (Fig. 4). This suture which lies next to the sclera is passed through the tendon at its insertion from below upward or rather forward. A similar suture is placed in the upper muscle border. When these two sutures are tied, the tuck is formed in muscle and capsule, and the muscle correspondingly shortened (Fig. 5). The conjunctival edges are then brought together with silk. The eye operated on alone is bandaged.

RESULTS

1. The highest degrees of strabismus may be corrected by tuckings with tenotomies of the opposing muscles.

2. Torsion is prevented by measuring the distance from the tendon insertion back to the point of entrance in the muscle and making both upper and lower correspond.

3. The method of tying the suture in the muscle prevents its splitting the muscle fibers while traction is made on it and when tied to the tendon insertion it is a physical impossibility for the muscle to become loosened as the traction is at right angles to the direction of the muscle fibers.

4. By disturbing the capsule so little considerable swelling is avoided, Wooten,[28] but by including the overlying capsule, somewhat greater effect is produced.

5. By not sacrificing any portion of conjunctiva or advancing it, deformity and unsightly scar tissue are avoided.

6. A tucking of a given amount of muscle will result in not more than half as much correction in the position of the eye.

In a convergent strabismus of 10 mm. it is well to tuck 15 mm. of muscle and tenotomize the rectus internus leaving a slight undercorrection. For anatomic reasons a 15 mm. tuck is about as much as one is able to make. Then, too, the externus itself is about 50 mm. in length and a shortening of a greater proportion might easily impair its power of contraction. Motais has shown that the contraction of a rectus muscle necessary for its full physiologic movement is about one-half its length.

I feel that I can recommend this operation to my colleagues as being absolutely safe, permanently effective, devoid of any permanent noticeable deformity, easy to perform under local anesthesia in any one over 12 years of age. The period of convalescence need not be longer than one week.

ABSTRACT OF DISCUSSION

Dr. G. C. Savage, Nashville: The operation described by Dr. Woodruff is a modification of my operation without improvement. Everybody knows that the tucking operation is mine, so that I need not claim it in this presence. I am glad to have the endorsement of Dr. Woodruff and some twelve or eighteen others who have made some slight change in method. The original tucking operation as described in my first writing is the ideal tucking operation of all. The incision is a horizontal incision just below the margin of the muscle through the conjunctiva and capsule of Tenon. The tendon, conjunctiva, the muscle and the capsule of Tenon should all be included in the tuck. The Price suture-plate is used and the sutures are passed through it and the knot tied on the plate. The operation should be done with silk and not with catgut. The stitches should be allowed to remain a whole week.

The only advancement operation that is worth anything is the operation of Lagleize. It is the ideal advancement operation in high degrees of squint. Shortening is better than advancement if it can be made to accomplish enough. Never make an incision in the capsule at all in the Lagleize operation. The conjunctiva must be held back, while the muscle stitch is being taken. The Lagleize operation differs from all others in that the tendon is not cut, but is simply flat-folded over the insertion. It is cut in other operations for advancement. For a given distance between loop of suture and tendon-insertion, twice as much effect can be accomplished with the Lagleize operation as with any tucking or shortening operation.

Dr. F. B. Tiffany, Kansas City, Mo.: I would use one needle instead of using two and I would use the catgut suture. I would merely divide the conjunctiva so as to expose the attachment of the tendon; then with a double thread I would insert the needle so as to grasp the root of the tendon in the sclera and come out, enter the needle again and come out at another point. Then I would cut the suture so as to allow it to fall into three pieces, one at the lower part, one at the upper and one at the center; then tie the suture, bringing the muscle opposite as far as I wish. I now close the incision and allow the catgut to be absorbed. There is no necessity of removing the suture. My method is shown in the accompanying illustration. [On opposite page.]

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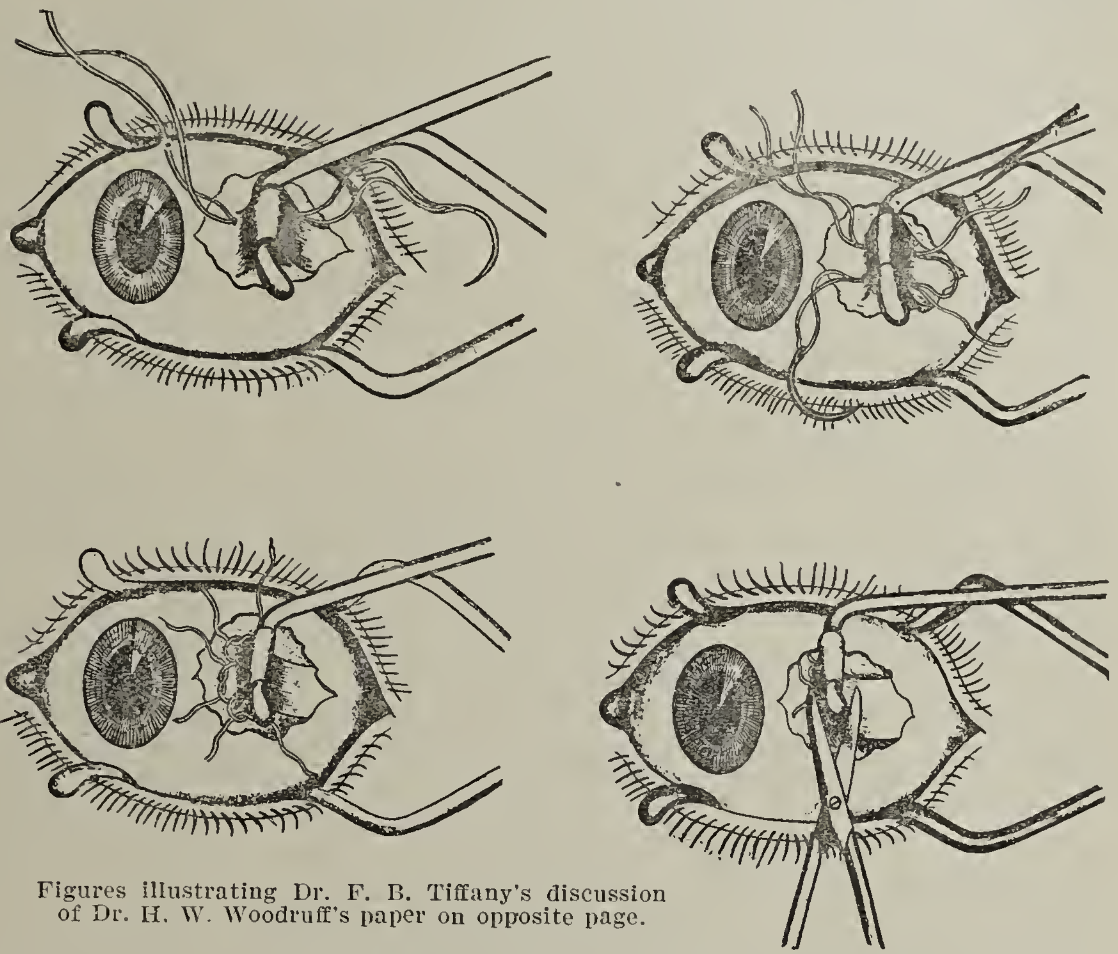
[25] Woodruff: Jour. Ophth. and Oto-Laryngol., April, 1910, p. 1.
[26] Woodruff: Jour. Ophth. and Oto-Laryngol., March, 1911.
[27] Worth: Ann. Ophth., July, 1902, p. 377.
[28] Wooten: Ann. Ophth., July, 1902, p. 431.

DR. VARD H. HULEN, Houston, Texas: In one particular this excellent operation of Dr. Woodruff's is not an ideal operation. The same remark would apply to the operations of Dr. Savage and Lagleize. There never will be an ideal muscle operation devised that does not eliminate the objection of pulling on the fixing sutures to bring the tissues into the corrected position. I had opportunity last year of presenting a method of operating which eliminates that important feature by putting through a double suture in the sclera and also in the muscle. It is not a question of whether to advance or whether to lap; that is a question of personal choice. My operation applies to either. But if we put a suture into the muscle and a suture, we will say, into the sclera and draw the eye into position by pulling on them, we are breaking one of the most important rules of surgery, and that is, the dragging of tissues into place by pulling on the sutures which are to be tied. The way I got around that you can learn by referring to last year's Transactions of this Section. With my traction sutures you can pull the eye into position to just the extent you want; then simply tie the other sutures to hold that position. That principle, I believe, is absolutely necessary for any ideal muscle operation.



Figures illustrating Dr. F. B. Tiffany's discussion of Dr. H. W. Woodruff's paper on opposite page.

DR. EDWARD JACKSON, Denver: There is a principle with reference to sutures that I think is very often overlooked. If you put a stitch through paper, for instance, and drag on it you can very readily cut that stitch out, and you can cut into tendon or muscle, particularly in the direction of the fibers. If you take two thicknesses of the paper and put a suture through both and drag on it you can tear the paper in all directions before you move the position of the sutures in the least. If you put the suture through the tendon and make traction from a distant point the tendon is cut, and even with Dr. Hulen's method the traction is made on the same opening as the permanent suture passes through. But if you bring together the tissues that you want to sew, before you use any suture, with a forceps, or in any other manner, as Dr. Woodruff describes, bringing the two surfaces together and then putting the sutures through and tying them, you will avoid the necessity for elaborate sutures like those of Worth or Suffa, and you will get absolute fixation without cutting. When it is an advancement operation, put the sutures into the sclera and pull the tendon forward in its proper position and tie the tendon right down over the sclera. You can then leave in the suture until the tissues soften and it comes out, and there is no cutting and no tension on the suture. I think a good many elaborate operations for tendon-tucking and advancement would not be in existence if that point were realized. The difficulty of putting a suture through a membrane and pulling on it from a distance is considerable when compared with putting the suture right through the tendon and through the tissue it is to be sewed to. Make the most simple suture possible, then tie it there and it will hold absolutely. The only thing about such a suture is that it tends to crinkle up the tendon; but this is avoided if two of the openings are close to the insertion in the sclera; there is then none of that buckling up when the suture is tightened.

DR. JAMES W. MAY, Kansas City, Kan.: I have never seen Dr. Savage's operation and therefore could not decide from my own personal knowledge as to its merits. I have seen Dr. Woodruff's operation and it certainly does seem to me to be an operation from which there is great permanent benefit. I have not done the operation. Last May Dr. Woodruff came down to Kansas City, Kansas, at my request and at the clinic operated on three patients. In one of them there was a convergence of 25 degrees. A tucking operation on the external rectus corrected 15 degrees and left 10. In another patient with the same convergence, 25 degrees, the tucking operation relieved 15 degrees. In the other, a case of divergent squint, a tucking operation was done on the internal rectus and a tenotomy on the external, with a perfect result, and the man now has single binocular vision. I believe that a tenotomy of the opposing muscle in the two convergent cases will entirely correct the convergence. It certainly seems to me, speaking for the young men of the profession, whose experience must necessarily have been small, that it is the operation of choice on account of its safety. I do not think that any one will question that the advancement operation is attended with some dangers, especially in the hands of those who are really adept. In placing the suture in the episcleral tissue near the cornea, as Dr. Woodruff has pointed out, a perforation of the globe can be done without much force. And also in taking up a bite in the suture if you are a little in doubt as to how far to go you are very apt to take too small or thin a bite and have the sutures tear out, which has happened in a great number of cases. As mentioned in the paper, sloughing of the sutures in advancement will occur. Ulcerations of the cornea have been known to follow operations for advancement. Just why, I do not know. It strikes me that they may be due to interfering with the circulation, or a corneal injury was sustained and infection supervened. Of course, there is always a possibility of faulty metabolism, of which we have heard so much and know so little. There is one thing in Dr. Woodruff's operation that I am a little in doubt about and that is the catgut sutures. How long do they remain, or have they absorbed too quickly in any case? In one of the patients operated on for me I had an idea that the sutures did not hold sufficiently long to produce a gluing together of the tendon and a permanent result.

DR. C. D. WESCOTT, Chicago: I have seen the results of a number of Dr. Woodruff's operations. The method is certainly all that he claims and, as Dr. May has said, I believe it should be the operation of election for the novice in eye surgery. As something has been said about the dangers of advancement, I would like to say a word on that score. For a number of years I have done the single-stitch operation described by Dr. Jackson in his text-book. I believe I can secure a little more effect with a single operation than Dr. Woodruff secures with his operation. I use finer silk and a finer needle than is used by most men in doing an advancement. I have had the needles sharpened so that they will respond to the test for the point of the cataract knife. If I have ever penetrated the sclera no untoward result has followed. I never have tried to hurry in this operation, but I know it can be done in six or eight minutes if one chooses to do it so quickly, and it has fulfilled all the indications. I endorse what Dr. Woodruff has said as to the point of pull after all these operations. I do not believe we gain anything in leverage by putting the sutures anterior to the original attachment of the muscle.

Dr. William Zentmayer, Philadelphia: One thing bothers me and that is the large effect Dr. Woodruff gets from his operation. I have used Dr. Savage's operation—I believe it was his—just for the reason that I did not get large effects from other operations. I used it before I came away from home and corrected only 15 degrees in one of my cases, and perhaps a little less in another. The operations were combined with tendon stretching of the opposing muscle at the time of the tucking operation. I devised a needle just like that, because on two occasions I have seen the needle enter the anterior chamber. The operator can make the puncture from the sclera outward. I once had a perforation of the sclera from sloughing. A child on whom I had done an advancement wished very much to go home to spend a holiday from Thursday until Saturday. It was on the third day after the advancement and I permitted it. The patient did not return for five days, when the vitreous was protruding through the sclera. I took the child to the hospital and by energetic methods saved the eye. Five years later the child appeared in the clinic and it was interesting to see the scar in the fundus where the perforation had occurred, visible through the ophthalmoscope.

Dr. Oscar Dodd, Chicago: Being associated with Dr. Woodruff at the hospital I have had occasion to see a number of his operations and have had occasion to do some of them. I think this operation, at least in my own hands, has obviated two objections which I have had to ordinary tendon-tucking. One was the failure to get a sufficient result. You can get a sufficient result with this operation. The other objection has been the bunching up of the muscle after the shortening. I have been surprised that the thickening has not been more with this operation than in the ordinary advancement operation. As regards the amount of shortening which can be obtained, I have seen Dr. Woodruff in several cases get an amount which I hardly feel like stating—probably 30 to 40 degrees—bringing the eye around with one operation. In one operation the correction was something over 40 degrees, and with a slight clipping of the center of the tendon I got full correction. I think there is one caution that should be made, and that is care not to get too much, because it does not give. The amount you get is absolutely held. For one, I feel like commending the operation very much, although it is not a simple operation to do. Any one who goes into it with the idea that it is easy to pull up the muscle with the hook and bring the loop together, I think, will find the first time that he is mistaken. It can be done, but an assistant to carry out orders will be needed. Without a skilled assistant I find it very difficult.

Dr. E. W. Alexander, San Francisco: I have tried the operation that Dr. Hulen illustrated last year repeatedly and I find that one or two of his remarks are important to follow.

One is that you should expose the sclera in any advancement operation, and if you are going to do a tucking operation it would be as necessary as in the advancement in which you cut the tendon entirely loose. Then you can judge just how far your sutures are extending above or below the original insertion of the tendon, and you can apply the new insertion in such a way that there will be no hyperphoria or hypophoria following your advancement operation. Another point is that a rather coarse grade of silk seems to me to be very much less liable to tear through and cut than a fine suture, and even a No. 4 or No. 5 can be used with a narrow tendon in children without any difficulty in this respect.

Dr. Robert W. Miller, Los Angeles: In my work I have been less inclined to do advancements in late years than formerly. While I have never seen in my personal work any actual damage as the result of too deep scleral punctures, nor have I had any corneal sloughs, yet I have heard of such experiences in the work of others, and have experienced some anxiety in cases of my own. I think that Dr. Woodruff has done us good service in giving us his paper anl calling attention to his several points of advantage. The fact that we do not gain a point of attachment further in advance, which seems to have been pretty well demonstrated, is practically new to many of us. However, it seems to me possible that the anchorage, being more extensive when we advance the tendon, it may be firmer, and the result of the operation may be in some way more accurate. Another point in dealing with these cases, which has been mentioned by another speaker, occurs to me—that of stretching the tendon of the opposing muscle.

While I think he lays no claim to priority, Dr. A. T. Davis of New York has employed stretching in such a large number of cases as to point strongly to its value. Whether we tenotomize the tendon of the opposing muscle or not, a vigorous but well-regulated stretching has seemed to me to contribute much toward the desired result.

Dr. H. W. Woodruff, Joliet, Ill.: Dr. Savage, in describing his operation, calls attention to the inclusion of the conjunctiva in the fold along with the capsule and muscle. I have endeavored to make this point clear in my paper. The conjunctiva should be left entirely alone. It is simply a protective coat and has nothing to do with the strabismus. If it can be left alone it is of advantage, because cases of deformity of the conjunctiva, from shortening, do occur. I have referred to cases in which the caruncle has been drawn toward the cornea. An incision is made in the conjunctiva simply to expose the field of operation. This is afterward closed by fine silk sutures, so that there is a minimum amount of cicatricial tissue. Some seem to have the idea that the operation is not effective in high degrees. Dr. Dodd has answered that point. There is no doubt about the ability to secure a very large effect if necessary; first by tucking, and then by tenotomy of the opposing muscle. I have never had any experience with Dr. Hulen's method, but I agree with him that, as yet, no muscle operation is ideal. I am very much obliged to Dr. Jackson for bringing out the point that sutures hold much better through two thicknesses of tissue than through one thickness. I chose to include the capsule partly on that account, and also because a better result (that is, a more permanent result) was secured. The Worth suture is not an elaborate suture. It is an exceedingly simple suture. Simply a double knot and then one end of the suture is passed through the tendon a second time, posterior to the knot. I am sure that this is an important feature of this operation. In my endeavor to obtain a maximum effect it seemed to me that if I secured a second hold on the muscle it would be of value.

Dr. May referred to his patients whom I operated on at the last meeting of the Kansas state society. In the divergent case the effect was perfect. In the convergent case there was a slight under effect. This is due to the fact that I did not tenotomize the internal rectus. These cases illustrate the rule that it is much easier to secure a perfect result in divergent cases than in convergent cases.

I do not know how long the formalized pyoktanin catgut remains unabsorbed. It is stated that it remains for weeks, but I am inclined to believe that occasionally it is absorbed too early.

New Work in Old Fields.—In order that one may do new work it is not necessary to hunt for new fields. Remember that the Crookes tube was in the physical laboratories in all parts of the world in seventeen years, before anyone suspected that it was an *x*-ray tube. Roentgen was hunting for accidents of the kind, and he accidentally discovered that there were phenomena outside of the tube that demanded attention. It is only needful that one shall read and think, and the work of others, which may have been published half a century ago, will suggest something to you which it never suggested to anyone before, and which may occupy your attention for years. —F. E. Nipher, *Science*.

THE OCULAR CONJUGATE AND FUSION BRAIN CENTERS

ONLY TWO AXES OF OCULAR ROTATIONS, AND ONLY TWO PLANES OF REFERENCE *

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In my investigations, some years ago, I saw the importance of finding a larger number of brain centers for the control of the ocular muscles than had been given in any list of these centers published up to that time. I not only found that there must be conjugate centers whose existence had never been announced, but that there must also be fusion centers. To the old list of conjugate centers I added six additional members; the sixth, the seventh, the eighth, the ninth, the tenth and the eleventh. The first, second, third, fourth and fifth conjugate centers had already been recognized, and Maddox had said "probably more." In addition to the six conjugate centers added to the original number, I found that there must be a fusion center for every individual extrinsic muscle, and also an individual center for each ciliary muscle and for each sphincter of the iris. In this paper I shall not refer again to the individual centers for each ciliary muscle and each sphincter of the iris, or to their conjugate centers; but only to the conjugate and individual centers pertaining to the extrinsic ocular muscles, nine of the former and twelve of the latter. I named the first eight of these fusion centers, right and left first basal centers, right and left second basal centers, right and left third basal centers, and right and left fourth basal centers. Notwithstanding it had been previously published that there was a fifth conjugate center, I found no evidence of the existence of right and left fifth basal centers, hence the skip from fourth to sixth. The remaining four I named right and left sixth and right and left seventh basal centers. To all of these basal centers, thus enumerated, I gave the general name of fusion centers, and declared them to be under the control of the fusion faculty of the mind. The purpose of this paper is to prove the existence of the nine conjugate centers connected with the extrinsic muscles of the eye, and the twelve fusion centers connected with these muscles. All of these are shown in Figure 1.

I did not recognize at that time that all ocular rotations, whether monocular or binocular, were effected around only two axes. At that time it was a matter of general knowledge that rotations in the horizontal plane were around a vertical fixed axis, and that the vertical rotations were around a horizontal fixed axis. I, at that time, found myself in agreement with the teaching of those who had preceded me, that every oblique rotation was around a fixed axis and that this axis was at right angles to the rotation plane; but this is not true.

In Figure 2 I represent the equator of the eye and the vertical and transverse axes lying in the plane of the equator, and I unhesitatingly declare that around these two axes are effected all oblique rotations, and that throughout such a rotation each of these two axes is itself in motion; there are no fixed axes for oblique rotations.

I was not alone in the thought that an oblique point in the upper field might be reached by a rotation, first around the vertical axis and then upward on the transverse axis of the eye, without any torsion of the eye on reaching the obliquely placed second point of view. I was at that time, as I am now, convinced that in oblique rotations there was no torsion and I concluded that the torsioning did not occur because of the contraction of the obliques for the purpose of preventing it. I still believe, and shall prove, in connection with the study of Figure 3, that oblique secondary points of view are reached without torsion, and that this is prevented by the obliques.

A few weeks ago the thought occurred to me that, if two simple rotations, the first around the vertical axis and the second around the transverse axis, could enable the eye to reach the second point of view obliquely placed, without torsioning, the same muscles could effect the rotation in an oblique plane by acting simultaneously on the eye, one rectus effecting the upward or downward and the other rectus the right or left movement, while an oblique stands guard against torsion.

I at once appealed to my muscle indicator for proof of the correctness of the thought. I saw at once that, while the elevators were rotating the eyes on their horizontal axes, the lateral recti could rotate the eyes at the same moment around the vertical axes, and that the result of this double rotation taking place simultaneously would be the same as if the eyes had moved first around one of these axes and then around the other. I elevated the isogonal circle of the muscle indicator, carrying the visual axes with it, but at the same time, by another force, I shifted the axes in the plane of the isogonal circle and reached a secondary point of view without torsioning. The two forces were independent of each other, and yet were acting in most perfect harmony. Thus it is that I shall be able to prove, as I proceed, that every oblique rotation is effected by the conjoined work of three conjugate centers and two fusion centers, the five acting on three pairs of muscles; that one of these pairs elevates or depresses the two eyes, another pair shifts the visual axes to the right or left, as the case may be, and the third pair prevents any rotation around the visual axes; that one fusion center acts on one lateral rectus, hindered by an oblique, while the other fusion center acts, as the case may be, on one superior or one inferior rectus, hindered by an oblique.

That the study of Figure 3, in proof of the existence of all of the nerve centers named above, may be made easier, I shall group the twelve ocular muscles into the nine pairs, and in connection with each pair, shall name the conjugate center in control.

1. The two superior recti, under the control of the first conjugate center, for elevating the visual axes.
2. The two inferior recti, under the control of the second conjugate center, for depressing the visual axes.
3. The two interni, under the control of the third conjugate center, for the converging of the visual axes.
4. The right externus and the left internus, under control of the fourth conjugate center, for effecting rotations to the right.
5. The left externus and the right internus, under control of the fifth conjugate center, for effecting rotations to the left.
6. The two superior obliques, under the control of the sixth conjugate center, called into action only when the rotation is directly down and in conjunction with the second conjugate center and the two inferior recti, the purpose being to prevent outward torsioning.
7. The two inferior obliques, under control of the seventh conjugate center, but called into action only when the rotation is directly up, and then in association with the first conjugate center and the superior recti, the purpose being to prevent torsioning inward.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

8. The superior oblique of the right eye and the inferior oblique of the left eye, under control of the eighth conjugate center and called into action only when rotations are obliquely up and to the right or down and to the left, to prevent torsioning to the right.

9. The superior oblique of the left eye and the inferior oblique of the right eye, under control of the ninth conjugate center, called into action only when the rotation is up and to the left, or down and to the right, to prevent torsioning to the left.

As to the fusion or basal centers, which could also be called the duction centers, the following is true:

The right and left first fusion centers belong, respectively, to the right and left superior recti. The right and left second fusion centers belong, respectively, to the right and left inferior recti. The right and left third fusion centers belong, respectively, to the right and left interni. The right and left fourth fusion centers belong, respectively, to the right and left externi. The right and left sixth fusion centers belong, respectively, to the right and left superior obliques. The right and left seventh fusion centers belong, respectively, to the right and left inferior obliques.

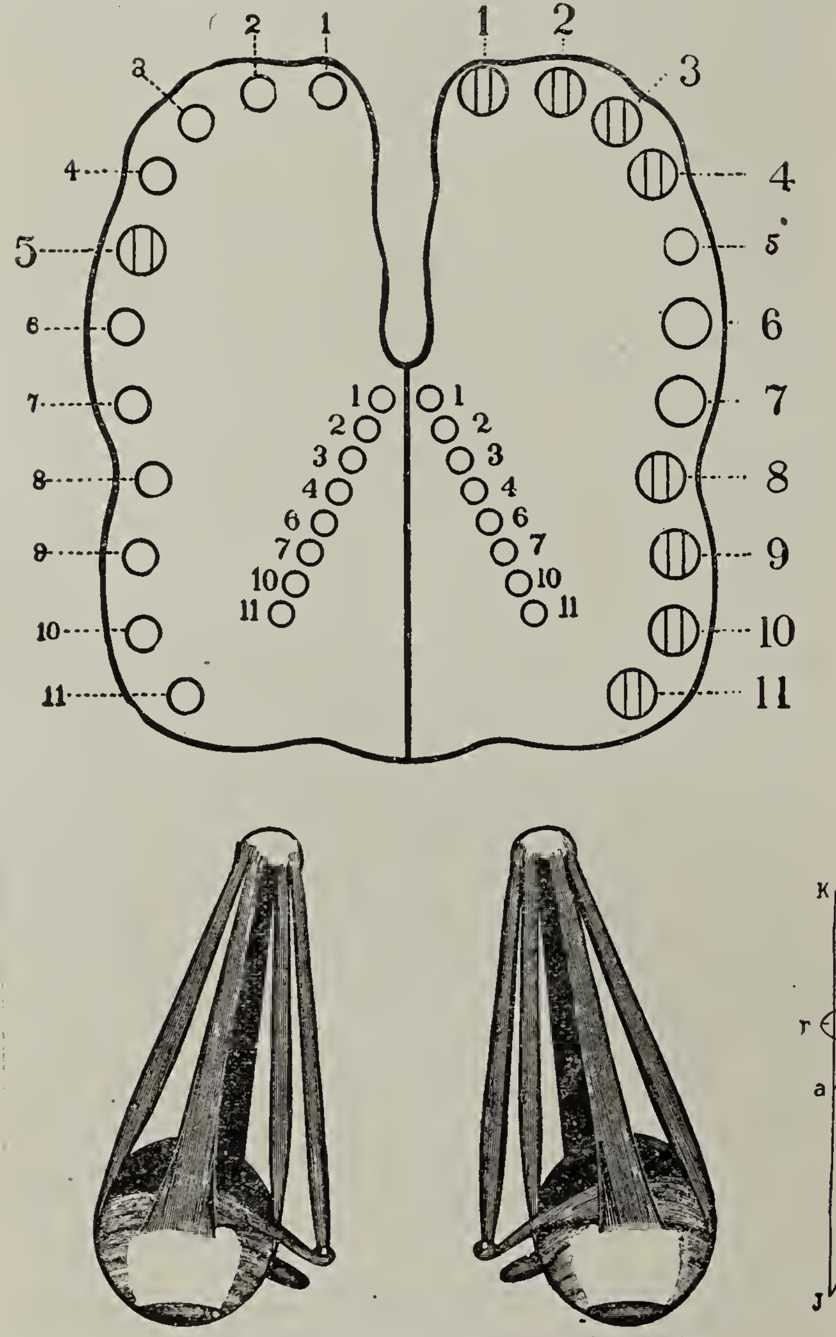

Fig. 1.—Conjugate and fusion brain centers.

Having named all of the conjugate and fusion centers and the pairs of muscles, or individual muscles, to which they respectively belong, it now remains for me to prove, by means of Figure 3, the actual existence of all these. The two planes to which I wish to call special attention are the plane *a-b-c-d*, which represents the horizontal fixed plane of the head extended; and the plane *g-h-i-j*, which represents the vertical fixed plane of the head. These two planes, at right angles to each other, have their line of intersection in *e-f*. Points in space located anywhere on this line are primary points of view, and are known to be on this line of intersection. The plane *a-b-c-d* is a plane of reference so far as objects above or below it are concerned. The plane *g-h-i-j* is a plane of reference for all objects either to the right or left of this plane.

If *f* be the point of fixation and the lateral recti muscles are normal, only the third conjugate center has acted and only the two interni have responded. If the eyes are esophoric, to prevent the visual axes crossing between *e* and *f*, the right and left fourth basal centers must each act on its individual externus. If the eyes are exophoric, the right and left third basal centers must be called into action to prevent the crossing of the visual axes at some point beyond *f*. The neuricity from the right and left third basal centers has supplemented the neuricity from the third conjugate center.

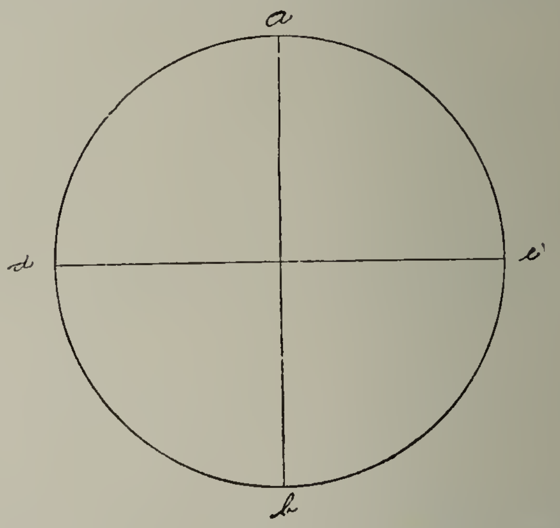

Fig. 2.—The equator and the two axes of rotations.

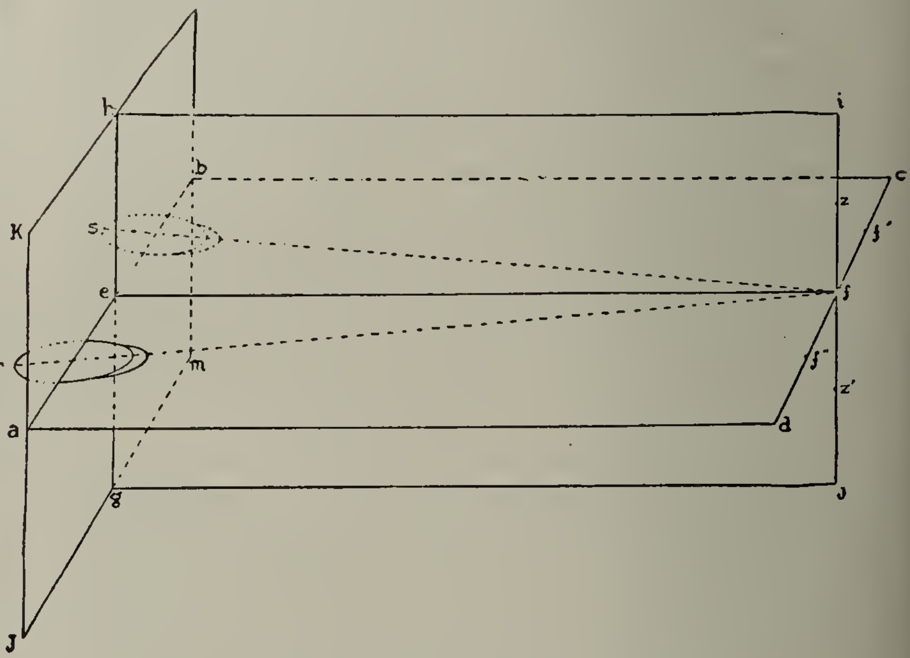

Fig. 3.—The two planes of reference.

If the eyes are to be rotated from *f* to *f″*, and are orthophoric, the third conjugate center will keep up the convergence and the fourth conjugate center alone, acting on the right externus and the left internus, will sweep the point of convergence from *f* to *f″*. If the eyes are esophoric the neuricity to the left internus would make the eye move faster and farther than the right externus would move its eye, if there were no supplementary supply for the latter muscle. This supplemental neuricity would come from the right fourth fusion center. If the eyes were exophoric, the neuricity from the fourth conjugate center would make the right eye move faster and farther than would the left, unless supplemental neuricity should be sent to the left internus. This supplemental power would come from the left third basal center.

If the eyes were to be rotated from *f* to *f'*, and they are orthophoric, the convergence would be kept up by the third conjugate center, and the point of fixation would be carried from *f* to *f'* by neuricity from the fifth conjugate center only, acting equally on the left externus and the right internus. If the eyes to be thus rotated are esophoric, the neuricity from the fifth conjugate center to the right internus would make the right eye move further and faster than that sent to the left externus would turn the left eye. To prevent this lagging behind of the left eye, supplemental neuricity must come from the left fourth fusion center to the left externus. If such eyes were exophoric, the right eye would lag behind the left, unless supplemental neuricity should come from the right third basal center.

If the rotation is to be from *f* to *z*, the visual axes must be lifted by the two superior recti, and the vertical axes must be kept parallel by simultaneous action on the part of the inferior obliques. The impulse to the former muscle would come from the first conjugate center, and that to the latter would come from the seventh conjugate center. If the eyes to be thus rotated are orthophoric, no basal center would be called into action, but if the left eye should be hyperphoric, the neuricity from the first conjugate center would make that eye move upward faster than the right eye would go, unless the superior rectus of the right eye should receive supplemental neuricity from the right first basal center. Reversing the hyperphoria, the neuricity would have to come from the left first basal center in order to make that eye sweep in harmony with its fellow.

Rotations of these eyes from *f* to *z'*, if orthophoric, would be effected by neuricity from the second conjugate center, acting on the two inferior recti to pull the visual axes down, and, simultaneously, neuricity would come from the sixth conjugate center to the two superior obliques, and no basal center would be aroused into activity. But, if the right eye be cataphoric, supplemental neuricity would have to be sent from the left second basal center to the inferior rectus of the left eye, in order to make it keep pace with its fellow in rotation. In either of these vertical rotations the convergence would be effected by the third conjugate center.

In any rotation above the horizontal plane, whether cardinal or oblique, the first conjugate center must be active. In any rotation below the horizontal plane the second conjugate center must be active. In any rotation to the right of the vertical plane, whether in the horizontal plane or above or below it, the fourth conjugate center must be active. In any rotation to the left of the vertical plane, whether in, above or below the horizontal plane, the fifth conjugate center must be active. In a cardinal rotation above the horizontal plane, the two inferior obliques must act together. In a cardinal rotation below the horizontal plane, the two superior obliques must act together. In oblique rotations up and to the right and down and to the left, the eighth conjugate center must act on the superior oblique of the right eye and the inferior oblique of the left. In any oblique rotation up and to the left or down and to the right, the ninth conjugate center must act on the left superior and the right inferior obliques. These oblique rotations, even of orthophoric eyes, cannot take place under the influence of the conjugate centers alone, for the reason that one oblique will help one of the recti muscles of a pair and hinder the other, and *vice versa*, of each eye, thus making it necessary for one basal center for a rectus muscle belonging to one eye to be active to overcome the retarding influence of the oblique muscle, and the same is true of the retarded rectus muscle of the other eye. To illustrate: In the oblique rotation up and to the right, the right superior oblique would help the right externus, but would hinder the right superior rectus. The inferior oblique of the left eye would hinder the left internus, but would help the left superior rectus. The right first basal center, therefore, must help to stimulate the right superior rectus, and the left third basal center must help stimulate the left internus. The basal center for the oblique muscles counteract the insufficiency of these muscles, whether the eyes be at rest or in motion.

Without the fusion centers, duction would be impossible; therefore, they can very properly be called duction centers. Each of the right and left first basal centers would produce superduction. Each of the right and left second basal centers would produce subduction. The right and left third basal centers would produce adduction. The right and left fourth basal centers would produce abduction. The right and left sixth basal centers produce minus cycloduction and the right and left seventh basal centers produce plus cycloduction.

The conjugate centers are verting and converging centers, and are not the centers that stand guard when oblique rotations and heterophoric conditions would cause the visual axes and the horizontal retinal meridians to leave the plane of the primary isogonal circle.

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ABSTRACT OF DISCUSSION

Dr. Melville Black, Denver: We have listened to Dr. Savage for a good many years and he has told us many valuable truths. Once we get his ideas straightened out a little they are not at all difficult to follow. I believe we are greatly indebted to Dr. Savage for having attacked a theory of Helmholtz that seemed incontrovertible. I believe he has shown that Helmholtz was mistaken in certain of his teachings, and that it should be for a member of our Section to have positively demonstrated this fact is worthy of our commendation.

Dr. Hiram Woods, Baltimore: Back as far as C. S. Bull's edition of Sollberg-Wells' text book there is an excellent discussion of the individual action of each eye muscle, together with the position in which the individual action of that muscle will put the eye, and how that position will affect binocular vision, and how some of the results of that individual action are compensated for or removed by other muscles. For instance, it is stated that in convergence the interni work together on the primary horizontal plane. In lateral motion the externus of one eye and the internus of the other act on the horizontal plane. In looking directly up the superior rectus pulls up and tilts the vertical meridian of the cornea inward, and that tilting is removed by the contraction of the inferior oblique. In looking down, on account of its oblique insertion, the inferior recti pull the eye down, tilting the vertical meridian of the cornea out, and the superior oblique overcomes that. Now with the exception of the introduction of these hypothetical centers and the term "cardinal rotation," wherein is Dr. Savage's teaching different from that taught us twenty-five years ago? Wells worked it out from the action of each individual muscle. Dr. Savage works out the identical thing and seems to me to assume these association centers. No one esteems Dr. Savage more than I for his scientific worth, but I cannot see that we are any further ahead in the understanding of muscular action for the assumption of these centers.

Dr. G. C. Savage, Nashville: This instrument, the muscle indicator, is built on the fundamental truth that the center of the macula is the posterior pole of the eye, and that the visual axis and all other visual lines go through the center of rotation. My faith in that proposition has been backed by me financially and otherwise. I offered, two years ago, a thousand dollars to any man who would name a single phase of an ocular muscle or any combination of ocular muscles, normal, abnormal or pathologic, that I could not show with this device. That the center of the macula is the posterior pole and that lines of direction are radii of retinal curvature prolonged, and that the judgment of the scientific world will be that at no very distant day, I have not the slightest doubt. I am sorry that there was not some discussion relative to the motions of the eye. I do not take it as an indication that there is nobody here who understands this part of physiologic optics. I am sure very many here do understand it, but I think they are willing for me to continue the fight in a lone-handed way until the victory finally comes. [The remainder of the discussion was a demonstration of the existence of the twelve fusion brain-centers, each connected with only a single ocular muscle, as set forth in the body of the paper.]

CHANGES OCCURRING IN THE REFRACTION OF CORRECTED AMETROPIC EYES [*]

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In undertaking this analysis of cases of ametropia, in which the error had been determined one or more times after the lapse of several years from the time of the first determination, and in which correcting glasses had been worn, I was actuated by a desire to see whether some unformulated belief which I possessed, and which I had nowhere seen expressed, would be borne out by facts. Further, as so little is said in text-books on ophthalmology and on refraction, and as some of the things which are said are not in accord with my unsubstantiated views I wished to clear my mind of the uncertainty. Quotations from some of the standard text-books and from the writing of several authorities will here be given that a comparison may be made between the views there expressed and conclusions reached as the result of this analysis. A perusal of the chapter on refraction in text-books on ophthalmology and of special treatises on refraction shows that with one or two exceptions the subject is entirely ignored.

The possibility of an eye with low hyperopic astigmatism becoming myopic was conclusively shown more than twenty years ago by Dr. William F. Norris and also by Dr. Samuel D. Risley. Dr. Risley laid particular stress on the rôle played by astigmatism in bringing about this change. As he expressed it: "without exception they passed from the too shallow hypermetropic eye-ball, over into the lengthened myopic eye, through the turnstile of astigmatism." This fact is so generally recognized as not to require confirmation at this time, yet many text-books make no mention of it. The "hypermetropia acquisita" of Donders is the only supposed change in the refraction of the eye of which note is generally taken. MacNamara, quoted by Randall, urges that young hyperopes, even those with absolute hyperopia, should not be given correcting glasses or even under-correcting lenses for constant wear, asserting that the normal development of the eye, whereby the hyperopia would be outgrown, might thus be interfered with, and the defect rendered permanent. Randall, having had the same thought, and having acted on it, did not observe a decrease in the hyperopia in a single instance. Nettleship states that hyperopia always dates from birth and does not afterward increase, except slightly in old age; but it may diminish and give place to myopia by elongation of the eye.

Jackson sees in the occurrence of astigmatism in 41.8 per cent. of myopes and only 17.2 per cent. of hyperopes, a connection between astigmatism and myopia. He further states that there is little reason to doubt the correctness of the common belief that the majority of cases of astigmatism remain the same throughout life. He records eighteen cases of progressive hyperopic astigmatism. In all, there was an increase in the degree of the hyperopic astigmatism. He is of the opinion that the frequency of these cases would be about 2 per cent. of all cases seeking relief on account of anomalies of refraction. The cases in which, after the lapse of an equal length of time, the use of a mydriatic has shown no change in the amount of the astigmatism outnumbered them very decidedly, and cases of mixed and myopic astigmatism are relatively, though not absolutely, more frequently progressive. He has encountered no case of regressive astigmatism—none in which the astigmatism had diminished so much as ½ D., though it is not improbable that such cases occur. In most of the cases there was an increase in the hyperopia in all of the meridians. In six of the cases there was actual diminution of the hyperopia in one of the principal meridians of one or both eyes. He has not found that the liability to change in the amount of astigmatism is confined to any one particular period of life, though such changes may be more frequent in early life.

Emerson also reported a case of progressive hyperopic astigmatism.

Theobald has recorded a case in which there occurred an increase of hyperopia with an increase of astigmatism, a case of increase of myopia with an increase of astigmatism, and a case of myopic astigmatism becoming mixed astigmatism. He believes such cases to be probably of infrequent occurrence. Randall doubts the occurrence of hyperopia acquisita of advanced life in the sense referred to by Donder.

According to Thorington, astigmatism may develop from any disease or injury that will cause a lengthening, shortening, or inequality in one or more of the meridians of the cornea or lens. The same author refers to the development of compound myopic astigmatism from low degrees of compound hyperopic astigmatism and in this connection states that it is well known that hyperopic astigmatism is a congenital defect.

Alger refers to the development of myopia from hyperopia and also the acquired hyperopia of old age.

Duane is the only author whose writings contain any extended reference to the phase of refraction with which this paper has in particular to do. Regarding astigmatism, he says: "Once developed, it remains, on the whole, practically stationary during childhood, youth and early manhood. Changes do take place in it from time to time, but they are inconstant and usually slight, and there is no special rule governing the way in which they develop. After middle life, however, there is a tendency for astigmatism to change its character. Astigmatism with the rule tends to become less, or is sometimes converted into astigmatism against the rule, and astigmatism against the rule often develops where no astigmatism existed before, so that in old age astigmatism against the rule is the most common variety."

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[*] Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

An analysis of the changes of refraction occurring in 550 eyes was made. The eyes were divided into three groups representing age periods at which changes are most likely to occur, namely: patients under 20, between 20 and 45, and over 45. As the study progressed, further subgroups seemed desirable and were made. One hundred and fifty-five patients (28 per cent.) came under the first group, 322 (55 per cent.) under the second group and ninety-two (17 per cent.) under the third group. In 222 over ten years (in many instances more than fifteen years) had elapsed between the first and last refraction tests, in 320 between five and ten years had elapsed. The cases were all from private records. With few exceptions in persons under 50 years of age all the tests were made under cycloplegia, usually secured by the use of atropin; in between fifty and fifty-five either no cycloplegic or homatropin was used. In most cases the glasses had been worn constantly.

No eyes were included which showed incipient cataract, glaucoma, present or past evidences of inflammation either in the anterior or posterior segment of the globe or in which a developing pterygium or a chalazion was present. This was done because it was not the purpose to show the effects of inflammation or degenerative processes on the refraction of the eye.

The class of patients were those usually met in private practice.

The accompanying table summarizes the analysis:

	Number of Cases.	Percentage of All M or H Eyes.	Percentage of H or M Eyes Which Underwent a Change.	Percentage of HaH or MaM Eyes Which Underwent a Change.	Percentage Under 20 Years of Age.	Percentage from 20 to 45 Years of Age.	Percentage Over 45 Years of Age.
Increase of H with increase of As...	36	9	12	16	17	53	30
Increase of H with decrease of As...	44	11	15	19	18	60	22
Decrease of H with increase of As...	116	30	40	51	36	57	7
Decrease of H with decrease of As...	32	8	11	14	19	57	25
Increase of M with increase of As...	16	24	31	44	37	56	6
Increase of M with decrease of As...	9	14	17	26	22	67	11
Decrease of M with increase of As...	8	12	15	23	37	63	0
Decrease of M with decrease of As...	2	3	4	6	0	100	0
Increase of H....................	40	10	14	..	22	38	40
Decrease of H....................	24	6	8	..	30	45	25
Increase of M....................	16	24	31	..	7	93	0
Decrease of M....................	1	2	2	..	0	0	100
HaH no change....................	51	13	..	..	12	78	9
MaM no change....................	11	17	..	..	18	27	54
H no change......................	46	12	..	..	26	54	20
M no change......................	3	5	..	..	0	100	0
HAs or low HaH or MaM becoming MAs+HAs	22	..	..	..	..	..	..
Various other transitions...........	64	..	..	..	..	..	..
HaH with change in only one element	32	..	..	..	..	..	..
MAs+HAs with change in M or H meridian	28	..	..	..	..	..	..
Development of As in H............	30	..	..	..	..	..	..
Development of As in M............	1	..	..	..	..	..	..
Loss of total As..................	9	..	..	..	..	..	..

Summary: Total H eyes, 389; total HaH eyes, 279; total M eyes, 46; total MaM eyes, 66. Eighty per cent. of the eyes tabulated underwent a change either in the static refraction or in the amount of astigmatism.

The cases were analyzed to show: no change in HaH,[1] no change in MaM, no change in HAs; no change in MAs, no change in M or H; increase in static refraction M and H; increase in the static refraction with increase or decrease in the astigmatism; decrease in the static refraction with an increase or decrease in the astigmatism; MAs+HAs analyzed to show changes occurring in the principal meridians; low-grade ametropia going over into MAs+HAs, and all possible transitional forms; development of astigmatism where no astigmatism had before existed, loss of total astigmatism.

In order to avoid confusion or misunderstanding, in the summary the changes in the static refraction and in the astigmatism in compound astigmatic eyes have been classified according to the nature of the ametropia.

CHANGES IN COMPOUND ASTIGMATIC EYES

The largest percentage of change in HaH occurred in the group in which there is a decrease in the H with an increase of As. This took place in 51 per cent. of all HaH showing a change in the amount of H or As; and in 30 per cent. of all hyperopic eyes tabulated. The second largest percentage of change occurred in HaH in the group in which there is an increase in the H with a decrease in the As. This took place in 19 per cent. of all HaH eyes showing a change in the amount of H or As; and in 11 per cent. of all hyperopic eyes tabulated. In MaM, the largest percentage of change occurred in the group in which there is an increase in the M with an increase in the As. This took place in 44 per cent. of all MaM eyes showing a change in the amount of M or As; and in 24 per cent. of all myopic eyes tabulated. The second largest percentage of change in MaM eyes occurred in the group in which there is an increase in the M, with a decrease of the As. This took place in 26 per cent. of all MaM eyes showing a change in the amount of M or As.

Considering these groups in the sense of a change in the static refraction it will be seen that in eyes with a compound astigmatic ametropia, there was an increase in the static refraction with an increase in the astigmatism in 48 per cent.

AGE PERIOD AT WHICH CHANGE OCCURRED

Fifty-seven per cent. of the changes in HaH occurred between the age period of from 20 to 45 years; 23 per cent. under 20 years, and 20 per cent. over 45 years. In MaM 71 per cent. occurred between 20 and 45, 24 per cent. under 20, and 5 per cent. over 45. While these figures show that far the greatest number of changes occurred in the age period of from 20 to 45 years, they are probably of no significance, as the same preponderance of numbers is seen in this same period in the cases of HaH which underwent no change. They show, however, that changes in M are of infrequent occurrence after the forty-fifth year, and that they occur in H with much greater frequency, but still with much less frequency than before the forty-fifth year.

Of the total number (279) of HaH, 228, or 80 per cent., underwent a change in the relation between the amount of H and the amount of the As; and of the forty-six MaM eyes thirty-five, or 76 per cent., underwent a similar change. This would indicate that there is no greater tendency for MaM to change than there is for HaH to change. Of the twenty-eight cases of MAs+HAs, twenty-five, or 89 per cent., underwent a change in the relation between the amount of H and M in the principal meridians. Of the thirty-two cases of HAs twenty-nine, or 90 per cent., underwent a change in the refraction of the principal meridians. Of the ten cases of MAs ten, or 100 per cent., underwent a change in the principal meridians.

This shows conclusively that simple and mixed astigmatism are the least stable of the ametropic refractive states. In MAs+HAs the eyes in which there was an increase in the M with a decrease in the H; an increase of the H with a decrease of the M; an increase of the M with an increase of H, and an increase of M with no change in H, were almost evenly divided. Twenty-two eyes with a low compound As or a simple As went over into mixed As and *vice versa,* nine eyes with MAs+HAs became MaM, HaH, MAs.

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[1] Abbreviations: M=myopia; H=hyperopia; HAs=simple hyperopic astigmatism; MAs=simple myopic astigmatism; HaH=compound hyperopic astigmatism; MaM=compound myopic astigmatism; MAs+HAs=mixed astigmatism.

CHANGES IN HYPEROPIA

Of 126 hyperopic eyes, in patients over 45 years of age in which the average age at which the final test was made was 53 years, in fifty-one, or 40 per cent., there was a decrease in the H, in forty-one, or 33 per cent., there was an increase in the H, and in thirty-one, or 27 per cent., there was no change. Because of these variations from the generally accepted views a second series of fifty-five eyes, in which the average age at which the first test was made was 55 years and the final test 63 years, was analyzed. In 45 per cent. there was an increase in the H, in 27 per cent. there was a decrease, and in 27 per cent. there was no change. Here, again, we see that the eyes in which no increase occurred overbalance those in which an increase occurred. While these figures are insufficient in number to warrant a dogmatic statement there does not seem to be any greater tendency at these age periods for the H to increase than for it either to remain stationary or decrease.

The average amount of increase of H equaled 3/8 D. The average amount of decrease in H equaled 5/8 D. In the group showing an increase in H, one eye in which a rather rapid increase of 3 D. occurred was omitted, and in the group in which a decrease occurred two eyes, in one of which the change equaled 2 D. and the other 6 D., both in the same individual, were omitted, as the change occurred rather rapidly and it was considered probable that it was due to a pathologic cause. If they be included then the average increase was 1/2 D., and the average decrease 1 D.

Including in the group "H no change" cases of HaH in which no change whatever took place, and cases of H in which no change occurred, there were ninety-seven cases, or 25 per cent. of all of the hyperopic eyes tabulated. Of the pure cases of H there were twenty-four, of these four, or 16 per cent., underwent no change, twelve, or 50 per cent., showed an increase, and eight, or 33 per cent., underwent a decrease.

CHANGES IN MYOPIA

Included in the group "M no change" are the same class eyes as were included under the same heading for H. Of these there were fourteen. Of the pure cases of M there were four. All of the latter underwent an increase.

These figures indicate that H is more stable than M, and that whereas in M there is invariably an increase in H there may be either an increase or a decrease.

ACQUIRED ASTIGMATISM

Astigmatism was acquired in thirty-one eyes. In all but one instance, the eyes acquiring the astigmatism were hyperopic, or 8 per cent. of the hyperopic eyes. Sixteen, or 51 per cent., of the individuals were under 45 years of age. The average age in this group at which the astigmatism was first present was 32 years. In seven, or 44 per cent., the axis of the astigmatism was against the rule; in seven, or 44 per cent., it was with the rule; and in two midway between 90° and 180°. The average amount of astigmatism equaled a little less than 1/2 D. In fifteen, or 49 per cent., the individuals were 45 years of age or over. In this group the average age at the time the astigmatism was discovered was 53 years. All the individuals were hyperopic. In thirteen, or 87 per cent., the axis was against the rule. The average amount of As equaled a little less than 1/2 D. These figures indicate that astigmatism may develop at any decade and occurs with equal frequency in the third as in the fifth decade, and that after the forty-fifth year; in the majority of cases the axis was against the rule, while before this period the axis was as often with as against the rule.

LOSS OF ASTIGMATISM

The total astigmatism was lost in nine eyes; in four, or 44 per cent., in individuals under 45 years of age. In this group, the average age at which the loss was determined was 36 years. All the eyes were hyperopic. In three, or 75 per cent., the astigmatism had been with the rule. In five, or 56 per cent., the individuals were over 45 years of age. In this group, the average age at which the loss of astigmatism was discovered was 53 years. All were hyperopic. In three, or 60 per cent., the axis was with the rule, and in two, or 40 per cent., it was against the rule. The average amount of the astigmatism lost was 1/2 D.

These figures indicate that the total astigmatism probably may be lost in any decade, but that this occurs most frequently in the later decades and possibly represents a transitional stage to astigmatism against the rule, as in 60 per cent. the axis of the astigmatism which had existed was with the rule.

CHANGES IN MIXED ASTIGMATISM

Of twenty-eight cases of mixed astigmatism, twenty-five, or 89 per cent., underwent a change in one or both elements, and in three, or 11 per cent., no change occurred. There was an increase of M with a decrease of H in six eyes; an increase of H with a decrease of M in seven eyes; an increase in both M and H in six cases; and an increase of M with no change in H in six. The tendency is for both meridians to change, but the most frequent change is for the myopic meridian to increase; but the most frequently associated change was an increase in the hyperopic meridian associated with a decrease in the myopic meridian.

CONCLUSIONS

1. Ametropia tends to change in degree even when the error is carefully and repeatedly corrected and the glasses worn constantly.
2. Almost every conceivable change may occur.
3. The tendency is in the direction of an increase in the static refraction with an increase in the astigmatism.
4. In compound hyperopic astigmatism the most frequent change is a decrease of the hyperopia with an increase in the astigmatism.
5. In compound myopic astigmatism the most frequent change is an increase in the myopia with an increase in the astigmatism.
6. There is no greater tendency for compound myopic astigmatism to change than there is for compound hyperopic astigmatism to change.
7. Simple myopia (rare) is never a stable condition, it almost invariably increases in amount.
8. Simple myopic astigmatism is the least, and simple hyperopic astigmatism the next least stable of astigmatic errors.
9. Simple hyperopia sometimes remains constant, but is subject to undergo both an increase and decrease.

10. In compound astigmatism the static refraction may change without a change taking place in the astigmatism and *vice versa*.

11. In mixed astigmatism, the myopic meridian most frequently changes and shows an increase, although an increase of the hyperopic meridian with a decrease in the myopic meridian in the same eye probably occurs with the most frequency.

12. Astigmatism is often acquired in hyperopic eyes, and as frequently in the third as in the fifth decade. Before the forty-fifth year the axis of the acquired astigmatism is as frequently with as against the rule, but after the forty-fifth year it is against the rule in 85 per cent. of patients.

13. The total astigmatism may be lost probably in any decade, but more commonly in the later decades and at this time probably represents a transitional stage to an astigmatism against the rule.

14. A change in the axis of astigmatism occurs in about 50 per cent. of the cases.

15. The changes in the refraction occur with most frequency in the age period of from 20 to 45 years.

16. After the forty-fifth year changes in the amount of hyperopia in compound hyperopic astigmatism occur much more frequently than do similar changes in compound myopic astigmatism.

17. There is no greater tendency toward an increase in hyperopia between the fifty-fifth and sixty-fifth years than between the forty-fifth and fifty-fifth years.

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ABSTRACT OF DISCUSSION

Dr. W. E. Lambert, New York: In order to discuss intelligently such a paper as Dr. Zentmayer has given us, which is one of statistics, one should have consulted his own records and ascertained the facts about this condition into which Dr. Zentmayer has gone. The analysis of the cases which he has made, with the results, means a great deal of labor, and the facts which he has ascertained by this analysis bring to us some very useful information. I think I am safe in disagreeing with him on one point. My understanding is that the decrease in the hyperopia in young people is a natural condition following the development of the eye and, of course, we all agree that in most cases myopia, especially from 12 to 20 years, is liable to increase, and we must take precautions. My impression is that the astigmatism is very stable. In a large number of cases that I have examined from time to time I find it remaining practically the same. The development, or the manifestation of astigmatism late in life is compatible with that, and I think it is unfortunate that Dr. Zentmayer had not made corneal astigmatism separate from the total refraction, because it is possible that the development of astigmatism late in life may be due to either one of two conditions; that is to say, the corneal astigmatism may have existed previously and may not have manifested itself, and as the lens loses its elasticity this astigmatism which had existed before in the curvature of the cornea becomes manifest. I am sorry, therefore, that in the examination of these cases the readings of the ophthalmometer were not included, showing us whether the corneal astigmatism had remained constant or had changed. Dr. Zentmayer has stated that he does not refer to any cases in which pathologic conditions had produced changes in the refractive condition, but I am going to mention two peculiar cases. In one case I was laughed at by one of my colleagues and told that my observations were incorrect, etc. I refer to the enormous amount of astigmatism that may be produced by a chalazion. Shortly afterward I had a similar case. The astigmatism in both disappeared after curing the chalazion. Another rather peculiar development of astigmatism amounting to 1 D was in a young boy. He had had a perforating ulcer of the cornea with resulting anterior synechia, but the pupil was not much distorted. The advice was to leave it alone. After two or three years he began to develop quite a large amount of astigmatism, which increased, undoubtedly owing to contraction of the iris. An iridectomy was performed subsequently and the astigmatism entirely disappeared.

Dr. C. D. Wescott, Chicago: As I looked over the paper before coming to the meeting I wished very much that I might have read it before I began doing refraction work. In my pupilage I was given some hard-and-fast rules and I failed from my reading to learn many of the things Dr. Zentmayer has pointed out to-day. So far as I can say without going over my records I can endorse all that he has said. I feel confident of the correctness of his views. I also have observed the change of astigmatism from the pressure of a chalazion on the lid. You have all noticed the change in the reading of the ophthalmometer in patients who squint and half close the lids during the examination. These are common observations. In a quotation from Dr. Jackson I was surprised to notice that he tells us that only 17.2 per cent. of hyperopes are astigmatic; I felt confident that that was not according to my experience and since I came here my assistant has run over the last 100 refraction cases in my records. In those 200 eyes there were ten with simple hyperopia, 107 with combined hyperopia and astigmatism; there were six eyes in which there was pure myopia and twenty-nine in which there was combined myopia and astigmatism.

Dr. G. C. Savage, Nashville: There are three classes of patients to whom I always say that they will probably have to have a change of lenses in a longer or shorter time. One class is the astigmatic, whether hyperopic, myopic or mixed. Another class is the myopic patient, for we all know that myopia is a thing that increases in a large percentage of cases. The remaining class is the presbyopic. If I have a patient whose corneal astigmatism corresponds with the total astigmatism as shown by means of the lens, then I say they will not have to change the astigmatic lens. In my own case the corneal astigmatism was the same twenty-two years ago as it is to-day, but the total astigmatism was much less. The total astigmatism finally became the same as the corneal. My explanation of that is this: The plane of the lens should be parallel with the tangent of the cornea at its center. If the cornea has its tangent parallel with the lens and there is no astigmatism, then there will be no total astigmatism. If the cornea measures 1 D of astigmatism and there is no total astigmatism shown by retinoscopy or lenses then I know that the lens has been tilted so as to produce 1 D of astigmatism. I know further that the lens is not always going to be tilted that way. I know that there is no known agent in the materia medica that will untilt the lens. The tilting in my two eyes, when I was a boy, was enough to produce 2.5 D of lenticular astigmatism for neutralizing the corneal error. The astigmatism began to unfold itself as I grew older, and as it unfolded I wore increasingly strong cylinders until the total astigmatism became equal to the corneal astigmatism. This lens-tilting must be done by Bowman's muscle. This muscle consists of radiating fibers which are under the control of the sympathetic nervous system—the superior cervical sympathetic, probably. We do not know of any agent that will control Bowman's muscle. As we grow older the muscle becomes tired and the lens untilts. I am satisfied that there is dynamic tilting of the lens inside of the eye when the corneal astigmatism and the total refraction do not correspond. Does not the hardening of the lens as we grow older have something to do with the increase in refraction, calling for a stronger myopic or a weaker hyperopic lens? We know that the elasticity of the lens goes after a while and we have to give presbyopic lenses of increasing power to correct the advancing presbyopia.

Dr. Mark D. Stevenson, Akron, O.: This work of Dr. Zentmayer's is not an attempt at an explanation, but an analysis of the changes found in the cases, and is of great importance Since in Philadelphia they use atropin we can practicall eliminate the action of the ciliary muscle or anything but th real astigmatism. In my own cases of long standing I formerly used homatropin, but I have now also come to th atropin standard in younger people. One thing that struck me as different from my own results, as I recall them, is the statement that there is not a greater tendency for compound myopic astigmatism to change than of compound hyperopic astigmatism.

Dr. Hiram Woods, Baltimore: The general statements of Dr. Zentmayer's paper are undoubtedly correct. We do get changes in the axes of astigmatism. At the same time there is one thing that Dr. Risley pointed out some years ago and it is just as well to bear it in mind: Nearly all of the changes are in the direction of a change in refraction. Dr. Risley suggested in his paper that astigmatism is the turnstile of progressive myopia and he insisted that we have cycloplegia before we draw conclusions as to what the static refraction is; in other words, the mere use of atropin or scopolamin, or whatever you choose, with dilated pupil and inability to read, is not cycloplegia necessarily, and when you contrast one result with another you want to know that you have complete cycloplegia. Dr. Risley lays this down emphatically with reference to myopic astigmatism. I recollect a case recently in a child who had a myopia of 1 D. at her first visit. I had not seen her for two years when she came in with an apparent increase of the myopia to 3 D. Atropin was used the first day and the myopia lessened, steadily decreasing for three or four days until at the end of a week there was only about 50 per cent. of the apparent increase on the first day. I would not have had any way of knowing that except by the prolonged use of the cycloplegia. I am quite confident that in increasing myopia in young people the first day or two the cycloplegic does not always give complete relaxation.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: When some men speak of a mydriatic they mean a cycloplegic. It should be remembered that there is a great difference between a cycloplegic and a mydriatic. A cycloplegic is always a mydriatic, but a mydriatic is not always a cycloplegic. I am a firm believer in the use of a cycloplegic that thoroughly paralyzes the accommodation. I have noticed a change in the refraction of patients examined under homatropin three or four years previously, and under the impression that the cycloplegia was complete, I concluded that the change in the refraction was due to changes in the shape of the eye itself or in the shape of the lens. Later when hyoscin or atropin was used, with still different results, I became convinced that the changes noted were not always due to changes in the shape of the eye or the lens, but rather to failure in previous instances to secure complete cycloplegia. The practical point of this paper, to my mind, is the demonstration of the fact that there is a change in the eye itself, and that the change cannot be attributed to faulty cycloplegia. It also emphasizes a point which should not be forgotten, and that is that we are not warranted in supposing that patients refracted by others have been refracted improperly because we obtained different results several years later.

Dr. William Zentmayer, Philadelphia: Most of the discussion that has taken place has been based on just what led me to analyze my cases, just from preconceived ideas, without any statistical results to base them on. I was perfectly familiar with the astigmatism produced by a chalazion. My own case is one which was refracted under atropin twenty-five years ago and had one-half diopter of hyperopia and one-half diopter of astigmatism. I am now using an axis of 95 in one eye and 100 in the other. To show how uncertain after all any prognosis in regard to refractive changes must be, the day before I left Philadelphia I saw a patient whom I had refracted twenty years ago who had a low hyperopic astigmatism in one eye and a low myopic astigmatism in the other eye. She came back at the end of twenty years for presbyopia. I went over the eyes with the result that the patient is now wearing the same glasses she wore twenty years ago. In regard to the theory of these changes I left that alone; I simply wanted to present a statistical paper.

As Dr. Woods says, we have no very definite way of knowing whether we have absolute cycloplegia, but I believe the way I use my atropin is pretty certain to give complete cycloplegia. I use 1 per cent. solution and instil 2 drops into each eye two days before the test. I almost invariably test my patients three times. Of course, if the first two tests concur I do not test them again. That is practically five days of atropin cycloplegia. In regard to the use of the ophthalmometer it was first done before the instrument was used and I could not make a complete study in that way.

Dr. Savage: When was the cornea first measured with the ophthalmometer?

Dr. Zentmayer: Twenty-five years ago.

Dr. Savage: Did it differ much from what it is now in the corneal astigmatism?

Dr. Zentmayer: It has apparently changed in my case.

THE EFFECT OF THE INGESTION OF ALCOHOL ON THE RESULT OF THE COMPLEMENT FIXATION TEST IN SYPHILIS

A PRELIMINARY NOTE *

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In this preliminary note we desire to place on record certain observations regarding the effect of the ingestion of alcohol on the Wassermann test. We have found that alcohol, when taken in considerable quantities, possesses the power of rendering the strongest positive serum negative, and that this negative reaction persists for a few hours to several days. These observations are of both practical and scientific interest and we hope, in a later contribution, to discuss them more at length.

The discovery that alcohol possesses this property was made during routine tests of the blood of a patient who had received salvarsan, and has since been confirmed in eight other cases.

The technic used in making the tests has been that usually employed in this laboratory, following closely the modification of the Wassermann test recommended by Noguchi, with the exception that an alcoholic extract of fetal luetic liver is used as antigen and the serums to be tested are inactivated before use.

As the case in which this phenomenon was first noted is of special interest in this connection it will be discussed in detail, while the results in the other cases are shown in the accompanying table. In this report the sign ++ indicates absolute inhibition of hemolysis; + over 50 per cent. of inhibition; and +— anything below 50 per cent. of inhibition.

Case 1. Male, 41 years of age. Infected in 1904. Now has palmar lesions. Feb. 25, 1911, 0.5 gm. of salvarsan was administered intravenously, the Wassermann test before administration giving a plus reaction. Between this date and April 7, 1911, his blood was tested five times, the reaction four times being double-plus, and the last test, on April 7, being plus. April 8 his blood was again tested and was found to be negative. This result was unusual and on inquiry we learned that on the night of April 7, he had drank about 700 c.c. of Munich beer. His blood was tested again on April 12, and gave a double-plus reaction. Believing that the beer might have had something to do with the sudden disappearance of the reaction in this case, we asked him to repeat the beer on the night of April 14, which he did and on the morning of April 15 the reaction was again negative. On the 17th it had become plus and on the 22d again double-plus.

These results indicating that the disappearance of the reaction was due to the ingestion of alcohol we decided to repeat the experiments on other cases and the table which follows gives the results we obtained in nine luetic

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* From the Bacteriologic Laboratories of the Army Medical School, Washington, D. C.

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patients, who, before the administration of alcohol, gave a double-plus Wassermann reaction.

Of the nine cases included in the table three were in the secondary and six in the tertiary stage of the disease. The quantity of alcohol administered varied somewhat, but in every case the reaction disappeared after its administration. The smallest amount of alcohol administered was 180 c.c. of whisky containing approximately 90 c.c. of alcohol and in most of the cases the blood was tested one hour before the administration of alcohol was begun as well as afterward. The study of the table will disclose the fact that in five of the cases the reaction was negative one hour after the last dose of alcohol had been given, and that in all the cases the reaction remained negative for several hours and in some of them for a much longer time. Thus in Cases 4, 5 and 6, the reaction remained negative for over twenty-four hours and in Case 9 for three days. Two of the patients had received salvarsan before the alcohol was administered, but in one case this was given so long before that it could have had no effect on the reaction, while in the other the fact that the reaction became double-plus again, after becoming negative from the alcohol administered, indicates that the salvarsan had nothing to do with its disappearance.

TABLE ILLUSTRATING THE EFFECT OF THE INGESTION OF ALCOHOL ON THE COMPLEMENT FIXATION TEST IN LUES

Case No.	Stage of Disease	Reaction Before Alcohol Date	Alcohol Given		Dates and Results of Tests After Administration of Alcohol.			Remarks
			Date	Amount	Date	Time	Result	
1	3	First test + April 1, 1911. Second test ++ Apr. 12, 1911.	4/ 7/11 4/14/11	About 700 c.c. Munich beer in evening. 700 c.c. same beer between 10 p. m. and 12 midnight.	4/ 8 4/12 4/15 4/17 4/22	9 :00 a. m. 9 :00 a. m. 9 :00 a. m. 9 :00 a. m. 9 :00 a. m.	— ++ — + ++	0.5 gm. salvarsan Feb. 24, 1911
2	2	++ May 19, 1911.	5/20/11	90 c.c. of 95 per cent. alcohol by mouth from 7 a. m. to 7 p. m.	5/20 5/21 5/22 5/23 5/24	7 :30 p. m. 10 :00 a. m. 10 :00 a. m. 10 :00 a. m. 10 :00 a. m.	+ — +— ++ ++	No salvarsan.
3	3	++ May 29, 1911, one hour before alcohol.	5/29/11	240 c.c. whiskey between 10 a. m. and 5 p. m.	5/29 5/30 5/31 6/ 1 6/ 2	6 :00 p. m. 6 :00 a. m. 10 :00 a. m. 10 :00 a. m. 10 :00 a. m.	+ — + ++ ++	No salvarsan.
4	3	++ June 3,'11, one hour before alcohol.	6/ 3/11	240 c.c. of whiskey between 10 a. m. and 6 p. m.	6/ 3 6/ 4 6/ 5 6/ 6	8 :00 p. m. 7 :00 a. m. 10 :00 a. m. 10 :00 a. m.	— — + ++	No salvarsan.
5	2	++ June 4,'11, day before alcohol.	6/ 5/11	180 c.c. whiskey between 9 a. m. and 6 p. m.	6/ 5 6/ 6 6/ 7 6/ 8	8 :00 p. m. 8 :00 a. m. 8 :00 a. m. 8 :00 a. m.	— — ++ ++	No salvarsan.
6	2	++ June 22, 1911, one hour before alcohol.	6/22/11	240 c.c. of whiskey between 9 a. m. and 7 p. m.	6/23 6/23 6/24 6/25 6/26	9 :00 a. m. 8 :00 p. m. 9 :00 a. m. 9 :00 a. m. 9 :00 a. m.	— — +— ++ ++	0.6 gm. salvarsan, June 19, intramuscular.
7	3	++ June 29, 1911, one hour before alcohol.	6/29/11	240 c.c. of whiskey between 10 a. m. and 5 p. m.	6/29 6/30 7/ 1 7/ 2 7/ 3	6 :00 p. m. 6 :00 a. m. 6 :00 a. m. 6 :00 a. m. 6 :00 a. m.	+— — + ++ ++	No salvarsan.
8	3	++ July 7,'11, one hour before alcohol.	7/ 7/11	240 c.c. of whiskey between 12 m. and 7 p. m.	7/ 7 7/ 8 7/ 9 7/10	8 :00 p. m. 1 :00 p. m. 1 :00 p. m. 1 :00 p. m.	— — ++ ++	No salvarsan.
9	3	++ July 7,'11, one hour before alcohol.	7/ 7/11	240 c.c. whiskey between 12 m. and 7 p. m.	7/ 8 7/ 9 7/10 7/11 7/12 7/13 7/14	1 :00 p. m. 1 :00 p. m. 1 :00 p. m. 1 :00 p. m. 1 :00 p. m. 1 :00 p. m. 1 :00 p. m.	— — — +— + ++ ++	No salvarsan.

We have instituted some experiments on luetic rabbits with the intention of working out the exact time of disappearance of the complement fixation test after the administration of alcohol and its reappearance, and the amount of the drug necessary to produce this result, and we hope to report on these experiments later.

At the present time it is impossible for us to explain this effect of the ingestion of alcohol on the complement fixation test. That it is not due to the actual presence of alcohol in the blood-serum tested, is evident from the fact that a much larger quantity of alcohol is necessary to produce hemolysis than could possibly be present in the serum. For example, we have found that it requires at least 0.15 c.c. of absolute alcohol to produce complete hemolysis of 1 c.c. of a 1 per cent. suspension of human red corpuscles, within the standard time, whereas only 0.08 c.c. of the patient's serum is used in making the complement fixation test in this laboratory. It is thus evident that if the serum were absolute alcohol the quantity used could not produce hemolysis.

It is evident that in syphilis some substance is present in the blood-serum which reacts with a suitable antigen and that this substance depends on the presence of the spirochetes, for when these disappear in experimental animals the reaction also disappears. This specific substance may be viewed as either an antibody produced by the reaction of the tissues to the living or dead spirochetes or as a chemical substance, not in the nature of an antibody, which results from the decomposition of the tissues by the spirochetes, or is derived from the parasites. The action of alcohol demonstrated above could be used as an argument in favor of the former view—the drug causing an inhibition or destruction of the antibody which unites with the antigen in the complement fixation test, but it could also be used as an equally strong argument in favor of the latter view. It may well be, however, that the antibody concerned in the Wassermann reaction is of a protective nature and that its neutralization or destruction by alcohol explains the injurious effect of this drug on luetics, for it is well known that in patients suffering from this disease the symptoms are greatly intensified by the use of alcohol.

There has been some work accomplished demonstrating that alcohol reduces the amount of opsonins and agglutinins in human blood-serum, and further research may show that this drug has a profound effect on the protective antibodies which may be produced during the progress of syphilis or of other diseases.

From the practical standpoint these observations demonstrate that no dependence can be placed on a negative Wassermann reaction in individuals who have, within twenty-four hours of the collection of the blood, ingested considerable amounts of alcohol, while in some instances the drug may render the reaction negative for as long as three days. We have not, as yet, tried the effect of alcohol in smaller doses on cases giving a plus or plus-minus reaction, but it is probable that the drug will be found to have a still more decided effect on weaker reactions, and it is certain that with the amounts used in the experiments, the strongest positive serum would give a negative result. Careful inquiry, therefore, should be made regarding recent use of alcohol before collecting serums for the complement fixation test in lues.

We desire to express our thanks to Major Walter D. Webb, Medical Corps, U. S. A., retired, and to Captain Harold W. Jones, Medical Corps, U. S. A., for the valued assistance which made these observations possible.

AN EXPERIMENTAL DEMONSTRATION OF THE PRESENCE OF THE VIRUS OF MEASLES IN THE MIXED BUCCAL AND NASAL SECRETIONS *

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WASHINGTON, D. C.

In our previous communications[1] we have shown that the monkey (*Macacus rhesus* and *Macacus cynomolgus*) is susceptible to the infection of measles when inoculated with the blood obtained from a human case late in the preeruptive stage or within twenty-four hours after the first appearance of the eruption. Following such an inoculation,[2] at least 50 per cent. of the animals react in a characteristic manner. After a variable incubation period of not less than five days there is a more or less marked rise in temperature with or without catarrhal symptoms referable to the respiratory passages, such as sneezing and cough, and with or without an exanthem.

About half the animals inoculated fail to present definitely recognizable symptoms. In other words, the disease in the monkey is subject to great variation, the variations corresponding to those that have been described in the human subject and presenting in some respects similar difficulties of diagnosis. On this account we have found it necessary to use at least two animals for each test. Animals that have given a characteristic reaction do not react to a second inoculation; but this test, so valuable in the diagnosis of a previous reaction in other conditions, is, for obvious reasons, when negative, of much less significance in measles.

Our first clearly defined reaction in the monkey followed inoculation with defibrinated blood from our Case 4; and it may be recalled that we were successful in inoculating a second series of monkeys by passage from the first. We maintained this strain of measles virus by passage from monkey to monkey until very recently when, because of the exigencies of our work, we were obliged to discontinue it. In all, this strain was carried through six monkey generations during the period from May 16 to June 29, 1911. We were unable to detect any definite alteration in the virulence of this virus as the result of passage.

Besides the strain from Case 4 we obtained a strain from the blood of Case 6, and this we propagated by blood inoculations through three monkey generations. There being no further need for it, this strain was dropped.

Having satisfied ourselves of the susceptibility of the monkey to the virus of measles, we turned our attention to the question of the mode of transmission of the disease. We first decided to test its transmissibility by "contact." Accordingly, on June 17, we placed a young Java monkey (*Macacus cynomolgus*) in the cage with rhesus No. 83. The latter animal was at this time in the fourth day of an attack characterized by frequent sneezing and coughing and the presence of an abundant eruption. After a stay of six days with this animal, the young Java was moved, on June 23, to a cage with another sick monkey, rhesus No. 93b. At the time of this transfer, rhesus No. 93b was in the fifth day of an attack marked by a sharp febrile reaction, cough and an abundant eruption. Five days after being placed in this cage and eleven days after being placed with rhesus No. 83, the Java was again moved, this time to the cage with rhesus No. 103a. On the same day, June 28, it was noted that his temperature, which had previously not been above 39.4°, rose to 40° C. Five days later he presented an eruption which was more abundant the following day, then faded rapidly without appreciable desquamation. We conclude, therefore, that this Java monkey (*Macacus cynomolgus*) was infected by "contact" either with rhesus No. 83 or rhesus No. 93b. We have obtained a similar result in another such experiment. In this connection, Chavigny's[3] observation and Josias'[4] experiments are of interest.

Chavigny reported that a monkey which had been in close contact with a human case of measles in the person of its keeper developed the disease. Josias, inspired by Chavigny's observation, made a variety of attempts to infect monkeys with measles. In one of his experiments he allowed a monkey to play about in a measles ward for a period of six months, with a negative result.

While the foregoing experiment was in progress an opportunity to obtain nasal and buccal secretions from a human case presented itself. We took advantage of the opportunity to test the infectivity of these secretions.

On June 20, through the courtesy of Dr. William R. Jobson, of the Children's Hospital, we obtained some buccal, pharyngeal and nasal secretion from a patient (Case 7) in the fifth day, or about 24 hours after the first appearance of the eruption of a well-marked attack of measles. Buccal and pharyngeal secretion was collected on a sterile swab and by having the patient gargle with physiological salt solution. In addition, three swabs of nasal secretion were obtained. Within four hours after it was obtained, we inoculated three rhesus monkeys with this material.

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* From the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service.

[1] Anderson, John F., and Goldberger, Joseph: Experimental Measles in the Monkey: a preliminary note, Public Health Reports, June 9, 1911, xxvi, 847; Experimental Measles in the Monkey: a supplemental note, Public Health Reports, June 16, 1911, xxvi, 887; The Period of Infectivity of the Blood in Measles, THE JOURNAL A. M. A., July 8, 1911, lvii, 113-114.

[2] We prefer the intravenous injection and for this purpose have found the external saphenous vein very well suited. A slender, very sharp pointed needle is essential, however, for success in entering the vein

[3] Chavigny, Paul: Un cas de rougeole chez un singe, Bull. méd., Paris, 1898, xii, No. 29, pp. 334-335.

[4] Josias, Albert: Recherches experimentale sur la transmissibilité de la rougeole aux animaux, Méd. Moderne, Paris, 1898, iv, 153-154.

Rhesus No. 94a had the nose, mouth and pharynx liberally sprayed with some of the diluted buccal and pharyngeal secretion; incidentally he was forced to swallow some of it. After spraying, the mouth, palate and fauces were well rubbed with the swab that had been used to collect buccal secretion and with one swab of nasal secretion.

Rhesus No. 94b was treated in exactly the same way as rhesus No. 94a, except that in swabbing the mouth, palate and fauces two swabs of nasal secretion alone were used.

Rhesus No. 95 was given 5 c.c. of the diluted buccal and pharyngeal secretion subcutaneously. This, and later subcutaneous inoculations with mixed buccal and nasal secretions, were made just under the skin of the ventral aspect of the thigh about midway between knee and groin. Following this inoculation, rhesus No. 95 rapidly developed an abscess at the site of injection; within three days it opened spontaneously, discharging the contained pus, after which the abscess cavity healed rapidly.

During a period of observation of twenty-eight days, none of these animals gave any recognizable evidence of a reaction. This would appear to indicate that the secretions, nasal, buccal and pharyngeal, from this patient were not infective at the time they were collected.

For access to a second patient from whom we obtained secretions we are indebted to Dr. Jesse Ramsburgh. This patient (Case 8) was a boy of six years of age. He was taken sick during the night or early in the morning of June 26, 1911. The eruption began to appear the morning of June 29. At 10 a. m., a beginning eruption was present on the face and neck. Buccal, pharyngeal and nasal secretion was collected at this time. This was done by spraying the boy's nose and throat with salt solution and then having him blow his nose and expectorate into a sterile conical glass.

The spraying of the throat caused some retching, during which he expectorated a little blood-streaked mucus. This specimen was set aside, while another was collected, the latter not being appreciably blood-stained but having mixed with it a drop of lacrimal secretion. With the material so collected we inoculated two monkeys:

Rhesus No. 104a received subcutaneously at 1:20 p. m., June 29, about 1.5 c.c. of the slightly diluted mixture of buccal, nasal and lacrimal secretion.

Rhesus No. 104b received subcutaneously at 1:25 p. m., June 29, about 2 c.c. of the slightly diluted nasal and buccal secretion containing the drop of blood.

In both animals an abscess rapidly formed at the site of injection which, at the end of 3 or 4 days either discharged spontaneously or was incised to permit of the evacuation of the pus that had formed.

In both animals the temperature, which was high at first, came down to some extent with the discharge of the pus. Later the temperature again rose in both animals and both developed well-marked eruptions. In the case of rhesus 104b the first appearance of the eruption was noted the morning of July 7. At 11:30 a. m. of the same day, this animal was bled and the defibrinated blood used for the inoculation of two rhesus monkeys, No. 110a and No. 110b. One of these (No. 110a) after an incubation period of eight days, developed a characteristic reaction; in the other (No. 110b) the reaction was not so well defined. Cultures at 37° C. of some of the defibrinated blood from rhesus No. 104b in standard bouillon showed no visible evidence of growth seven days later.

On June 30 we again collected buccal and nasal secretion from Dr. Ramsburgh's patient (Case 8), now about twenty-four hours after the first appearance of the eruption. This we used for the inoculation of two monkeys, rhesus No. 106a and rhesus No. 106b, each receiving 3 c.c. subcutaneously. Both animals developed abscesses at the site of injection. One of them, No. 106a, was found dead on the morning of July 3, death being due apparently to an acute septicemia. On the same day the abscess in the other monkey (No. 106b) opened and discharged spontaneously and the temperature, which had risen a little, declined to normal and remained at this level during the rest of the period of observation.

We collected buccal and nasal secretion a third time from Dr. Ramsburgh's patient (Case 8), July 1, forty-eight hours after the first appearance of the eruption. At this time the eruption was abundant and bright on trunk and limbs, but was fading on the face. This third specimen we used as we did the first and the second for the inoculation of two monkeys, rhesus No. 109a and No. 109b, each receiving 2 c.c. subcutaneously. Both rapidly developed abscesses which were opened in forty-eight hours. With the evacuation of the pus, the temperature, which was at first high, declined and the wounds rapidly healed. Later the temperature of both animals rose and in each the characteristic eruption made its appearance.

One of these animals (No. 109b) was selected for the purpose of passage. The eruption in this monkey was first noted July 10, just ten days after the inoculation. About twenty-four hours after its appearance, we aspirated about 10 c.c. of blood from the heart, and after defibrination used it for the intravenous inoculation of two rhesus monkeys, Nos. 111a and 111b. Cultures at 37° C. of some of the defibrinated blood in standard bouillon showed the presence of a small, slow-growing coccus.

Six days after inoculation, rhesus No. 111a manifested a slight rise in temperature and on the following day we noted the beginning of what proved to be a well-marked eruption. The other (No. 111b) of this pair of monkeys has, at this writing, fourteen days after inoculation, manifested no appreciable indication of a reaction.

The results of these serial inoculations clearly indicate that the mixed buccal and nasal secretions were certainly infective at the time of the first appearance of the eruption and again forty-eight hours later, that is, early in the fourth day and early in the sixth day of the disease, and that this infectivity was due to a living virus susceptible of transfer from monkey to monkey by blood inoculation.

In view of our experience, which strongly indicates that a rapid reduction in the virulence of the blood sets in at the end of about twenty-four hours from the first appearance of the eruption, that is, after four and a half to five days from the beginning of the disease, it would appear that the duration of the full infectivity of the blood does not run parallel with that of the mixed buccal and nasal secretions.

Although clinical observations and Mayr's[5] experiments on the human subject had made it practically certain that the buccal and nasal secretions were infective, the results here reported are, we believe, the first to be obtained under conditions excluding other possible sources of infection, and therefore convincingly demonstrate the presence of the virus of measles in the buccal and nasal secretions.

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[5] Mayr, Franz: Beobachtungen über Masern, etc., Ztschr. d. k.k. Gesellsch. d. Aertze zu Wien, 1852, i, 13-14.

Twenty-Fifth and E Streets, N. W.

VARIOLA AND VACCINATION

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The study of disease in municipalities or in places where large collections of statistics are available, gives one the advantage of being able to establish principles. Distinctive features of disease, however, are best elucidated if viewed in a sparsely settled region.

ADVANTAGES OF VACCINATION

Therefore, I have been led to a personal study of small-pox and vaccination such as will warrant the following conclusions:

1. Successful vaccination prevented the contraction of small-pox.
2. One successful vaccination in children of school age prevented the spread of small-pox to numerous homes.
3. A vaccination after exposure and prior to the completion of the incubation period was unsuccessful in preventing the disease or lessening its severity.
4. As exposure is possible at any age and under almost any condition and as the effect of vaccination after exposure is uncertain, the most rational course is vaccination at stated intervals, such as infancy, school age, and early maturity.
5. Mild small-pox caused more invalidism than vaccination if properly performed. In twenty-three cases of small-pox there was one case of invalidism. In 256 cases of vaccination with virus derived from a reliable source and with strict surgical asepsis, there were no complications from the operation.
6. Immunity to small-pox renders vaccination ineffective.
7. Immunity produced by a previous attack of small-pox had limitations of effectiveness as well as immunity produced by vaccination.
8. Low temperature and the severity of the disease were in direct relation to each other.

FIRST SERIES OF CASES

In Wells, Bradford County, Pa., in September, 1906, Patient 1, a young man (unvaccinated) came from North Dakota via the Great Lakes. In less than two weeks from the time he arrived at his father's farm in Wells Township, he developed variola, but the disease was unrecognized by Dr. S. His father and mother, Patients 2 and 3 (both unvaccinated), contracted the disease about two weeks after exposure.

Patient 4 (unvaccinated) visited Patient 2 and in fourteen days developed the disease in a mild form. The brother of Patient 4 (Patient 5), who was unvaccinated, contracted the disease in a more severe form than appeared in Patient 4, just two weeks from the time of exposure. Patient 5 then went to another township, where he was quarantined. Patient 4 went to H. B.'s farm to work before he had recovered. H. B. and two of his children, who attended the graded school of Wells Township, were all vaccinated and did not contract the disease; while the wife and two children (Patients 6, 7 and 8), under school age (all unvaccinated), contracted the disease in a mild form.

Patient 9 (unvaccinated) slept with Patient 4 at H. B.'s farm and went home sick with small-pox. The brother (Patient 10, unvaccinated) of Patient 9 contracted the disease from him, while three others who were vaccinated escaped the contagion.

Patients 11, 12, 13 and 14 (husband and wife and two children, all unvaccinated) contracted small-pox from Patient 9 by calling at the house; while two of the children of Patient 11 (vaccinated), who attended the graded school, did not contract the disease.

Patients 15, 16 and 17 (husband and wife and their son, all unvaccinated) and Patient 18 (husband of the daughter of Patient 15, also unvaccinated) contracted small-pox, while the daughter (vaccinated) remained immune.

There seems to be a relationship between the severity of the weather and the intensity of the disease manifestations. The weather was the most severe when Patient 15 was afflicted. He developed the most pronounced case of any, and has never regained his former health.

While still desquamating, Patient 4 worked with a threshing outfit belonging to H. R. (unvaccinated), who had had cow-pox and who did not contract the disease even though he slept with Patient 4; also vaccination was negative. All other members of the outfit were vaccinated. The threshers were at eleven farms on the Christian Hollow Road in Southport Township, Chemung County, N. Y. These were referred to Dr. Henry Flood, the health officer, who reported the cases of Patients 19, 20 and 21, residing at one of the farms, as follows: "She (Patient 19) was found in the early manifestations of the disease and also two unvaccinated persons (Patients 20 and 21), who, on being vaccinated, gained such protection that they developed only initial symptoms of the disease, even though in constant contact."

There were twenty-one cases from the North Dakota source, extending over a period of five months, which were unrecognized by three physicians, all of whom saw the cases at some time during the course of the disease. The county medical inspectors, who were present, concurred in the diagnosis of small-pox, and accepted the report from which this paper is drawn, were Dr. S. P. Hakes, Tioga, Pa., and Dr. S. M. Woodburn, Towanda, Pa.

SECOND SERIES OF CASES

The Watkins health officer notified the authorities in Wells Township that a child had been sent to that place after being exposed to small-pox. This child, C. B., Patient 22, was never vaccinated and had had chicken-pox prior to this time. She had been slightly sick for a week with an eruption of a pustular type and had been attending the graded school of Wells Township meanwhile. This school has two departments and every pupil had been successfully vaccinated the previous year. The two teachers were not vaccinated at that time, but both were vaccinated about Jan. 12, 1907. The vaccination of the B. child's teacher started to work, then disappeared when the small-pox made its appearance. This teacher (Patient 23) developed a marked case of mild small-pox and more pronounced than that of the child from whom she contracted the disease. The weather was more severe at that time. The other teacher developed a good pock from vaccination and escaped variola by its protection.

C. B. and H. B., brothers, had had small-pox in the epidemic of 1875, and both were vaccinated in January, 1907. There was a successful take in each instance. Immunity to small-pox runs out in time, at least from vaccination. H. K. was vaccinated and revaccinated for a successful take in 1876, by scabs from cow-pox cases, and both worked at one time, though several vaccinations failed to operate in 1906; also exposure to all stages of small-pox in 1906 and 1907 failed to produce the disease. H. K.'s wife had been successfully vaccinated at intervals three times, and a vaccination would not take in 1906. The child, 2 years old, was successfully vaccinated in 1906. There was a large number vaccinated in 1875, in Wells, when there was a severe epidemic and the scab method was used which protected against small-pox and vaccination in 1906.

If the pupils of the graded school of Wells had not been vaccinated the year previous, then the two children from each of two farms of the first series might have contracted the disease at home, and would have exposed the entire school of unvaccinated children, who would have scattered the disease broadcast. In place of only two cases of the second series, there would have been a condition similar to the one just described. Think of children being exposed to small-pox for a week and not a single vaccinated one contracting the disease, while the only unvaccinated person became a victim!

The first move in controlling this epidemic was quarantine and vaccination in all cases of exposure, and also vaccination of all others who would accept of free service, All persons who had the disease were given an aseptic bath and their dwellings were fumigated. The result was that from the time that the state was notified, to the close of the epidemic, there was only one new case.

Every compulsory law is unpopular with many of those who are obliged to comply with it, and vaccination comes in this class. In the Baltimore *American* a layman has been making a series of attacks on vaccination, quoting various sources in part and then adding data of a questionable source. The following is an illustrative quotation from an open letter in the series of attacks mentioned which gives certain data without stating the relationship. This shows an intent to delude:

> The smallpox death-rate before vaccination was 18 per cent.; to-day, after over one hundred years of vaccination, it is much more deadly. In Japan, the best vaccinated country on earth, it is 32 per cent. To come home: Philadelphia shows (Welch's figures) 30 per cent.; Chicago, 27 per cent.; Cleveland, 25 per cent.; New York, 28 per cent.; while the United States Army (Philippines), 1898-1901, was 35 per cent. With these facts before us and a death-rate practically doubled, are we not justified in saying this increase is due to vaccination? If not, why not?

This is a malicious juggling of percentages like the devil quoting Scripture. Before the year 1800, small-pox claimed 10 per cent. of all deaths; since 1800, it has claimed 1 per cent. of all deaths in the United Kingdom, according to Parkes' "Hygiene."

The able article of Dr. S. Kitasato,[1] of Tokyo, will show the real value of vaccination in Japan.

According to the reports from the Philippines, prior to United States occupancy, there were 6,000 deaths a year from small-pox. In 1905-1906, 3,094,635 vaccinations were performed without loss of life or serious infection resulting therefrom. Since the completion of the vaccination, there has not been a single death from small-pox.

I sent the following quotation from the open letter previously cited, to Dr. E. H. Porter, New York State Commissioner of Health, with a request for an explanation:

> Dr. Vivefoy, of Rouen, France, said: "The vaccinators are, in my opinion, the most stupid and dangerous creatures under the sun." They know that vaccination is killing children all over the country from diseases a thousand times worse than small-pox, and they are criminals if they continue it. Every vaccination is a ghastly risk of manslaughter, for they don't know what they are using. In 1908 there were 866 cases of small-pox with three deaths in New York state. In that same year and same state there were at least five deaths from vaccination and "thousands of cases of serious injury," caused by the blood-poisoning swindle.

Dr. Porter's reply is so pertinent here that it will be given entire:

> *Dear Doctor:* There is, as stated in the quotation made in your letter of November 23, a record of 866 cases of small-pox reported in this state in 1908, and likewise of three deaths. The type of the disease was exceedingly mild.
>
> We have no record of the number of persons vaccinated during the year, but it was exceedingly large, as the law excluding unvaccinated persons from the public schools is widely enforced, and vaccination outside of this has been pressed, especially in the 125 municipalities in which, during that year, small-pox occurred. Since the certificates of death occurring in the state, outside the metropolis, come to this department for filing, the reported causes of death are subject to our inspection. I do not know the source of information on which the statement of five deaths from vaccination is based. There were during the year two cases so reported. Following the custom of the department these were investigated. The first occurred in April; a boy in fair health was vaccinated under proper precautions, without result, i. e., the vaccination did not take and there was no reaction of any sort until two weeks afterward, when about the site of vaccination an area of hyperemia suddenly developed, a bleb formed followed by gangrene beneath, and the boy died in three days, manifestly from anthrax toxemia. This could not have been vaccinal, because the incubation period of anthrax is from a few hours to three or four days and cannot possibly be fifteen days, since anthrax is not a bovine disease, and the same vaccine virus was used simultaneously on other children without untoward result. I know of no record of anthrax associated with vaccination. This infection was postvaccinal and chanced to have been inoculated at the vaccination abrasion.
>
> The other case was one in which forty days after vaccination of an adult, who had been vaccinated in childhood and who likewise had no vaccinal reaction, acute pemphigus developed and was fatal after four weeks from onset. It is not impossible that this case was one which might come in the category of certain cases of acute bullous dermatitis occurring in persons having to do with animal products which have been reported. But the causes of pemphigus are very problematic, and it would be difficult to explain why the virus in this case introduced by a most careful physician should have been the cause of this sequence, when the same virus precisely, used by him on other persons, had no such ill effect.
>
> I have good ground for saying that in twenty-five years there have not been five deaths from vaccination in this state. If vaccination had not been done at all in 1908 how many cases and deaths would there have been from small-pox? All who were vaccinated, or had been within recent time, escaped it, of which we have full evidence. At Wappinger Falls in 1908, small-pox became epidemic and the health officer vaccinated practically every person in the village, stopping the outbreak at once, although it was very prevalent in near-by cities. It can be confidently asserted that if every person in this state were vaccinated, small-pox could occur here only by importation and would in that case be negligible, since no one would run risk by contact with it. By persistently pressing the antidote we are so far rid of the bane that for a good part of this year the state has been almost free from it.
>
> The evidence of its mild type shown by but three deaths in 866 cases is no warrant for regarding small-pox as other than a pestilence to be fought uncompromisingly. That is the position taken by this department

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[1] Kitasato, S.: Vaccination and Small-Pox in Japan, The Journal A. M. A., March 25, 1911, p. 889.

No one will say that vaccination is entirely devoid of risk, but if its rational requirements are met the risk is negligible, not only of death but of "serious injury caused by blood-poisoning," which is alleged in the communication cited by you. This is of a piece with the extravagant statements that a small number of people obsessed with the antivaccination idea use. There is no such thing. Some watch of untoward effects of vaccination has been kept. In 1908 there was one locality where a very considerable epidemic of small-pox, with one fatal case, was combated energetically by the health officer, whose vaccination unfortunately was followed largely by bad arms; in this case the virus was found on laboratory test to contain an abnormal micro-organism. This is not to be expected and is impossible in good virus chiefly used. Vaccination is doubtless not always done with scrupulous care, nor are its subjects always intelligent in protecting it from extraneous infection; but we are educating the people so that now even the slighter ill results rarely occur. We have little hope of ever converting to sanity the possibly conscientious propagandists of the cult of antivaccination, but we are confident that the small body comprising their number and the misinformation and misstatement which form the basis of their contention will never induce the legislators of this state to remove from the statute-book the moderate compulsory vaccination laws we now have, or induce those caring for the public health to accept any one of their arguments.

Eugene H. Porter, Commissioner of Health.

It would be unnecessary, even if space permitted, to refute in detail the other errors and misstatements of the writer in the Baltimore *American*. The example given here indicates the worth of the rest of the assertions of the writer.

THE THERAPEUTIC VALUE OF SODIUM CACODYLATE

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At the eighth annual meeting of this society, May, 1907, there was presented a paper embodying the results of certain investigations by Holmes C. Jackson and myself entitled, "The Physiologic Action, Elimination and Therapeutic Application of Sodium Cacodylate, Used Hypodermatically."[1]

Inasmuch as certain authorities have so emphatically insisted that sodium cacodylate is possessed of no arsenical properties, either physiologic or therapeutic,[2] it may not be amiss for me to summarize our findings as to that particular point and, at the same time, to state that other observers, notably Runnels,[3] have confirmed many of our statements.

Our experiments were conducted with great care at Bender Hygienic Laboratory in Albany, N. Y., and were made not only on dogs and rabbits, but on human beings. We found that the body possesses the power of decomposing the organic compound into an active inorganic form when injected intramuscularly; that it is eliminated in the form of arsenates by the urine and feces; the urine of patients under its influence yields arsenates and reacts to Marsh's test; it has a distinct toxic effect and may be recovered in the form of inorganic arsenic in various tissues of the body, such as the liver, muscle and bone marrow.

The therapy of the hypodermatic use of sodium cacodylate is based on the observation of several thousand patients treated by me or reported to me by seventy-six other observers, many of the latter trained clinicians of wide experience. The only untoward symptom observed or reported was a transitory discomfort at the site of injection when the larger doses (0.3 to 0.6 gm.) were used.

It is generally accepted that the value of arsenic as a therapeutic agent when indicated, is limited only by its toxicity, evidenced mainly in the gastro-intestinal tract; and in my opinion herein lies the justification for the use of sodium cacodylate hypodermatically, for our experiments have showed that much of that drug is changed into inorganic arsenic, is stored in the tissues and utilized as rapidly as it can be taken care of and without effect on the mucosa of the digestive tract.

Experience has taught us that in giving small doses and in giving our injections for several days, with intervals of non-treatment for fear of toxic results, as taught by French observers, we erred on the side of prudence; and that in most cases satisfactory results were obtained only by using relatively large doses daily without intermission, and often for several weeks, this being especially so in anemias of long standing.

There have been reported to me fourteen cases of pernicious anemia in which the patients were treated with sodium cacodylate; of these, four had short periods of improvement alternating with exacerbations of the symptoms, and finally death. Of the remaining ten reported as cured, five have been but so recently discharged (three, five, six, eight and nine months) that we cannot claim them as cures, even though they are reported by careful observers and have every evidence of recovery. The last five, however, seem to be properly classed as well, for their discharges from treatment with no recurrence of the symptoms are, in point of time, respectively, fifteen months, eighteen months, twenty-two months, twenty-five months and thirty-seven months. In these five cases careful blood-counts were made at frequent intervals, and from the character of those reporting, as well as from the blood-pictures and the case histories, I have no doubt as to the correctness of the diagnosis.

The history of one case, that of the patient longest recovered, is very complete; and as the dosage used was much smaller than was used in the other cases, I give it here.

REPORT OF CASE

Case 1.—*History.*—The patient was seen Sept. 6, 1906. The diagnosis was pernicious anemia and achylia gastrica, with indigestion and loss of strength. The family history was not important. There was no history of cancer or tuberculosis. The patient had been an exceptionally healthy man; moderately hard worker; moderate in use of alcohol; excessive tobacco-chewer and smoker; had had no serious illness; weight dropped 30 pounds during the previous year. One year previously the patient had a hard attack of diarrhea lasting two weeks; lost weight rapidly during this period and became very weak, so that he was hardly able to stand. No blood was noticed in the stools. He has had other attacks since, but not so severe; has had stomach trouble for the past six years; inability to digest food properly; vomiting has occurred at intervals but has not been a pronounced symptom; no hematemesis; appetite fair; about one year ago tongue became very red and raw and very sore.

Recent Illness.—Exact date of onset was not known because the past illness merged into the present condition. In the early part of the previous summer the patient went to the seashore to improve his health, but became very weak while there, hardly able to move about. He returned after a month unimproved and had been confined to bed since. He was very weak, could not digest food and had much distress after eating; vomited occasionally; no blood. He was troubled much with dizziness; had had diarrhea for past two weeks with semi-fluid stools; no blood noticed; sweated profusely at night and had disturbing dreams; hands cold and clammy. Patient was short of breath on exertion; had noticed no hemorrhages in the skin or from the gums.

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[1] The Journal A. M. A., June 22, 1907, p. 2090.

[2] Fraser, T. R.: The Inefficiency of the Disodic-Methyl-Arsenate as a Therapeutic Agent, Lancet, London, 1903, cliv, 304.

[3] Runnels, S. C.: New York Med. Jour., Dec. 3, 1910.

Physical Examination.—Patient is of moderate height, musculature well developed but soft and flabby; fairly well nourished; no emaciation; panniculus present; color a peculiar lemon-yellow tint; lips and conjunctivæ pale; tongue clean; no edema of feet or legs; pulse 88; temperature subnormal; respirations normal; pulse soft, easily compressible and regular; wall not palpable; lungs clear on auscultation and percussion. Heart: impulse not seen but felt in the fifth interspace, 12 cm. from midsternal line; dulness not increased to right; systolic murmur heard all over precordium and transmitted to axilla; other sounds clear; liver and spleen not palpable; stomach not enlarged; no tenderness, no mass felt; abdomen not tender; no masses, no dulness in flanks. Ewald test breakfast gave no free hydrochloric acid; total acidity, 14; no lactic acid, no pepsin. No obstruction; urine negative.

Feces: No occult blood, mucus, parasites or ova.

Blood: Hemoglobin 55 per cent.; reds 1,200,000; whites 6,000; micro- and macrocytes; marked poikilocytosis; normoblasts present.

Course of Disease.—Sept. 22, 1906: Hemoglobin 40 to 50 per cent.; reds 736,000; whites 2,200; megaloblasts.

Oct. 11, 1906: Hemoglobin 45 per cent.; reds 864,000.

Oct. 24, 1906: Pleurisy with effusion in right chest. Blood-count, hemoglobin 40 per cent.; reds, 1,120,000; whites 4,800.

Nov. 15, 1906: Hemoglobin 55 per cent.; reds 1,750,000; whites 5,000.

Dec. 8, 1906: Hemoglobin 65 per cent.; reds 2,240,000; whites 3,000.

Jan. 9, 1907: Patient much better, up and about every day. Gained 10 pounds in weight; tongue sore, slightly swollen and appears edematous; lungs clear; hemoglobin 60 per cent.; reds 1,952,000; whites 8,000.

Feb. 28, 1907: Patient much weaker; stomach trouble has returned; gas and pain after eating; bowels very irregular with periods of diarrhea; night sweats; no loss of weight; edema of feet and legs at night: hemoglobin 39 per cent.; reds 1,696,000.

April 27, 1907: Hemoglobin 26 per cent.; reds 960,000; whites 3,000; microcytes and macrocytes, erythroblasts and megaloblasts. Patient very pale; weight about the same; edema of feet and legs at night; short of breath.

Aug., 1907: Effusion in chest returned on opposite side; patient in bed; very weak. Hemoglobin 35 per cent.; reds 2,600,000; no nucleated cells in smears.

Jan. 13, 1908: Patient feeling well recently; some shortness of breath on exertion. Hemoglobin 60 per cent.; reds 2,600,000.

April 22, 1908: General appearance good. Pruritus of general distribution. Hemoglobin 70 per cent.; reds 2,272,000; no nucleated cells in smears.

Treatment.—From September, 1906, until April, 1908, the treatment with sodium cacodylate was given without remission. The dose at the start was 0.03 gm. hypodermically, which was increased to 0.065 gm. given every three days. Dr. Kirkpatrick, who carried out the treatment, says that he believes the success attending this case was due to the sodium cacodylate, as no other specific medication was attempted at any time. No untoward symptoms were noted by him.

The patient made constant and steady general improvement, and was able to attend to his work.[4]

I have records of 410 cases of simple anemia treated by myself and by others, and in every uncomplicated case there has been complete recovery. I have yet to see a case of anemia in which the administration of this salt has not markedly and, usually, quickly increased the percentage of hemoglobin, and, as a rule, the red cells.

The most brilliant results have been in neuroses accompanying anemia.

Case 2.—In December, 1910, I treated a young married woman, aged 23, whose blood showed hemoglobin 60 per cent. and red cells 3,600,000, and who came to me for persistent headache which she had suffered from for eleven years, and from which she was rarely free, attacks lasting five and six days with but short intermissions. She was given in all twenty-six injections, commencing with 0.2 gm. which was continued for two weeks, and then 0.3 gm. She received in all 6.4 gm., and was discharged as cured at the end of forty-two days; and since her discharge on March 25 last, she has had no return of the headache.

Case 3.—On Feb. 7, 1910, I commenced treatment of a woman past 30, married, and with one child, who gave a history of headaches so severe that at least one-half of her life was spent in bed and which were only partly relieved by the persistent use of headache powders containing acetanilid. She reported having been treated by many men of note in various cities, but without avail. Unfortunately, no blood-examinations were made, but she gave in the color of her skin and mucous membranes every evidence of anemia. Her treatment was carried out in the same manner as the preceding case, and in all she received 12.5 gm. Since her discharge (May 2, 1910), she has had but three headaches of short duration.

Case 4.—A patient with chronic bronchitis and spasmodic asthma of sixteen years' duration, treated for a mild grade of anemia, was discharged with entire alleviation of the symptoms nineteen months ago, the patient having gained 42 pounds, which he still retains, there having been no recurrence.

My records show twenty-two cases of neuritis with sixteen recoveries under treatment. One patient with tic douloureux of six months' duration recovered; another improved and then was not benefited. Of seventeen cases of eczema, most of them of a squamous type, fifteen were cured.

Twenty-two patients with psoriasis were treated with but nine recoveries, and several cases were apparently aggravated. Neuralgias and gastralgias responded favorably in almost every instance, and many cases of dysmenorrhea in the evidently neurotic were cured, although in several instances there were recurrences requiring further treatment. Certain types of malaria, such as are seen in former residents of tropical and semi-tropical regions, which had resisted the persistent use of the quinin salts, gave the most remarkably quick and permanent response.

It has proved much more satisfactory in the treatment of chronic rheumatism than other forms of arsenic, and one case of rheumatoid arthritis has apparently been checked by its use. A case of puerperal eclampsia has been reported in which there was a marked and rapid recovery following its use, but I am not prepared to say that its employment was the cause. As was noted in our previous paper, it was successfully employed in splenic anemia and chorea, and in one case of lichen ruber.

It is most important in the administration of the drug to secure a perfectly pure salt free from arsenous oxid (AS_2O_2) contamination.

My present method is to have the pharmacist weigh out for me a number of doses—0.1 gm., 0.15 gm., 0.2 gm. and 0.3 gm.—and place them in sterile ½ dram phials, tightly corked; this protects this most hygroscopic drug from the effects of the atmosphere. At the time of injection the dry salt is emptied into the barrel of the sterile syringe, into which boiling water is drawn until all the salt is dissolved. As soon as the solution is cooled to about body heat, the needle is plunged quickly deep into the muscle of the buttock, which has been previously scrubbed, and the solution slowly injected. No stock solution should be prepared, as it quickly deteriorates; not only do fungi develop, but decomposition takes place and the amount of sodium cacodylate in each dose is uncertain.

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[4] The notes and the history in this case were reported by Dr. H. W. Carey of Troy, N. Y., who made the blood-examinations.

I have established for my own convenience an arbitrary and somewhat hybrid standard of 1 mg. for each pound of body weight to start with, gradually increasing the dose to 0.2 gm., and frequently to 0.3 gm., and I am sure that the failures to get results with sodium cacodylate are more often due to insufficient dosage than to any other cause.

It would appear that sodium cacodylate is of use in the same class of cases as arsenic, and because of its nontoxicity, is far more desirable in many cases in which large dosage is indicated.

I have purposely left any reference to the use of sodium cacodylate as a substitute for "salvarsan" (606) until the last, as our knowledge is so limited and the reports contradictory. It has seemed to many clinicians that if salvarsan in large doses was of value in lues, then theoretically sodium cacodylate, being less toxic and having a slightly larger percentage of arsenic, should be of value. That this reasoning is fallacious is very tersely stated by Nichols,[5] who says:

> For all practical purposes salvarsan should be regarded as a new substance and not merely as a new arsenical compound. The arsenic is only a part of a complicated instrument and would be of little value alone. The arsenic must be reduced, trivalent and in firm combination with the benzol ring; and the benzol ring must be substituted with the OH group and the NH_2 group in the ortho-position before a maximum destruction of spirochetes is possible. From this point of view, sodium cacodylate has no more relation to salvarsan than a pair of artery forceps has to a lithotrite in the extraction of a stone from the bladder.

Since December, 1910, I have received reports on the use of sodium cacodylate in various forms of syphilis from many observers, and there have been many cases reported in the medical journals; and while in some cases there have seemed to be satisfactory results, the greater number of observers report it to be of no value, and I am inclined to think they are correct.

If it is used, however, I think that massive doses, 0.6 gm., should be employed in order that the spirochetes should be overwhelmed, if possible, as is the case with salvarsan.

255 State Street.

A CASE OF SPOROTRICHOSIS

W. B. STEWARD, M.D.
DENISON, KAN.

The excessive frequency of sporotrichosis in the middle western states has recently been brought to the attention of the profession by Dr. Sutton.[1] The following typical clinical example has been under my care.

History.—Mrs. W., aged 42, a native of Ohio, resident of Jefferson County, Kan. The cutaneous history of the family is negative. Her general health has always been exceptionally good. There is no history of serious illness; she is the mother of two children, a girl aged 16 and a boy aged 9, both having perfect health. One month previous to her visit to me a roundish, slightly nodulated papule was noticed at middle of lower third of internal surface of right thigh. There were no subjective symptoms, excepting a pricking, uneasy sensation. This nodule gradually enlarged to the size of a hazelnut, other nodules appearing one at a time until there was a chain of seven in number, only two breaking down.

Examination.—There was no glandular enlargement, systemic disturbance, impaired function or any other lesion found. The ulcer was 4 cm. long and 3 cm. wide and 3 or 4 mm. deep, the surface of the ulcer was irregular and of a reddish brown color, covered with a thick grayish tenacious pus. Four cm. above the primary lesion was another nodule which broke down causing a similar ulcer, although smaller in size. The areola of hyperemia which usually surrounds an inflamed wound was quite narrow, the edges of the ulcer were thickened and undermined and of a reddish blue color. The line of junction of diseased and normal skin was quite clearly marked. The remaining nodules were uniform in size and evenly distributed up the thigh, very superficial and with no fluctuation. None of these lesions was painful or tender to the touch and no connecting link or extending red streaks were visible.

Treatment.—The ulcers were dressed with antiseptic dressings. The patient was put on increasing doses of potassium iodid. The nodules disappeared and the ulcers healed very readily, leaving practically no scars.

Therapeutics

DELIRIUM TREMENS

The use of alcohol is so very general that it behooves the practitioner to be mindful of its possible effect on every patient whom he is called on to treat. In individuals who have habitually used considerable quantities of alcoholic stimulants, even although they may rarely, perhaps never have drunk to intoxication, the unfavorable effects of the chronic indulgence in alcohol are frequently seen when acute or chronic illness supervenes. Especially in the severe acute infections, like pneumonia, the symptoms are frequently modified or added to by the effects of the habitual use of alcohol.

In commencing the treatment in a case of this kind, the physician should inquire carefully, and consider the possible influence of the habitual use of alcohol on the symptoms and course of the disease.

Besides the occurrence of symptoms of alcoholism as a complication of other diseases, the excessive use of alcoholic drinks not infrequently results in a sickness dependent entirely on this abuse of the alcoholic stimulants. These conditions are so common that they are well recognized by every practitioner. The sleeplessness, the restlessness, and the tremor, passing on to delirium, more or less active, accompanied by hallucinations, form a picture so common that it does not need to be elaborated. The condition may vary in severity from a moderate degree of restlessness and insomnia lasting for a few days and followed by recovery, to pronounced insomnia with delirium and hallucinations, which lead to active and violent voluntary movements which often must be forcibly controlled in order to prevent the patient from doing injury to himself or to persons and things around him.

The treatment for this condition has been the subject of much discussion and of much difference of opinion. Several important questions have arisen as to the proper course to pursue. Should a patient with delirium tremens be allowed to take a moderate amount of alcohol, or should it be entirely denied him? Those who look on delirium tremens as a toxemia argue that it is poor judgment to add to the toxemia by giving an additional amount of alcohol. But, on the other hand, it has been found practically that many patients do better, especially when the symptoms are not severe and when the delirium and hallucinations are not prominent, if allowed to take a moderate amount of alcohol. For example, one ounce may be allowed such a patient every four hours. When the symptoms become more severe, however, the propriety of giving alcohol is not so clearly established, although even here many believe that, owing to the impending failure of the circulation, a moderate amount of alcohol should be given for its effect on the circulation.

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[5] Nichols, H. J.: THE JOURNAL A. M. A., Feb. 18, 1911, p. 494.
[1] Sutton: THE JOURNAL A. M. A., Sept. 17 and Dec. 24, 1910.

A common characteristic of these cases is the loss of appetite, accompanied often by nausea and vomiting, so that it is difficult for the patient to retain either nourishment or medicine. If the stomach is irritable, it is necessary to give such gastric sedatives as bismuth or bicarbonate of sodium, with such aromatics as capsicum or peppermint. The stomach being in a condition to retain food, abundance of light nourishment should be administered at regular intervals. Milk may be given hot or cold according to the preference of the patient; but if he has no preference, preferably hot. Other light foods should be given, as broths, gruels, or soups. If he is able to take solid food, easily digestible articles may be added, such as custard, eggs, lamb-chops, or beefsteak.

Concerning the use of sedatives and hypnotics in this condition there is scarcely less difference of opinion among practitioners than in regard to the use of alcoholic stimulants. Insomnia and restlessness being such prominent symptoms at the beginning of the trouble, it naturally suggests itself to the physician that something to quiet the nervous system and produce sleep is likely to prove useful. Although many men of experience are opposed to the administration of drugs of this class, still there are strong reasons for believing that, especially outside of hospitals where trained attendants as a rule cannot be called on, the use of at least the milder hypnotics is decidedly advantageous.

At the first appearance of restlessness and insomnia the patient should be given the bromid of sodium in 1-gm. (15-grain) doses, repeated every two, three, or four hours. In the evening when it is natural to desire that the patient should sleep, a more active hypnotic should be used. Chloral in a dose of 1 gm. (15 grains), and repeated in one hour, if needed, will generally prove effective in securing prolonged sleep, after which the patient's condition will frequently be found very much improved.

Although chloral is undoubtedly the peer of all hypnotic drugs, it is rated as a cardiac and circulatory depressant, and, as is well known, can cause heart failure and death. All hypnotics except morphin, however, in sufficient doses to produce sleep, are cardiac depressants, and it is quite probable that a dose of chloral which is sufficient to produce sleep in a patient with delirium tremens is no more depressant than the dose of other hypnotics sufficient to produce sleep in a patient in the same condition. If the circulation is notably weak, however, other hypnotics may be selected. Paraldehyd has had a long period of approval. Its action is rapid, and many times satisfactory. If the dose is sufficient, there may be considerable circulatory depression for a short time. The various synthetic hypnotics, old and new, sulphonmethane (sulphonal), sulphonethylmethane (trional), diethyl barbituric acid (veronal), and sodium diethylbarbiturate (veronal-sodium), all act more or less satisfactorily, but act much more slowly than than do chloral or paraldehyd, and in doses that are sufficient will produce considerable later depression. A sufficient dose of scopolamin hydrobromid, hypodermatically, to cause sleep in this excited condition is also likely to cause depression. Also, there often is an increased susceptibility to any atropin or atropin-containing drug, so that the cerebral excitation may be increased by scopolamin.

In cases of acute illness in which, on account of the history of alcoholic addiction, there is reason to believe that symptoms referable to the habitual use of alcohol are liable to supervene, the use of sedatives should be commenced early before any of the characteristic symptoms of alcoholism appear, and should be continued until it is evident that there is no danger of prolonged insomnia and restlessness.

In severe cases in which active delirium with hallucinations has supervened, energetic treatment is urgently demanded. Danger must be looked for in two or three principal directions. The circulation is threatened, owing to the weak action of the heart, which may result in edema of the lungs. At the same time the circulation in the brain is especially affected so that there is a passive congestion, with more or less edema. Added to this are the symptoms of exhaustion due to the insomnia and violent muscular agitation. Here there is urgent necessity of maintaining the nutrition of the patient by giving liquid nourishment at regular intervals. It is necessary also to watch the circulation carefully and to maintain the action of the heart. The use of alcoholic stimulants for this purpose, while still recommended by many, is of doubtful propriety at this stage of the disease.

If there is serious cerebral excitement and hypnotics in ordinary doses do not act, the best treatment is ergot, in some reliable aseptic form, injected intramuscularly into the deltoid muscle, a syringeful at a dose. One hour after this injection, a hypodermic injection of morphin may be given, not more than ¼ of a grain. Theoretically morphin is not good treatment when there is cerebral excitement, as the dose required to quiet such excitement is very large, while smaller doses tend to increase the excitement. Under the condition described, however, ergot given first to relieve congestion of the brain and spinal cord and followed by morphin, prevents the initial excitement of the morphin and projects the length of time which a given dose of morphin will act, and the outcome is satisfactory.

If there are signs of cerebral edema, no treatment is better than, or so satisfactory as, the subcutaneous ergot treatment. The ergot may be repeated in three hours, and then once in six hours for several doses, if it is required. The administration of ergot by the mouth for the action desired on the brain is absolutely unsatisfactory and cannot be relied on. Also, if the heart is weak, ergot is the drug indicated.

In other words, if there is apparent edema of the brain, ergot; if there is cerebral excitement and the heart is efficient, chloral; if there is cerebral excitement and chloral is unsatisfactory alone, add ergot; if there is cerebral excitement and the heart is weak, ergot and morphin.

Strychnin is inadvisable as a stimulant in this condition. Aromatic ammonia may be given if a quickly acting stimulant is required. A saturated solution of camphor in an aseptic oil may be given hypodermatically, if required, as a quickly acting stimulant. Strophanthin hypodermatically may be given, if deemed advisable. Digitalis, which does not act well for at least twenty hours, is generally not indicated.

In the meantime, while these various dietetic and medicinal measures are being employed, the patient should be kept quiet, should be constantly watched, and should be frequently bathed with warm water, or, if strong enough, given hot baths

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TICK CONTROL IN RELATION TO ROCKY MOUNTAIN SPOTTED FEVER

Dr. H. T. Ricketts, in his classical work on Rocky Mountain spotted fever, demonstrated that wood-ticks collected from nature could infect guinea-pigs with the disease and recommended as a prophylactic measure the eradication of the tick. Active steps to destroy or decrease the number of ticks were, however, never taken by him, although dipping and spraying of domestic cattle and periodic changing of pasturage were suggested.

Recently, Cooley[1] of the Montana Experiment Station, in cooperation with the Bureau of Entomology, has made a study of the control of the tick in relation to the disease. His method is to collect as great a number of ticks as possible from all the wild and domestic animals in the Bitter-Root Valley and to follow this by a study of their species and life history. Six different species of ticks were found in the valley. It has not been proved that all of these transmit the disease, but in the light of the findings of Maver,[2] in which different species of ticks from Texas, Missouri and Massachusetts were shown to be able to carry the disease, it is not at all improbable that all the ticks in the valley may do so.

Cooley found adult ticks on all large animals, but principally on horses and cattle. The immature stages, on the contrary, were obtained only from small wild animals. A conclusion which rests more on an hypothetical than on an experimental basis is that the life-cycle of the tick in nature is two years instead of one, as hitherto believed. This, if true, has an important relation to the freeing of the valley from ticks. Since the adult ticks feed chiefly on domestic animals, if their life-cycle extends over two years, the domestic animals must be kept free from ticks for two consecutive years before any material reduction in the number will be accomplished. Cooley believes that the key to the situation is in keeping domestic animals free from ticks, and he is endeavoring, at the present time, to prove this by dipping cattle in large numbers. Another method is the prevention of the maturation of the larval and nymphal stage by wholesale destruction of the small wild animals. The belief that tick control alone is a sufficient method of securing relief from the disease would seem better founded if the ticks were confined to small districts, but, when the areas involved are as large as the western portion of Montana, Idaho, and districts in other western states, where Rocky Mountain spotted fever occurs, the magnitude of the undertaking becomes apparent at once.

THE DANGER OF GENERALIZED MEDICAL TERMS

Long ago Roger Bacon declared that the principal reason why men did not advance in knowledge was that they were afraid to say "I do not know." Most persons prefer a dubious explanation to none. Words often conceal the speaker's ignorance even from himself. This tendency has now and again been observed in medicine.

Thus, Sir William Gowers[1] called particular attention to the ease with which a word may come to conceal our ignorance or laziness, or lack of time to study a case. Speaking of the word "neurasthenia," he said: "Its practical utility is low, but has influenced its use. Its employment is extended far beyond the needs of the patient and, indeed, did so from the first. It often tends to be too satisfying. If physicians actually think that they have found the malady from which the patient is suffering, an influence is often exerted on them of which they are unconscious, which lessens the tendency to go further in search for the whole morbid state. Words are our servants, but they often exert a very masterly influence on us, none the less effective because we are not conscious of it. They have also their own vitality, feeble or vigorous, and we have little power to influence their career."

Several years ago, to use another illustration, malaria was considered to be a very prevalent affection even in the northern portion of the United States. Patients who suffered from lassitude were sure that they had malaria; "that tired feeling" was almost a pathognomonic sign. As a consequence many of the neurotic affections that have since come to be grouped under other heads were classed as malaria. Various fevers masqueraded under this term. Irregular mild forms of typhoid fever were probably often diagnosed as malaria. Unfortunately, even some more serious affections came under the same head, so that there was apparently a large death-rate from the disease. Nephritis in its later stages was sometimes classified as chronic malaria, and occasionally even cirrhosis of the liver was so classified. Gall-stone disease, particularly when not productive of typical gall-stone colic, but only of some vague discomfort with yellowing of the skin, and especially if accompanied by irregular septic fever, was almost sure to be called malaria. Chronic appendicitis not infrequently masqueraded as malaria. Latent abscess came under the same rubric. When temperature ran up after child-

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1. Cooley: Bull. 85, Montana Agric. Col. Exp. Station.
2. Maver: Jour. Infec. Dis., 1911, viii, 322.

1. Gowers: Lectures on Diseases of the Nervous System, Second Series, Blakiston, Philadelphia, 1904.

birth, malaria was often blamed for it. Low-grade pneumonia occasionally wore the semblance of malaria, and tuberculosis in its early stages was nearly always malaria to some physicians.

We have now advanced beyond the stage at which malaria served as a catch-all in pathology and etiology. We know that malaria is extremely rare in the northern part of the country, that most of our large cities have absolutely none of it, and that a diagnosis of malaria without demonstration of the characteristic plasmodium in the blood can be due only to ignorance or carelessness. It does not follow necessarily, however, that we have advanced beyond the careless superficiality which so often substituted a word for an idea in the case of "malaria."

The present use of the word "influenza" seems to offer an instructive parallel to that of "malaria" a generation ago. A great many deaths from otherwise undefined causes of all kinds are now ascribed to influenza. Most of the respiratory affections, of the winter and early spring particularly, are called influenza or grip.

During the last two years in New York state, for instance, the number of deaths from "influenza" has been over 10,000. The month of March of this year showed the highest mortality the state has ever had. The state department of health declared that "the excessive death-rate has been from the prevalent influenza, which is estimated last year to have caused 10,000 deaths and which has been, thus far, this year more prevalent and fatal in its effects than it was last year." This was said of the mortality statistics up to the first of April.

It is doubtful whether many of these deaths attributed so lightly to influenza were really due to the specific infectious disease which alone deserves that name, and whether many of them were not merely various forms of respiratory disease and even of visceral disease of many other kinds loosely called influenza or grip. This latter term particularly has an attraction for too many physicians. In recent years many forms of intestinal disease and affections involving important abdominal organs have been attributed to influenza, especially if there were catarrhal or respiratory symptoms at any stage of the affection. It seems justifiable, therefore, to ask whether we are not now doing with the word "influenza" what we did with the word "malaria" twenty years ago. Are we using it as a convenient basket, into which we put diseases and disorders of various natures that a little more care in differential diagnosis would separate from each other?

We have reached the end of the influenza period for this year; but it is worth while to consider the question in advance of the next winter season, so that we may be prepared to use less freely and loosely that convenient but dubious and—since it encourages ignorance, somewhat dangerous—term "influenza."

MACAURA COMES BACK

For the information of those who may not have heard of the individual who forms the subject of this caption, we give the following: "Dr." Gerald Macaura is an American "vibro-therapist," who for the past three or four years has been separating gullible Britishers from their money. In 1908, Macaura was conducting an "institute" in Manchester, England. His particular branch of quackery consisted in operating and selling a "blood circulator" that his dupes were assured was "Protected by His Majesty's Royal Letter Patent." In his advertisements, Macaura asserts that he is an "F. R. S. A.," whatever that may be. Also, he is a "graduate of the National Medical University of Chicago." The latter claim is interesting because, although Macaura was making this claim as long ago as 1908, the official list of alumni of the National Medical University of Chicago, published in 1909, does not contain Macaura's name.

From the standpoint of the British dupes, who have parted with real money for Macaura's "vibro-therapeutics," it is of little moment whether this quack is or is not a graduate of the National Medical University. It is true that the word "university," which was made much of in his British advertisements, may have been responsible for a certain proportion of his "patients" throwing away their money. Naturally, the average Britisher had no means of knowing that the National Medical University was not a university in the British sense; neither could he be expected to know that it was a medical school of the night-class type that had been discredited by the authorities of the very state in which it operated.

Macaura's success in Manchester was so great that he decided to transfer his quack institution to larger and more profitable fields. He went to London and, with the money that he had made at Manchester, subsidized a large portion of the London press by methods common to those of his class, namely, by placing large advertising contracts. He went farther; he hired public halls and gave "lectures" in typical "Kickapoo Indian Medicine" style. Moreover, as a master-stroke of advertising he was able to interest that well-known but erratic individual, W. T. Stead, editor of the British *Review of Reviews* and author of the classic, "If Christ Came to Chicago." Mr. Stead's advocacy of anything medical is, generally speaking, *prima facie* evidence of its unscientific and bizarre character. Some years back, the versatile editor of the *Review of Reviews* championed the notorious Count Mattei cancer cure. Analysis proved this fraud to be nothing but water, but the author of "Letters From Julia" was not nonplused on that account. The discussion made good "copy" while it lasted and that is all any enterprising journalist could ask.

But, to return to Macaura. Most quacks find that sooner or later the number of dupes they can fool is limited. As the knowledge of the inefficiency and fraudulency of quackery is gradually forced on the public, it finally overcomes the counter-force of blatant and mendacious advertising. Apparently, Macaura has reached this point, for we learn from an authoritative source that he is "coming back." The spectacle is somewhat unusual. It is more common to find fakers in various branches of human activity coming from Europe to America, fleecing their clientele and going back to their native land to live in ease on their ill-gotten gains. The tide seems to be setting in the other direction. The tainted money that has been wrung from the ignorant sick and the gullible suffering of the British Isles is being brought to the United States—presumably to Chicago. We look forward with no degree of enthusiasm to Macaura's return to Chicago. This quack-ridden city would prefer his room to his company. The most we can do is to felicitate the people of London on being rid of a most undesirable citizen. Their gain is our loss.

Current Comment

SCHOOL CHILDREN AND CATTLE

In the hope of hampering medical inspection of schools, the National League of Medical Freedom recently sent a circular letter to school superintendents, asking them to oppose further inspection of school children. The superintendent of schools in a large eastern city replied enumerating a few reasons why school inspection is desirable.[1] Among other things he said that in his own city, over 400 cases of head-lice among school children were discovered in one year and that it was necessary in some cases actually to force the parents to allow their children to have proper treatment. This is not a pleasant topic for discussion, but it is infinitely better to discuss it freely than to permit unfortunate and helpless children to be tortured by such horrible parasites. It is conceded that any member of the National League of Medical Freedom has a right to entertain such parasites unmolested, if he so desires, so long as he does not come in contact with any of his fellow citizens who are more particular. It will be difficult, however, to convince the American people that it is an infringement on personal liberty or a violation of the constitution of the United States for school superintendents and boards of health to compel ignorant and delinquent parents to keep their children decently clean and to prevent them from spreading disease among others. Such conditions in livestock would not be tolerated by any self-respecting farmer. Striking corroboration of this fact is found in a recent number of the Louisville (Ky.) *Times*, in which appears the statement that a federal quarantine against the cattle in Daviess County, Ky., is probable, in order to eradicate itch among cows in that county. Ten head of beef cattle shipped from Owensburg, Ky., to Buffalo, N. Y., were found by the government inspectors to be infected with itch. The governments inspectors did not wait to examine the federal Constitution. They did not consider that the personal liberties of the cattle were being infringed on. They did not stop to quibble about state rights. They "asked at once what steps Kentucky would take to stamp out the disease." They notified the state authorities that unless prompt measures were taken to prevent the further shipment of infected cattle, Daviess County would be quarantined. In spite of this harrowing exhibition of federal tyranny, so far as we have learned up to the time of going to press, no representative of the National League of Medical Freedom has as yet appeared in Daviess County to champion the cause of these persecuted cattle. No branch of this society has been organized among the Daviess County cows. Their cause has not even been championed in a speech before the United States Senate. No editorials on the right of these cows to have the itch have appeared in any of the patent medicine organs. The right of the federal government to protect the live stock of the country against infection is conceded by all. Yet in one city last year 400 school children were found suffering from lice, and the only means of preventing such horrible conditions, viz., school inspection, is subjected to an organized attack as an unwarranted invasion of personal liberty. Seriously, is it not time we asked ourselves, as citizens, how many of our school children one cow from Daviess County is worth? What is the stage of civilization in a nation which uses the whole force of governmental authority to prevent itch in cattle, but which hesitates to protect its school children lest it be said that individual liberty is thereby trampled on? One can only echo Mme. Roland's dying cry, "Oh, liberty, how many crimes are committed in thy name!"

ALSO "GETTING" THE COURTS

Taking their cue, perhaps, from the methods of the "patent medicine" and impure food interests in attempting to attain their selfish ends, the dairymen supplying milk to Canton, Ohio, recently attempted a high-handed procedure to prevent legal interference with their objectionable methods of producing and distributing milk. The local board of health, in its crusade for better, more healthful and cleaner milk, started legal proceedings against certain milk-dealers whose methods and whose milk did not comply with the requirements of the law. The dairymen, without attempting to justify their course or to defend their product, and, it is alleged, disregarding any considerations of the health of the citizens to whom they served adulterated and therefore dangerous milk, threatened the somewhat desperate procedure of abolishing the police court in which their cases were to be tried on the ground that the law creating it was unconstitutional. "Big business" and "high finance" are accused sometimes of seeing that complaisant officials occupy seats in high places where they will do the most good as far as the schemes of the former are concerned, but the dairymen, not having been so far-seeing, perhaps, sought to adopt a plan which they believed to be equally good and possibly more direct—abolishing the court altogether. While it would be rash, without knowing all the facts, to pronounce decisively on the merits of the controversy, there is a suspicious familiarity in the methods employed. One's admiration is challenged in turn by the ingenuity of the lawyers for the dairymen who are responsible for this peculiar attempt to defeat beneficent health measures on a technicality, and by the audacity of the dairymen who would pursue, fatuously, their old, dirty and unhealthful methods of producing and distributing milk without regard to the number of babies they might thus directly kill, or the number of adults whose health they might thus jeopardize, in order to obtain a larger margin of profit. Both the lawyers and the dairymen should wake up and adopt more modern ideas of business and of conduct. The theory which puts the dollar before the man is rapidly becoming exploded, and especially in matters that affect the health of the people so directly. The abolishment of one small police court will not for long secure to misguided dairymen license to continue to furnish contaminated milk to the citizens of Canton or anywhere else. The idea that dealers may thus continue dangerously to exploit the people needs revision in accordance with an awakened business and civic conscience.

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[1] The Journal A. M. A., July 29, p. 410.

ANOTHER OUTRAGE

Immigration commissioners from nineteen states recently met in Chicago to form a national organization. The commission proposes to publish a "handbook for the guidance of land seekers," which will contain authoritative information concerning farm and mineral lands in the various states. Dissemination of information of this kind will make it less easy for mining promoters, land sharks and other "get-rich-quick" gentlemen in the same line of business, to defraud the public. The book will be distributed free and "will be circulated in every state in the Union in opposition to many 'promotion' companies, which draw wondrous pictures concerning land in a certain locality without telling any of its bad features." Here, then, we have again the same unwarranted interference with private business that has characterized the action of Dr. Wiley's bureau. The only difference is that in the latter case it was the "patent medicine" business interests that were hurt, while here it is going to be the J. Rufus Wallingfords who do land promoting. We may expect to see a new "Advertisers' Protective Association" formed to fight the immigration commissioners' high-handed interference with a lucrative business. Land sharks and "patent medicine" fakers must deplore the present tendencies of governmental agencies to assume paternalistic rôles. Men who make a business of defrauding the public are always believers in the *laissez-faire* doctrine. They hold that swindling and being swindled are inalienable rights of every free-born American. Honest men believe differently.

STATE SUPPORT OF MEDICAL EDUCATION

The wave of reform in medical education moves steadily on, and of much significance is the part which state universities are taking in this reform. Slowly but surely colleges organized and conducted on the stock corporation basis are either obtaining connection with privately endowed universities or are giving way to the state supported university medical school. In the latter instance, the medical school is conducted as an integral part of the state's educational system. The latest instance is in Arkansas, where two independent medical schools, the College of Physicians and Surgeons and the University of Arkansas Medical Department, both of Little Rock, have been united. The school formed by this consolidation is to be controlled and financed by the University of Arkansas. This is but a repetition of what has already taken place in Indiana, Minnesota, Colorado, and other states, where only one medical school remains in each instance, that being the medical department of the state university. In several other states, generous appropriations have been made for state university medical schools. This larger state support of medical education has another significance, however. It means that since the state is endeavoring to provide a good training for medical students it will not tolerate the turning out of poorly trained doctors by low-grade institutions. In fact, the inferior medical colleges even now are reading the handwriting on the wall. This accounts for the opposition, direct or indirect, which they are making toward state endowments for medical education in Nebraska, Illinois and elsewhere. This opposition, however, will not be misunderstood and the progress for better standards of medical education has received too much impetus to be stopped by obstructions prompted by selfish interests. It is not only the right, but also the duty, of each state to provide a good training for those who are to have in charge the health of the people of that commonwealth as is the case in nearly all other countries.

Medical News

ILLINOIS

Personal.—Dr. George S. Chalmers, Galesburg, coroner of Knox County, is reported to be ill with pleurisy.——Dr. George F. Ruppert, Elgin, sustained a painful injury to the right eye while working over an automobile, July 18.

Surgical Institute Founded.—The governor has signed the house bill providing for the establishment of a state institute where indigent children under 14 years of age may receive treatment for deformity or injury. It is to be known as the Illinois Surgical Institute and will be located on a site of 160 acres, to be donated, and will be under the management of the State Board of Administration. A second bill appropriating $60,000 for buildings for the new institute and $15,000 for furnishing and equipment was also signed by the governor.

National Guard Surgeons Meet.—At the annual meeting of the Association of Military Surgeons of the State of Illinois, held in connection with the meeting of the National Guard Association, July 29, in Chicago, Brigadier General Charles Adams, surgeon general, was elected president; Major Thomas J. Sullivan, assigned Seventh Infantry, vice-president, and Major Samuel C. Stanton, secretary to surgeon general, secretary and treasurer, all of Chicago. Major Thomas C. McCord, Paris, assigned Fourth Infantry, and Daniel W. Rogers, Chicago, chief sanitary officer, and Captain Arthur F. Wilhelmy, assigned Fifth Infantry, presented reports of their respective tours of duty at the maneuver division on the Mexican frontier.

Chicago

Personal.—Drs. George A. Torrison, Charles M. McKenna, Truman W. Brophy, Rudolph Beck and Dr. and Mrs. Carl Beck, have sailed for Europe.——Dr. Thomas S. Crowe, county physician, resigned July 29.

INDIANA

Hospital Notes.—The cornerstone of the new wing of the Methodist Episcopal Hospital, Indianapolis, was laid July 25, with appropriate ceremonies.——The City Council of Indianapolis has passed an ordinance appropriating $105,000 for the first building of a new city hospital

Board of Health Meets.—At the annual meeting of the Indiana State Board of Health, held in Indianapolis, July 28, the two new members, Drs. John R. Hicks, Covington, and James S. Boyers, Decatur, were sworn into office. Dr. Frederick A. Tucker, Noblesville, was elected president, and Dr. T. Henry Davis, Richmond, vice-president.

Personal.—Dr. Ephraim M. Folson, Evansville, sailed for Europe, July 19.——Dr. Halsted S. Murat has been appointed physician to the Indiana Reformatory. Dr. James H. Walker, Henryville, had been appointed but refused to accept the position.——Dr. Julius E. Hiatt, New Castle, was operated on for appendicitis at the German Hospital, Chicago, July 21.——Dr. Joshua Simon, Rome City, has been appointed deputy health commissioner of Noble County.——Dr. Charles P. Cook, New Albany, is confined to his home from the effects of a punctured wound of the foot.——Dr. James A. Mattison, National Military Home, first assistant surgeon at the National Military Home, Marion, has been elected chief surgeon at the Battle Mountain Sanitarium, Hot Springs, S. Dak., vice Dr. Warren R. King, retiring after forty years in practice. Dr. William H. Braunlin, a member of the present staff, will succeed Dr. Mattison as first assistant.

MARYLAND

Baltimore

Russian Physicians Visit Baltimore.—Dr. Boris Finkelstein, Bacou, and Dr. G. Ter-Neressoff, Tiflis, are visiting the hospitals of Baltimore.

Fund Raised for Pathology.—Through the efforts of Dr. John Randolph Winslow, Baltimore, $7,500 has been added to the fund for the support of the department of pathology of the University of Maryland.

Personal.—Dr. Gideon Timberlake has been appointed clinical professor of genito-urinary diseases at the University of Maryland.——Dr. W. De Forest Olmstead is ill at the Maryland General Hospital with typhoid fever.——Dr. Arthur E. Cannon has settled in Spartanburg, S. C.——Dr. Abraham Samuels sailed for Europe, July 29.

MASSACHUSETTS

Personal.—Drs. Annie G. and John H. Doyle, Fall River, have returned after a year of study in Vienna.——Dr. Louis Edward Mannix, Chicopee Falls, has been appointed assistant medical examiner of the Chicopee district.

Bequests.—By the will of the late Alice S. Truscott, Dorchester, $5,000 is devised to the New England Deaconess Hospital.——The late Nathaniel Taylor in his will bequeathes $50,000 to the Massachusetts General Hospital; $10,000 to the Boston Lying-In Hospital, and $5,000 to Clinton Hospital.

MICHIGAN

Health Train Starts.—The Michigan Health Board of Exhibit started on its first trip over the state August 1, promulgating facts regarding typhoid fever, tuberculosis, infant mortality and general sanitation to the people of the state.

Personal.—Dr. Ralph E. Balch, Kalamazoo, who has been critically ill in Bronson Hospital with septicemia, is reported to be improving.——Dr. Elizabeth M. Hooper, Port Huron, has been reappointed chairman of the supreme medical board of the Ladies of the Maccabees of the World.

County Society Meets.—At the annual meeting of the Branch County Medical Society, which was held in Coldwater, July 19, the following officers were elected: President, Dr. William H. Baldwin, Coldwater; vice-president, Dr. Bert Wilson Culver, Coldwater; secretary-treasurer, Dr. Samuel Schultz, Coldwater; delegate to the state medical society, Dr. Henry W. Whitmore, Quincy, and alternate, Dr. Ernest E. Hancock, Girard.

Recent Measures and Plans Instituted by the State Board of Health.—The secretary of the State Board of Health announces the following measures and plans recently instituted by the board. A health train equipped with a large collection of charts, models, demonstrations, etc., relating to preventive medicine, will make a trip throughout the southern section of the state early in August; a pamphlet has been printed to be used by the teachers in public schools as an instruction manual on the physical examination of children, with especial reference to defective conditions of the eye, ear, nose, mouth and throat; the resolution forbidding the use of the common drinking cup in railroad cars, depots, schools, etc., is being enforced; an expert in the study of eugenics has been employed to make a careful study along this line; a permanent educational committee has been appointed to plan, arrange and hold sanitary institutes, engage lecturers, etc., in the interest of preventive medicine. Ten state sanitary conventions will be held throughout the state during the winter; the secretary has commenced the publication of a weekly bulletin; plans have been made for a series of health officers' conventions; and provision has been made for a medical inspector to work especially in the investigation of water, milk and other food supplies.

MINNESOTA

Minneapolis Physicians Endorse Wiley.—At the meeting of the Hennepin County Medical Society, July 19, a resolution was unanimously adopted setting forth that Dr. Harvey W. Wiley has accomplished work of inestimable value to the country in restraining the output of adulterated and impure food, and that he is exceptionally fitted to carry on the work, protesting against the summary removal of Dr. Wiley; expressing its complete confidence in Dr. Wiley as to fitness and ability and directing that a copy of the resolution be placed in the hands of the proper authorities in Washington, and in the hands of the congressmen and senators of Minnesota.

MISSOURI

Clinics at Kansas City.—The medical staffs of various hospitals of Kansas City have invited the medical profession of the Southwest to attend morning clinics in medicine, surgery and special branches, which will be held at the various hospitals of the city, and to be present at the afternoon meetings to be conducted by members of the staffs of the hospitals during the festival of the Priests of Pallas, October 3-10. These opportunities are to be offered without expense to physicians. The headquarters of the clinic will be at the Kansas City Medical Library, on the thirteenth floor of the Rialto Building, Ninth Street and Grand Avenue, and further information may be obtained at the above address from the clinic secretary.

St. Louis

Barnes University to Continue.—It is reported that the foreclosure sale of the Barnes University property has been canceled, the first mortgage of $45,000 has been paid, and that the college will open as usual this fall. A consolidation with one or two of the other medical colleges of St. Louis is still under consideration.

NEW JERSEY

North American Sanitarium Opens.—The North American Children's Sanitarium for the Treatment of Surgical Tuberculosis, in Ventnor, will be ready for reception of patients shortly and will be open the entire year. The institution will be under the direction of an executive committee composed of three Philadelphia physicians, Drs. H. Augustus Wilson, John Carnett and William L. Rodman. Dr. John C. Tull of Atlantic City will be the resident surgeon and the consulting staff is composed of physicians of Camden, Philadelphia and Atlantic City.

New Hospital.—A meeting regarding the organization of a new hospital was held at the office of Dr. Edwards, Leonia, July 21, at which twenty-five physicians were present. The committee on management outlined a plan which was approved and the committee on incorporation replied that incorporation would soon take place. The corporation will be known as the Bergen County General Hospital and the corporators will be Drs. Max Wyler, Fort Lee; Samuel T. Hubbard, Edgewater; John Edward Pratt, Dumont; Frederick S. Hallet, Hackensack; Michael J. Sullivan, Englewood; J. R. Edwards, Ellsworth E. Conover, Hasbrouch, and Frank Freeland, Maywood. The following trustees were elected for the first year: Dr. J. Finley Beel, Englewood, president; Dr. George P. Pitkin, Schroon Lake, N. Y., Bergenfield, secretary, and Drs. Ellsworth E. Conover, Hasbrouch, Philip Edwin Brundage, Grantwood; Max Wyler, Fort Lee; Joseph S. Van Dyke, Palisades Park; James Malcolm McKellar, Tenafly; Charles Albert Richardson, Closter; Frederick S. Hallet, Hackensack; Edwards, Leonia; J. R. Edwards; John Edward Pratt, Dumont; Frank Freeland, Maywood; James Talmage Wyckoff, Leonia; Samuel T. Hubbard, Edgewater; Guy Otis Brewster, Grantwood; Henry Charles Elsing, Ridgefield Park; and Edward Newell Huff, Englewood. The committee on location was continued and the committee on management was enlarged and instructed to prepare a constitution and by-laws.

NEW YORK

Vetoes Drinking-Cup Bill.—Governor Dix has vetoed Mr. Carew's measure providing for the doing away with public drinking cups.

Monthly Bulletin to be Sent Physicians on Application.—The department of health's *Monthly Bulletin* hitherto has been distributed to a limited mailing list of officials, institutions, publications and persons interested in sanitary problems. The demand for copies has been so great, however, that the department has been obliged to increase the monthly issue. Physicians resident in the city of New York, who desire to receive free copies of the bulletin regularly, should apply in writing to the Editor, Monthly Bulletin of the Department of Health, Fifty-Fifth Street and Sixth Avenue. The names of such physicians will be placed on the mailing list in the order of application.

New York City

Leave for Europe.—Drs. William V. Dee, Brooklyn, and Maude J. Frye, Buffalo, have sailed for Europe.

Benefit for Infant Asylum.—A benefit performance given at Averne, L. I., netted $10,000 for the Hebrew Infant Asylum.

Bequests.—Under the will of the late Alfred Krower, Mount Sinai Hospital receives $2,000, the Montefiore Home, $2,000, and Beth Israel Hospital, $1,000.——The Flushing Hospital, L. I., will receive $2,000 from the estate of Benjamin Wooley of Little Neck.

Exhibit of National Child Labor Committee.—This organization has opened an exhibit in New York City which demonstrates by means of photographs, statistics and graphic illustrations the conditions and effects of child labor in factories. The object of the exhibit is to affect public sentiment so as to influence the legislature to pass laws prohibiting child labor.

Ban on Nostrum Advertising.—In the surface cars of this city appears the following notice: "Fraudulent misrepresentation of the curative value of nostrums not only operate to defraud passengers, but are a distinct menace to the public health. (President Taft in a recent message). No patent medicines are advertised in the surface cars of New York City."

Asks Money for Milk Stations.—Commissioner Lederle has sent an urgent request to the Board of Estimate for a special issue of revenue bonds amounting to $10,125 to care for the increased number of mothers and babies coming to the milk stations. As many as 9,127 babies have come to the milk stations in one day. It is stated that as many as 40 per cent. of those coming to the stations are ill and Dr. Lederle says that he needs ten medical inspectors in addition to the five of the present staff and also ten additional nurses, as one nurse can care for only about seventy-five babies, whereas some are now attempting to care for from 200 to 300.

NORTH CAROLINA

Portrait Bought.—A portrait of Dr. L. F. Dixon, Shelbyville, has been bought by his friends and will be placed in the State Library, Raleigh.

Install Laboratory.—The Charlotte Sanatorium has completed and installed a chemical and pathologic laboratory which will be under the care of Dr. Addison G. Brenizer, Jr., who has recently returned from Europe.

Buncombe Physicians Endorse Wiley.—The Buncombe County Medical Society at its regular meeting, July 17, adopted resolutions endorsing Dr. Harvey W. Wiley and urging the President to retain his valuable services.

Dinner to Railway Surgeons.—Dr. Robert L. Payne, formerly of Lexington, chief surgeon of the Norfolk and Southern Railway, entertained the surgeons of the road at a shore dinner, Morehead City, July 17. Covers were laid for fifty-four.

Health Officer Threatened.—Dr. Charles T. Nesbitt, health officer of Wilmington, who has been making strenuous efforts in the direction of municipal sanitation, has received an anonymous letter containing indefinite threats unless he resigns or changes his attitude.

Personal.—Dr. Alice E. Johnson, Asheville, has accepted the superintendency of the American Hospital, Lanta, Egypt, and has placed her practice in charge of Dr. Florence Stone, Chicago.——Dr. James J. L. McCullers, McCullers, has been elected superintendent of health of Wake County.——Dr. Richard Henry Lewis, Raleigh, has been elected president of the North Carolina State Audubon Society.

OHIO

Resolutions of Respect.—At a special meeting of the Logan County Medical Association, held in Bellefontaine, resolutions were unanimously adopted expressing the sorrow of the members at the death of Dr. Benjamin B. Leonard, West Liberty, and expressing heartfelt sympathy with his family.

Ill and Injured.—Dr. Russell C. Edwards, West Carlisle, was seriously injured in a runaway accident, July 19.——Dr. Earle B. Downer is reported to be ill at his home in Columbus, as a result of heat prostration.——Dr. Frank P. Letherman, Outville, is a patient at Grant Hospital, Columbus, suffering from a fracture of the arm sustained while cranking his automobile.——Dr. Alva G. Ray, Byer, was painfully injured in a runaway accident, July 12.——Dr. James J. McClellan, Columbus, who was operated on for septicemia recently, is reported to be improving.

Personal.—Dr. S. A. Douglass, Mansfield, has been appointed acting superintendent of the Ohio State Sanatorium for Tuberculosis, Mount Vernon.——Dr. George M. Cummins has been appointed a member of the Civil Service Commission of Hamilton.——Dr. John W. Birk, a member of the Bucyrus Board of Health, has resigned.——Dr. Floyd Miller, Delaware, has been commissioned first lieutenant in the Ohio National Guard and assigned to duty with the Fourth Infantry.——Dr. J. B. Kotheimer, Youngstown, has been appointed medical examiner for the Ohio State Sanatorium for Tuberculosis.

Cincinnati

Endowment Fund for the Medical Department.—By the will of the late Dr. Francis Brunning, there is devised to the Medical Department of the University of Cincinnati a sum estimated at $50,000 to be known as the Francis Brunning Medical Endowment Fund.

Personal.—Dr. Edward W. Walker has resigned from the staff of the City Hospital.——Dr. Samuel B. Grimes has started for Europe.——Dr. Martin H. Fischer, Eichberg, professor of physiology at the University of Cincinnati, has been awarded the Cartwright prize of $500 offered by the Alumni Association of the College of Physicians and Surgeons, New York City, for his research work on nephritis.——Dr. and Mrs. William L. Milner were severely injured in an automobile accident at Cleves, July 23.

PENNSYLVANIA

Police Surgeons Organize.—The Association of Police Surgeons of the Department of Public Safety of Pittsburg was organized July 21. Dr. Frank Kenworthy was elected president and Dr. Donald G. Lerch, secretary.

Health Bulletins.—Among the recent titles of the bulletins of the State Department of Health are "Some Duties, Ideas and Opportunities for the Country Doctor Developed;" "Malaria, How It Is Brought on and How to Get Rid of It;" "Health;" "The Common Fly, How It is Developed, Why It Must be Destroyed and How to Destroy It."

Physician Endows Library.—By the will of the late Dr. J. Smith, Hanover, he devised his entire estate, valued at about $50,000, toward the endowment of a library for Hanover. A citizen of the town has given a building, which is just completed and the local physicians have undertaken to develop a medical reference section, as a memorial to Dr. Smith.

Lehigh Valley Physicians Meet.—At the annual meeting of the Lehigh Valley Medical Society, held at the Delaware Water Gap, July 21, seventy-five members were present and the principal papers were read by Drs. Joseph C. Bloodgood, Baltimore, and Dr. Henry H. Herbst, Allentown. The following officers were elected: President, Dr. Charles B. Smith, Washington, N. J.; vice-presidents, Dr. Edwin H. Kistler, Lansford, Dr. Franklin P. Lytle, Birdsboro, and Dr. James L. Hornbeck, Catasauqua; secretary, Dr. John W. Luther, Palmerton; assistant secretary, Dr. J. H. Santee, Palmerton, and treasurer, Dr. Albert A. Seem, Bangor.

Philadelphia

Rigid Examinations of Incoming Steamers.—All steamers entering this port are rigidly examined to prevent cholera. The steamer *Cassel* from Bremen, which arrived July 26, had no cases of cholera, but three cases of measles were found and the patients were detained at quarantine. The steamship *Prinz Adelbert*, which docked on July 28, handed in a clean bill of health, but all edibles carried by steerage passengers were confiscated.

Personal.—Dr. Judson Daland is spending the summer in Germany.——Dr. Frederick W. Steinbock is taking a postgraduate course in Berlin.——Dr. John A. Kolmer has been elected professor of pathology, and director of laboratories in the Philadelphia Polyclinic and College for Graduates in Medicine.——Dr. Josiah H. Penniman (vice provost of the University of Pennsylvania) has sufficiently recovered from his recent operation to leave the University Hospital and has gone to Boston to spend the summer.——Dr. Harvey Shoemaker sailed for Europe, July 26

University Medical School Moves.—After occupying Logan Hall at Thirty-Sixth and Woodland Avenue for thirty-seven years, the medical school of the University of Pennsylvania is moving to the medical laboratory in the botanic gardens. Logan Hall, one of the first of the university buildings to be erected in West Philadelphia, was built in 1874. After the completion of the new medical laboratory in 1904, the medical school began gradually to move from Logan Hall. Up to this summer the fourth floor of that building was still used for histology, anatomy and embryology, the other floors being occupied by the Wharton School of Political Economy.

Milk Firm Fined.—Joseph Gravenstine and Joseph Miller, trading as Gravenstine and Co., are said to have been fined $25 and costs, July 25, for selling cream containing a percentage of butter fat under the standard set by the Piper Milk and Cream Act, passed by the last session of the state legislature. This firm is said to have been also fined $60 and costs for selling butter containing a larger percentage of moisture than provided for by law. The cream had been represented as containing 22 per cent. butter fat, when it had but 12 per cent. and the law requires 18. Charles H. LeWall (chemist for the dairy and food department) found the butter to contain 37 per cent. moisture, while the pure food law places 16 per cent. as the limit.

Dumping of Milk Denounced.—At a special session of the Interstate Milk Producers' Association held in the Parkway Building, July 26, the action of the city health authorities in destroying quantities of milk over the temperature requirement of 60 degrees, was denounced and the following resolution was passed:

> That a permanent committee be appointed to take up the matter of dumping milk with a competent attorney and find out our legal standing, and, if advice warrants it, to obtain an injunction to restrain the Board of Health from destroying this milk, and we recommend that a collection be taken to start this matter, and that the secretary be instructed to notify the presidents of all the branch associations to take up collections from all persons interested to help defray these expenses.

On July 28, 340 quarts of milk were dumped by the inspectors, of which 200 quarts had been brought to the city by the Reading Road and 140 by the Pennsylvania. This makes a total of 13,289 quarts condemned. The Philadelphia and Reading Railroad Company has been served with formal notice of complaint by the State Railroad Commission in regard to the failure of the companies to refrigerate cars in which milk is shipped. The complaint was entered by the milk dealers of this city, who have been losing thousands of quarts of milk on this account.

VIRGINIA

Limit Stay at Sanatorium.—In consideration of the limited means at the command of the State Board of Health for the prosecution of the fight against tuberculosis it has been decided to limit the term of treatment at the State Sanatorium, Catawba, to six months. The resident physicians are to be allowed to make exceptions to this rule in cases where it is deemed advisable.

Offers to Transfer Hospital to City.—Mr. John L. Williams, Richmond, president of the Charlotte Williams Memorial Hospital Corporation, has offered to transfer that institution to the city of Richmond on condition that the city shall assume the debt on the hospital, which amounts to $40,000, and that it provide for the efficient maintenance of the hospital as a charitable institution.

Personal.—Dr. Ennion G. Williams, state health commissioner, is reported to be ill with parotitis.——Dr. R. C. Carnal, Belona, has resigned from the Hookworm Commission and has been succeeded by Dr. Herman Gose Tartar, Wytheville.——Dr. C. H. Fowlkes, Richmond, has been appointed assistant resident physician at the Catawba Sanatorium.——Dr. George Ben Johnston, Richmond, is suffering from a slight attack of ptomaine poisoning.

Changes in County Boards.—At the meeting of the Virginia Board of Health, July 1, held at Catawba Sanatorium, the following changes were made in the county board of health: Gloucester County, Dr. Merritt Wood Healy, Bena, vice Dr. Frederick F. Davis, Sassafras. Richmond County, Dr. Robert Oliver Lyell, Warsaw, vice Dr. H. Launcelot Segar, Warsaw. Westmoreland County, Dr. G. Preston Hundley, vice Dr. Richard Henry Stuart, Norfolk; Dr. G. B. Harris, vice Dr. S. M. Asherton. Henrico County, Dr. Berkley Hancock Martin, Rio Vista, vice Dr. William A. Deas, Richmond. Dinwiddie County, Dr. I. W. McDowell, vice Dr. William Samuel Briggs, Dinwiddie. Lunenburg County, Dr. Walter E. Vest, Richmond, vice Dr. C. P. Capps. Nottaway County, Dr. William Warren, Jr., vice Dr. William V. Atkins, Blackstone. Surry County, Dr. Joseph Henry Parker, Dendron, vice Dr. William W. Seward, Surry. Montgomery County, Dr. Henry B. Pack, McDonalds Mill, vice Dr. P. B. Elliot, Blacksburg. Greene County, Dr. William E. Brown, Sheppards, vice Dr. E. W. Simms. Buchanan County, Dr. W. E. Ridder, vice Dr. R. P. Whitehead; Dr. O. E. Weatherly, vice Dr. J. H. Smith. Pulaski County, Dr. Cooper Dave Kumkle, Pulaski, to fill a vacancy. Washington County, Dr. Teeter of Abingdon, vice Dr. William Leslie Davenport, Meadowview. Bath County, Dr. Frank Hopkins, Hot Springs, vice Dr. M. Edwards.

WISCONSIN

Gift to College.—The dean of the Wisconsin College of Physicians and Surgeons, Milwaukee, announces that an anonymous benefactor has given $5,000 to the maintenance fund of the college.

Baby Station Staff Appointed.—The baby station of the Childs' Welfare Commission of Milwaukee was opened July 23. Dr. Albert W. Meyer is announced as director and Drs. Frank R. Wasielewski, Tomkiewicz, Carl Wagner, J. H. Shulz, Drozniekewicz, Henry J. Gramling, John N. Rock, Jessie Bernoski, Mina B. Zimmerman and Helen Hogan are the members of the staff.

Alumni Election.—At the annual meeting of the Alumni Association of the Medical Department of Marquette University, held in Milwaukee, July 12, the following officers were elected: Dr. William V. Nelson, Milwaukee, president; Drs. Albert E. Mieding, Milwaukee, and Henry W. Morgenroth, Oshkosh, vice-presidents; Dr. George Henry Belding, Milwaukee, recording secretary; Dr. T. W. O'Donovan, Milwaukee, financial secretary; Dr. Walter Hopper Neilson, Milwaukee, treasurer, and Drs. Daniel Hopkinson, Frederick W. Riehl and Edward Blaine, all of Milwaukee, councilors.

Personal.—Dr. John V. R. Lyman, Eau Claire, fractured two ribs and was otherwise injured in an accident between his automobile and a trolley car, July 23.——Dr. George R. Ernst, Milwaukee, has been appointed superintendent of the Blue Mound and Greenfield municipal tuberculosis sanatoria.——Dr. Adelmann B. Manley, Shopiere, was operated on for appendicitis at the Beloit Hospital, July 23.——Dr. William Judson Allen, Beloit, injured his right arm while cranking his automobile, July 23.——Dr. Edgar D. Ford, Cambria, has purchased 62 acres of land on Trout Lake and will establish a sanitarium and hospital.——Dr. Harry O. Delaney, Beloit, who fractured his knee in an automobile accident, July 16, is reported to be improving.

GENERAL NEWS

New Ophthalmologic Officers.—At the annual meeting of the American Ophthalmologic Society held in New London July 11-12 the following officers were elected: President, Dr. Edward Jackson, Denver; vice-president, Dr. Myles Standish, Boston, secretary-treasurer, Dr. William M. Sweet, Philadelphia (reelected), and corresponding secretary, Dr. Arnold Knapp, New York City.

Illinois and Iowa Physicians Meet.—The annual meeting of the Illinois and Iowa Central District Medical Society was held at Davenport, Iowa, July 13, jointly with the Scott County Medical Society, and the following officers were elected: President, Dr. George E. Decker, Davenport; vice-president, Dr. Wilton W. Adams, Atkinson, Ill.; secretary, Dr. Lawrence W. Littig, Davenport, and treasurer, Dr. Frank H. First, Rock Island, Ill.

Fraternal Medical Directors Meet.—At the annual meeting of the Medical Section of the National Fraternal Congress, held at Cambridge Springs, Pa., July 24, the following officers were elected: president, Dr. Elmore S. Pettyjohn, Knights and Ladies of Security, Topeka, Kan.; vice-presidents, Drs. Frederick F. Edmister, Knights of the Maccabees of the World, Detroit, and Charles C. Clancy, Catholic Mutual Benefit Association, Port Huron, Mich.; secretary, Dr. Walter P. Grimes, Fraternal Aid Association, Kansas City, Mo., and treasurer, Dr. Elizabeth M. Hooper, Ladies of the Maccabees of the World, Port Huron, Mich.

FOREIGN NEWS

Tribute to Rommelaere.—The friends of Dr. Rommelaere, professor of histology at the university of Brussels, Belgium, wished to celebrate the fiftieth anniversary of his entering on his professional career, but he declined any ceremony beyond the presentation of a written address. Copies of the address prepared have been placed in a leading bookstore in the four larger Belgian cities, and all the friends and admirers of Dr. Rommelaere are asked to step in and affix their signatures. The four copies are then to be presented to him, as the "Manifestation Rommelaere."

LONDON LETTER

(From Our Regular Correspondent)

London, July 22, 1911.

The Royal Commission on Tuberculosis

The royal commission on tuberculosis appointed in 1901—after Koch's famous pronouncement that human and bovine tuberculosis are distinct diseases—to investigate the question, has at last issued a final report. The members of the commission were well-known authorities, some of whom, such as the late Sir Michael Foster, professor of physiology at Cambridge, and the late Sir Rubert Boyce, professor of pathology at University College, Liverpool, have now passed away. The other members were Dr. Sims Woodhead, professor of pathology at Cambridge, Dr. Sydney Martin, professor of comparative pathology at University College, London, and Sir John McFadyean, professor of comparative pathology at the Royal Veterinary College. On the decease of the chairman, Sir William Power, chief medical officer to the local government board, was appointed his successor. The commission was instructed to inquire into three questions:

1. Whether tuberculosis in man and animals is the same disease.
2. Whether man and animals can be reciprocally infected.
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favorable, or unfavorable, to such transmission.

The inquiry was conducted on a large scale for a considerable time on two farms by the agency of several highly skilled assistants. In 1904 a first interim report was published stating that the bacilli of human tuberculosis had produced in cattle, contrary to Koch's statement, a disease indistinguishable from bovine tuberculosis. A second interim report was issued in 1907. It showed that fatal cases of human tuberculosis had been due to the typical bovine bacillus, but that all such cases examined were examples of mesenteric tuberculosis in children. A third interim report, issued in 1909, dealt with the conditions under which cows' milk is infective.

The final report confirms the work of the previous ones, except that the possibility of modifications of the two types of tubercle bacilli suggested in the second report, has not been confirmed. It is now stated that both human and bovine tubercle bacilli may be present at the same time in man, but only the bovine bacillus has been found in cattle. The bovine, human, and avian types of tubercle bacilli have all been found in natural tuberculosis in pigs, either alone or mixed. It has been proved that fatal cases of phthisis in adults may be caused by the bovine bacillus. This is important, since Koch, while three years ago accepting the statement of the commission as to fatal mesenteric tuberculosis being caused in children by the bovine bacillus, still held that all cases of phthisis in the adult were due to the human bacillus alone. The human and bovine types of bacilli are found to be morphologically indistinguishable, although different in their cultural and pathogenic properties. The human type showed a greater luxuriance of growth on all the media employed. But the bovine bacilli varied considerably in luxuriance of growth, and the gap which separates those which grew most abundantly from the human type is not wide. The bovine bacillus produces a fatal tuberculosis in cattle, rabbits, guinea-pigs, chimpanzees, monkeys, goats and pigs. The human bacillus readily produces a fatal tuberculosis in guinea-pigs, chimpanzees and monkeys, but causes, even when administered in large doses, only slight and non-progressive lesions in cattle, goats and pigs. Its effect on rabbits is not uniform; in the majority of cases these animals are only slightly affected, in others extensive and fatal tuberculosis is produced. But guinea-pigs, chimpanzees and monkeys are all highly susceptible to the effects of either the human or the bovine tubercle bacillus, and the diseases produced in these animals by both types are histologically and anatomically identical. No anatomic or clinical difference could be found in the cases of fatal tuberculosis in man, produced by the bovine and the human bacillus. Man must therefore be added to the list of animals notably susceptible to bovine tubercle bacilli. Only by slight cultural differences could the question be decided, whether the tuberculosis was due to the human or the bovine type of bacillus. The commission regards the two types as varieties of the same bacillus. On the question whether avian tuberculosis is the same as bovine or human, the commission states that there is not sufficient ground for an answer.

The second question, whether animals and man can be reciprocally infected with tuberculosis, is pronounced to be exceptionally difficult, for, though the liability of animals to infection from man could be experimentally tested, man's liability to infection from animals must remain a matter for inference. The three types of bacilli were introduced into a variety of animals, and the conclusion was that the bovine type of bacillus is more virulent than the human, but that speaking generally, mammals and man can be reciprocally infected.

The third question is under what conditions, if at all, transmission of tuberculosis from animals to man takes place. Man has been multiplying the human type of bacillus, to which he is most prone, in the bodies of other animals and thus increasing his chance of tuberculosis; but animals, domestic or other, capable of suffering from severe generalized tuberculosis of the human type, are comparatively few, and none of them are common food animals. The bovine animal, for instance, is not an active multiplier of the human bacillus, being highly refractory to this infection, and the cow herself, however prone she may be, when the subject of bovine tuberculosis, to excrete bovine bacilli in her milk, has never under natural conditions been convicted of eliminating in this way the human tubercle bacillus. Experimentally, it is true, the human bacillus has been made to appear in the milk of the cow and goat, but for securing this end, very large doses of culture have been requisite. Probably only when the cow or goat has received a large dose of tuberculosis material, derived from man, does the human bacillus escape into the blood-stream of the animal, reach her milk sinuses, and become eliminated with her milk. Nevertheless, it cannot be affirmed that man is wholly free from risk of infection through animal food with that type of bacillus to which he appears most prone, though the degree of danger is undetermined. The pig, though not capable of fostering the human type of bacilli except in a minor degree, may still be a possible source of the disease caused by that type in man, for particular glands of the pig's body, which are likely to enter into certain prepared foods, do on occasion yield bacilli of the human type. Moreover, pigs are, besides cattle, the only animals commonly used for food in which the bovine tubercle bacillus is found producing the progressive lesions of the natural disease. The commission found this bacillus in a sufficient number of cases of swine tuberculosis, to justify them in calling attention to the danger. Bovine tubercle bacilli are infective to human beings, and there is no reason to suppose that they can be rendered less so by previous residence in the bodies of pigs. In 128 cases of fatal tuberculosis in the human adult, especially in lung cases, the lesions were due, with few exceptions, to human bacilli. In abdominal tuberculosis it was very different, especially in children. Of young children dying from primary abdominal tuberculosis, nearly one-half of the cases could be referred to the bovine bacillus, and to that type alone, and there can be no doubt that a considerable proportion of the tuberculosis affecting children is of bovine origin, especially that which affects primarily the abdominal organs and cervical glands. Nor can there be any doubt that primary abdominal tuberculosis, as well as tuberculosis of the cervical glands, is commonly due to the ingestion of tuberculous infective material. A considerable portion of this material is declared to be infected milk.

PRACTICAL CONCLUSIONS

The commission declares the necessity for legislation to prevent the transmission of bovine tubercle bacilli by means of food. The existing regulations for the supervision of milk should be enforced. Bovine tubercle bacilli are found to be abundantly present in the milk sold to the public, when there is tuberculosis of the udder. Though this is well known, it is not adequately guarded against. Moreover, bacilli may be present in the milk of tuberculous cows which show no evidence of disease of the udder even when examined post mortem. Further, milk not containing bacilli as it leaves the udder, may become infected by being contaminated with discharges of a diseased animal. The report expresses conviction that measures for securing the prevention of ingestion of contaminated milk would greatly reduce the number of cases of abdominal and cervical gland tuberculosis in children, and that such measures should include the exclusion from the food-supply of the milk of the recognizably tuberculous cow, irrespective of the disease. The amount of work done by the commission may be gathered from the fact that, in addition to the four bulky reports referred to, there are eleven volumes of appendices in which every detail of the procedure is available for the guidance of future inquiry.

The expenditure of the commission to date has been $380,000. It is reported that fresh legislation against tuberculosis, based on the commission's report, will be immediately proposed by the government

The National Insurance Bill

The struggle between the profession and the government, with regard to the medical part of the national insurance bill, does not seem to be perceptibly nearer to settlement. Indeed, the British Medical Association has just issued application to the whole profession for support of a "central insurance defense fund" to be applied for the maintenance of the interests of the profession. Under the designation of a "war fund," I announced the probability of the foundation of this fund in a previous letter to The Journal. The objects of the fund are two-fold: (1) to assist in defraying the heavy administrative expenses which are necessary both to secure amendments to the insurance bill demanded by the profession, and to organize the profession with a view to such action as may be found necessary in the event of the bill becoming law; and (2) to provide compensation or pecuniary assistance for practitioners who, in the event of the bill becoming law, may incur loss or may require support in respect of action taken through loyalty to the profession. All expenses in connection with the campaign have been defrayed up to the present by the British Medical Association out of its general funds. Many members of the association have indicated, however, their desire to contribute specially to the expenses of the campaign, and members of the profession who are not members of the association have also sent contributions, stating that they feel that the entire cost of the campaign should not be allowed to fall on the association. Though the efforts of the profession have induced the government to agree to several of the points demanded (described in previous letters to The Journal), two of the most important are still unsettled—the income limit of the insured and freedom from friendly society control. If the bill should pass in an unsatisfactory form in these two respects, it will be necessary to use the existing union of the profession for the purpose of still enforcing its demands under the bill as enacted. In these circumstances, some physicians might be threatened with such pecuniary difficulties as they could not face, and the interests of the profession might demand that they should be duly compensated or supported during the struggle. Moreover, although the profession should succeed in securing amendments of the bill meeting every point which is possible, questions of the greatest importance would still require adjustment, especially as to the method and amount of remuneration of the doctors who enter into arrangements for attendance on the insured. Although these questions from their nature must be settled by local agreement, the profession in each district must be supported by the profession as a whole, and cases will doubtless arise in which compensation or assistance to individuals must be given. Finally, the case of those who now hold contract practice appointments may demand special attention. Attempts may be made to induce present holders of such appointments to continue in office when the societies with which they are connected become approved societies under the bill, or inducements may be held out to them to retain existing appointments under organizations which may not become approved societies and which the profession may regard as unsatisfactory. As the act does not come into force until May, 1912, and medical benefits do not begin until six months later, claims for compensation will probably not arise till the latter part of 1912. The association has therefore decided that contributions should take the form of guarantees, a small proportion of which may be called up at the discretion of the council of the association to meet administrative expenses, while the balance will be called up only as required. The council now applies to the profession for a guarantee fund of $750,000. To raise this sum an average guarantee per doctor of $25 is necessary. Those whose incomes are below the average cannot be expected in all cases to guarantee this amount. The average can therefore be maintained only by the more prosperous guaranteeing higher amounts. A form of guarantee has now been sent to all doctors with a request to pay $1 down. A memorandum stating the case for the profession has been issued by the British Medical Association in consequence of representations made to it by members of Parliament. It points out (1) that the doctors differ from most persons whose interests have to be considered in connection with the bill; (2) that they are a body of potential employees on whose efficiency the attainment of the objects of the bill depends to a large extent; (3) they are also a body whose present means of livelihood would be seriously injured by the operation of the bill. They recognize that in the public interest some state interference with the existing conditions of medical practice are inevitable and they are willing to fall in with such proposals, so far as is necessary. On the other hand, they ask that the interference shall not be carried beyond the point necessary for the achievements of the public objects of the bill. The section of the community whose incomes exceed $10 a week can afford to and do employ doctors in a very large proportion of cases. There is therefore no necessity for state interference to obtain for them medical attendance. If they require any assistance, it is only as regards the attendance necessary in cases requiring special skill and institutional treatment. The treatment of disease by the ordinary medical attendant of a patient can be carried out with most benefit on the lines of private practice. Hence a large proportion of the members of the friendly societies, though entitled to contract attendance, at present prefer to pay a private doctor.

PARIS LETTER

(From Our Regular Correspondent)

Paris, July 21, 1911.

Appointments at the Paris Medical School

The Council of the Faculté de médecine, a few days ago, held elections to recommend candidates for various chairs. For the chair of internal pathology, resigned by Professor Dejerine in favor of that of clinical neurology, Dr. Teissier, an *agrégé* professor, was recommended to the ministry of public instruction. For the chair of physics the Council recommended Professor Weiss, *chef des travaux pratiques*, to succeed Professor Gariel, who has retired. For the chair of history of medicine, resigned by Dr. Chauffard, who was appointed professor of clinical medicine, the Council recommended Dr. Maurice Letulle, who is well known for his works on pathologic anatomy. Unfortunately when the chair of pathologic anatomy was vacant over two years ago through the death of Professor Cornil, the place was filled by the nomination of Dr. Pierre Marie, who had devoted himself for a long time to neurology. Hence, instead of applying the principle of "the right man in the right place," we have a distinguished neurologist teaching pathologic anatomy and a pathologic-anatomist, who instead of teaching pathologic anatomy is about to give a course in the history of medicine.

Election of Two National Associates at the Academy of Medicine

On July 4 the Académie de médecine elected two national associates, Dr. de Brun, professor of pathology and clinical medicine at the Faculté catholique et française de Beirut, and Dr. Herrgott, professor of clinical obstetrics at the Faculté de médecine de Nancy.

Personal

On July 10, Dr. Renaut, professor of general anatomy and histology at the Faculté de médecine de Lyon, was elected national correspondent for the section of zoology and medicine of the Académie des sciences to replace the deceased Professor Sabatier.

Measures Against Cholera

The prefect of police of Paris has just addressed to all physicians practicing in the Department of the Seine a circular calling attention to the situation created in France by the progress of cholera in Europe and to the duties consequently incumbent on physicians. Last year cholera affected more than 200,000 persons in Russia and caused more than 100,000 deaths. It was, moreover, found in the valley of the Danube and in several provinces of Italy. It has reappeared this year in Naples, Palermo and Venice, where the scourge has been very disquieting. All the medical congresses which were to have been held at Rome during the vacation season, including the International Congress of Tuberculosis, have been postponed until next spring. Cholera has raged also in Constantinople. It is to be feared that new centers of infection may appear in Europe, and the city of Paris, which attracts so many strangers, needs to take every precaution to defend itself. In addition to the surveillance of travelers coming from infected countries exercised at the frontier, on the lines of travel and in the railway stations in Paris, there is need of a local system of defense. It is especially important that the first suspicious case should be known without an hour of delay. The prefect of police accordingly reminds physicians that the law of 1882 in regard to the sanitary police makes it obligatory for the physician (or failing the physician, the head of the family or the lodger) to declare immediately every case of disease suspected of being cholera, without waiting for the disease to become manifest.

The municipal council of Paris has just voted the appropriation asked by the prefect of police for sanitary measures to be taken in railway stations to prevent the introduction of cholera. A rigorous oversight of immigrants is also sought to be established. The bureau of the commission of hygiene of the chamber of deputies has just represented the minister of the interior of the urgent character of the bill with regard to the oversight of immigrants passing through or staying in France. As there was not time to put this measure to the vote before the parliamentary vacation, the government will promulgate by decree the most urgent measures recommended by the commission.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, July 13, 1911.

Personal

Professor R. Köhler, curator of the Augusta Hospital in Berlin, has just died, aged 70.——Professor Weber, of Halle, celebrated the semicentennial of his doctorate, July 10.——Professor Rössler, of Munich, has accepted a call to Jena as professor of pathologic anatomy.——Professor Leopold, director of the gynecologic clinic at Dresden, will resign his position October 1.

Professor E. Grawitz, director of the department of internal medicine in the municipal hospital at Charlottenburg, died in that city, July 11, of heart disease, aged 51. Grawitz, who was a brother of the pathologist of Greifswald, was originally a military surgeon, but later became prosector at the Augusta hospital in Berlin and then assistant to Gerhardt in the second medical clinic at the Charité. He was very active in a literary way and has worked in various fields of internal medicine. His principal sphere of labor was hematology, in which he make his influence felt as an original investigator. Of his published works the following are well known: his text-book on the clinical pathology of the blood, his contribution. "Diseases of the Blood and So-Called Blood-Making Organs," in the "Handbook of Practical Medicine" of Ebstein and Schwalbe and in Schwalbe's "Text-Book of Diseases of Old Age," and his "Technic of Clinical Examinations." Grawitz was much sought after as a consultant and was a man of a very kindly disposition.——July 23 Professor Waldeyer celebrated the semicentennial of his doctorate.——July 25 occurred the celebration of the seventieth birthday of the Königsberg pharmacologist, Professor Jaffé.

German Universities in the Summer Semester of 1911

Since the establishment of the empire the number of students at the German universities has regularly risen from about 13,000 until in the middle of the 80's it had already doubled and the threatened overcrowding of academic pursuits was recognized. The German student body tripled its original number by 1904, and reached in the current summer 57,230 as compared with 54,847 in the previous year. Of the entire number of students to-day 54.678 are men, 2,552 women; of these at present about 53,000 belong to the empire and about 4,300 are foreigners. A comparison of the figures for the different departments for the present and previous year and for 1906 shows what changes in the direction of studies have occurred in consequence of the influence of the needs of the state and society and especially what occupations are favored. In this respect the rapid growth of medicine as a profession is striking, the number of medical students rising from 6,683 in 1906 to 10,682 last year and now to 11.927. Nearest to them stand the students of philosophy, philology and history who number at present 16,158 as compared with 15.475 and 10,832; mathematics and natural science. 8,442 (last year 7,937, in 1906, 6,323); law, 11,023 (11.323 and 12,375); evangelical theology, 2,825 (2,507 and 2.329): of catholic theology, 1,834 (1,840 and 1.841); political economy and agriculture, 2,729 (2,406 and 1,801); pharmacy, 916 (1,147 and 1.767); dentistry, 1,046 (1,264 and 755); forestry—only matriculated in Munich, Tübingen and Giessen, 170 (123 and 114), and of veterinary surgery—only matriculated in Giessen 160 (141 and 114). According to this the number of law students has diminished in consequence of the overfilling of the profession and this is still more the case with pharmacy. The recent reduction in the number of dental students is to be attributed to raising the entrance requirements and the lengthening and increase in cost of the course.

Of the present student body 28,981 are enrolled at the ten Prussian universities as compared with 27,577 in the summer of 1910. At the three Bavarian there are 9,445, last year, 9,369; at the two Baden, 5,532 (1910, 5,279), and in the other six state schools, including the imperial at Strasburg, there are 13,222 as compared with 12,602 in 1910. The university of the metropolis stands at the head, having at present 8,039 students, including 695 women, as compared with 7,902 and 626 last year.

All the universities except Giessen have gained this year, most markedly Greifswald, Kiel, Rostock and Halle, and least, Heidelberg, Münster and the three Bavarian universities.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, July 15, 1911.

Personal

At present there are two medical posts vacant in this country: one at the clinic for internal medicine in Innsbruck, from which Ortner was called to Vienna to succeed von Strümpell, and the other at the pharmacologic institute of the German university in Prague: The latter has become vacant through Professor Pohl's acceptance of an appointment at Breslau.

The following scientists have been recommended in the order named for the vacant posts: for Innsbruck, Professor Pfeiffer from Graz, well known for his researches on serology, hematology and diseases of the lungs; Docent Dr. Schmidt (Vienna), and Professor von Tabora from Strasburg and also Professor Walks from Prague; for the pharmacologic institute, Professor Cloetta from Zurich (whose name has a very good reputation), professor Wiechowski, who is at present an assistant of Horst-Meyer in Vienna, and Professor Jodlbauer in Munich.

Warnings to Students Against Taking up the Study of Medicine

At the seventy-fifth meeting of the Central Union of German physicians in Bohemia, Dr. Fischel. the president, moved a resolution, that the students just about to enter the university should be warned against turning to medicine. "They should be informed that within the last five years the number of medical students in this country has risen from 2,509 to 5,319, that is, 112 per cent., while the number of all university students has increased by barely 40 per cent. They should also consider that fully one-third of all practitioners in Bohemia earn less than 2,000 kronen ($400) a year, and that the number of doctors has increased in the last two decades by 76 per cent.; the population, however, has increased only by 19 per cent. The new social insurance act, which will become a law within a few years, will further contribute to diminish the scope of a doctor by turning a large percentage of possible private patients into the domain of practice served by the clubs.

Therefore, the representatives of the Bohemian practitioners earnestly advise against selecting a profession which even now does not give a satisfactory outlook for those engaged in it, and which tends to become still less remunerative and satisfactory for at least twenty-five years to come." The resolution was adopted, suitable leaflets were distributed among the students and information given out to the public through the newspapers and lay publications.

The Closing of the Old Medical Clinic

With the end of the present summer term, Professor von Noorden, the director of the first medical clinic in Vienna, bade the old institute farewell in an eloquent speech to his students on its history. In a couple of weeks the new clinic in the grand new hospital will be opened, and meanwhile no new patients will be admitted to the old clinic. Since 1846, when the famous Skoda became the director of the institution, its location has not been changed. In 1872 Skoda was succeeded by Duchek, who stayed there ten years. Both these famous clinicians had to teach the students at the bedside, for there was no clinical theater or laboratory. First, when Nothnagel in 1882 was appointed to the clinic, a lecture hall was built and a laboratory added to the equipment. Since then it became a Mecca of students and nearly the entire present generation of Austrian practitioners were pupils of the famous teacher. When, after the death of Nothnagel. von Noorden, the present professor. was appointed, he did not believe that he would have to wait fully five years before he could move out of the crowded, unhealthy, narrow and antiquated clinic into a modern up-to-date institute. In the course of his speech von Noorden explained how bitterly he resented the necessity of abstaining from the application of modern therapeutics, from sheer want of space and means. Nevertheless, the results obtained in these wards were not entirely disappointing in respect to the care of patients and the teaching.

The wards to be emptied now will be used for the clinic for mental diseases and as receiving-wards for temporary observation of patients. In a few years (three or four) the entire building will be pulled down, and all the clinics will by that time already have moved to their new locations, while the space of the old hospital will be turned into streets and gardens.

Marriages

Clarence David Rollins, M.D., Lake City, S. C., to Miss Pauline Manning Woodley, of Dawson, Ga., June 21.

Thomas B. O'Keefe, M.D., Grand Rapids, Mich., to Miss Lettie A. Whitcomb of Vassar, Mich., July 12.

William Oscar Baird, M.D., Henderson, Tenn., to Miss Birdie Wardlow, Pocahontas, Tenn., June 28.

Charles Delbert Gamble, M.D., to Miss Mildred Margaret Welch, both of Spencerville, O., June 20.

Lucius C. Pardee, M.D., Chicago, to Mrs. Anna M. Trumbull, at Old Mission, Mich., July 1.

Harry Gallagher, M.D., Glenolden, Pa., to Miss Anna Healy Cuthbert, of Ridgway, Pa., July 1.

Thomas J. Williams, M.D., Hiteman, Ia., to Miss Myrtle Welch of Pasadena, Cal., July 3.

Freeman Allen, M.D., to Miss Ethel Gibson, both of Boston, at Nahant, Mass., July 19.

Pinkney Lee Davis, M.D., Baltimore, to Mrs. Grace Barker, at Philadelphia, July 20.

Augustus F. House, M.D., to Miss Helen E. Wolpert, both of Cleveland, June 26.

Nathan Herman, M.D., to Miss Sadie Loeb, at Baltimore, July 9.

Deaths

Edwin Augustus Lewis, M.D. Bellevue Hospital Medical College, 1873; for several years professor of anatomy in Long Island College Hospital; a bridge commissioner of the Brooklyn Bridge for twenty years; for two years police surgeon of Brooklyn, and for two years surgeon for the fire department; surgeon of the Twenty-Third Infantry N. G., N. Y., from 1876 to 1885; visiting surgeon at the Brooklyn, Long Island, St. Katherine's and Flatbush hospitals; who retired from practice in Brooklyn in 1895; died at his home in Englewood, N. J., July 17, from cerebral hemorrhage, aged 64.

James U. Barnhill, M.D. Columbus (Ohio) Medical College, 1883; a member of the American Medical Association, American Academy of Medicine, Mississippi Valley Medical Association and Columbus Academy of Medicine; chancellor and professor of principles of surgery in the Ohio Medical University; for nine years editor of the *Columbus Medical Journal*; surgeon to Mount Carmel and the Protestant Hospital; a member of the Columbus board of education, board of health and of the local board of pension examining surgeons; died at his home in Columbus, July 27, aged 57.

Fred Albert, M.D. University of Iowa, Iowa City, 1906; a member of the Iowa State Medical Society; president of the Iowa Association of Health Officers; assistant to the chair of bacteriology in 1904, and assistant professor of internal medicine in his alma mater in 1906; associate bacteriologist of the auxiliary laboratory of the state board of health; a member of the staff of the City Park Hospital, Mason City, Ia.; health officer of Mason City and examiner for the Iowa State Tuberculosis Sanatorium; died at his home in Mason City, July 21, from typhoid fever, aged 30.

Henry V. Logan, M.D. University of Pennsylvania, Philadelphia, 1880; of Scranton, Pa.; a member of the Medical Society of the State of Pennsylvania and a fellow of the American Academy of Medicine; a member of the staff of the State Hospital of Northeastern Pennsylvania, the Pennsylvania Aural School for Deaf, and West Mountain Sanatorium for Consumptives; died in the Presbyterian Hospital, Philadelphia, July 12, from septicemia, contracted a year ago while performing a surgical operation, aged 59.

Albert G. B. Hinkle, M.D. University of Pennsylvania, Philadelphia, 1857; for many years a practitioner of Philadelphia; a member of the College of Physicians of Philadelphia and of the Philadelphia County Medical Society; died at Wood Lea Sanitarium, Ardmore, July 19, from the effects of heat exhaustion, aged 79.

Alden Gifford, M.D. Hahnemann Medical College, Chicago, 1879; for many years a practitioner of Watertown and Rome, N. Y.; died at the home of his daughter in Knoxboro, N. Y., July 19, aged 80.

John Randolph Brown, M.D. Medical College of Indiana, Indianapolis, 1882; for many years assistant superintendent of the Central Indiana Hospital for the Insane, Indianapolis; and later assistant superintendent of the East Tennessee Hospital for the Insane, Knoxville; a specialist on nervous and mental diseases, and a director of the Fletcher Sanitarium, Indianapolis; died in the home adjoining that institution, July 15, from a nervous breakdown, aged 56.

Malcolm Graham, M.D. Long Island College Hospital, Brooklyn, 1865; a member of the Michigan State Medical Society and vice-president of the Hillsdale County Medical Association; a life member of the State Horticultural Society; well known as a scientific fruit grower; died at his home in Jonesville, July 17, from the effects of an accidental fall six weeks before, aged 62.

Henry Alexander Cleland, M.D. University of Michigan, Ann Arbor, 1861; formerly president of the Detroit Academy of Medicine and a member of the staff of the Children's Free Hospital; a veteran of the Civil War in which he served as assistant surgeon of Michigan Volunteers; died at his home in Detroit, July 19, from heat exhaustion, aged 72.

John Sanford Halbert, M.D. University of Buffalo, N. Y., 1872; formerly police surgeon of Buffalo and for twenty-five years obstetrician to the Buffalo Homeopathic Hospital; resident physician of the Erie County Almshouse; died in a hospital at Rochester, Minn., July 17, after a surgical operation, aged 55.

Hugh Pitcairn, M.D. Hahnemann Medical College, Philadelphia, 1880; president of the Altoona *Tribune* Company; and Consul General of the United States in Hamburg, Germany, from 1897 to 1908; died at Hamburg, July 19, from carcinoma of the stomach, aged 65.

Sidney Mitchell, M.D. University of Michigan, Ann Arbor, 1879; a member of the Medical Society of the State of New York; for more than a quarter of a century a practitioner of Saranac, and some-time health officer of that city; died at his home, July 13, aged 58.

Michael Francis Foley, M.D. Bellevue Hospital Medical College, 1891; formerly a member of the American Medical Association; surgeon to St. Mary's Hospital, Hoboken, N. J.; died suddenly at his home in New York City, July 20, from dilatation of the heart, aged 43.

Samuel L. Jones, M.D. University of Louisville, Ky., 1894; a member of the Tennessee State Medical Association; dean and professor of physical diagnosis and diseases of the chest in Tennessee Medical College, Knoxville, died July 20, aged 57.

Edmund George Lind, M.D. Atlanta (Ga.) Medical College, 1887; of Washington, D. C.; chief fiscal officer of the Federal Reclamation Service; died at the home of his sister in Greenville, Del., July 18, a month after a surgical operation, aged 45.

Leonard E. Knapp, M.D. Cleveland University of Medicine and Surgery, 1869; for several years president of the village of Fenton, Mich.; and a member of the board of education; died at his home, July 14, from paralysis, aged 68.

Charles C. Hill (license, Arkansas, 1903); for thirty years a practitioner of Scott County, Ark., and a resident of Beauchamp; died at Brawley, Ark., July 15, from skull fracture, the result of a fall from a high porch, aged 63.

Francis Slade Pugh, M.D. Birmingham (Ala.) Medical College, 1901; of Brookside, Birmingham, Ala.; died at the home of his sister near Roxobol, Ala., July 8, from nephritis, aged 48.

James Early Finley, M.D. Medical College of Ohio, Cincinnati, 1864; a native and life-long resident of Mt. Pleasant, O.; died at his home in that village, July 14, aged 74.

James W. McKee, M.D. Western Reserve University, Cleveland, 1870; University of Wooster, Cleveland, 1872; died at his home in Blue Island, Ill., July 21, aged 66.

Charles M. Beckler, M.D. Medical College of Ohio, Cincinnati, 1889; formerly of Cincinnati; died at his home in Blanchester, O., July 12, aged 43.

Francis W. Wrinn, M.D. Yale University, New Haven, Conn., 1904; of Long Island City, N. Y.; died at his summer cottage at Cosey Beach, July 17.

Watson L. King, M.D. Cincinnati College of Medicine and Surgery, 1874; of Granville, O.; died near Bathley, Yorkshire, England, July 2, aged 63.

Samuel H. Johnson, M.D. Chicago Homeopathic Medical College, 1886; died at his home in Califon, N. J., June 26, from paralysis, aged 53.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

[Contribution from the Chemical Laboratory of the American Medical Association.]

LIQUID LIFE

W. A. Puckner and L. E. Warren

A physician wrote to The Journal that for six years one of his patients had been taking about fifty bottles annually of a preparation called "Liquid Life;" he requested information concerning the composition of the remedy. The inquiry was referred to the Association's laboratory.

The price of the preparation being 75 cents for each bottle it seemed a pity that patients like this one should continue to be separated from their money by a nostrum which, from its name and descriptive circulars, appeared to be a sham. Hence it was explained to the correspondent that if he would send an original package of the preparation to the Association's laboratory a cursory examination would be made—sufficient in all probability to show his patient the folly of her faith in the nostrum.

An original package of "Liquid Life" having been received a cursory examination of it was made, which showed that the preparation is essentially an aqueous solution of Epsom salt, containing some Glauber's salt, the mixture being sweetened with saccharin. The facts brought out by the cursory examination having shown that the preparation is an outrageous imposition on the public, it was decided to make a more complete investigation with the view of publishing the results.

On the label of "Liquid Life" the nostrum is described in part as follows (the spelling and diction being exactly transcribed):

> "LIQUID LIFE
> A
> TRUE ANTITOXINE
>
> This antitoxine is non-poisonous and non-alcoholic. It will expel all alcohol from the system at once, and so requires a great deal more antitoxine and time to effect a cure if any alcohol is used while taking it, but you can use whatever tobacco you have been accustomed to."
>
> Arrests Diseases and Prevents the Development of Germs
>
> "All contagious diseases are germ diseases, and manifest themselves first as headache, pain in the back, lassitude and rise of temperature, at this stage a few doses of the antitoxine will arrest them at once and prevent any further development of the germs, no matter what their nature may be."
>
> The Patient Shouldn't Meddle with the Leucocytes!
>
> "It is important that their should be no interference with the action of the leucocytes or white corpuscles by using purgatives or drugs of any kind while taking the antitoxine. If the bowels move very freely at first they will check them later, and if they do not move, wait till they do."

A paragraph taken from the circular describing "Liquid Life" is given herewith. Considering its length, it is submitted as probably being the most faulty in diction, the most replete in false statements and the most barren of truthful suggestions of any paragraph in "patent medicine" literature.

> "THE HOME PHYSICIAN
>
> Why Liquid Life Makes One
>
> First, it is antitoxine to all contagious diseases and so removes the fear of infection from the family. If given early, acts as a preventive, given later subdues the disease; is non-poisonous and non-alcoholic: there are no reactions or bad effects from it no matter how long it is taken. It contains in itself everything with the exception of food that should be taken into the stomach to keep the family in perfect health. Children born under the influence of the antitoxine, are just splendid and remain so after birth and grow up symmetrical with a healthy body and a clear brain, for when a dose of the antitoxine is given you call into action not only one physician but millions (the Leycocties) and every one of them is a supernal surgeon and their power to restore the body to health is supreme, even in those diseases that have been found difficult to cure before, such as Pneumonia, Catarrh, Appendicitis, Blood Poison from any cause, Syphilis, Cancer, Malignant Diptheria, Erysipelas, Scrofula, Tetanus or Lockjaw, Consumption, all Fevers, Rheumatism, Womb diseases, Bright's Disease, Diabetes and other diseases called incurable. Ladies will find the antitoxine is all they require to keep themselves in perfect health, and if taken for a short time before confinement will relieve them of half the pain and danger. It can also be used externally with marvelous effect in all cases requiring outside applications, or injected into all the orifices of the body where there is disease, in fact, being a true antitoxine, it solves the problem of Health and Disease.'

To those conversant with the principles of medicine the reading of the label and circulars would alone be sufficient to condemn the nostrum as a humbug. Others might, however, be impressed as strongly by this jumble of meaningless phrases and vicious misrepresentations as by a logical and truthful statement of facts.

The labels indicate that "Liquid Life" is manufactured by the T. B. Chemical Co., Newark, N. J. The preparation is a pale yellow, faintly fluorescent liquid, having a faint, peppermint-like odor and a harsh, disagreeable taste. The presence of magnesium, sodium, a sulphate and small amounts each of saccharin, zinc and quinin was demonstrated by the usual tests. Ammonium salts were absent. The absence of cocain, morphin and their derivatives and substitutes was shown.

Quantitative determinations indicated that the composition of "Liquid Life" is essentially as follows:

Crystallized quinin sulphate	0.0566	gm. in 100 c.c.
" zinc sulphate	0.2416	gm. in 100 c.c.
" magnesium sulphate (Epsom salt)	13.34	gm. in 100 c.c.
" sodium sulphate (Glauber's salt) (Calculated from sodium determination)	6.17	gm. in 100 c.c.
Saccharin		a trace.
Water (by difference) to make		100 c.c.

Secret nostrums—the so-called "patent medicines" sold to the public—are of two classes: One is harmless in itself, in that it contains but little or none of any medicinal substances and is potent for harm only in so far that it restrains the user from seeking competent treatment; the other not only keeps the sick person from receiving the treatment which is indicated but contains ingredients which, when used indiscriminately, are potent for harm. Both classes are humbugs, especially because a large price is charged for what is usually worth but a few cents. In both classes there are all degrees of humbugs. "Liquid Life" easily belongs to the second class and is an example of the worst in this class. Besides containing the poisonous ingredient, zinc sulphate, its chief ingredient is Epsom salt, the long continued use of which always does harm. When it is considered that during six years one patient consumed between $200 and $300 worth of the stuff (as sold at retail) the "degree" of the humbug may be appreciated.

In connection with the claim of the manufacturer that "Liquid Life" is "a true antitoxine" the following definitions for an antitoxin are given:

> "A substance formed in the body, which neutralizes the poisonous products of a micro-organism; a defensive proteid." (Standard Dictionary).
>
> "Any defensive proteid developed in the body as a result of the implantation of a poison, and acting as a neutralizer of the poison." (Dorland's Medical Dictionary).

In view of these definitions and of the findings of the analysis the absurdity of the claim that "Liquid Life" is "a true antitoxine" is patent.

Inasmuch as the courts have recently ruled that under the present Food and Drugs Act it is permissible to lie as to the curative properties of a preparation so long as no false statements concerning its composition are made, it would be interesting to know whether the assertion that the remedy contains "a true antitoxine" would be considered as a violation of the law; also whether the name "Liquid Life" would be held to be a false statement as to composition, or whether the learned justices would consider the name (although a deliberate lie) a permissible claim for the virtues of the remedy.

The Danger of Short and "Catchy" Titles

Several times pharmacists have dispensed "lysol," a proprietary cresol preparation, when "laxol," a castor oil nostrum, was intended. Now it is reported that "calomel" was dispensed with serious consequences when "calamus" was intended. The employment of the descriptive title "mild mercurous chlorid" or "hydrargyri chloridum mite" for calomel would have avoided this mistake. It illustrates the danger that lies in short, catchy titles.

Correspondence

Are Jews Immune to Pellagra?

To the Editor:—It is well known that the Jews show a marked racial tendency to disease of the skin. Possibly for this reason, in twenty years of dermatologic practice, though not of that race, I find that a large proportion of my patients have been Jews. In the last few years, in hospital, clinical and private work, I have seen a large number of cases of pellagra, but no single instance of the disease in Hebrews. Casual inquiry among my colleagues has shown that my experience is not unique. Is there a racial immunity to pellagra in Jews? In seeking a wider field of inquiry, I shall be obliged to readers of The Journal for information bearing on this point. If the observation is correct, it would aid somewhat in a negative fashion in the solution of this difficult etiologic problem. The Jews are not eaters of corn-bread, do not use other articles of diet that are under suspicion, and are urban as a class.

Bernard Wolff, Atlanta, Ga.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE ALLEGED AURA SURROUNDING THE BODY

To the Editor:—The newspapers have been reporting some remarkable seances that have occurred in Chicago at which an aura was demonstrated, apparently surrounding the body. The dispatches stated that the aura indicates the presence and character of disease. What are the facts regarding this demonstration? If you publish an answer to this, please do not print my name.

X. Y. Z., Milwaukee.

Answer.—Several queries similar to above have been received. The "demonstrations" in question have been conducted by the manager of a publishing company which has published a book by a London physician reviewed in last weeks' issue. "Demonstrations" have also been conducted by a Chicago physician at one of the local hospitals. On invitation, a representative of The Journal attended two of the former demonstrations. After a rambling talk by the demonstrator, those present were taken into a room equipped with double curtains and with strips around the doors and windows to exclude all light. Each was provided with a double glass slide filled with a dark blue fluid, and was told to hold this screen before the eyes for some five or ten minutes in order, as the demonstrator explained, to "saturate the eyes with rays." The curtains were then drawn down and the room darkened as completely as possible. The subject for demonstration, a woman model, stripped to the waist, was then placed in front of a black curtain. Each observer was given a "screen" containing a weaker solution of the same fluid through which he was told to gaze at the model. The demonstrator asserted that a band or strip of light, caused by the emanation of rays from the surface of the body, would be seen surrounding the entire body close to the skin and extending outward for a distance of 8 to 10 inches, also that on approximating the fingers of the demonstrator to the fingers of the model and drawing them away slowly, light rays would be seen passing from one hand to the other and forming a band of light similar to the "rays" from a static electric machine. Our representative three times endeavored to see the "aura" at each of the demonstrations he attended but was unable at any time to detect anything except the normal outline of the body. The phenomena said to be observed by some of those present can be accounted for in two ways: First, self-deception, in that the majority of observers are inclined to see or to try to see what they are told to see; second, optical illusions due to the overstraining of the eyes in gazing at the bright sunlight outside through the colored screen, to the sudden darkening of the room, to the dilatation of the pupils in the effort to accommodate and to the projection of the white outlines of the body on the black background. The so-called "outer envelope," the black line said by the demonstrator to surround the body at a distance of ⅕ of an inch from the skin, is simply a double outline of the body surface, seen when the eyes are focused on some intermediate point, as the median line of the arm. This appearance is well known in physics and can easily be demonstrated on inanimate objects as books, etc. Even if the claims of the demonstrators as to the existence of the "aura" could be substantiated, its importance or value as a diagnostic aid would still remain to be proved. For instance, even if the "aura" exists, it will still be necessary to prove first, that it is actually composed of rays emanating from the body; second, that this emanation is in any way affected by disease; third, that variations caused by disease are positive and constant, and fourth, that each disease modifies the "aura" in a peculiar and distinctive way. None of these points has been in any way proved, either by the book or by the demonstrator but, on the contrary, assertions have been made without a particle of evidence. The entire matter impresses one as being another instance of self-delusion, plus commercialism. No doubt before many months we shall have a new sect of healers who will base their system of diagnosis, pathology and treatment on the "aura." Whether they will be called "aurites" or "auropaths" remains to be seen. The claims of the writer and the promoters of the book are not worthy of serious consideration, as they will not stand the most superficial investigation.

BOOK DISINFECTION BY GASOLINE AND PHENOL

To the Editor:—Some time ago I saw in the newspapers an item on a new way to disinfect books with gasoline and carbolic acid. Can you give me the details? The item interested me because formaldehyd has proved ineffective for closed books, and we need some method involving less expense than the destruction of the books.

H. S., Cincinnati.

Answer.—Our correspondent refers to an article by Dr. W. L. Beebe in the *Journal of the American Public Health Association*, January, 1911. An abstract of this article appeared in The Journal, Feb. 18, 1911, page 538. Dr. Beebe has experimented with a solution of 2 per cent. of phenol (carbolic acid) in gasoline, and has found it effective and harmless. It seems to penetrate every portion of the book, carrying the germicide with it, and does not mar the book in any way if it is allowed to dry before being handled.

DOUBLE ECTOPIC GESTATION

To the Editor:—Please give references to the literature on double ectopic gestation.

H. C., El Paso, Texas.

Answer.—The following articles on this subject may be referred to:

Chandler, S.: Double Extra-Uterine Pregnancy, *New York Med. Jour.*, Aug. 15, 1903.

Greenberg, H.: Bilateral Tubal Pregnancy, The Journal, Aug. 17, 1907.

Barker, M. R.: Double Extra-Uterine Pregnancy, *Surg., Gynec. and Obst.*, 1907, v, 132.

Bielyayeff, D.: Pregnancy Simultaneously in Both Fallopian Tubes, *Med. Obozr. Mosk.*, 1908, lxx, 820.

McCalla, L. P.: Pregnancy, Twin Tubal and Bilateral Tubal, *Surg., Gynec. and Obst.*, March, 1909.

Norris, C. C.: Primary Ovarian Pregnancy, Report of Case Combined with Extra-Uterine Pregnancy, *Surg., Gynec. and Obst.*, August, 1909.

Labhardt, A.: Simultaneous Tubal Pregnancy on Each Side, *Beitr. z. Geburtsh. u. Gynäk.*, xiv, 1.

Duret, H.: Grossesse tubaire ou hématosalpinx doubles, *Jour. d. sc. méd. de Lille*, 1909, ii, 73. *Rev. mens d. gynéc., d'obst. et de pédiat.*, 1909, iv, 257.

Wilson, T. G.: Ruptured Bilateral Tubal Pregnancy, *Australasian Med. Gaz.*, April, 1910.

Burty, H.: Grossesse extrautérine double rompue à droite, non rompue à gauche, opération, guérison, *Paris chir.*, 1910, ii, 45.

Findley, P.: Bilateral Tubal Pregnancy; Coincident Development, *Surg. Gynec. and Obst.*, 1910, xi, 28; *Tr. Am. Gynec. Soc.*, 1910, xxxv, 26.

Süssmann, F.: Doppelseitige Tubar Schwangerschaft, *München. med. Wchnschr.*, 1910, lvii, 1341-1343.

A CERTAIN METHOD OF OBTAINING THE KNEE-JERK

To the Editor:—Dr. Curran Pope describes in The Journal, June 10, 1911, p. 1705, a method to obtain the patellar reflex. This method is a very good one and can certainly be recommended. I saw it first time in the neurologic clinic of the Johns Hopkins Hospital, where Prof. H. M. Thomas has been using and teaching it for many years. All the essential points of it are pictured in "Allgemeine Diagnostik der Nervenkrankheiten," by Dr. Paul T. Moebius, first edition, 1886, page 125, Figure 37.

Dr. Thomas has somewhat elaborated the method by placing the finger over the tendon and determining that it is relaxed. This secures an easy method of estimating both the force of the blow of the hammer and the response. The method is more widely known than Dr. Pope seems to think; at least practically all graduates of the Johns Hopkins Medical School have been taught to use it.

C. Dencker, Chicago.

The Public Service

Medical Department, U. S. Army

Changes during the week ended July 22, 1911:

Holland, Joseph N., lieut., left San Antonio with the Fifteenth Infantry en route to Fort Douglas, Utah.

Jenkins, F. E., M.R.C., left San Antonio, Texas, with troops, en route to Fort Leavenworth, Kan.

Williamson, L. P., lieut., returned to Fort D. A. Russell, Wyo., from duty at San Antonio, Texas.

Hall, W. E., M.R.C., left San Antonio, Texas, with troops en route to station, Whipple Barracks, Ariz.

Hewitt, John M., M.R.C., left U. S. Military Prison, Fort Leavenworth, Kan., on twenty days' leave.

Rich, Edwin M., captain, is hereby relieved from his duties as attending surgeon, Headquarters, Department of California, will perform the duties of attending surgeon, Headquarters, Western Division, San Francisco.

Ballard, James C., M.R.C., will, in addition to his duties at Fort Miley, Cal., perform the duties of attending surgeon, Headquarters, Department of California, San Francisco.

Bartlett, Cosam J., major, assigned to duty as inspector and instructor, the Hospital Corps, Organized Militia of Massachusetts, Essex and Middlesex counties, from July 25 to 30, 1911.

Ford, Joseph H., major, ordered to Sea Girt, N. J., as inspector and instructor, Organized Militia, from July 22-29 and from July 29 to Aug. 5, 1911, Sanitary Troops.

Hopwood, L. L., captain, ordered to Culpepper, Va., as inspector and instructor, Organized Militia, Sanitary Troops, July 23 to 29, and July 30 to Aug. 6 and Aug. 6 to 12, 1911.

Little, William L., captain, ordered to Quonset, R. I., July 23-30, as inspector and instructor, Organized Militia, Hospital Corps.

Long, Charles J., dental surgeon, will proceed to Philippine Islands on transport Aug. 5, 1911.

Wales, Philip G., major, retired from active service.

Michie, Henry C., first lieut., ordered to Fort Missoula, Mont.

Priest, Howard, M.R.C., granted leave of absence for three months, effective Sept. 2, 1911.

de Quevedo, Louis G., M.R.C., granted leave of absence for two months.

Grubbs, Robert B., major, one month extension of leave of absence granted.

Christie, Arthur C., captain, leave of absence for three months and twenty-seven days granted, effective September 6.

Lewis, William F., major, on his arrival at San Francisco, will proceed to the Presidio of Monterey for duty.

Palmer, Fred W., captain, on expiration of leave, from Seattle to Fort George Wright, Washington.

Whaley, Arthur M., captain, on arrival at Seattle, Wash., will proceed to Fort Monroe, Va., for duty.

Fetterolf, Daniel W., M.R.C., is ordered to active duty and to report to Surgeon-General for temporary duty; then proceed to Medical Supply Depot, New York City, for duty.

Stephenson, William, lieut. col., ordered to Mt. Gretna, as inspector and instructor, Pennsylvania Militia, Sanitary Troops, from July 22-29, 1911.

Hess, Louis T., major, ordered to Indiana, Indiana County, as inspector and instructor, Pennsylvania Militia, Sanitary Troops, July 22-29, 1911.

Williams, A. W., captain, ordered to Sellsgrove, Pa., as inspector and instructor, Pennsylvania Militia, Sanitary Troops, July 22 to 29, 1911.

Clarke, Howard, and Robinson, James L., lieuts., left San Antonio, Texas, with Eighteenth Infantry, en route to Fort Mackenzie, Wyo.

Ford, Harry G., lieut., left Outpost Camp, Cal., en route to station, Presidio of Monterey, Cal.

Mitchell, Leopold, M.R.C., left Washington Barracks, D. C., for temporary duty at Fort Foote, Md.

Harris, H. S. T., lieut. col., assumed duties as assistant to Chief Surgeon, Western Division, San Francisco; relieved from duty as Medical Supply Officer, San Francisco, on July 11, 1911.

Gentry, Ernest R., lieut., left San Antonio, en route to Langtry, Texas, for temporary duty.

Whithan, J. D., lieut., reports for duty with Company L, Third Engineers, San Antonio, Texas.

Divins, George G., lieut., reported for duty with Field Hospital No. 1 and Ambulance Company No. 1, San Antonio, Texas.

Ferenbaugh, Thomas L., lieut., left Fort Sam Houston, en route to Langtry, Texas, for temporary duty.

Flynn, Thomas J., lieut., left Camp Eagle Pass, Texas, with troops, en route to Fort Omaha, Neb., thence to Fort Snelling, Minn., for duty.

Creighton, Samuel S., lieut., reported for duty with Field Hospital No. 3 and Ambulance Company No. 3, San Antonio, Texas.

French, S. W., lieut., left San Antonio, Texas, for duty at Fort Hancock, N. J.

Wolven, F. Homer, dental surgeon, reports for temporary duty at Fort Egbert, Alaska.

Robinson, James L., lieut., left San Antonio, Texas, with Eighteenth Infantry, en route to Fort Mackenzie, Wyo., thence to Fort Wayne, Mich., for duty.

Hartsock, F. M., major, left San Antonio, Texas, en route to station, Fort Wayne, Mich.

Hallett, H. J., lieut., left Fort Sam Houston, Texas, en route to Fort Hamilton, N. Y.

Mills, Ray W., lieut., reported at Fort Sam Houston, Texas.

Reddy, John J., lieut., left San Antonio, Texas, with Eleventh Infantry, en route to Fort D. A. Russell, Wyo., thence to Fort Jay, N. Y., for duty.

Jones, Percy L., captain, left San Antonio, Texas, with Eleventh Infantry, en route to Fort D. A. Russell, Wyo.

Dutcher, G. H., major, left San Antonio, Texas, en route to station, Plattsburg Barracks, N. Y.

Register, E. C., lieut., left San Antonio, Texas, en route to Fort McPherson, Ga., for duty.

Eckels, Lauren S., lieut., left San Antonio, Texas, en route to Fort McKinley, Maine, for duty.

Gilchrist, H. L., major, left San Antonio, Texas, with Eleventh Infantry, to station at Fort Omaha; Neb.

Phillips, Hiram A., lieut., returned to Fort Andrews, Mass., from duty on transport *Sumner*.

Schreiner, E. R., major, left Calexico, Cal., with troops for duty at Sequoia National Park, Cal.

McKnight, J. R., lieut., left San Antonio, Texas, for duty at Walter Reed General Hospital, D. C.

Vose, William E., major, is assigned inspector and instructor Organized Militia at Vicksburg, Miss., July 18-27, then return to his station.

Coffen, Albion McD., M.R.C., will attend the sick at Jackson Barracks, La., during absence of Major Vose, Medical Corps.

Stephenson, William, lieut. col., will inspect the following posts: Fort Wood, Fort Hamilton, Fort Wadsworth, Fort Jay, Fort Totten, N. Y., and Fort Hancock, N. J.; also office of Attending Surgeon, New York City, then he will return to station.

The following-named officers are assigned to duty as inspectors and instructors, Organized Militia, and will proceed to places named below, then return to stations:

Reno, William W., major, ordered to Augusta, Maine, August 7-16, detachment of the Hospital Corps.

Hopwood, Lucius L., captain, ordered to Glenn Allen, Va., Aug. 12-19, Sanitary Troops.

Reynolds, Charles A., major, ordered to Frederick, Md., August 18-27 Ambulance Company, District of Columbia.

The following-named officers are assigned to duty as inspectors and instructors of Organized Militia at Pine Camp, N. Y., Aug. 5-13, 1911:

McCaw, William D., major, of First Field Hospital.

Reynolds, Charles E., major, First Ambulance Company.

Wilson, James S., major, ordered to Fort Ethan Allen, Vt., September 17-26, Hospital Corps.

Hartuett, Eugene H., major, ordered to New Castle, Del., July 22-29, Hospital Corps.

Arthur, William H., col., left Walter Reed General Hospital, D. C., on eight days' leave.

Straub, Paul F., major, reports being relieved from duty with Maneuver Division, and departure on thirty days' leave.

Clarke, Howard, lieut., reported for duty at Fort Crook, Neb.

Maddnx, H. C., M.R.C., left San Antonio, Texas, en route to Fort Moultrie, S. C., for duty.

Medical Corps, U. S. Navy

Changes for the week ended July 29, 1911.

Stalnaker, P. R., passed assistant surgeon, ordered to Naval Hospital, Las Animas, Colo.

Taylor, J. L., passed assistant surgeon, detached from the *Chester* and ordered to the Naval Hospital, Norfolk, Va., for duty.

Sanborn, C. F., acting assistant surgeon, appointed acting assistant surgeon from July 20, 1911.

Lanning, R. H., assistant surgeon, ordered to duty at the Naval Hospital, Navy Yard, Mare Island, Cal.

Nash, F. S., medical inspector, detached from duty at the Naval Recruiting Station, Philadelphia, Pa., and ordered to duty on the *Rhode Island*.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended July 26, 1911.

Cofer, L. E., assistant surgeon-general, directed to proceed to New York Quarantine Station, also to Boston, Mass., via Albany, N. Y., on special temporary duty.

Long, J. D., assistant surgeon-general, directed to proceed to Boston, Mass., on special temporary duty, and on completion of the duty to return to Jameston, R. I.

Stoner, G. W., surgeon, granted six days' leave of absence from July 12, 1911.

White, J. H., surgeon, granted four days' leave of absence from July 16, 1911, under paragraph 189, Service Regulations.

Young, G. B., surgeon, granted four months' leave of absence from July 5, 1911, with pay, and for the further period from Nov. 5, 1911, to June 30, 1912, without pay.

Oakley, J. H., surgeon, granted two days' leave of absence from July 19, 1911, under paragraph 191, Service Regulations.

Holt, John M., passed assistant surgeon, granted ten days' leave of absence from Aug. 5, 1911.

McLaughlin, A. J., passed assistant surgeon, directed to proceed to Boston, Mass., on special temporary duty.

Stimson, A. M., passed assistant surgeon, directed to proceed to New York Quarantine Station on special temporary duty.

Creel, R. H., passed assistant surgeon, leave of absence for seventeen days from July 15, 1911, amended to read "four days from July 15, 1911"; directed to proceed to New York Quarantine on special temporary duty.

Hotchkiss, S. C., assistant surgeon, directed to pursue certain investigations in connection with duty on "mine rescue car."

Knight, C. P., assistant surgeon, granted fifteen days' leave of absence from Aug. 1, 1911.

Clegg, Moses T., assistant director, Leprosy Investigation Station, granted twenty-eight days' leave of absence from July 12, 1911, with pay, and two days' leave of absence, without pay.

Bailey, C. A., acting assistant surgeon, granted two days' leave of absence, June 24, and July 24, 1911.

Gillis, G. H., acting assistant surgeon, granted seven days' leave of absence from July 17, 1911, under paragraph 210, Service Regulations, granted eight days' leave of absence from July 24, 1911.

Houghton, M. W., acting assistant surgeon, granted ten days' leave of absence from July 15, 1911.

Safford, M. V., acting assistant surgeon, granted twelve days' leave of absence from July 24, 1911.

Weldon, W. A., acting assistant surgeon, granted thirty days' leave of absence from Aug. 1, 1911.

Maguire, E. S., pharmacist, granted twenty-seven days' leave of absence from Aug. 5, 1911.

Carlton, C. G., pharmacist, granted twenty-nine days' leave of absence from Aug. 1, 1911.

Bierman, C. H., granted four days' extension of annual leave from July 5, 1911, on account of sickness.

Stump, F. A., pharmacist, granted thirty days' leave of absence from Sept. 1, 1911.

Medical Economics

WISCONSIN COUNTY SECRETARIES MEET

The second annual meeting of the Association of County Secretaries and State Officers of the State Medical Society of Wisconsin was held at Waukesha, June 6, 1911.

The president, Dr. T. J. Redelings of Marinette, in his address said in part: The slogan, "get together," has resulted in beautiful progress. A study of the reports of the bodies operating under the American Medical Association is most gratifying. All serious-minded men realize that medical education is not in a very satisfactory condition. There are altogether in this country 129 medical schools, half of which are doing reasonably acceptable work; the other half, owing to lack of financial support, equipment and qualified instructors, might better be discontinued. There is no justification to-day for a medical school as a financial investment.

The county secretary will do well to court the friendship and favor of young men in the community about to begin the study of medicine and give them correct information concerning the better schools and hold up before them high ideals in medical attainment.

The state university becomes the logical sponsor. The Wisconsin University Medical Department was tardy in its development, but when it came it was organized along right lines. The faculty is able, the laboratories adequately equipped and financial support is sufficient. I hope the day is not far distant when the university will send its medical men to the various counties of the state to demonstrate to medical societies new and better methods.

The professional spirit is growing. The county societies are growing in numerical strength and in the quality of the scientific work.

WHAT TO STRIVE FOR

A paper with this title, by Dr. Edward Evans of La Crosse, was read by the secretary. Dr. Evans said in part: The county society is the unit and center of the state and national organization, but the county secretary is the heart, the pulsing motor of the county society. In greater or less degree every one of his refractory flock is vaccinated with one or more of the seven deadly sins. How to inoculate with the opposite virtues is a task worthy of a Pasteur or an Ehrlich. We need organization *in* our profession to-day more even than organization *of* the profession. While medical men are notoriously hard units to unite, yet they need, as no other body needs, the benefit of cooperation. In our county societies we must preserve in their proper relations the social, the scientific and the business sides of the profession. Because of special qualifications, medical men are bound to promote and assist all movements for the general welfare. The county societies should often hold open meetings. Most attention should be paid to the scientific side of medicine, to new theories rather than old practices.

THE SCIENTIFIC SPIRIT IN THE COUNTY SOCIETY

A paper on this subject was presented by Dr. E. B. Brown of Beloit, who said in part: To have the scientific spirit means that a man recognizes the value of and is in sympathy with all study and experimentation that tends to make diagnosis more exact and treatment more specific and with all measures that tend to eliminate preventable diseases. The county society should be a source and inspiration of scientific spirit for the profession of each county.

The first requisite is getting the men together. To do this any procedure is justifiable which will accomplish the result. Having built up a society strong as to attendance, the matter of promoting the scientific spirit is not so hard. There are certain measures of especial importance: First, the program. The program committee should be appointed early. They will have time to find what men are interested in certain lines, what ones have special cases or original work to report. The program should be well balanced, with the scientific side not too prominent, yet the scientific atmosphere should prevail. Of especial value are the visits of some one from the larger medical centers who can bring the very latest in his line and present it in an authoritative and scientific manner. There should be encouragement of the members in attendance on the various larger medical gatherings and clinics.

THE BUSINESS SIDE OF PRACTICE

Dr. W. F. Zeirath, Sheboygan, speaking on this theme, said: The business side of medical practice should be methodically handled. Careful accounts should be kept and bills promptly rendered. A close scrutiny of "charity" accounts should be kept. In many of these cases the necessity for charity on the part of the physician will be found unnecessary. These same people, if they get into a lawsuit, will find the money to pay the lawyer. The same is true of other obligations. The physician should be careful in his investments, confining them to properties in his own community, instead of, as is largely the case, going into various mining, oil and land schemes hundreds of miles away.

PREVENTIVE MEDICINE

Dr. A. Egdahl, Menomonie, said: Preventive medicine is the medicine of the future. Members of the county society should be given opportunity to learn what is being done along these lines. There are several diseases that troubled us to a considerable extent years ago which are now of rare occurrence. Meetings should be held devoted to the consideration of preventive medicine, and papers along this line presented at every meeting, the expense to be borne by some organization interested in this work or by the medical society itself. Printed rules in relation to preventable disease should be furnished to patients. The various secretaries should call attention of the members to the valuable services rendered by the state hygienic laboratory at Madison regarding tests and microscopic examinations in tuberculosis, diphtheria, typhoid fever, rabies and other preventable diseases. The public is beginning to demand that physicians should know something about preventive medicine. Most of the work in preventive medicine can be done in infectious and contagious diseases. The prevention of venereal diseases is an important part of preventive medicine; also medical inspection in the schools in heading off a great number of preventable diseases in the start. We should try to create a great interest in the subject of preventive medicine in our medical societies.

Dr. H. W. Abraham, Appleton, said in the discussion: In one of the smaller towns of 17,000 or 18,000 people with two daily papers, when they are short of news, the reporters go around and interview the physicians of the city on just such subjects as have been mentioned here, usually on a disease prevalent at that time, such as for instance, typhoid fever, diphtheria, colds and occasionally there has been an article on the prevention of tuberculosis, method of ventilation, the value of fresh air and matters of that kind. These articles have been put in the reading columns of the paper. They are not written by the physician but by the reporter himself. They have had considerable influence on the public opinion of that town.

MEMBERSHIP AND ATTENDANCE

Dr. H. A. Jegi, Galesville, presented this paper. He said: One of the most distressing features of the profession is the undercurrent of disloyalty among its members, the desire to secure some advantage over others by methods that come under the term "questionable." Get the irregular man into the society, give him work to do, elect him to office and you may be surprised at the good work he will do. If he persists in the old ways, turn him over to the care of some other member. There are very few that cannot be reached. Though you may not be able to make a good ethical member of him, I believe he will harm the society and profession less as a member, and you may do him lots of good. The ideal man and physician will join of his own accord. The indifferent man is the most difficult of all to handle.

HOW CAN WE GET THE ATTENDANCE OF COUNTRY MEMBERS?

Dr. M. V. De Wire, Sharon, presented a paper on this subject, saying: Select the place of meeting with the idea of the convenience of reaching it by the greatest number. Arrange the time and number of the meetings to suit the majority of the members. Evening meetings might be practicable in the season of good roads. Invite the physicians to bring their wives and let the ladies visit while the men are discussing business and work. The printing and arrangement of the program can be made to wield an influence in securing attendance. In arranging the program it is best to take up live subjects for the principal part. Subjects of particular interest to members of certain localities will often bring out several members who are not in the habit of attending regularly. Encourage the members to report their difficult and unusual cases.

The scientific side should not be neglected. It is well from time to time to invite someone from the outside who is making investigations along special lines to address the meeting. The social features can be depended on to bring out a good attendance at at least one meeting of the year. Subjects of semi-public interest, such as anterior poliomyelitis, tuberculosis, the public drinking-cup evil, or the spread of disease by the common house-fly, or an illustrated lecture, will help to attract. The largest factor in the successful meeting is the personal element between the secretary and the individual member.

ONE WAY TO GET AND HOLD MEMBERS

Dr. R. H. Buckland, Green Lake, said: Two years ago our county society had twenty members and now has thirty. The territory in these three counties makes it a broadly scattered field with poor railroad connections. The president and the secretary both live at Green Lake and are both on the program committee; the third member being in a town nearby, making it convenient to confer frequently in regard to plans for the meeting. In an effort to secure members I had a little spare time last May, a year ago, and started out and traveled through the different towns and called at the office of the different doctors, some of whom were members and some not, and took the matter up with them and told them the advantages of being members of the county society, and the result of that one trip was the securing of seven new members. A personal canvass through the county once a year or once in two years will do much to hold the membership. The thing emphasized in speaking to the men who lived in the outskirts of the county was the medical defense feature. Our society has meetings every two months and the programs are short, one or two papers at the outside, followed by a full discussion. Once a year we hold a picnic at Green Lake and all the physicians in the territory and their wives and families are invited.

OFFICERS ELECTED

The following officers were elected: Dr. W. F. Zeirath, Sheboygan, president; Dr. M. V. De Wire, Sharon, vice-president; Dr. Rock Sleyster, Waupun, secretary.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Nebraska: Lincoln, August 9. Sec., Dr. E. Arthur Carr, 141 S. 12th St.

Iowa: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

Missouri: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

New York: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Nebraska February and May Reports

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports the written and practical examinations held at Lincoln, Feb. 7-9 and May 23-25, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. At the examination held February 7-9, the total number of candidates examined was 6, of whom 4 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Ensworth Medical College	(1909)	75
Creighton Medical College	(1910)	85
Lincoln Medical College	(1910)	89.7
Western University, London, Ontario	(1899)	81.7
FAILED		
Ensworth Medical College	(1897)	67.5
Central Medical College, St. Joseph	(1899)	65

At the examination held May 23-25, the total number of candidates examined was 55, of whom 47 passed and 8 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Ensworth Medical College	(1911)	75.2, 76.2, 79.1, 81.1, 84.2
University Medical College, Kansas City	(1911)	76.6, 79.9
University of Nebraska	(1911)	81.2, 83.1, 83.2, 83.2, 84.4, 84.4, 84.7, 86.5, 92.2.
Creighton Medical College	(1910)	81.7;
	(1911)	75, 77.5, 77.6, 77.9, 78.4, 79, 79.5, 80.6, 80.8, 80.9, 81.2, 82.1, 82.6, 83.2, 83.4, 83.6, 84.9, 85.6, 86.4, 86.5, 86.6, 89.2, 89.5.
Lincoln Medical College	(1911)	75.2, 76.6, 77.4, 78.2, 80.1, 87.9
Medical College of Ohio	(1894)	83
FAILED		
Ensworth Medical College	(1911)	70.2, 71.9, 72.9
Creighton Medical College	(1911)	69.7, 72
Lincoln Medical College	(1911)	69.2, 71.7
Mcharry Medical College	(1911)	69.7

Arizona April Report

Dr. Aneil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, April 3-4, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 8, of whom 6 passed and 2 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Rush Medical College	(1910)	89.8
Keokuk Med. Coll., Coll. of Phys and Surg	(1900)	75.3
University of Michigan, Dept. of Med. and Surg.	(1903)	82.2
Washington University, St. Louis	(1903)	78.6
Beaumont Hospital Medical College	(1899)	77.1
Laval University, Quebec	(1908)	79.9
FAILED		
Hahnemann Med. Coll. and Hospital, Chicago	(1892)	66.2
Western Pennsylvania Medical College	(1890)	40.2

Nebraska Reciprocity Report

Dr. E. Arthur Carr, secretary of the Nebraska State Board of Health, reports that at the meetings held since Jan. 1, 1911, twenty-two candidates have been licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
University of Colorado	(1910)	Colorado
Hahnemann Medical College and Hospital, Chicago	(1901) (1902) (1907) (1909)	Illinois
Northwestern University Medical School	(1905)	Illinois
College of Physicians and Surgeons, Chicago	(1891)	Iowa;
	(1905) (1906)	Illinois
Rush Medical College	(1898)	Iowa;
	(1908)	Wisconsin
Drake University	(1910)	Iowa
University of Kansas	(1910)	Kansas
College of Physicians and Surgeons, Baltimore	(1907)	Maryland
Univ. of Mich., Dept. of Med. and Surgery	(1901)	Arkansas
University of Minnesota, College of Medicine	(1899)	Minnesota
Barnes Medical College	(1893)	Missouri;
	(1909)	Illinois
Medical College of Ohio	(1901)	Kentucky
Eclectic Medical College, Cincinnati	(1909)	Ohio
Memphis Hospital Medical College	(1899)	Indiana
University of the South	(1905)	Tennessee

Arkansas Homeopathic May Report

Dr. P. C. Williams, secretary of the Homeopathic State Medical Board of Arkansas, reports the written examination held at Little Rock, May 23-24, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Chicago Homeopathic Medical College	(1879)	75
Kansas City Hahnemann Med. Coll.	(1911)	78, 79, 79, 84, 85
FAILED		
Kansas City Hahnemann Medical College	(1902)	68

Book Notices

The Wassermann Sero-Diagnosis of Syphilis in Its Application to Psychiatry. By Dr. Felix Plaut, Scientific Assistant in the Psychiatric Clinic of the University of Munich. Authorized Translation by Smith Ely Jelliffe, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and Louis Casamajor, A.M., M.D., Assistant New York Neurological Institute. Nervous and Mental Disease Monograph Series No. 5. Paper. Pp. 188. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

Felix Plaut's oft-quoted monograph has at last been put into English. Though the translation is too literal, one feels grateful that it has been done at all. This important contribution and the conclusions derived therefrom, carried out in Wassermann's laboratory by a conscientious worker, should have great weight with us in arriving at a correct estimate of the value of this biologic test. Plaut's conclusions are practically those of other workers in the same field.

On account of their importance, we abstract a few of his summaries. In respect to the value of the Wassermann test in the diagnosis of syphilis, Plaut says that the positive reaction is an expression of the general luetic infection, and in consequence individuals reacting positively to this test are not free from syphilis. The reverse is by no means true, as persons in the latent tertiary stage may react negatively, and yet not be free from syphilis.

Concerning general paresis, Plaut has found that the serum in this disease, with but few unimportant exceptions, gives a positive reaction, and that, therefore, a negative serum reaction speaks against paresis. The latter disease appears to occupy a unique position among the varied clinical forms of syphilis and parasyphilis, in that the negative reaction is of greater value than the positive one, because the last also occurs in syphilis and is valueless for differential diagnosis between it and general paresis.

In the case of a positive serum reaction, Plaut usually resorts to lumbar puncture, in order to ascertain the biologic and cytologic qualities of the cerebrospinal fluid. Rarely, he states, has he seen a negative reaction of the spinal fluid in paresis. He even goes further and maintains that in the absence of tabes symptoms the positive reaction of the spinal fluid, even if found in an apparently healthy individual, means the oncoming of general paresis later.

Plaut's discussion of feeble-mindedness in relation to a hereditary syphilitic etiology is extremely interesting, and brings out many new points of view. His assertions are based on a number of cases which he quotes either in abstract or in tabulated form. The monograph concludes with a table of the important literature bearing on this subject. While criticizing the faulty English translation of an excellent German monograph, we nevertheless heartily commend it to those unable to read the original.

What to Eat and Why. By G. Carroll Smith, M.D., Boston, Mass. Cloth. Price, $2.50 net. Pp. 310. Philadelphia: W. B. Saunders Co., 1911.

This book is readable, though its literary quality might be improved. Its contents, however, will be found useful by those who wish to apply dietetics to the treatment of disease. Very little is said about the chemistry of foods. The author endeavors to explain the principles underlying the use of foods and the essential reasons why a change of diet in certain diseases is desirable. Only the most important diseases, however, are discussed.

Chittenden's experiments, which have led him to fix on an unusually small quantity of proteid as the best standard for man, have interested students of dietetics chiefly during the last few years. Our author explains these experiments but does not adopt the standard unqualifiedly either for the healthy or the diseased. For the latter, he says, "it is an every-day experience that the protein must occasionally be reduced even below Chittenden's and often raised above Voit's standard."

The judgment of the author is good; therefore his conclusions are trustworthy. He takes pains to explain why a person's diet must be varied under differing conditions of disease. The work is a commendable one.

The Experimental Chemotherapy of Sfirilloses (Syphilis, Relapsing Fever, Spirillosis of Fowls, Frambesia). By Paul Ehrlich and S. Hata. With Contributions by H. J. Nichols, New York: J. Iversen, St. Petersburg; Bitter, Cairo; and Dreyer, Cairo. Translated by A. Newbold, and Revised by Robert W. Felkin, M.D., F.R.S.E., Late Lecturer on Tropical Diseases, Edinburgh Medical School. Cloth. Price, $4. Pp. 181, with illustrations. New York: Rebman Co.

This small book is an authoritative statement of the work leading to the introduction of salvarsan. The largest part of it is by Hata on the experimental basis of the chemotherapy of spirilla. There is a brief report of the action of salvarsan on the *Spirochæta pertenuis* in the animal body by Nichols, one on patients with relapsing fever treated with the drug in the Cairo Infectious Hospital by Bitter and Dreyer, and the work concludes with a fairly comprehensive survey of the general subject by Ehrlich. It goes without saying that it is a highly interesting narrative. Hata's statement in particular of the preliminary chemical work and of the principles followed in it holds one as an account of one of the most original investigations of modern therapeutic chemistry. Ehrlich in his "concluding remarks" traverses in part the same ground and shows the steps by which he gradually came to 606 and decided on its therapeutic value. He makes a strong plea for the originality of the work and the essential differences of the derivative salvarsan from the original atoxyl. The tone of Ehrlich's contribution is distinctly on the defensive.

Of course this volume is entitled to the highest consideration as an authoritative statement on the most active subject in medicine and is worthy of careful reading.

The Treatment of Syphilis with Salvarsan. By Dr. Wilhelm Wechselmann, of Berlin, Medical Director of the Skin and Venereal Disease Section, Rudolph Virchow Hospital, Berlin. With an Introduction by Dr. Paul Ehrlich, of Frankfort-on-Main, Director of the Royal Institute for Experimental Therapeutics, Frankfort. Only Authorized Translation by Abr. L. Wolbarst, M.D., of New York, Consulting Genito-Urinary Surgeon, Central Islip State Hospital. Cloth. Price, $5. Pp. 175, with illustrations. New York: Rebman Co., (1911).

This is a companion volume to Ehrlich and Hata's "Chemotherapy." In it Wechselmann considers salvarsan very fully from the clinical standpoint. His personal experience in over 1,400 cases, the clinical experience of various other experimenters, the technic of administration, repetition of the dose, effects on the Wassermann reaction, by-effects and accidents—most of the aspects of the subject, in short, are elaborately set forth. The volume is a valuable statement of the earlier experience with this new and startling remedy, although, of course, the statement is already old, so fast does the subject travel these days. As an ending of the volume there are appropriately given a group of sixteen fine colored illustrations, showing the effects of salvarsan on various syphilides. These illustrations are perfect, and show well the effects of salvarsan on syphilis, although no better or more rapid results are shown than are usual from mercury in similar lesions.

Health Hints and Health Talks. By E. R. Pritchard, Secretary of the Chicago Department of Health. Cloth. Price, 50 cents net. Pp. 153. Chicago: The Reilly & Britton Co.

This little book contains the suggestions made to the public as a part of the educational and publicity work of the Chicago Department of Health. The subjects covered are various and are all intimately related to the comfort and health of the people. The hints are in the form of short, terse, epigrammatic paragraphs, each on a separate subject and intended to clinch in the mind of the lay reader the value of good health for himself and family. The book is admirably adapted to the instruction of the public, while the short paragraphs lend themselves readily to use in health bulletins and other mediums.

Vicious Circles in Disease. By Jamieson B. Hurry, M.A., M.D. (Cantab.). Cloth. Price, $2 net. Pp. 186, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The subject of this monograph is interesting and important. Every practitioner appreciates the significance of vicious circles but few know how common they are and the revelations of this book will surprise many. Each of the two hundred odd circles is described in a separate paragraph, which makes the work somewhat less easily read than if it were written more consecutively. It contains many illustrations which graphically depict vicious circles.

Medicolegal

Constitutionality of Medical Practice Acts—Chiropractic a Practice of Medicine

(State vs. Johnson (Kan.), 114 Pac. 390)

The Supreme Court of Kansas holds that chiropractic treatment is a practice of medicine under the statute of that state. The first count of the information charged that the defendant "Did then and there unlawfully and wilfully practice medicine and surgery . . . by then and there attempting to treat for a fee one William Mershon, Sr., who was then and there afflicted with bodily infirmities, and who was then and there sick, the nature and extent of said sickness and bodily infirmities being to informant unknown, by then and there pretending to adjust the vertebræ of the said William Mershon, Sr." The sixth count charged him with advertising in a newspaper: "Chiropractic. P. W. Johnson, D.C., the Chiropractor of Hutchinson, Kan., will be in Stafford at Hotel Brinham, Tuesday and Friday, 9 a. m. to 1 p. m. If you are afflicted in any way, or have tried everything else without results, try chiropractic spinal adjustment." These were the only counts considered by the Supreme Court.

The trial court sustained a motion to quash the information: "For the reason that it is agreed by both sides that said P. W. Johnson is a chiropractic and practicing his profession as such and is a graduate of some school which teaches chiropractic and stands ready to take an examination in chiropractic before the state board of medical registration, but that the statutes of the state make no provision for granting license to one practicing chiropractic, and has applied to take such examinations before said board, but it has refused to examine him or grant him a license to practice in Kansas." But the Supreme Court holds that the first and sixth counts were erroneously quashed.

The Supreme Court says that it has no doubt whatever that the legislature may prescribe reasonable restrictions and qualifications touching the healing art in any of its departments without impairing any constitutional rights. While power does not exist to give one particular school of medicine a monopoly or to prohibit the citizen from using or employing the ordinary home remedies and neighborly administrations, still, when one holds himself out to the public as a healer of disease by the use of means or methods vouched for by him and for which he receives pay, the legislature may, for the protection of the citizen from quackery or imposture, require such person to possess and show certain qualifications for doing properly what he does and what he receives pay for doing.

Webster's New International Dictionary defines "chiropractic" as: "A system of healing that treats disease by manipulation of the spinal column." And the court was advised by counsel for the defendant that "the chiropractor claims that all the diseases which are in any way affected by his adjustments are caused by the partial displacement of the vertebræ, thus causing the nerves which pass through the openings in the vertebræ to press against the sides of the openings and prevent the life fluid from flowing freely through the nerve to the part of the human system to which the particular nerve reaches. Diseases not caused by the pressing of the nerves against the sides of these openings the chiropractor does not in any way treat. The chiropractor claims that the only treatment so called which he uses is not a treatment, but merely an adjustment of the vertebræ which restores the vertebræ and the nerves to their normal position, and thus removes the cause of the disease. He does not practice surgery or medicine and does not use any other manipulations whatever than the adjustment of the vertebræ." But the language of the 1908 amendment of the Kansas statute, which is an act to "regulate the practice of medicine, surgery and osteopathy," is very broad, and even under the foregoing description of chiropractic it may well be said that one whose vertebræ are partially displaced, causing impairment of nerve function, is one afflicted with bodily infirmity, and that one who restores the functional activity of the nerve on which the maladjusted vertebræ had formerly pressed is treating, or attempting to treat, such afflicted person.

It may be argued that, giving the entire language a close, critical and discriminating meaning and construction, this method of so-called "treatment" is in no sense the product of medicine or surgery, and would, indeed, come more nearly under the term "osteopathy." But the manifest object and intent of the legislature was to protect the public from ignorance and imposition in the healing art. Osteopathy is carved out as a separate department, and registration and license are required, while its practitioners are prohibited from giving medicine and performing surgical operations; that is, from practicing medicine and surgery as distinguished from osteopathy. But "medicine and surgery," which the defendant was charged with attempting to practice, by common use and adjudged meaning, cover a wide portion of the domain of healing, and may and should be held to cover the case of one who, not claiming to be a physician or surgeon, really practices osteopathy under another guise without possessing the qualifications required of the osteopath.

The legislature has by the statute referred to treated osteopathy as a separate department and covered all the other branches of the healing art by the term "medicine and surgery." As new schools of practice come into favor, their followers must possess the requirements for the practice of medicine or surgery, or prevail on the legislature to make separate provision for them as it has done for the osteopath.

Violation of Medical Practice Act by Masseur

(Newman vs. State (Tex. Cr. App.), 134 S. W. R. 688)

The Court of Criminal Appeals of Texas affirms here a conviction of the appellant (defendant) Newman of the offense of unlawfully engaging in the practice of medicine without first having registered and filed for record the certificate required, his punishment having been assessed at a fine of $100 and five days' imprisonment in the county jail.

It was contended that one who practiced as a "masseur" is not guilty of any offense under the Texas statute, and that the facts were insufficient to sustain the judgment; but whether or not the facts were insufficient was submitted to the jury trying the cause under a proper charge, and the jury found against the contention. The appellant's defense was fairly submitted to the jury in these instructions, given at his request: (1) "If you find from the evidence that the defendant did not charge for his services as a masseur, or for treatment by any method or system, and receive pay for such treatment between the 27th day of May, 1909, and the 21st day of June, 1909, you will acquit him, and say by your verdict, 'We, the jury, find the defendant not guilty.'" (2) "You are instructed that a masseur, in his particular sphere of labor, is not required to secure a certificate authorizing him to practice medicine, and if you believe from the evidence that the defendant, as a masseur, practiced within the particular sphere of masseurs, you will acquit him." One witness testified that she was treated by the defendant for "floating kidney," prior to May 27, fifty-two days for $50, going to his office for treatment. Another witness testified that she went to the defendant's office and was treated by him between May 27 and June 21. He did not charge for his services during that time, but she gave him $10. He charged her for services prior to May 27. The defendant ran this advertisement in a local paper: "Come and take masseur treatment, and learn to live without drugs." Under the construction of the medical practice act by this court in Newman vs. State, 124 S. W. 956 (The Journal, June 4, 1910, p. 1900), these acts constituted a violation of the law.

The statute provides that: "Any person shall be regarded as practicing medicine who shall treat or offer to treat any disease, or disorder, mental or physical, or any physical deformity, or injury by any system or method, or to effect cures thereof, and charge therefor, directly or indirectly, money or other compensation." If the jury hearing the testimony arrive at the conclusion that the defendant was treating and offering to treat disease by some method, and charged therefor, directly or indirectly, this court cannot say that there was no testimony to support their finding

Coroner's Physician Not Justified in Dissecting Body and Keeping a Part Merely Because an "Interesting Case"

(Hassard vs. Lehane (N. Y.), 128 N. Y. S. 161)

The First Appellate Division of the Supreme Court of New York reverses a judgment of non-suit and grants a new trial in this case, which was brought by a mother to recover damages for an alleged wrongful and unlawful dissection of the remains of her son and detention of parts of the remains. The deceased was a coach driver of the age of 28 years, who lived with his mother, and was thrown from his coach by an obstruction in the street, and died within a few hours after being taken to a hospital. The defendant was a coroner's physician, who did not claim to have been directed by a coroner to hold an autopsy, but merely asserted that it was "his privilege to make the dissection," explaining, when inquired of by the coroner, that the deceased had a greatly enlarged spleen, and it was an interesting case.

The plaintiff had a legal right, on the facts stipulated, the court says, to the possession of the corpse of her son in the condition it was at the instant of death for the purpose of preserving and burying the remains, and, without her consent or statutory authority therefor, no one had a right to deprive her of such possession, or to dissect or otherwise mutilate the body of her son, and the law gave her a cause of action to recover damages, which should be measured by the injury to her feelings, caused by the invasion or violation of this right. The statutory provisions which the defendant contended, on acount of his being coroner's physician, authorized and justified his acts conferred no authority on him to dissect the remains in the absence of a direction by the coroner, which was not shown to have been given; and, even if the autopsy had been authorized by the coroner, that did not, on the facts presented, justify the removal and detention of any of the organs of the deceased.

Doubtless, if the defendant made the autopsy by the direction of the coroner, that would justify the dissection of the body, but it would not, in the absence of further directions from the coroner or district attorney, or other evidence, warrant the removal or detention of any part of the body.

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Steamboat Springs, Aug. 15-17.

AMERICAN CLIMATOLOGICAL SOCIETY

Twenty-Eighth Annual Meeting, held at Montreal, Canada, June 13-14, 1911

The President, Dr. John W. Brannan, New York, in the Chair

Officers

The officers elected for the ensuing year were named in The Journal, July 1, page 34.

The Relation of Forest Growth to Neighboring Water-Courses

Dr. John W. Brannan, New York: It was formerly supposed that extensive cutting of forests had increased the frequency and height of floods and had intensified the periods of drought. We are now informed that there is no statistical evidence to prove that this is true. I have made some study of the documents and arguments offered by the two parties to the controversy and find that it is a situation in which, indeed, "experience is fallacious and judgment difficult." Engineers and meteorologists assert that the figures presented by foresters as to the bad effects of deforestation are misleading, and in support of their statement offer other observations made on the same rivers at the same stations to prove that floods are neither more frequent nor more severe than in former times. As there has been no change in the flow of rivers, deforestation could have no such injurious effects as have been attributed to it. Further, it was claimed that all deforested land which had been converted into agricultural land had been put to its best use, and that no land which is suitable for the production of food should be withheld for the growing of timber. There now seems to be a new light on the subject. The forest floor surely protects the springs and controls the surface flow of water better than ground that has been denuded, especially if the land is on a hill or mountain side. If the ground is fairly level and suited to agricultural purposes, and is under constant cultivation, the growing crops form not a bad substitute for the forest. One should not expect to reforest level or slightly rolling land which is now under cultivation. In the mountain ranges, on the other hand, and on steep hillsides the forests should be preserved, not only to insure a regular supply of water for great river systems, but also to prevent the danger of excessive erosion.

The Climatic and Hygienic Influences of Forest Growth

Dr. James M. Anders, Philadelphia: Forests influence climatic factors in various ways. They expose resistance to the free passage of wind currents and moderate the extremes of temperature. Prussian observers have shown that for ten years the greatest heat of the day in July is, on the average, nearly 6 degrees lower than outside. The air of the forest contains a somewhat higher standard of average humidity than that outside. The air is cooled by transpiration or the evaporation of water from the leaves, and the air below the covering formed by the forest leaves is kept cool in consequence of this absorption of the heat. The opinion that forests are natural equalizers of the temperature rests on exact scientific premises. The vegetable canopy prevents to a certain degree evaporation from the soil, forests forming a more or less perfect screen between the sky and the earth. Evaporation from the soil of forests is rather more than one-third as great as from the open soil. The effect of the forest in preventing evaporation becomes greater with increasing altitude. It is warrantable to draw the *a priori* conclusion that when ever a fair proportion of woodland exists, properly distributed, a considerable influence must be exerted thereby on the hydrometeorology of the region. During the cold season forest vegetation, after a sponge-like fashion, holds considerable moisture in the soil; hence the earth in the vicinity of a forest is more humid than elsewhere in the winter. It is not too much to claim that forests are natural equalizers of both temperature and atmospheric humidity. Ozone is generated by odorous foliage and all of the flowering species. The exhalations from the conifera are particularly energtic in the promotion of ozone. Ozone through its power to combine chemically with pernicious organic impurities probably constitutes Nature's principal means of purifying our atmosphere. The sanitary influences of forest growth are principally dependent on the two physiologic functions—transpiration and ozonification, but these do not extend to any extent beyond the borders of the woodland. The advantages of forests, particularly pine forests, for the consumptive, should be conceded. There are no facts to oppose the practice of sending patients with laryngeal tuberculosis to the pine forests. Here they can obtain the superior benefits arising from a highly ozonized and terebinthinated atmosphere. In view of the facts brought out, there can no longer be any question as to the sanitary importance to the municipality of public squares, provided they are filled with appropriate growing vegetations.

DISCUSSION

Professor Stupart, Toronto: Some years ago I undertook an investigation of the rainfall occurring along the Great Lakes of North America and in other places. From the figures obtained it seems that the rainfall to-day does not equal that of earlier days, 1840. With regard to the temperature in Toronto since 1840, it is evident that it has increased but slightly; the spring months are not quite as cold as in the earlier year. As to the winter temperatures, it has been shown that the ideas of the old inhabitants were erroneous. The daily range of the temperature to-day is probably the same as it was seventy years ago. The figures given for Montreal go back to 1873. In the "sixties" the rainfall was 38 inches, and during the next ten years 39.2; and from then on it averaged 41.4, 41.7, etc. As far as the meteorologic records are concerned, it seems that in Canada the operations of man have had but little effect on the climate of the country.

I cannot account for the greater liability to summer frosts in the earlier days in Canada. Floods in Canada are no more disastrous than they were during earlier years.

Dr. J. H. Elliott, Toronto: The theory of Dr. Anders that forests modify the temperature seems to be borne out by the facts presented by Professor Stupart. In Ontario the heat during the summer months is slightly greater and the cold less than a few years ago; the very slight difference cannot be accounted for by the influence of any vegetation on the temperature.

Dr. Charles L. Minor, Asheville, N. C.: If the mountains of North Carolina were stripped of their forests they would be practically useless for other purposes. It is not a question of how deforestation affects the rainfall, but a question as to whether deforestation is harmful to the flow of water into the rivers and the water-supply in low-lying countries.

Dr. William H. Bertold, Denver: The question of deforestation has many interesting features. Certain reserves in the West permit cattle grazing. The cattle thrive better than on the plains. When the timber is removed there is a denudation of undergrowth as well.

Dr. Alexander D. Blackadder, Montreal: The value of any health resort should be estimated both by the amount of sunlight and of shade. One cannot say that the presence of many trees is not conducive to health; however, where timber predominates and where sunlight seldom enters, noxious influences are at work. The aim should be to cluster well-kept trees; this permits a large amount of sunlight and at the same time gives the stimulating effect of the ozone.

Dr. A. J. Richer, Ste. Agatha des Monts, Quebec: Consumptives are living in lumber camps in extreme comfort even with the temperature 40 F. below zero. They have none of the advantages of real household living. They live in a primitive way and the degree of comfort derived by them from their primitive life appears marvelous. There seems to be some vitalizing influence. It seems that the digestive functions are influenced by this way of living.

Dr. James M. Taylor, Philadelphia: We have not as yet enough knowledge in respect to the conditions that existed in the ancient countries where the forests have ceased to exist. We should take into consideration the conditions that exist in Greece, Mexico and the valley of the Euphrates. This subject is closely bound up with anthropology.

Dr. Robert C. Paterson, Ste. Agatha des Monts, Quebec: We should decide what changes take place in the soil when the trees are removed; when this occur the hills are washed bare of all soil and only rock is left, which does not have the power to absorb moisture. This must have some influence.

Dr. James M. Anders, Philadelphia: Stations should be located in various places beyond the borders of the forests. There is no doubt but that forests possess certain influences in reference to temperature and relative humidity, but I do not know how far beyond the borders of the forest this influence extends. As to whether observations in reference to ozone may be conclusive or not, I cannot say that the position taken is tenable. I have followed the usual recognized tests. The results were uniform; certain species of plants seem to possess the power of producing ozone, even the non-odorous plants. I think the balance of testimony is in favor of the flowering and odorous plants producing ozone.

Two Causes of Death in Pulmonary Tuberculosis

Dr. Lawrason Brown, Saranac Lake: Death in chronic tuberculosis is brought about most often through pathologic changes in the lungs, less often by those occurring in the heart and brain. This study of the causes of death in chronic pulmonary tuberculosis is based on data obtained from the records of death of 1,204 patients who died at or after leaving the Adirondack Sanitarium, and from 378 deaths which occurred in Saranac Lake Village. The data concerning 245 cases were not reliable, thus limiting the study to 959 deaths. While the usual cause of death was asthenia, the complications which terminated life were very numerous, and can be grouped under four heads: (1) general miliary tuberculosis; (2) pulmonary; (3) extra-pulmonary complications, and (4) sudden death. It is easy to arrange such a classification, but difficult to fit cases into it. In all, 332 patients, or 58 per cent., 163 males and 169 females. presented asthenia as the most marked symptom before death. Twenty-eight patients died from asthenia following hemoptysis. Immediate death from hemoyptysis occurred in eighty-two patients. Symptoms of enteritis occurred in 18; symptoms of nephritis were present in fourteen patients. Asphyxia was the most marked cause of death in twenty-one cases. In 385 cases pulmonary tuberculosis was stated as the only cause of death. Profuse sudden hemoptysis in the earlier stages of the disease was an unusual cause of death; when death occurred from this cause it was brought about more often by suffocation. Fatal hemoptyses were in practically every instance due to rupture of an aneurysm of one of the terminal branches of the pulmonary artery. Death from pneumothorax occurred in three cases. Gangrene as a cause of death was exceedingly rare. Death due to extra-pulmonary causes occurred in 111 cases. Syncope was given as the cause of death in thirty cases. Sudden death in pulmonary tuberculosis is unusual. Of forty-four deaths that had occurred among 3,300 patients during the residence at the Adirondack Cottage Sanatorium, thirty died with signs of pulmonary disease, eight of extra-pulmonary tuberculous complications and six of non-tuberculous disease. The figures that relate to the 378 patients who died at Saranac Lake from pulmonary tuberculosis show that 256 died from asthenia, four from asphyxia, fourteen from general miliary tuberculosis, forty-eight from hemoptysis, eight from pneumothorax, twenty-two from meningitis, ten from laryngitis.

DISCUSSION

Dr. H. R. M. Landis, Philadelphia: Some years ago, in studying seventy-five cases of death in pulmonary tuberculosis, I found that a majority died of general asphyxia, or a gradual wasting away, or because of a ceasing function. Three of the patients died from intestinal hemorrhage. It is amazing that so few patients died of complications of the intestinal tract. As far as my observations go asphyxia never occurs in tuberculosis. Out of 600 cases, not one patient died suddenly from heart failure; this is a rare form of death in this disease.

Dr. Gordon Wilson, Baltimore: I should like to call attention to the greater frequency of hemoptysis among females than among males; among 1,000 such patients there were 20 per cent. more females than males.

Dr. Charles L. Minor, Asheville: Dr. Brown has depended on reports from various doctors and this vitiates the value of the statistics. The term asphyxia I do not quite understand, unless it follows hemorrhage. I have never seen a patient asphyxiated because of calcareous glands, but I did see one with relatively small hemorrhages who died of asphyxia, and in this case the entire lung was involved with miliary tubercles.

Dr. Egbert Le Fevre, New York: The term asphyxia is not sufficient for classification as to the direct cause of death.

Dr. H. J. Elliott, Toronto: Pneumothorax is very frequently overlooked by the general practitioner. During the past year I have seen three cases in consultation and in none was the correct diagnosis made by the physician. In these cases asphyxia would probably be given as the cause of death.

Dr. John M. Swan, Watkins: I had one patient who died of asphyxia in pulmonary tuberculosis. The fatal termination began as an extensive plastic pleurisy.

The Class Method in the Treatment of Pulmonary Tuberculosis

Dr. Joseph H. Pratt, Boston: A tuberculosis class was started in the Massachusetts General Hospital in 1905. The homes were visited by nurses and once a week I saw all the patients under my care. Facilities for outdoor life are afforded. I have found it easy to control patients and to keep them in bed, if necessary. Absolute rest in bed is very important; I have found that when patients are given liberty to exercise, recovery is often retarded. During six years we have had 117 selected patients, sixty-four of whom have recovered. There were but three relapses. Two deaths occurred among the discharged patients, both in women who had become pregnant. The disease returned and ran a rapid course. Twenty-five patients admitted in the first stage of the disease recovered. Among those in the advanced stage of the disease, ten cases were arrested and eighteen patients died. It is hard to maintain supervision over these patients. I believe that the home treatment of these patients has advantages over the sanatorium treatment; if the patients get well at home they are more apt to remain well. The patients take a cold bath in the morning and drink from 1 to 2 quarts of milk daily.

DISCUSSION

Dr. H. R. M. Landis, Philadelphia: Dr. Pratt's work has interested me very much. A great deal depends on the woman in charge of the work; it is a mistake to place a woman in charge who has not been trained for this kind of work. Large classes cannot be handled well.

Dr. Charles L. Minor, Asheville: The most important feature of the class method is the broadening of the relation between the doctor and his patient. This is really the keynote of the success. The doctor should try to come into personal contact with the soul of his patient. It is not the body of the patient alone that is being treated, but the mind as well, and it is difficult to find a man who has the time to place his personality and energy into it.

The Economic Value of the Sanatorium Treatment of Pulmonary Tuberculosis

Dr. David Russell Lyman, Wallingford: The Gaylord Farm Sanatorium was opened September, 1904, and on May 11, 1911, they had 676 discharged patients who had been away from the institution for six months or longer. Thirty-four were school children and had no earning capacity. This left 633 cases on which my study is based. The results of treatment are in direct ratio with the stage of the disease at which the diagnosis is made. The incipient cases show an average total earning of $1,020.60, the moderately advanced of $842.22, while the far advanced earned an average of $192.10. The incipient cases showed a working capacity of 70 per cent. of their total time since discharge: the moderately advanced 59 per cent., and the far advanced only 23 per cent. The average weekly wages varied but little for the three classes. In another table dealing with 262 cases discharged as "arrested," 253 "improved," and 118 "progressive," the arrested show an average total earnings of $1,039.48; the improved $719.53; the progressive only $72.55. The percentage of "weeks of work" to "weeks of life" is 67 per cent. for the arrested, 47 per cent. for the improved, and 14 per cent. for the progressive. The total expenditure was $236,744.51, whereas the amount already earned by discharged patients was $464,406.00, a return of about 200 per cent. within six years from the commencement of the work.

The Relation of Tuberculosis to Chorea, Hyperthyroidism and Pharyngeal Hyperplasia

Dr. Charles Miner, Wilkes-Barre: At the State Tuberculosis Dispensary at Wilkes-Barre we have examined many children of tuberculous parents, and among them found conditions present which seem in some way related to the tuberculous infection. We found a large number with chorea, or with a history of having had choreic symptoms; again, among the older members of the families, we found a number with the signs and symptoms of hyperthyroidism; finally, we found a very large number with pharyngeal hyperplasia. The question naturally arises, what relation, if any, does the tuberculous infection bear to these conditions? The invasion of the tubercle bacillus is often a slow process, and the significance of tuberculosis in childhood is not limited to the disease itself, but, by lowering the tone and resistance of the child, it leads to the development of abnormal conditions and other infections. We cannot prove that chorea, hyperthyroidism and pharyngeal hyperplasia found in tuberculous children and young adults are caused by the tuberculous infection, but the knowledge of their frequent association may lead, through further investigation, to the discovery of some definite relation of tuberculosis to these conditions.

Studies of the Leukocytes in Pulmonary Tuberculosis

Dr. James A. Miller and Margaret A. Reed, New York: The study of the leukocytes gives reliable information in the prognosis and clinical course of pulmonary tuberculosis. In the diagnosis of incipient cases, it is of no assistance; but in the differential diagnosis of acute pulmonary lesions due to the tubercle bacilli or to some other infection, it is sometimes helpful. Arneth's differential neutrophil count is important in tuberculosis. In pneumonia, while the shift of the blood-picture occurs regularly, it has no constant relationship to the course of the disease.

In general, the following changes in the leukocytes occurred in cases of pulmonary tuberculosis which were progressively doing badly, or which were in an exacerbation of the disease: (a) a leukocytosis; (b) an increased percentage of neutrophils; (c) a diminished percentage of small lymphocytes; (d) a diminished percentage of eosinophils; (e) a marked shifting to the left of Arneth's blood-picture; conversely, changes in the opposite direction were favorable. In pneumonia our observations have made no material contribution to the knowledge of the behavior of the leukocytes.

Atypical Pneumonia

Dr. Jay Perkins, Providence, R. I.: Under this heading I include those cases of pneumonia the specific organism of which is not known. These pneumonias are seen in the aged, in alcoholics, as post-operative pneumonias, associated with typhoid, heart disease, nephritis, in the tuberculous, or in any condition in which the natural resistance of the body has been lessened, although it may occur in strong individuals as well as in the weakened ones. In atypical pneumonia, as compared with pneumococcus pneumonia, the fever lasts much longer, the termination is by lysis, or abscess formation, or chronic pneumonia, or other secondary pathologic conditions of the lungs, and there are complications not met with in pure pneumococcus pneumonia. In its onset a chill is not unusual, there is more likely to be a prodromal stage, the temperature is not so regular, usually not so high, herpes labialis is absent, the spleen is frequently enlarged, and the disease is more likely to be of epidemic form. No regular course of atypical pneumonia can be given because, as the name "atypical" indicates, there is no regular course. In time, however, I believe that improved methods of diagnosis may remove many of these cases from the category of atypical pneumonia.

Physical Exercise and Blood-Pressure

Dr. Edward O. Otis, Boston: My attention was first called to this subject while making a physical examination of members of a large men's gymnasium. The men were young or middle-aged and the majority of them were engaged in indoor sedentary occupations. It occurred to me that perhaps, by means of the systolic blood-pressure, taken at three periods, namely, just before, immediately after and then a little later, after a short rest or after the usual bath, I could thereby obtain some definite idea of the effect of the exercise in each individual case and thus have some practical guide as to the amount and severity of the work best suited to each person. I accordingly took the maximum blood-pressure at the three periods mentioned of fifty-nine men, six boys and thirty-two young women. In addition I took the blood-pressure of the first two periods, just before and immediately after exercise, of twenty-nine men making altogether rather over 350 separate measurements. After prolonged and severe exertion there is a diminution of blood-pressure from the normal at the conclusion of the effort. After a short period of mild or moderately severe exercise, as in class work, the blood-pressure taken immediately at the conclusion of the exercise shows, in the majority of the cases, a rise, followed quickly by a fall to or near the normal or to subnormal. In my 126 cases of moderate general exercise, ninety-seven, or 77 per cent., show a rise of blood-pressure immediately after the exercise. In nine, or 8.1 per cent., there is no difference between the first and second measurement; and in twenty cases, or 16 per cent., there is a fall in the second measurement. Physical exercise in the majority of cases, of whatever nature it may be, excessive, long and continued, or more gentle and moderate, causes a rise in the systolic blood-pressure, the maximum occurring sometime during the effort. As fatigue sets in and advances, the pressure falls to normal or subnormal. If immediately after exercise the blood-pressure is subnormal and remains so for some time, as in the case of the Marathon runners, and foot-ball players, then for that individual, or for his condition at the time of taking the exercise, I should consider it too strenuous or too prolonged.

AMERICAN SURGICAL ASSOCIATION

Annual Meeting, held at Denver, June 19-21, 1911

(Continued from page 416)

The President, Dr. Richard H. Harte, in the Chair

The officers elected were named in The Journal, July 22, p. 302.

Suppuration in One-Half of a Horseshoe Kidney

Dr. James E. Thompson, Galveston, Texas: The case occurred in a female, aged 15, in whom symptoms of pyonephrosis were definite. Operation revealed the left side of a horseshoe kidney dilated and pyonephrotic. The isthmus was well marked. The right side was normal. Good recovery followed the removal of the affected half.

DISCUSSION

Dr. William J. Mayo, Rochester, Minn.: In a number of cases of horseshoe kidney observed by us, the symptoms were caused by anomalous blood-vessels. In the last year we have met with three cases of horseshoe kidney in which one-half was giving rise to trouble, but in only one case was the trouble sufficient to necessitate operation. The diagnosis, in other words, does not necessarily mean that the case is an operable one. I have in mind one case somewhat similar to that reported by Dr. Thompson. The patient, a girl of 16, had severe symptoms; had undergone various operations; she had few urinary symptoms, although there was a certain amount of pus in the urine. We found the ureter drawn tight and plainly visible, but the posterior ureter leading to the other half of the kidney was buried so completely that it was difficult to find the division between the two parts. This fact made the operation much more difficult that it would otherwise have been.

Dr. George E. Brewer, New York City: A patient came into my service in a state of more or less chronic sepsis and with a discharging fistula, resulting from a pervious abscess in the lumbar region. He gave evidences of an infected kidney. The ureteral catheter was attempted and the cystoscope, but the presence of a very grave cystitis and a contracted bladder prevented any satisfactory employment of these measures. We operated and found a chronically infected kidney. The upper part of the kidney was distinctly destroyed, the lower part infected, but as we passed down toward the transverse portion it looked healthy. It took a good deal of time to dissect away the perirenal exudate to see that we had another ureter. Fortunately, the man made a very prompt recovery.

Dr. Kenneth A. J. MacKenzie, Portland, Ore.: A young woman complained of pelvic discomfort. I attempted an examination and found what I thought to be a tumor, very dense and unyielding. Operation was performed, no ureters were found, there was no vagina, and this tumor could be felt below the sacro-iliac synchondrosis in the pelvis. Above I found an ovary floating in the abdomen, and pulling it down, found it led to a Fallopian tube and a segment of the uterus. The tumor proved to be a tremendous ectopic horseshoe kidney. Huge vessels connected with it, and nothing could be done; there were some adhesions and I could not see where the vessels came from.

Dr. M. L. Harris, Chicago: I wish to emphasize the necessity of conservatism in operating on horseshoe kidneys by calling attention to a case in my practice. Some six years ago I had a patient, a young woman, 30 years of age, who was operated on for a movable kidney; this proved to be a mistaken diagnosis, a horseshoe kidney being found. There were two ureters coming from the pelvis, and the pelvis was on the concave side of the kidney, and therefore dragged upward. The ureters were distinctly compressed, as they passed over the anterior surface of the kidney, and to this I attributed the existing dilatation of the pelvis. I attempted to free the ureters as they came from the kidney, and in order to do away with the sharp kinking or compression of the ureter I took the perirenal fat and tucked it under the ureters to give them a large curve, and while doing this succeeded in tearing one of the renal veins; this I closed by suture. I then closed the wound. The patient made a very good recovery and the attacks of pain ceased. About a year later she returned with distinct enlargement in the left side of the abdomen. Pus in the urine and tubercle bacilli were easily found. In view of the horseshoe kidney, the question of what to do was a serious problem. I cut down on the left side, found a distinct pyonephrosis of tuberculous origin, and removed the left half of the horseshoe kidney. The patient made a good recovery and is now in perfect health. If anythingk radical had been done at the first operation on the right side of the horseshoe kidney there would have been no hope for the patient when the tuberculosis developed in the other side.

Treatment of Fistula-in-Ano Without Mutilation of the Sphincters

Dr. Kenneth A. J. MacKenzie, Portland, Ore.: The method of treatment employed by me is the systematic extirpation in properly selected complex cases of the entire fistulous zone under the eye. For this purpose a trap-door flap is made on the side involved, beginning with a short crescentic incision through the skin and connective tissue just beyond the border of the external sphincter; division of the fistula flush at the point of escape from the rectal wall; the flap reflected and formed so as to include the fistula and all its branches; careful closure of the rectal gap within and without by suture; extirpation with knife and scissors under the eye from the flap of the entire fistulous tract, beginning at its main end, with resection, if necessary, of parts hopelessly riddled with sinuses; proper closure of flap. The fistula is now free and excluded from the bowel.

DISCUSSION

Dr. Thomas W. Huntington, San Francisco: I would like to warn against using the probe without first carefully dilating the sphincter. The finger is inserted into the rectum and the probe passed without previous dilatation of the sphincter; the probe approaches the finger-tip, but is separated from it by a very thin, almost tissue-paper-like covering of mucous membrane. Right here is where very serious blunders are often made, by the pushing of the end of the probe into the rectum by a new channel instead of discovering the original point of departure. Far better results will be obtained in cases in which the precaution is taken of first dilating the sphincter, as I have found in a large number of cases.

Dr. Charles H. Mayo, Rochester, Minn.: The injection of collargol into these fistulous sinuses is of great advantage in locating the inner tract into the bowel. In deep fistulous tracts running past the internal sphincter, undoubtedly many of them connect with low diverticuli; very recently I have seen two such cases, and I believe them to be much more frequent than is thought.

Arteriovenous Anastomosis for Gangrene of the Leg

Drs. Albert E. Halstead and Roger T. Vaughan, Chicago: There is but one indication for the application of arteriovenous anastomosis in surgery; that is in traumatic destruction of a principal artery, where end-to-end union of the vessel is impossible. In such a case arteriovenous anastomosis might be attempted, and through it we might maintain a sufficient blood-supply to preserve the integrity until an adequate collateral circulation is established.

DISCUSSION

Dr. Howard Lilienthal, New York City: There are certain cases of diabetic gangrene in which the arteries are not diseased where arteriovenous anastomosis will be found practicable. Where both arteries and veins are diseased it naturally does no good to anastomose one diseased vessel with another.

Dr. Fred B. Lund, Boston: I have had some experience with arteriovenous anastomosis and have never found it of value. I agree with Dr. Halstead that it has a very limited field of usefulness.

Dr. John B. Murphy, Chicago: I would call attention to the anastomoses that have been formed by bullet wounds and stab wounds again and again; I recall one case of anastomosis of the jugular vein with the carotid artery caused by a bullet. I closed the opening with suture and a perfect result followed.

Pyloroptosis; Gastric Atony as the Original Cause of Neurasthenia, and Its Cure

Drs. Archibald MacLaren and Louis E. Daugherty, St. Paul, Minn.: A series of skiagrams of the stomach were taken while the patients were standing to determine its size, position and motility. One picture showed the stomach hanging vertically down in the abdomen, hung from the esophageal opening, slightly curved to the right at the bottom, like a big letter J. We found that many stomachs were markedly prolapsed, but that their owners had a perfect digestion. A picture of a neurasthenic woman showed the stomach in the same position, but flaccid, baggy and flattened at the pylorus, showing marked lack of tone. This lack of tone is closely related to acute dilatation of the stomach, which in its worst form is so often fatal. Its subacute form is often unrecognized, and passes on into the chronic type, which we see in these atonic stomachs. Most of the patients had their appendix removed, but still had right-sided pain and tenderness. Many had discovered that the discomfort which came about one hour after eating could be relieved by lying down. This is a valuable point in differential diagnosis. When in the upright position the stomach, after preparing food, must lift it over the duodenal hill 5 inches; muscular power must be normal or the patient will be uncomfortable and commence to lose weight. We have seen the earliest signs of neurasthenia in atony of the stomach in young children. If an operation has to be done for physical or mechanical conditions, the patients should be kept in bed much longer than other patients and started on forced fat feeding. We conclude that the position of the stomach is not important; the pylorus is practically a pelvic organ; the principal function of the stomach is mechanical; the beginning or first symptom of the so-called neurasthenia is due to gastric atony; postural drainage and fat feeding, temporarily at least, cures these patients; operations on the stomach to change its position and help its drainage have still to be proved advisable, because no operation will take away the muscular atony, but will rather aggravate it.

Mr. Harold J. Stiles, Edinburgh, Scotland: I have always been able to obtain quite satisfactory results in these cases by doing a gastro-enterostomy with a good big opening, closing off the duodenum. By allowing the food to escape from the stomach more readily you will so improve the primary digestion and the nutrition of the patient that the neurasthenia will gradually disappear. My experience has been that there is a distinct tendency to improvement in constipation by doing a gastro-enterostomy and closing the duodenum.

Ulcer of the Stomach and Duodenum, with Special Reference to the End-Results

Dr. William J. Mayo, Rochester, Minn.: Of 1,000 cases in our series, 428 were classified as gastric and 572 as duodenal ulcer. Of 379 cases of gastric and duodenal ulcers operated on previous to June 1, 1906, 227 (59 per cent.) were classified as gastric and 152 (41 per cent.) as duodenal. Of 621 cases of gastric and duodenal ulcers operated on from June 1, 1906, to Jan. 17, 1911, 201 (32.5 per cent.) were gastric, 401 (64.5 per cent.) duodenal, and 19 (3 per cent.) had an ulcer of each viscus. That at least two out of three cases of ulcer will be found to have their origin in the duodenum rather than in the stomach is a conservative estimate. Of the 1,000 cases, 255 were women and 745 (practically three out of four) were men. The operative mortality in this series was 2.4 per cent. Three hundred and seventy-nine of these patients were operated on previous to June 1, 1906, before the operative technic had been well worked out, and the imperfections in methods were responsibl [illegible] failures to cure and an increased mortality. In studying the histories of the gastric ulcers we found that practically all situated close to the pylorus and accompanied by obstruction, were relieved by gastrojejunostomy, whether or not the ulcer was excised. However, whenever it was possible to do so, we excised the ulcer because of the liability to cancer degeneration. In a few cases very extensive ulceration of the body of the stomach precluded the employment o[illegible] operation on the stomach, and jejunostomy, with com[illegible]t of the organ for some weeks, has been necessary. [illegible] results were good. It is very evident that operations fo[illegible]denal ulcers present a higher average of cures than ope[illegible]ns for gastric ulcers. Gastrojejunostomy, with or withou[illegible]nfolding the ulcer, not only affords a great relief to the patient with duodenal ulcer, but a permanent cure in a remarkably high percentage of cases.

(*To be continued*)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held June 14, 1911

The President, Dr. C. B. Longenecker, in the Chair

The Blank Cartridge and Other Amusement Explosives in the Etiology of Tetanus

Dr. Samuel Wolfe: That the tetanus germ may be present on the skin, on the site of the wound, and that it may gain entrance at a later stage, are admissions we are justified in making. Whether it is ever carried in the missile itself is more difficult to determine, and while I believe its possibility is not remote, the great probability is that it is derived from elsewhere. While in the manufacture of gunpowder the ingredients may become contaminated, the chances are not greater than of contamination after the powder has left the manufacturers' hands. The wad used in the blank cartridge is not above suspicion of contamination, particularly if clay is used in its composition. Contused and lacerated wounds are favorable to the infection. In these we have a very large number of peripheral nerve endings exposed to irritation and to the tetanus toxin. The strict supervision of vaccine and surgical material makes the introduction of the germ in operations and vaccinations of little more than historical interest. The Fourth-of-July group represents the one class that may confidently be looked for so long as the present methods of celebration prevail. A study of the statistics indicates that the infection gains entrance to the wound at or very soon after the injury.

Treatment of Tetanus

Dr. J. Norman Henry: There is great difficulty in estimating the value of any treatment in this disease, because of the changing picture it frequently presents. I have treated four patients with intraspinal injections of magnesium sulphate with recovery in one case. I have noted a very much intensified and alarming action of the salt in successive doses, even when intervals of 36 or 48 hours occur between injections. Phenol (carbolic acid) in my hands has not been very successful though there is much evidence of its efficacy and it should always be used when antitetanic serum cannot be obtained, and may with propriety be used in conjunction with it. Amputation of fingers and toes is advised when the point of infection is there present. Otherwise, excision of the offending wound and cleansing with strong phenol solution is demanded. Prophylactic treatment is recommended but must not stop short at mere cleansing of the wound and antiseptic dressing. At least 1,500 units of antitetanic serum should be injected, if the wound be a suspicious one. The intracranial and intraspinal methods of injection of antitetanic serum do not appear to present particular advantages over the subcutaneous route. Large doses of antitetanic serum should be used as a routine measure as early in the case as possible. The use of the serum does not interdict other measures of treatment such as the administration of bromids and chloral, phenol and magnesium sulphate.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

New York State Journal of Medicine

July

1 *Blood Transfusion. Direct Method. T. L. Deavor, Syracuse, N. Y.
2 Deductions from Clinical Experience in the Use of a Polyvalent Bacterial Vaccine. J. M. VanCott, Brooklyn, N. Y.
3 Latest Statistics on Cancer in the United States and in New York. W. B. C[illegible]ooklyn, N. Y.
4 *Malignant Tun[illegible] Kidney. H. Adsit, Buffalo, N. Y.
5 Cerebral Compr[illegible] E. R. McGuire, Buffalo, N. Y.
6 The Nervous Wo[illegible] E. B. Angell, Rochester, N. Y.
7 The Reporting o[illegible]rrhea as a Method of Preventing Gonorrheal Ophtha[illegible] L. Howe, Buffalo, N. Y.
8 A Case of Epidu[illegible]emorrhage Complicating Epilepsy with Rupture of P[illegible]ior Branch of the Middle Meningeal Artery. Recover[illegible] W. C. Cramp, New York.
9 Arteriosclerosis as [illegible] Factor in Mental Diseases. T. J. Currie, Willard, N. Y.
10 Exclusion of Ulcerated Areas in the Pyloric Region. R. S. Fowler, Brooklyn, N. Y.
11 The Wassermann Reaction and the Physician. W. J. Heimann, New York.
12 Anchoring the Caput Coli. R. S. Fowler, Brooklyn, N. Y.
13 Burns. C. Haase, Elmira, N. Y.

1. **Blood Transfusion.**—The direct method, which has been used in experimental work by Deavor, has given him most gratifying results. The donor and donee are placed in position side by side, the radial artery and basilic or other vein, respectively, being selected. The parts are cleansed and anesthetized with a 1 to 2 per cent. solution of cocain. Infants require only saline infiltration. Morphin is rarely necessary. The artery and the vein are then laid bare for 2 or 3 inches, cleared of all connective tissue, and their nearby branches and tributaries carefully ligated. Nerve filaments are to be avoided as far as possible. The vessels are then covered with hot saline sponges. No vaselin is needed. It is a foreign element of doubtful utility. The wrist of the giver is now brought so close to the arm of the receiver that the artery, when divided, will more than reach the vein. Small mouse-toothed forceps are applied to the vessels, two to the vein and one to the artery, in such a manner as respectively to serve as tractors in opening and closing the vein, and as a carrier to steady and transmit the artery. The incision in the vein should be longitudinal, preferably, and just large enough to easily receive the artery and admit of ready closure of the vein about it. The matter of closing the vein about the artery is easily done by a simple twist of the forceps, an embellishment which will occur to the operator at the proper time. The forceps should grip only the outer coat of the vessel. Not much assistance is called for. Up to this point very little time has been consumed, as the work of isolating the vessels is quickly done. One thing is absolutely important: the adventitia must be so thoroughly cleared away as to reduce the artery to a wire-like structure. This does not in any way alter its function. Everything is now ready. The clamps are applied, the artery severed, the vein opened, and while both vessels are bleeding freely, the artery is quickly carried into the vein for a half to three-quarters of an inch, and the vein closed around it. No special forceps are needed, but Deavor has found the short mouse-toothed clamp with lock to work splendidly. When a sufficient amount of blood has been transfused, the vessels are ligated and the wound closed. In every instance the artery will be found pulsating when it is withdrawn from the vein. This, with venous pulsation, are satisfactory proof that blood has entered the circulation of the patient. No vessels are clamped or adjusted to various cannulæ, or applied to intervening tubes or carried about with traction threads. In short, they are not disturbed in function until the moment of making anastomosis.

4. Abstracted in THE JOURNAL, May 20, 1911, p. 1506.

Quarterly Bulletin of Northwestern University Medical School, Chicago

June

14 Old Fractures of the Patella with Retraction. A. B. Eustace, Chicago.
15 Submucous Resection of the Nasal Septum. O. H. Maclay, Chicago.
16 Mixed Hypercytosis. J. F Hultgen, Chicago.
17 A System of Study in Pathology. H. Jackson, Chicago.
18 Pellagra. W. H. Buhlig, Chicago.

Southern Medical Journal, Nashville

July

19 The American Society of Tropical Medicine. W. S. Thayer, Baltimore.
20 *Certain Septicemias Resembling Yellow Fever. J. W. Amesse, Boulder, Colo.
21 A Probable Case of Sprue. S. K. Simon, New Orleans.
22 Prophylaxis of Malarial Infection. C. F. Craig, Washington, D. C.
23 *Is Pellagra a Disease Primarily of the Alimentary Tract? J. C. Johnson, Atlanta, Ga.
24 Etiology and Treatment of Pellagra. G. J. Winthrop and H. P. Cole, Mobile, Ala.
25 Chinese Medicine. A. S. Taylor, Yangchow, China.
26 Present Status of Uncinariasis in Alabama. W. W. Dinsmore, Montgomery, Ala.
27 Municipal Sanitation, Especially of Seaports. R. H. Von Ezdorf, Mobile, Ala.
28 Tropical Diseases and Health in the United States. J. M. Swan, Watkins, N. Y.
29 *Is the So-Called "Cotton Mill Anemia" of the Gulf-Atlantic States Due to Lint or to Uncinariasis? C. W. Stiles, U. S. P. H. and M.-H. Service.

20. **Septicemia Resembling Yellow Fever.**—Among the affections which Amesse says must be considered and eliminated before the diagnosis of yellow fever is justified, none are more baffling than the group of diseases included in the general term infectious jaundice or icterus gravis. Unquestionably, septicemic and usually hemorrhagic in character, of sudden onset and hidden origin, they resemble so closely the picture of the more severe invasions of yellow fever that one with difficulty maintains an unbiased attitude in their consideration. From this group Weil's disease is omitted, there being no question in Amesse's mind that in these latter cases we have to deal with an intoxication or an acute febrile icterus, rather than a specific infection. Of decidedly differing character, however, are the serious disorders involving the liver and gastro-intestinal tract, running a short, sharp course, and furnishing a death-rate varying from 25 to 60 per cent. Cases of this type have usually been reported from tropical and subtropical localities, the clinical features being practically identical, whether observed in the Eastern or Western hemispheres, and justifying the conclusion that identical etiologic factors are concerned.

23. Abstracted in THE JOURNAL, June 10, 1911, p. 1753.

29. **Cotton-Mill Anemia.**—The truth of this matter, according to Stiles, is that the widespread and severe southern "cotton-mill anemia" has nothing to do with working in the cotton mills, but is directly traceable to other factors, namely, it is uncinariasis, contracted in the majority of cases on the farms; it is due largely to the present insanitary conditions existing in the rural districts, and is brought to the mills by the people who come from the farms. Further, while some of the infection does actually spread in the mill villages, the amount of such village infection is far below the amount of infection obtained on the farm before the people came to the mills; further, also, the sanitary conditions in nearly all the mill settlements (poor though they be) are so vastly superior to the average conditions on the farms from which these people came, that, as a rule, the mill workers as a class (there are exceptions) do, and necessarily must, improve in health the longer they live in the mill villages. Stiles says that in order to understand the conditions in the southern cotton mills, it is necessary to keep constantly in mind the fundamental fact that the labor in these mills is recruited chiefly from the white people living on the soil-polluted farms or working as tenants or hired hands on some of the soil-polluted plantations.

Journal of Missouri State Medical Association, St. Louis

July

30 Tuberculosis. H. E. Pearse, Kansas City.
31 Cancer Investigation. L. Loeb, St. Louis.
32 The Significance of Abdominal Pain and the Maladministration of Opium. F. G. Nifong, Columbia.

California State Journal of Medicine, San Francisco

July

33 The Experimental Basis of Vaccine Therapy. F. P. Gay, Berkeley.
34 *A Clinical View of Vaccine Therapy. H. C. Moffitt, San Francisco.
35 *Surgical Significance of Papillo-Edema. L. W. Mansur, Los Angeles.
36 Diagnosis of Certain Intracranial Lesions. T. J. Orbison, Los Angeles.
37 Indications, Technic and Results in Decompressive Operations on the Brain. W. I. Terry, San Francisco.

38 Surgical Treatment of Sub-Tentorial Cysts and Tumors. A. S. Lobingier, Los Angeles.
39 *Functional Insufficiencies of the Myocardium. H. D. Power, San Francisco.
40 *Treatment of Hemoptysis in Tuberculosis. M. Rothschild, San Francisco.
41 *Hypodermic Use of Hexamethylenamin. F. F. Gundrum, Sacramento.
42 *A Remarkable Case of Chicken-Pox. E. Gray, Eldridge.

34. **Vaccine Therapy.**—In Moffitt's opinion the vaccines offer a very decided addition to our resources in the treatment of infections and their complications. There is a great need of more careful preparation of autogenous vaccines and of proper clinical supervision of dosage and frequency of administration. The indiscriminate use of stock preparations without proper determination of the nature of the infection is strongly condemned. Moffitt points out that one great danger of the multiplication of easily administered remedies supplied by drug houses lies in the neglect of careful diagnosis. Treatment with vaccines must supplement and not supplant well-recognized surgical procedures. In light of our present knowledge no one has a right to delay operation on an acute mastoid of pneumococcus origin with the hope that vaccines may cure the infection. The infected gall-bladder with cholelithiasis must be operated on, the appendix abscess opened, the empyema drained before much help can be expected from vaccines.

35. **Papillo-Edema.**—Mansur regards papillo-edema as one of the most common symptoms in increased intracranial tension, and unless this pressure is relieved before destructive changes occur the patient will become blind; hence the importance of an early recognition of this condition and an early operation for its relief. He emphasizes the significance of dyscromatopsia and the importance of a most careful examination in all the cases which we are inclined to call hysterical.

39. **Functional Insufficiencies of the Myocardium.**—It is pointed out by Power that there are a group of cases in which, without organic change, the heart is unable to functionate normally. While the symptoms may be the same, the underlying pathogenesis may be widely different and is susceptible to analysis into the classes enumerated in this paper. No correct prognosis can be made or rational treatment instituted until these pathogenic factors have been recognized and assigned their proper value. The need for correct treatment is imperative, for if the insufficiency is merely palliated and its causes are removed, perverted function will ultimately lead to organic changes.

40. **Hemoptysis in Tuberculosis.**—Rothschild recommends the treatment of hemoptysis in tuberculosis by the production of an artificial pneumothorax.

41. **Hexamethylenamin.**—The very slight irritation following the hypodermic use of hexamethylenamin has encouraged Gundrum to use it subcutaneously or intramuscularly whenever it is desirable to produce, if not an actively germicidal, an at least inhospitable medium for bacterial growth in any serous cavity, or the bile or urinary passages within a short space of time. He has found this to be particularly valuable if the patient is nauseated, comatose, or about to be operated on when the postanesthetic vomiting too frequently empties the stomach of any drug and often prevents medication by mouth for several hours. He says that the frequent, early and generous exhibition of hexamethylenamin, particularly in cerebrospinal cases is of exceeding value in the prevention of meningeal infection. It is not able to affect to any great extent a case of meningitis once established. It has seemed good practice at times when an early exhibition of hexamethylenamin is indicated, as a prophylactic measure, for example, in instances in which catheterization or other genito-urinary manipulation is necessary, and especially where meningeal, or possibly also joint infection is feared, to use the drug hypodermically until such time as the administration by mouth can be taken up.

42. **A Remarkable Case of Chicken-Pox.**—The case narrated by Gray was remarkable for the number and the character of the complications and for the way in which it ended. In one individual were united epilepsy, chorea, hypertropic astigmatism, fibroid phthisis, pleurisy (with just beginning effusion), chronic endocarditis, with vegetations and a beginning acute stage, varicella and acute granular meningitis, the latter being the cause of death.

Illinois Medical Journal Springfield

July

43 Vaccine Therapy. A. F. Stotts, Galesburg.
44 Uncinariasis. M. I. Kaplan, Port of Cairo.
45 Behavior, Symptoms and Diagnosis of Ovarian Tumors in Non-Pregnant and Pregnant. A. B. Keyes, Chicago.
46 Perforating Ulcer of the Stomach. H. F. Lewis, Chicago.
47 Relation of the Internal Carotids and Optic Commissure to the Hypophysis. O. H. Maclay, Chicago.
48 Limitations of Ophthalmic Practice Imposed by Constitutional Conditions. O. Tydings, Chicago.
49 Cholera Infantum. E. Wahl, Edwardsville.

Ohio State Medical Journal, Columbus

July

50 Behind the Office Doors. J. C. DaCosta, Philadelphia.
51 Intra-Ocular Irrigation After Cataract Extraction. C. Lukens, Toledo.
52 The Smith Operation for Cataract Based on Two Hundred and Seven Cases Operated On in the Clinic of Lieut.-Col. Henry Smith, Amritsar, India. A. Timberman, Columbus.
53 *Removal of Foreign Bodies from the Esophagus and Bronchus. C. F. Bowen, Columbus.
54 Etiology, Diagnosis and Treatment of Retrodeviations of the Uterus. C. W. Moots, Toledo.

53. **Removal of Foreign Bodies from Esophagus and Bronchus.**—In all cases in which a foreign body is either swallowed or inspired, Bowen says a radiograph should be made by a competent person before any attempt is made at its removal. This is especially important in cases of sharp bodies. If the foreign body is dense enough to be revealed on a plate, the diagnosis by this means is easy, but even in those cases in which a vegetable foreign substance is not opaque to the Roentgen-ray, a great deal of information can still be obtained. A grain of corn, for instance, lodged in the bronchus will not cast a shadow on a photographic plate, but its presence can usually be determined by the slight changes in the lung itself, caused by a localized pneumonia, or by a blocking up of certain air cells. The same is true of vegetable foreign bodies in the esophagus, for while the body itself cannot be seen, information especially as to its location can be obtained by giving the patient bismuth, either in the form of a capsule or in gruel, and watching the passage of the preparation down the esophagus with the fluoroscope. If a foreign body is present, the bismuth will be stopped or at least hesitate at the obstruction. The method to be employed in the removal of foreign bodies after their nature, size and position has been determined, must be carefully considered, and Bowen believes that the outcome of the case depends more on the proper selection of the method to be used, than on the actual instruments used or on the operator selected. He has had thirteen cases, in all of which the foreign body was removed without difficulty, and most of the cases required not more than two or three minutes for the actual removal of the foreign body. The one method which Bowen has used more than any other and the one which appeals to him most, is the removal of the foreign bodies with an ordinary pair of forceps, passed into the esophagus or into the bronchus through a tracheotomy wound, while the parts are being examined with a fluoroscopic screen. Bowen has removed tin whistles, coins, open safety-pins, tacks, needles, pins, etc., successfully.

Lancet-Clinic, Cincinnati

July 15

55 Extra-Uterine Pregnancy. W. R. Griess, Cincinnati.
56 Eclampsia Ten Days After Delivery. H. Buschman, Cincinnati.
57 Medical Advertiser. L. A. Clary, Elbing, Kan.

Journal of the Iowa State Medical Society, Clinton

July

58 *A New Principle Underlying the Interpretation of Clinical Phenomena of the Abdominal Viscera, with Special Reference to Emotional and Painful Indigestion. G. W. Crile, Cleveland.
59 Limitations of the Obstetric Forceps. W. L. Allen, Davenport.

58. **Emotional and Painful Indigestion.**—It is Crile's purpose to endeavor to explain the influence the emotions exert on the digestive tract and the explanation of the origin of painful indigestion. Fear, he believes, can be elicited only in animals that utilize a motor mechanism in defense against danger or escape from it. The emotion of fear is felt in

only those animals whose self-preservation is dependent on an uncertain adequacy of their power of muscular exertion either in defense or in flight. The function of the brain is wholly suspended except that which relates to the self-protective response to the object feared. Neither the brain nor any other organ can respond to any other lesser stimulus during the dominance of fear. Fear is a phylogenetic fight or flight. The present status of civilized man is now operated with the primary equipment of brutish organs. When he fears a business catastrophe it is in terms of his ancestral physical battle in his struggle for existence. He cannot fear intellectually, dispassionately. He fears with all his organs, and the same organs are stimulated and the same organs are inhibited as if instead of its being a battle of credit, of majority votes, it were a physical battle with teeth and claws. Whether the cause of fear is moral, financial, social or stage fright, the heart beats wildly, the respirations are accelerated, perspiration is increased, there is pallor, trembling, indigestion, dry mouth, etc. The phenomena are those of physical exertion in self defense. Any of the strong emotions, as fear, anger and sexual love, says Crile, drives the organs of the body into two classes, first, those organs that are useful in increasing the physical power of the body; all pulse organs are stimulated; second, those organs that can contribute nothing to the physical prowess; these organs are inhibited. This gives us at once a key to all the digestive and metabolic disturbances due to such emotions as fear, anger, sexual love, worry, grief, etc. Crile and Sloan exposed the cerebral hemispheres of dogs by removal of the skull and dura under ether anesthesia and under local anesthesia. Then various portions of the hemispheres were slowly but completely destroyed by rubbing with a piece of gauze. In some instances the hemispheres were destroyed by burning. In no instance was there more than a slight response of the centers governing circulation and respiration, and there was no morphologic change noted in a histologic study of the brain cells of the uninjured hemisphere. Clinically Crile has confirmed the experimental findings in the course of explorations for brain tumor with a probe in conscious patients. Such explorations elicited neither pain nor evidence of altered physiologic functions. The brain, therefore, contains no mechanism, the direct stimulation of which could cause a discharge of nervous energy in a self-defensive action. That is to say, direct injury of the brain can cause no purposeful nerve muscular action. In like manner, the deeper portions of the spinal region have been sheltered from trauma, and they too show but little power of causing a discharge of nervous energy or receiving trauma. The various tissues and organs of the body are differently endowed with injury receptors, or the noci-ceptors of Sherrington.

The Medical Fortnightly, St. Louis

July 10

60 Pathology of the Vermiform Appendix. W. L. Crosthwait, Holland, Texas.
61 Practical Value of Lip-Reading. M. A. Goldstein, St. Louis.
62 In the Twilight. C. E. Warren, North Easton, Mass.

Boston Medical and Surgical Journal

July 13

63 Municipal Hospital Problems. C. A. Drew, Boston.
64 Practical Experience with My "Duodenal Tube." M. Gross, New York.
65 *Relation of Clean Streets to Tuberculosis. S. H. Stone, Boston.
66 *Treatment of Bone Tuberculosis at the Crawford Allen Hospital. R. Hammond, Providence, R. I.
67 A Case of Rectal Bilharzia. C. N. Meader, Boston.
68 Clinical Note on Pott's Disease. G. C. Moore, Boston.

65. **Clean Streets and Tuberculosis.**—It is emphasized by Stone that there are at least three conditions of street management for which those interested in the campaign against tuberculosis should strive. (1) The smooth-paving and regular cleaning of all streets, not by dry sweeping, but by flushing, or, if this is not possible, by sprinkling before sweeping. Exactly what can be done in winter, when flushing or sprinkling is not feasible, is a problem not yet fully worked out. (2) A minimum height of buildings and a maximum width of streets wherever possible, in order that those unequaled germ-destroyers, the sun's rays and fresh air, may have a chance to do their excellent work. (3) The immediate removal of all rubbish and garbage with the consequent lessening of danger from flies.

66. **Bone Tuberculosis.**—In addition to the outdoor life and the good food, Hammond emphasizes the sea-bathing as carried out systematically at the Crawford Allen Hospital as an important factor in the treatment of these cases. He regards it as a most valuable tonic, and as the children improve in health, apparatus can be dispensed with at an earlier date than was formerly supposed.

The Therapeutic Gazette, Detroit

July

69 Treatment of Spastic Paralysis. A. Lorenz, Vienna, Austria.
70 Blood-Pressure and Pulse-Rate in Pneumonia. E. H. Goodman and R. L. Pitman, Detroit.
71 Causes and Surgical Treatment of Trifacial Neuralgia. T. Blum, Philadelphia.
72 Typhoid Vaccines Prepared at Different Temperatures. W. S. Middleton, Philadelphia.

New York Medical Journal

July 15

73 Determination of the Cause of Death and Some Cases of Sudden Death. H. Oertel, New York.
74 *Health Department Control of Venereal Diseases. P. A. Morrow, New York.
75 Automatism in Insanity. T. H. Kellogg, New York.
76 *Salvarsan in Syphilis. C. F. Marshall, London, England.
77 A Warning Concerning the Use of Salvarsan. W. C. Slusher, Bluefield, W. Va., and E. B. Burchell, New York.
78 Relation of Uterine Fibromyoma to Thyroid Enlargement. J. R. Eastman and H. K. Bonn, Indianapolis.
79 A Bilharziosis Case in Panama. W. Baetz, Ancon, C. Z., Panama.
80 Medical Notes Taken in Frankfort-on-the-Main. D. W. Montgomery, San Francisco.

74. **Control of Venereal Diseases.**—The recognition of these diseases by the health authorities, as "detrimental to health and dangerous to life," the necessity of instituting sanitary measures to protect the public health, Morrow believes, will have an educative value. The board of health could do most effectual service in securing a census of venereal morbidity in this city by sending out circular letters to all physicians requesting a statement of the number of cases treated in private practice, the source of infection, and other data, but not giving the name or address of the patient. Morrow would require that every hospital and dispensary report all cases of venereal disease treated in these institutions. A record of the statistics thus obtained would furnish most valuable data for the education of public opinion as to the enormous morbidity caused by this class of diseases, and the necessity of preventive measures. The entering wedge in the obligatory notification of these diseases should be the enforcement of the sanitary law already enacted by the board of health, requiring a prompt report of every case of ophthalmia neonatorum. This rule has been enforced by the health authorities of Boston for quite a period, and is sustained by both professional and public sentiment.

76. **Salvarsan in Syphilis.**—Even if the administration of salvarsan was free from dangers and inconveniences, there appear to be in Marshall's opinion few indications for its employment in the treatment of syphilis, but the dangers and inconveniences seem to outweigh any possible benefit to be derived from it.

The Proctologist, St. Louis

June

81 The Enema in Gastro-Intestinal Diseases. C. J. Drueck, Chicago.
82 Salvarsan in Rectal Syphilis. J. L. Boehm, St. Louis.
83 Hemorrhoids. E. S. Bishop, Manchester, England.

West Virginia Medical Journal, Wheeling

July

84 Case of Brain Cyst. J. E. Burns, Wheeling.
85 History and Technic of Skin Grafting. L. P. Jones, Pennsboro.
86 Surgery of Inguinal Hernia. R. J. Reed, Wheeling.
87 Puerperal Infection. H. R. Fairfax, McComas.
88 Hydrotherapy and Massage. M. J. Steele, Charleston.
89 Freud's Ideas on Psychoneuroses. T. A. Williams, Washington, D. C.
90 *B. and O. R. R. Emergency Splint. W. P. Megrail, Wheeling.
91 Embryonal Cystic Mixed Tumor. J. E. Cannaday, Charleston.

90. **B. and O. Emergency Splint.**—The splint devised by Megrail can be packed in a shoe-box when not in use, so that it can be conveniently carried in the "first aid box" of the

army or city ambulance, railroad caboose or baggage car, or kept in the office of the mine or mill. The splint can be quickly applied to the patient without removing the clothing, by any person who has had a few minutes instruction, and thus place the injured member in a more comfortable and safe position, the parts being held rigid so that no further damage may be done during transportation. The splint is constructed of metallic bands, rods and small clamps. The bands are rolled out of sheet metal, with a slight taper, and are hinged into two parts so that they may be readily placed around the limb. A strip of adhesive plaster, bandage, or if nothing better is at hand a handkerchief, a piece of string or rope is used to bind them in place. It does not make any great difference whether the ends of the bands entirely meet, or overlap each other to some extent. On the outside of the bands near the margin are three sets of staples placed equidistant around the circumference, and into these are fitted rods of such lengths as will best suit the injured member. These rods can be readily bent to any angle when such a position is desired, and if the patient is very heavy double rods may be placed on each side to give sufficient stability. To apply the splint the bands of proper size are placed above and below the injury and as near the joints as possible. Three or more rods are placed in the staples of each band, then the band is clasped and fastened firmly in place, after which the limb is extended into as near a natural position as possible, and the rods of opposite bands are clamped together. In multiple injuries two or more sections may be joined to each other so that the entire limb may be encased within the splint. This splint has been found of great value in making extension in diseases of the joints, particularly those of the shoulder, elbow, hip and knee.

Northwest Medicine, Seattle

July

92 Some Considerations of Tubal Pregnancies. J. A. Pettit, Portland, Ore.
93 Extra-Uterine Pregnancy. E. C. Rich, Ogden, Utah.
94 Tuberculous Enteritis. Perforation of Tuberculous Ulcer. C. A. Smith, Seattle.
95 Tuberculosis of the Cervical Lymph Glands. W. S. Griswold, Seattle.
96 Arterio-Venous Transfusion by the Crile Method. C. N. Suttner, Walla Walla, Wash.
97 Protein Requirements of Man. C. J. Stedman, Portland, Ore.
98 Anaphylaxis. S. A. Owens, Seattle.
99 Case of Hydatid Cyst of the Liver. O. B. Wight, Portland, Ore.

Medical Record, New York

July 15

100 *Malignant Endocarditis in New York City. T. E. Satterthwaite, New York.
101 *Pasteurization of Milk in the Bottle on a Commercial Scale. C. E. North, New York.
102 Hyperchlorhydria and Chronic Dyspepsia. C. S. Fischer, New York.
103 *Top-Milk and Whey for Infant Feeding. R. E. Van Gieson, Brooklyn, N. Y.
104 Significance of Fear in Mental Disease. A Case of Claustrophobia. M. A. Bahr, Indianapolis.
105 Auto-Inoculation. M. J. Synnot, Montclair, N. J.
106 Methods of Physical Examination in the Diagnosis of Surgical Diseases of the Kidney. H. Neuhof, New York.
107 A Case of Abortive Poliomyelitis. R. Stein, New York.

100. **Malignant Endocarditis.**—In a series of 100 cases analyzed by Satterthwaite, thirty-three showed specific germs in the blood or elsewhere; streptococci were found alone in eighteen; staphylococci occurred jointly with them in one; staphylococci occurred alone in five; pneumococci were associated with them in two; pneumococci occurred alone in six; and the gonococcus in one. Under the age of 3 or 4 the disease almost never occurs. It is largely a disease of early middle life, occurring with greatest frequency between the ages of 30 and 40, almost never under 4, and seldom before 14 or after 60. In the Manhattan State Hospital for the Insane with a total of 58,042 patients treated during the ten-year term ending Sept. 3, 1910, not one case of malignant (infective or infectious) endocarditis was registered as such on the books. On the other hand, in Bellevue Hospital, where between 1902 and 1908 there was a total of 204,690 patients, 222 were registered as having infective (malignant) endocarditis, including both the acute and chronic forms. As a rule, with exceptions in very rare cases, malignant endocarditis is accompanied by fever. High temperature was the rule in this series. In only 7 per cent. was there temperature under 102 F. The pulse-rate seemed to vary with the temperature. Petechiæ were noted in 19 per cent. Hemorrhages were noted in only 5 per cent. Implication of the spleen was found in 8 per cent. Headache and diarrhea were frequent. The leukocyte count varied from 6,650 to 36,000; it exceeded 20,000 in only five instances. In twenty-one out of thirty-three examinations it did not exceed 15,000 (63 per cent.). The hemoglobin content was low, most often under 60. Rheumatism was a concomitant in 37 per cent. Pneumonia came next in frequency (6 per cent.). Tuberculosis existed in 5 per cent.; pleurisy and syphilis each in 3 per cent.; gonorrhea in 2 per cent.; cerebrospinal meningitis in 1 per cent.; mammary abscess, suppurative arthritis, colitis, chancre with suppurative buboes, chronic appendicitis, gangrene of foot and miscarriage each, in 1 per cent.; total 66 per cent. Basing a prognosis on the 100 hospital cases, Satterthwaite concludes that in malignant endocarditis 85 per cent. of the patients die, 10 per cent. improve for a time, how long is uncertain, but that in 5 per cent. there is such a degree of improvement that it may be called recovery, so far as the malignant nature of the disease is concerned. Antigonococcal serum was used in one case, other sera in three cases and vaccines five times. In no case was there recovery under these forms of treatment. The indications are for rest, good and abundant food, the liberation of pus when practicable and the use of sulphate of quinin and perhaps iodin internally, and supporting treatment generally. In the five cases reported as improved or cured it appears that the success was due to the use of expectant treatment. In them no specific was given, but each individual symptom was treated as it manifested itself.

101. **Pasteurization of Milk.**—An experimental investigation of the pasteurization apparatus used in breweries leads North to say that among the rather numerous opportunities which have occurred in the past ten years for making examinations of pasteurized milk he has not before obtained from any pasteurizing apparatus of the commercial type results which nearly approached these in excellence. In less than an hour after leaving the pasteurizer the milk in all the bottles had developed a distinct cream line, and the amount of cream appearing at the top of each bottle was sufficient to indicate that the rising cream had not been in any way impaired. The milk was pleasant to the taste and possessed no odor or taste which would suggest that it had been heated. North is convinced that the pasteurization of milk in the bottle on a large scale is entirely possible and practicable. The placing of milk in a glass bottle with a watertight seal, followed by pasteurization of the entire package, guarantees against infection until the bottle is opened and will place the operation of pasteurization as such above criticism. The adoption of this method by the large milk dealer will be a great step in advance and not only give additional protection for the product, but will also give a guarantee to the milk consumer against milk-borne infections which has not existed up to this time.

103. **Top-Milk and Whey for Infant Feeding.**—The central idea of the formulæ used by Van Gieson is the gradual adaptation of foreign substances to weak digestive powers; the great value of lactalbumin solution as a diluent and nourishing soluble protein; the necessity of preserving it intact by using moderate temperatures to inhibit the action of the enzyme; to preserve as nearly as possible the proportions of one-third lactalbumin to two-thirds proteins.

The Journal of Ophthalmology and Oto-Laryngology, Chicago

July

108 Relief of Glaucoma by Subconjunctival Sodium Citrate Injections. H. G. Thomas, Oakland, Cal.
109 Technic of Radical Mastoid Operations. W. H. Tuckerman, Cleveland.

Interstate Medical Journal, St. Louis

July

111 Clinical Significance of Certain Forms of Albuminuria. A. R. Elliott, Chicago.
112 *Blood-Pressure and Barometric Pressure in Pulmonary Tuberculosis. J. L. Pomeroy, Monrovia, Cal.
113 *A New Diagnostic Nervous Sign. C. G. Chaddock, St. Louis.

114 Tuberculin Therapy in Clinic and Office Practice. H. L. Shively, New York.
115 Heat Affections. C. K. Shutt, St. Louis.
116 Genesis of Incipient Pulmonary Tuberculosis. E. Von Adelung, Oakland, Cal.

113. **A New Diagnostic Nervous Sign.**—In making examinations of patients, Chaddock was struck by the ready occurrence of the Babinski phenomenon when the same form of irritation that had elicited it from the sole was applied just beneath the external malleolus, while no response could be obtained from other skin areas of the lower extremities. In cases in which irritation of almost any skin area over the lower extremity and lower abdomen called forth extensor toe response, the external inframalleolar area did not distinguish itself in any way. Impressed by the ready external malleolar response, he became accustomed to begin examinations of the skin reflexes by irritation of the external inframalleolar area. He thought he could always foretell thus what response would come from the sole, i. e., with any response in the sense of extension of one or more, or all, of the toes, or with fanning of them he predicted a Babinski from the sole; with no malleolar response he predicted normal plantar flexion. Very soon, however, he found he could not predict: that what he was expecting failed to occur. He noted the following conditions between the relations of the external malleolar non-response and response: (1) in one case of left-sided cranial fracture with no external malleolar response, there were for some days complete abolition of the right skin reflexes with final return of normal plantar; never any malleolar response; (2) in a number of cases in which he obtained a response from the external malleolus, he obtained normal response from the sole; (3) in a few cases after persistence of external malleolar response and normal plantar response, plantar response became abnormal for a time, then disappeared, leaving external malleolar response, which finally disappeared; (4) in other cases with initial plantar and external malleolar response alike of extension, plantar abnormal response changed to normal plantar response, leaving malleolar reponse persistent; (5) in many cases in which plantar response was mixed, i. e., showing flexion and extension and varying strikingly with place or intensity of irritation and with voluntary jerks, external malleolar response removed any doubt of the nature of the plantar response; (6) in several cases of articular deformity limiting movements of the toes, the absence or presence of external malleolar response was decisive for diagnosis. In no case presenting frank toe-phenomena from the sole has he ever failed to elicit the external malleolar response; in several cases presenting no Babinski and many presenting doubtful Babinski, he has found the external malleolar sign reliable as indicative of central lesion, proved by operation to exist, with its disappearance after operation. He has seen it develop alone, to be joined by a Babinski, and persist after the Babinski had changed to normal; he has failed to find it once in a case of abolition of all skin reflexes from cerebral lesion without Babinski; he has never seen it in a normal individual. Chaddock has found it alone (without Babinski) in general paralysis, in skull fracture, transitory unilateral brain lesions, in old hemiplegias, and in undetermined brain lesions, single and double. He has found it in cord lesions. Never has he found it in peripheral lesions or in unmixed tabes.

Western Medical Review, Omaha, Neb.

July

117 Tubal Pregnancy. C. P. Fall, Beatrice, Neb.
118 Progress of Medicine. R. W. Bliss, Omaha, Neb.
119 *Chronic Diarrhea. H. L. Akin, Omaha, Neb.

119. **Chronic Diarrhea.**—Akin recommends in chronic diarrhea systematic lavage of the colon with medicated solutions; weak solutions of silver nitrate, of sulphuric acid and other substances are employed, but he prefers the use of tannic acid, 1 or 2 tablespoonsful to 1 gallon of hot water. Irrigate the bowel thoroughly, putting the patient in the knee-chest position, if necessary, and urging him to retain a portion of the enema as long as possible. He has found it to be most practical and helpful in employing this plan with patients who are very sick, to use a metal rectal irrigator of the recurrent flow type. The patient is dismissed with careful instructions as to the diet, what to use and what to avoid; he is told how to care for himself should he be threatened with any return of the trouble, and is provided with a prescription for an iron tonic, something after the formula of Senator, who gives as follows:

℞	Gm. or c.c.		
Liquoris Potassii Arsenitis	15		ʒss
Tincturæ Ferri Chloridi	60	or	℥ij

M. et Sig.—gtt. V in water, t.i.d., and increase 1 drop a day up to 25, then gradually down again.

Journal of Medical Society of New Jersey, Orange

July

120 *Plea for Attaining and Maintaining a High Standard of Medical Education. T. H. Mackenzie, Trenton.
121 *Advance of Knowledge Regarding the Circulation of the Blood. G. W. Norris, Philadelphia.
122 *Education of a Surgeon. J. A. Blake, New York City.
123 Treatment of Acute Purulent Otitis Media. L. Emerson, Orange.
124 History of Movement for State Registration of Nurses. E. Underhill, Philadelphia.

120, 121 and 122.—Abstracted in The Journal, July 22, 1911, pp. 315 and 316.

The Journal of Abnormal Psychology, Boston

June

125 *Pathology of Morbid Anxiety. E. Jones, London, England.
126 *Fear, Anxiety and Psychopathic Maladies. B. Sidis, Portsmouth, N. H.
127 Freud's Anxiety Neurosis. J. E. Donley, Providence, R. I.
128 Mechanism of Recurrent Psychopathic States—Anxiety States. M. Prince.

125. **Pathology of Morbid Anxiety.**—Attention carefully directed to the study of anxiety states, Jones says, has shown that they are a great deal commoner than is generally supposed, the significance of the symptoms being often overlooked through clinical ignorance. Psycho-analytic research has further made it highly probable that many kinds and degrees of fear that pass for normal, e. g., fear of fire, of mice, etc., take their origin in unconscious complexes and are psychologically as "abnormal" as any phobia. It is assuring to reflect, continues Jones, that much of the fear, and anxiety, that bulks so large in the sum of human distress, even among the so-called normal, is entirely avoidable, and will one day be prevented when psycho-analytic experience is more widely recognized. The conclusions reached by Jones are condensed into the statement that morbid anxiety means unsatisfied love. That already the Greeks had an intuition of the close connection between these two instincts is indicated by their belief that Phobos and Deimos, the gods of fear, were born of Aphrodite, the goddess of love.

126. **Fear, Anxiety and Psychopathic Maladies.**—Sidis says that the anxiety states of neurosis and psychosis are essentially the offspring of fear. The anxiety states are due to the awakening of the fear instinct normally present in every living being.. The fear instinct is a fundamental one, it is present in every normal human being, it is only inhibited by the whole course of civilization and by the training and education of social life. Like the Jinn of the Arabian nights, it slumbers in the breast of every normal individual and comes fully to life in the various neuroses and psychoses. The feeling of anxiety with all its accompanying phenomena is one of the manifestations of the most fundamental, the most potent of animal instincts, the fear instinct which is at the basis of all psychopathic maladies.

Journal of the Kansas Medical Society, Kansas City

July

129 Physical Supervision of the School Child. O. P. Davis, Topeka.
130 Acute Intestinal Obstructions. R. C. Lowman, Kansas City.
131 Diagnosis. E. E. Hubbard, Shawnee.
132 Five Cases of Ectopic Pregnancy. E. E. Morrison, Great Bend.
133 Supervention of Carcinoma on the Site of Chronic Ulcer of the Leg. D. W. Basham, Wichita.
134 Cardiac Arrythmia. T. Jager, Wichita.

Surgery, Gynecology and Obstetrics, Chicago

July

135 *Diagnosis and Treatment of Contracted Pelves. J. M. M. Kerr, Glasgow, Scotland.
136 *Salpingostomy and Pregnancy. G. Gellhorn, St. Louis.
137 *Salpingitis. F. T. Andrews, Chicago.

138 *Anteflexion of the Cervix and Spasm of the Uterine Ligaments in Relation to Retroversion, Dysmenorrhea and Sterility. E. Reynolds, Boston.
139 *End-Results When Hysterectomy Has Been Done and an Ovary Left. J. O. Polak, Brooklyn, N. Y.
140 *Is There Any Clinical or Experimental Proof that the Ovary Has an Internal Secretion? W. H. Morley, Detroit.
141 *Membranous Pericolitis. H. S. Crossen, St. Louis.
142 *The Function of the Ovary. R. T. Frank, New York.
143 Ovarian Transplantation in Lower Animals and Women. F. H. Martin, Chicago.
144 *Conservation of the Ovary. W. W. Chipman, Montreal, Canada.
145 So-Called Essential Hematuria, with Especial Reference to the Hematuria Accompanying Mild Grades of Nephritis. B. R. Schenck, Detroit.
146 Electric Lights for Warming the Operating Table. H. Robb, Cleveland.
147 *A Malignant Intestinal Growth Requiring the Removal of an Unusual Number of Abdominal Structures. T. S. Cullen, Baltimore.
148 *Getting Up Early After Grave Surgical Operations. H. A. Kelley, Baltimore.
149 *Transplantation of the Left Knee-Joint. G. T. Vaughan, Washington, D. C.
150 One Hundred Consecutive Cases of Pelvic Affections in Which Vaginal Drainage Has Been Employed. A. W. Elting and J. L. Donhauser, Albany, N. Y.

135, 136 and 137.—Abstracted in The Journal, June 24, 1911, pp. 1911 and 1912.

138, 139 and 140. Abstracted in The Journal, July 8, 1911, pp. 160 and 161.

141. **Membranous Pericolitis.**—The distinctive symptoms of the three cases cited by Crossen develop from two factors; (1) interference with the peristalsis of the colon and (2) gas distension of the cecum. The pains, though coming in attacks, somewhat like appendicitis or salpingitis, present the features of pain from distension rather than from inflammation. That is, there is no fever, there is not the acute disability caused by peritoneal inflammation, there is not the strictly limited point-tenderness that comes with an inflammatory focus. The pain and tenderness are more or less diffused throughout the right lower abdomen, there is decided gas distention with the attacks of pain, there is a history of the trouble beginning gradually and increasing persistently for one or more years, and there is a history of chronic constipation for many years before the onset of the distinct painful attacks. Other conditions may be associated with the membranous pericolitis, giving atypical cases in which may be found appendicitis, salpingitis or other lesions of adjacent organs with a consequent mingling of symptoms. Speaking of the atypical cases of membranous pericolitis, Crossen wishes to call attention to three important points. 1. The frequent confusion with chronic appendicitis or adnexal disease, because the pain is located in the right lower abdomen and comes in attacks. 2. The necessity of exploration of the ascending colon in all cases in which the adnexal or appendical lesion exposed at operation does not account for the serious symptoms presented by the patient. 3. The question of treatment. The treatment so far has been simple removal of the membrane, with subsequent regulation of the bowels and abdominal support to prevent distention of the cecum. If it fails to effect a permanent cure, then more radical measures will be necessary, particularly in the severe cases, such as excision of the colon, anastomosis of the ileum with the sigmoid, the latter being preferred by Crossen.

142 and 144. Abstracted in The Journal, July 8, 1911, pp. 159 and 160.

147. **A Malignant Intestinal Growth.**—In removing a carcinoma of the sigmoid, several feet of small bowel, the uterus, tubes, ovaries and appendix, in one mass, were also removed by Cullen. The patient on her return to the ward showed a moderate degree of shock. After a week or two she had slight diarrhea, but otherwise manifested no untoward symptoms. At the end of five weeks she returned home in relatively good condition. In June, 1911, about eighteen months after the operation, the patient was rapidly losing weight, had a great deal of abdominal pain, and from the present indications will not survive over a month or six weeks.

148. **Getting Up Early After Grave Surgical Operations.**—Kelly strongly endorses the use of the Gatch frame. He believes that by its use he has secured all the advantages of getting the patient out of bed early, without the awkwardness, the exertion and the disturbance of getting out and in. The convalescence thus takes place in a more or less upright position. If the patient gets tired of the posture after an hour or two, the frame is readily let down nearly flat, when after a little rest it is raised again. In this way, the circulation is improved, the abdominal walls are kept relaxed and the patient makes a prompter, better and a safer recovery. He believes that the general use of these bed frames will enable us to extend to a larger number of patients than we have found possible in the past the advantages claimed by Boldt for his more radical procedure. At any rate it is a happy compromise for the timid surgeon who does not want to drag a miserable, depressed, suffering patient out onto the floor so soon after an aggressive operation.

149. **Transplantation of Left Knee-Joint.**—In a case of tuberculous knee-joint, Vaughan transplanted a normal knee obtained soon after the death of the person. The new joint was placed between the sound ends of the femur and tibia and fastened with four wire and several catgut sutures. The patella was placed in position in front of the new joint, and the ligamentum patellæ was united. The joint was too wide to permit closing of the soft parts, so the outer part of the femur and tibia was trimmed off until it was reduced to the proper size. Opening for drainage was left on each side and the skin was united with silkworm sutures. Gauze and thick cotton dressings were applied. The transfer was made within three hours after the donor's death. There was almost immediate improvement in the patient's condition, pulse and temperature came down from 96 to 72 and 101 to 99 F., respectively, and the pain was less, but suppuration continued and became more copious than ever as time went on. The suppuration continued freely, requiring daily dressing, but the temperature and pulse were not high, ranging from 98.6 to 100 F. and 72 to 90, respectively, and the patient often expressed himself as feeling more comfortable than he had felt for years. A profuse diarrhea set in and death occurred one year, six months and twenty-one days after the operation. Dissection of the parts involved in the operation revealed the following: The transplanted parts had been largely absorbed and their place taken by new bone which had grown into them, at least two-thirds of the foreign bone had disappeared. This was more marked in the tibia, only a thin shell of which was left. Superficial caries existed in the exposed parts which had never healed over. The cartilages had all disappeared. There was only partial union in the femur but fairly good bony union existed in the tibia. There was no union of the articular surfaces with one another except of the patella, which was slightly united by bone with the new portion of the femur, which had partially replaced the transplanted portion. It was evident from the examination that a process of absorption of the transplanted parts was going on as the new bone formed and took its place, the new bone gradually eating up or causing the absorption of the foreign bone.

Colorado Medicine, Denver

July

151 First Year's Experience with the (Bates') Colorado Law for the Examination and Care of Public School Children. M. E. Bates, Denver.
152 Diseases of the Seminal Vesicles. P. J. McHugh, Fort Collins.
153 Intraperitoneal Cystotomy. C. E. Tennant, Denver.
154 Violent Ophthalmia Catarrhalis or Non-Specific Suppurative Ophthalmia. Congenital Cataract. F. E. Wallace, Pueblo.
155 Old Dislocation at the Shoulder. G. W. Miel, Denver.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

July 8

1 Cardiovascular Degeneration. J. M. Bruce.
2 Outlines on Medical Hydrology. R. F. Fox.
3 *Rhizotomy. O. Förster.
4 *Rhizotomy. E. W. H. Groves.
5 *Three Cases of Fibroid Tumor of the Uterus Spontaneously Fatal. A. H. N. Lewers.
6 Therapeutic Effects of Carbon Dioxid Snow. Methods of Collecting and Applying It. J. Hall-Edwards.
7 Three Cases of Tooth-Plate Impacted in the Esophagus and Pharynx. L. E. C. Norbury.
8 Mice Immunized Subcutaneously Are Resistant to the Implantation of Cancer in Internal Organs. W. H. Woglom.
9 A School Outbreak of Enteric Fever. R. W. C. Pierce.

3. **Rhizotomy.**—This operation has now been performed altogether twenty-five times in Förster's service for gastric crises; twenty-two of the patients survived and three died. Three patients succumbed to the immediate effects of the operation; two showed no improvement, the crises persisting. In the remaining twenty cases the operation was successful. Immediately after the resection of the roots the crises disappeared, the body weight increased greatly, and the general condition showed a marked improvement; some of the patients, who until then had been confined to their beds for a long time, have since regained their power to work. In the majority of these cases (thirteen) no relapse has been reported. In several there has been no recurrence of the crises for many months and even for over a year, although before the operation a continuous critical state had persisted. In the remainder of the cases (seven) the crises ceased for a while, but subsequently recurred. Yet, even in these, the critical state has not returned. The crises only occur occasionally, at long intervals; they are of short duration and of moderate intensity. Among this latter group of cases are three patients who have regained the power of gaining a living, one of them being an architect and one a mason.

Förster says that in a number of cases the result of the operation is not perfect, because the system of roots carrying sympathetic nerve fibers of gastro-intestinal origin is very extensive. By the method which has hitherto been practiced of cutting only the seventh to ninth or the seventh to tenth thoracic roots the source of the crises is not always entirely eliminated. Probably the fifth and sixth, as well as the eleventh and twelfth, thoracic roots are also concerned. It is therefore desirable to remove as many of the roots as possible. What is even more important is to determine in every case exactly tne situation of the pain, the extent of the hyperesthesia of the skin, and the site of its maximum intensity, since these data may possibly afford a guide as to which roots are chiefly irritated and concerned in causing the crises. The operation has been performed in sixty-two cases for spastic paralysis due to disease of the cortico-spinal path, especially the pyramidal tract; fifty-six patients survived, five died. Thirty-eight of the survivors had congenital spastic paraplegia (Little's disease); almost all of these patients have been benefited by the operation, some of them showing a very marked improvement. Three patients with acquired cerebral spastic paralysis were treated successfully, one of them being a case of hydrocephalus with severe spastic paraplegia. Of four cases of spastic spinal paralysis of traumatic origin, two were successful; of the remaining two, which were failures, in one wrong roots were cut, while in the other the cortico-spinal fibers appear to have been completely interrupted; in this case the spasms disappeared, but voluntary motility did not return. In addition there was one case of Pott's disease which was successful; also two cases of syphilitic spastic paraplegia (Erb), successful; one case of primary spastic paraplegia (Erb-Charcot), successful; two cases of disseminated sclerosis, one of which was not benefited, while the other was at first successful, but subsequently the disease progressed rapidly and the patient died. Of seven cases of spastic paralysis of the arm, five were successful. The remaining two were not benefited owing to the complete interruption of the cortico-spinal paths; in these patients the spasms disappeared, but voluntary motility did not return.

As regards the indications of the operation Förster says that only lesions with real reflex spasticity, as the result of the loss of the cortico-inhibitory fibers, are suitable, but not the diseases of the type of chorea, athetosis, mobile spasms, and spasmodic torticollis; possibly, however, Parkinson's disease may be suitable. Second, there must be a reasonable prospect of innervating fibers of the pyramidal tract still existing, all cases with slight spasms and considerable paralysis being unsuitable. In cases of severe spasms and total voluntary paralysis there may remain a considerable amount of voluntary excitability, only obscured by the spasms and only apparent after their elimination. In such cases the experiment is worth trying. Third, the disease must have become practically stationary, while progressive diseases like disseminated sclerosis are hardly suitable, very slowly progressing ones, like spastic spinal paralysis, being perhaps more promising. Good results can only be obtained with very careful exercise treatment. Such exercises should be continued for years, during which continuous progress may be observed. The assistance of orthopedic measures cannot be dispensed with; above all, it is necessary to place the limbs in removable plaster splints in such a position as to correct the previous deformity. These positions are required during the whole time immediately following the operation, the limbs being only removed from their plaster cases for the purpose of the exercises, which should be carried out several times a day; later they should still be kept in the splints at night. If, besides the real spastic contractions, there are also organic contractions due to shriveling of the muscles and tendons, tenotomy or tenoplasty may also have to be performed.

4. **Rhizotomy.**—For the relief of pain Groves regards the operation of posterior nerve-root resection (rhizotomy) as a somewhat uncertain proceeding. Patients who present very great pain without any organic disease are often of a highly neurotic temperament, and their pain seems to have an important psychical element which is not relieved by the operation. For the relief of visceral crises the operation holds out the only prospect of radical cure which we know of at present. Only those cases of this kind are suitable in which all other means of relief have failed, but on the other hand it is important not to wait until the patient has become debilitated by the emaciation and morphin. In cases of spasm associated with lesions of the pyramidal tract the operation has its largest field of usefulness. Spasm is in all these cases definitely relieved, and if the pyramidal tract is not wholly severed a great improvement of motility results. The operation causes definite chromatolysis of some of the motor cells in the anterior horn of the segments involved, and this is probably associated with the lessening of motor spasm. By the use of epinephrin (adrenalin) injections as a preliminary to the operation the procedure becomes an almost bloodless and speedy one. There is no special shock associated with the division of the posterior nerve-roots. It is better to perform the whole operation in one stage. In dealing with the brachial roots it is best to do a hemilaminectomy. The lumbo-sacral roots are best approached at their junction with the cord rather than at their point of exit from the dura.

5. **Uterine Fibroid Tumor.**—In the three cases reported by Lewers, death resulted in one instance from hemorrhage, in another from pulmonary embolism and in the third case from sudden collapse and heart failure.

Medical Press and Circular, London

June 28

10 Ophthalmology in General Practice. C. Worth.
11 *Early Diagnosis and Treatment of Sacro-Iliac Disease. W. I. deC. Wheeler.
12 Should Not Something Be Attempted Against the Spread of Venereal Disease? E. Pelletier.
13 Heredity, Eugenics and Human Welfare; A Plea for a Larger Outlook. J. L. Taylor.

July 5

14 Signs and Diagnosis of Diabetic Coma. H. Rathery.
15 Vaccine Therapy. A. V. Elder.
16 Operations for Varicose Veins. R. E. Kelly.
17 Choice of Operation for Varicose Veins. K. W. Monsarrat.

11. **Sacro-Iliac Disease.**—Wheeler emphasizes that sacro-iliac disease, once well established, is a very fatal one. Radical treatment in the early stages offers a good chance of recovery. The signs and symptoms usually described do not exist in the stages of the disease in which treatment promises most. Vague and persistent pains in the sacro-gluteal and lumbar regions, especially when referred down the sciatic nerve as far as the knee, with no history of previous similar attacks which got well, should arouse suspicions of sacro-iliac disease, no matter what the age of the patient. A radiograph gives valuable information. Early operation to expose and remove the focus of the disease is indicated in this joint as in others. The joint is not inaccessible, and is easily reached through the iliac bone in the center of the fossa occupied by the gluteus medius muscle.

Dublin Journal of Medical Science

July

18 The National Insurance Bill. J. B. Story.
19 *Clinical Reports of the Rotunda Lying-In Hospital, Dublin, 1909-1910. E. H. Tweedy.
20 The Medical Inspection of Schools. D. M. Moffatt.
21 Some Points in the Administration of Anesthetics. J. S. Darling and C. F. Williamson.

19. **Report of the Rotunda Hospital.**—During the year 1909-1910, there were 2,524 admissions to the maternity wards and 2,222 deliveries, with a morbidity of 2.61 per cent. Fourteen women were treated for eclampsia with no death, making a series of twenty-nine cases extending over two years and ten months without any maternal mortality. Morphin, beginning with ½ grain, followed at frequent intervals with ¼-grain doses, was given. Six patients received stimulation as represented by atropin, digitalin, whisky by rectum and hypodermics of ether. One had scopolamin with the morphin. Eight had gastric lavage and purgatives by stomach tube, ten rectal lavage and nine submammary infusion of sodium bicarbonate solution. Six had linseed meal poultices to the loins. One patient required artificial respiration. All forms of eclampsia are represented, ante-, intra-, and post-partum, with combinations of each. Three patients were delivered with forceps when the os was fully dilated; one woman had twins, both of which were delivered with forceps. Labor was never induced. Starvation was rigidly enforced. No fluid (water, croton oil, etc.) was ever placed in the mouth of an unconscious patient. Delivery by the breech was accomplished in seven cases. One of these had placenta prævia, for which the usual treatment was adopted. Version was performed four times for prolapsed cord in contracted pelvis. All of these children were born alive. Two dead children were perforated, one in a woman with a 6 cm. pelvis, the other after forceps had failed to deliver. Her conjugate was 9 cm. Three children were delivered with forceps, one dead. Classical Cesarean section was performed once. Six patients were treated by sub-cutaneous pubiotomy, and two by extra-peritoneal Cesarean section.

Clinical Journal, London

June 28

22 Paths of Infection of the Urinary Tract. W. B. Clarke.
23 Abdominal Emergencies; Intraperitoneal Hemorrhage. R. Morison.
24 Present Position of the Treatment of Uterine Fibromyomata by Roentgen-Rays, with details of Bordier's Technic. J. C. Webb and H. Bordier.

July 5

25 The Vasomotor Factor in the Causation and Treatment of High Blood-Pressure. H. French.
26 Paths of Infection of the Urinary Tract. W. B. Clarke.

Practitioner, London

July

27 Renal Adenomata. Sir H. Morris.
28 Surgical Aspects of Early Renal Tuberculosis. D. Newman.
29 Endocarditis. G. Rankin.
30 Acute Unilateral Pyelonephritis. S. Pringle.
31 Value of Urinary Examination in Dermatologic Practice with Special Reference to the Joulie Reactions. E. G. Little.
32 *Clinical Aspects of Acute Appendicitis in Children. H. Collinson.
33 Hereditary Syphilis and Its Treatment by Salvarsan. J. L. Bunch.
34 *Hyoscin-Morphin Anesthesia in Obstetric Medicine. P. L. Giuseppi.
35 *Treatment of Cases of Arterial Hypertension. L. T. Thorne.
36 *Sea-Bathing. A. H. Copeman.
37 *Pallor—Its Clinical Significance. G. R. Ward.

32. **Acute Appendicitis in Children.**—Collinson shows that appendicitis in children is a common disease, a serious disease and one which demands operative treatment at the earliest possible moment.

34. **Hyoscin-Morphin Anesthesia.**—A summary of Giuseppi's paper elicits the fact that he believes that the object of hyoscin-morphin anesthesia is, not to produce complete unconsciousness, but to produce twilight sleep, from which the patient can be roused at any moment, without her retaining any recollection of what has happened in the meantime. He says that in hyoscin-morphin anesthesia we have an efficient means of controlling pain, and one that is practically safe, when ordinary precautions are taken. There is danger to the child unless the fetal heart is carefully auscultated at frequent intervals. The course of labor is but slightly modified. The administration and repetition of the injections must be gauged by the amount of suffering. The author advises that morphin should never be repeated, only the hyoscin. The solutions for injections must be freshly prepared for each patient. The best dose is hyoscin hydrobromid, gr. 1/100, morphin sulphate, gr. ¼.

35. **Arterial Hypertension.**—It is Thorne's purpose to prove by practical example that the majority of the painful and dangerous symptoms which are commonly regarded as directly due to hypertension are, in reality, the result of cardiac inadequacy and dilatation consequent on a pathologic condition of which hypertension is one of the signs; and that our treatment of such cases should not be by the administration of drugs which are reputed directly to lower arterial tension and act as depressors on an already defective cardiac action, but by a method which will reduce arterial tension, and at the same time, improve the tonicity and contractility of the heart, so that we may render that organ more able to cope with the excessive work thrown on it, and more fitted to throw off, by an improved circulation, the toxic poisons causing hypertension. The only treatment that Thorne has found of any lasting value in this class of case is the administration of a course of mineral baths prepared artificially so as to resemble, in all active ingredients, the natural baths of Nauheim. In combination with this treatment, a dietary is given in which carbohydrates are taken sparingly, and a definite amount of physical exercise is prescribed if the patient is in a fit condition to take it.

36. **Sea-Bathing.**—Those with feeble circulation are advised by Copeman to bathe only when the weather is very warm and the sea calm, and none but the very robust should bathe more than once a day. He says that it is a common error to suppose that if the bather arrives at the water-side heated by exercise he should wait till he has cooled down before entering the water. On the contrary, it is most unwise to bathe when the body is already chilled, and the bather would do well to delay until some gentle exercise has restored the circulation. Continuous paddling cannot be too strongly discouraged.

37. **Pallor.**—That pallor is not always indicative of a blood disease is shown by cases cited by Ward and which he uses to emphasize the necessity of the greatest care and thoroughness in arriving at a diagnosis. Pallor may be normal, due to lead poisoning, congenital anemia, continued slight hidden hemorrhage, intestinal parasites, etc.

Indian Medical Gazette, Calcutta

June

38 An Epidemic of Pyrexia of Uncertain Origin. G. E. Stewart.
39 Night-Soil Conservancy in Cantonments. P. Hehir.
40 Drugs and Drug Habits in Burma. R. H. Castor.
41 Intracapsular Removal of Cataract. H. F. L. Taylor.
42 A Modification of Major Rogers' Apparatus for the Treatment of Cholera by Hypertonic Saline Infusion. T. C. Rutherfoord.
43 A Case of Subconjunctival Cysticercus Cellulosæ. R. H. Elliott and A. C. Ingram.
44 Multiple Cysticercus Cellulosæ of the Brain. T. S. Tirumurti.
45 Intravenous Administration of Salvarsan. H. R. B. Gibson.
46 Lipofibroma of the Tonsil. H. Suhrawardy.
47 Osteomalacic Pelvis, Full-Term Pregnancy, Porro's Operation. L. G. Fischer.
48 A Case of Rupture of Uterus in an Old Cesarean Section Scar. A. G. Coullie.
49 Anesthetics. E. F. Neve.

Annales de Gynécologie et d'Obstétrique, Paris

June, XXXVIII, No. 6, pp. 321-384

50 *Muscular Fibers in Uterus and Its Ligaments. (La musculature des ligaments de l'utérus et la répartition des faisceaux musculaires dans l'utérus.) Ivanhoff.
51 *Non-Gonococcus Ophthalmia in Newly Born Infants. (L'ophtalmie à inclusions.) V. Morax.
52 Treatment of Old Inversion of the Puerperal Uterus. A. Couvelaire.
53 *The Trendelenburg Position Effectual for Correction of Retroversion of Gravid Uterus. M. Ferré.

50. **Distribution of Muscular Fibers in the Uterus and Its Ligaments.**—Ivanoff's article is profusely illustrated and his research brings out new points, he says, which modify our conception of physiologic and morbid processes in the region and should modify the methods of treatment of pathologic conditions and management of childbirth.

51. **Ophthalmia Neonatorum Not Due to the Gonococcus.**—Morax reviews the history of the "inclusions" in the cells which Prowazek found in trachoma and not in other forms of conjunctivitis but whose specificity was apparently disproved by Uhthoff's discovery of the same inclusions in certain forms of ophthalmia neonatorum and Lindner, by inoculation of monkeys, revealed their presence in the vaginal secretions of the mothers and in a certain form of urethritis in males. These facts were at first supposed to contradict the original deductions but further research has shown that they are all apparently links in one chain, all proving the existence of a special type of inflammation involving the mucosa of urethra, vagina and eyes, transmissible from the urethral to the vaginal mucosa and from the latter to the conjunctiva of the eyes of the child at birth, the clinical manifestations being tumefaction and moderate secretion of the mucosa. The microscope reveals in some of the epithelial cells of the mucosa involved certain inclusions in the form of a bunch of fine points or double points enclosed in an intra-epithelial pocket or cyst-like formation in the shape of a crescent or sphere and apparently not influencing otherwise the cells containing them. Ophthalmia neonatorum not the work of the gonococcus is generally of this inclusion type, Morax states, and silver nitrate prophylaxis has no influence on it. Sometimes this type accompanies the ordinary type of ophthalmia neonatorum. The inclusion ophthalmia may persist for weeks up to two months in spite of the most approved and systematic measures of treatment and leave a thickening of the conjunctival culs-de-sac in the form of a series of parallel folds seen when the lower lid is everted, but there seems to be no danger of ulceration of the cornea. Morax found the inclusions in fifteen out of twenty cases of ophthalmia neonatorum and Lindner found them in fifty-three pure and in four cases mixed in 110 cases of ophthalmia.

53. **The Trendelenburg Position in Treatment of Retroversion of the Gravid Uterus.**—Ferré states that he has applied this position treatment in five cases of retroversion of the gravid uterus and the displacement gradually corrected itself without further aid. In a fifth case uncontrollable vomiting compelled the emptying of the uterus before the displacement had been entirely corrected. One patient was a ii-para approaching the fourth month and vague abdominal pains alarmed her, as she had experienced similar pains during her first pregnancy, which had terminated in a miscarriage. The foot of the bed was raised by 30 cm. and the patient kept in this position without a pillow for forty-two days, at the end of which time the uterus was found to be above the upper inlet and the patient was allowed to get up and was delivered at term of a healthy son now 16; during a later pregnancy the retroversion did not recur. In the other cases the uterus thus spontaneously righted itself in three, six or forty-five days, and the pregnancy then proceeded to normal term.

Presse Médicale, Paris

June 21, XIX, No. 49, pp. 517-524

54 Mechanical Causes and Changes in the Blood in Origin of Hydrops. (Pathogénie des oedèmes dyscrasiques.) Debove.
55 *Diagnosis of Appendicitis. (Diagnostic d'appendicite et "douleur-signal.") G. Leven.

June 24, No. 50, pp. 525-536

56 Sporotrichosis Bone and Joint Lesions. (Lesions ostéopériostiques et articulaires de la sporotrichose.) E. Jeanselme, P. Chevallier and P. Darbois.
57 *Ultimate Outcome of Bone Grafts. (Greffes osseuses intragranuleuses datant de vingt-cinq ans.) A. Poncet.
58 Roentgen-Ray Findings with Urolithiasis. L. Bazy and J. Desternes.

June 28, No. 51, pp. 537-544

59 Rôle of Meningitis in Development of Psychoses. L. Lagriffe.

55. **The "Pain Signal" in Differentiation of Gastroptosis and Appendicitis.**—Leven states that when the stomach is stretched and dilated it is liable to induce a typical pain at McBurney's point and simulate appendicitis. When radioscopy is not practicable, the condition can be differentiated by the subsidence of the pain when the stomach is lifted by pressure from without. He has the patient sit for the test; the region most painful on deep palpation between the umbilicus and the xiphoid appendix is determined and the patient or an aid presses his thumbs into this region to keep up the pain. Then Leven applies his thumbs to the median line close to the pubis and tries to raise the contents of the abdomen, pushing them up by pressure of his thumbs worked into the abdominal wall, working gradually upward. When he thus reaches a certain point, the patient suddenly feels that the pain ceases. This occurs when Leven has thus reached and lifted the bottom of the stomach, thus removing the pressure which the stomach has been exerting and which has been causing the pain. When the pain persists unmodified with this maneuver, then some other cause for it must be sought.

57. **Bone Grafts in Restoration of Tibia.**—Poncet reports the excellent outcome twenty-five years later in a case in which the right tibia was almost totally destroyed by a rapidly acute osteomyelitis. The patient was a boy of 13 and a month after resection of the diseased shaft for an extent of nearly 12 inches, leaving the periosteum intact except for a gap above and below, Poncet introduced flaps of bone tissue with periosteum taken from a healthy newly born infant who had succumbed during breech delivery. The scraps were 7 or 8 mm. long by 3 or 4 thick and they were implanted deep among the granulations at the points where the periosteum was lacking. Five out of eight flaps "took," and two weeks later a new series of bone grafts was made with bones from a kid. All the bone scraps together covered an area at each end of the shaft 4 cm. long by 4 or 5 mm. thick. The wound did not heal completely till the fifth month, but the bone regenerated with the aid of the grafts so that the diameter of the two legs scarcely differs. By the end of three months there was a difference in length of only 3 cm. between them, but this difference increased so that now, twenty-five years later, the difference is 8 cm. as the other leg has grown in length more than the right, but both legs are equally strong and look alike and there is complete restoration of function while radioscopy shows a satisfactory outline of the new tibia. The patient is now a robust man of 38. One secret of success is to keep the patient under observation for a long time after these grafts of bone in the midst of granulations; the granulations supply the nourishment and other conditions which insure success.

Revue de Gynécologie, Paris

May, XVI, No. 5, pp. 441-552

60 Changes in Fallopian Tubes During Menstruation and Pregnancy. M. J. Katz.
61 *Echinococcus Pelvic Disease in Women. (De l'importance de l'échinococcose dans le diagnostic des affections gynécologiques.) Abadie-Feyguine and Abadie.
62 *Radiotherapy and Uterine Fibromyoma. H. Bordier.

61. **Echinococcus Pelvic Disease in Women.**—Abadie and Feyguine have found that echinococcus cysts, single or multiple, have often proved misleading in the diagnosis of gynecologic disturbances in their practice at Oran. Such cases are comparatively frequent and they urge others to bear this possibility in mind without waiting to have it impressed on them by some blunder in diagnosis. They report five cases of pelvic cysts, one a retrovesical cyst, taken for a uterine fibroma or ovarian cyst. In the second case the echinococcus cyst was in the right broad ligament, in the third there were numerous cysts scattered over the peritoneum; the area of the omentum involved was resected and a formaldehyde solution injected into the largest cysts on the lesser omentum. The general health was fairly good afterward for two years although the cysts continued to develop slowly. The patient declined further operative measures and died four years after the first intervention. The fourth patient had cysts scattered over the peritoneum with much ascites. No operation was attempted. The fifth patient was a young woman with cysts in the peritoneum probably secondary to one in the liver. Two operations were performed but proved unable to arrest the fatal termination. Their patients were from 21 to 30 years old, with one of 61. They review also thirteen cases from the literature, including two from Russia. Cysts in the pelvis and omentum are readily resected, and repeated operations may cure in apparently hopeless cases (Devé and Morestin). The precipitation test may clear up a dubious diagnosis but the deviation of complement test is more exact.

62. **Radiotherapy of Uterine Fibromyomas.**—Bordier reports eighteen cases to show the effectual therapeutic action of

the Roentgen rays on uterine fibromyomas and on climacteric hemorrhages. The best results are obtained when the growth is less than five years old, and the patients between 40 and 50. Fibromyomas that have degenerated and those with a tendency to cysts and hydrorrhea do not seem to be amenable to this treatment. He graduates the dosage by a chromoradiometer based on the iodin liberated by the Roentgen rays in a chloroform solution of iodoform. The anticathode is chilled with water and he uses aluminum filters, and applies the rays from each side and on the median line in turn. The rays induce retrogression of the fibromyoma and of the follicular epithelium of the ovaries while the internal secretion of the ovaries does not seem to be modified until long after.

Semaine Médicale, Paris

July 5, XXXI, No. 27, pp. 313-324

63 *Carbohydrates in the Treatment of Diabetes Mellitus. L. Blum.

63. **Carbohydrates in Diabetes.**—Blum reviews the history of the dietetic treatment of diabetes, especially the oatmeal cure, and gives the tabulated details of the special diet and metabolism in sixteen cases of diabetes. His experience and research throw light on the mechanism of the oatmeal cure. They suggest that the excessive proportion of sugar in the blood is an essential factor in the clinical picture of diabetes. When the patient fasts, this sugar is drawn out of the blood and tissues, and restriction to a diet of green vegetables is almost equivalent to fasting. This explains the advantages from restriction to green vegetables for a day or two before commencing the oatmeal cure. It also explains the fluctuation in the tolerance. The condition of the kidneys is another important factor; the kidney cells may become less permeable for the sugar in the blood than normal kidney cells—Neubauer has found an excessive proportion of sugar in the blood in some nephritics without any glycosuria; glycosuria may disappear in the course of nephritis. Blum presents evidence to prove that the success of the oatmeal cure is dependent on the intensity of the disease, proving most effectual in the milder cases. Lampe has reported that von Noorden found that sixty-five were not benefited among the 310 patients given the systematic oatmeal cure, while the condition was aggravated in thirty-five, but Blum, by following the above principles, obtained excellent results in thirty-five cases. In the mild forms the old dietetic methods are equally effectual but even with these the oatmeal cure is more rapid, more easily managed and is accepted better by the patients; it seems to be immaterial whether oatmeal or wheat flour is used. For this class, that is, those who have 20 or 30 gm. of sugar after ingestion of 100 gm. of bread, he gives 200 or 250 gm. of oatmeal with as much butter and, sometimes, three or four eggs or 50 or 75 gm. of some vegetable albumin. After three days he interposes a day of green vegetables only, and the last traces of glycosuria disappear. When the glycosuria is a little more severe he commences with 125 to 150 gm. of the oatmeal but permits the same quantity of butter as above. Such a diet gives plenty of calories. With the severer form of diabetes with acidosis, the oatmeal cure has superior advantages, but not more than 100 gm. should be allowed for a day or two then only 75 gm. for a few days and then a vegetable day. In the mild form it is unnecessary to precede the oatmeal cure with the starvation vegetable day and in the severe form it may be dangerous, while there is every advantage in interposing a vegetable day after two or three days of the oatmeal cure.

Beiträge zur Klinik der Tuberkulose, Würzburg

XX, No. 1, pp. 1-214. Last indexed July 1, p. 52

64 *Tuberculosis in the Liedolsheim District. (Ein Beitrag zur Pathogenese der Tuberkulose.) K. Dörner.

64. **Pathogenesis of Tuberculosis in a Given District.**—The 214 pages of this issue of the *Beiträge* are devoted to a detailed study of conditions in the Liedolsheim district, about 40 miles north of Carlsruhe, Baden, as regards the distribution and inheritance of tuberculosis in a homogeneous population in which tuberculosis is exceptionally frequent and cancer rare. The records since 1852 for a population ranging from 1,812 to 2,084 are tabulated for adults and children under various headings, the mortality from tuberculosis in families, the influence of the dwelling, food, climate and occupation, etc., while 134 pages are devoted to the detailed records of the various families. All the data confirm the danger of infection of the well in a tuberculous environment and the influence of insanitary homes, and that direct inheritance of tuberculosis is a negligible factor in comparison with living in close contact with a consumptive. Dörner does not think that the public sanatoriums are of much use in general prophylaxis of tuberculosis as they do not admit the advanced cases, and these are the ones dangerous for their environment. The recent increase in the fatal non-tuberculous pulmonary affections tends to offset any improvement in the mortality from tuberculosis. The aim should be, he declares, to improve the economic and health conditions in the rural districts and villages; this would not only strengthen the very foundations of the state but would counteract the trend to the cities. In the district studied over half the total deaths from tuberculosis occurred in one-room houses, 15 per cent. of the total houses having 36.4 of all the deaths.

Berliner klinische Wochenschrift

June 26, XLVIII, No. 26, pp. 1165-1212

65 *Fluctuations in Course of Syphilis of the Nervous System. (Ueber die Schwankungen im Verlauf der Nervensyphilis.) J. Benario.

66 *Adapting Capacity of the Organism as a Guide in Treatment. (Ueber die Anpassungsfähigkeit des Organismus in ihrer Beziehung zur Pathologie und Therapie.) M. Katzenstein.

67 Behavior Under Tuberculin of Inflammatory Processes in the Skin. (Verhalten entzündlicher Bildungen der Haut gegen Tuberkulin.) A. Sternberg.

68 Poisoned Arrows from Central Africa. (Giftpfeile aus Kilo von der centralafrikanischen Seenexpedition Seiner Hoheit des Herzogs Adolf Friedrich zur Mecklenburg, 1907-1908.) M. Krause.

69 *Transplantation of Female Genitals into Male Dogs and Application of the Method in the Clinic. E. Engel.

70 *Anus in Vulvar Vestibule. (Anus vestibularis.) J. Pfeifer.

65. **Fluctuations in the Course of Nerve Syphilis.**—Benario has found records in the literature of seventy-six cases of neurorecurrences of syphilis under mercury or potassium iodid alone, and 150 cases under salvarsan treatment. He analyzes this material, tabulating the details and comparing the cases with and without salvarsan, the ophthalmologic findings and the findings in the auditory nerve. From all these data he deduces the conclusion that the neurorecurrences under salvarsan treatment, which Finger published as serious by-effects of salvarsan, in reality should be regarded as purely syphilitic, morbid phenomena. Hence it follows, he says, that Finger's assumption of a toxic neurotropic action on the part of salvarsan is untenable. The treatment of the neurorecurrences should be prompt and energetic. Expectant therapeutic treatment in presence of nervous manifestations of syphilis, he warns, is a very serious matter.

66. **Capacity of the Organism to Adapt Itself to Conditions.**—Katzenstein declares that this strange and interesting faculty of the organism which enables it to adapt itself to circumstances should be utilized in treatment more than is done at present. Nature's methods should be studied more closely and imitated. As an attempt in this line he reports experimental research on dogs, introducing a wisp of intestine or spleen into the animal's stomach. In every case it was promptly digested although the piece thus introduced into the stomach was not detached from the rest of the organ and was well nourished and retained its vitality until totally digested. A wisp of duodenum or of stomach tissue introduced through the wall of the stomach into its interior was not affected by the digestive juices and persisted unharmed. This difference in the fate of the wisps of tissue was evidently due to the presence in the stomach and duodenum walls of some substance which neutralized the action of the pepsin, that is, the walls of these organs must secrete an antipepsin. This suggests the possibility of an artificial production of antipepsin as a causal treatment of gastric ulcer. The adapting capacity of the organism is shown further in the work of the heart and in the bactericidal properties acquired by certain tissues which are liable to be contaminated with bacteria, such as the mouth and the peritoneum; they are able to destroy or tolerate without harm amounts of bacteria which would set up serious mischie if they were introduced into regions where contact with

bacteria is almost excluded, such as the interior of joints, the spinal cord and the brain. Another example of the adapting capacity which may prove a guide to treatment is the action of the adjacent muscles in forcing the blood along in the veins. The veins lack the muscular fibers of the arteries which permit the arteries to enlarge and take up the work of collateral circulation at need. The veins cannot grow in this way; they merely stretch and varices result except where the environing muscles exert such compression on the veins that the contents are mechanically forced along. He thinks that a hint may be discerned here for proper treatment and prevention of varicose enlargement.

69. **Transplantation of Ovaries.**—Engel has been experimenting on animals transplanting the ovaries from one to another, and he here reports two clinical cases of the kind. The sound parts of the ovaries removed from one patient were implanted on the uterus of a second patient whose uterine adnexa had been removed for disease. Both women are in good health and have shown no signs of the artificial menopause otherwise liable after ovariectomy. A number of authors, he states, have published results showing that the women were spared the effects of the artificial menopause when ovarian tissue was left almost anywhere in the body. Croom and Frank have each reported a normal delivery of a healthy child about four years after scraps of the ovaries from another woman had been implanted in the broad ligament. The prospects of retaining normal ovarian functioning are certainly much better, Engel remarks, when the ovaries are implanted directly on the uterus as in his two cases. The interval since has been only a few months.

70. **Anus in Vulvar Vestibule.**—Pfeifer states that the deformity which he calls vestibular anus is one of the rarest and most interesting defects in embryonal development. He knows of only thirty-four cases on record; only eleven of the women bore children; four were married without children. The case reported was that of a young married woman who had never menstruated until after her marriage. Only one of her ten brothers and sisters lived beyond the age of 5, but none was known to be deformed and the parents are healthy. In his patient Botallo's duct was patent. The muscles of the region of the vestibular anus were stout and ensured continence so that he did not attempt any operation, conditions being fairly satisfactory, but he warns of the grave danger liable from gonorrheal infection in such a case involving the rectum.

Deutsche medizinische Wochenschrift, Berlin

June 29, XXXVII, No. 26, pp. 1201-1248

71 Treatment of Pulmonary Emphysema. F. Jamin.
72 *Bronchoscopy in Young Children. G. Killian.
73 Paralysis in Guinea-Pigs Resembling that of Epidemic Poliomyelitis. (Ueber eine der Kinderlähmung des Menschen sehr ähnliche Erkrankung des Meerschweins.) P. H. Römer.
74 Sources of Error in Serodiagnosis of Echinococcus Disease. K. Henius.
75 *Operative Treatment of Suppurative Labyrinthine Meningitis. L. Stacke.
76 Physiologic Action of Light in the Kellogg Light Bath. S. Brustein.
77 Two Cases of Obstinate Fever in Third Stage of Syphilis. A. Scheglmann.
78 *Physiology and Pathology of Digestion. (Verdauung.) M. Cohn. Commenced in No. 25.
79 Successful Mobilization and Suture for Three and One-Half-Inch Gap in Urethra. P. Sick.

72. **Bronchoscopy for Small Children.**—Killian reports nineteen cases, some from his own experience, in which after removal of the foreign body the dyspnea increased after a longer or shorter interval and intubation or tracheotomy became necessary a few hours to a few days later. He is convinced that this occurrence is even more frequent than is shown by the records, and his experiments on the cadaver have revealed the explanation, namely, that the subglottic passage is much narrower than generally supposed and the foreign body, especially if it is one that is forced back and forth by the breath, is almost certain to irritate this space. The diameter of the subglottic space is not over 3.5 mm. in a child 8 months old, 45 cm. in height, while at 2 years the diameter is only 6.5 mm., the child 80 cm. tall, and 7 mm. at 3 years, 94 cm. tall. At the age of 7 the diameter is 8 mm., the child 120 cm. tall; at 10 the diameter is 9.5 mm.—these are averages of 22 fresh cadavers. Analysis of the nineteen cases reported shows that the size of the tube used in bronchoscopy was too large for the diameter of the subglottic space, judging from the child's age. In addition to this inevitable injury, there must have been trauma from the introduction of the tube, especially when the foreign body was a bean or similar substance that had swollen, so that there was great difficulty in extracting it, which had to be done in fragments. The longer the interval before removal when a smooth body like a bead had been propelled by the breath again and again against the glottis the greater the inflammation. Killian's study of the subject shows that any pronounced swelling in the subglottic region should contra-indicate bronchoscopy from above. In a recent case of this kind the subglottic swelling would certainly have become dangerously severe if he had introduced the tube, so he did not attempt it but easily removed the small pebble through a tracheotomy opening, with the further advantage that the subglottic swelling promptly subsided spontaneously, so that the cannula could be removed the very same evening. Upper bronchoscopy is also contra-indicated when the foreign body is a bean, as these swell so quickly and so much that they cannot be extracted through the larynx.

75. **Labyrinthine Meningitis.**—Stacke comments on the good prospects for operative treatment in meningitis propagated from the middle ear by way of the labyrinth. Since we have learned to detect functional disturbances in the labyrinth, especially in the vestibule, it is no longer difficult to diagnose these cases in their incipiency, detecting them in the phase of suppuration in the labyrinth, the diagnosis facilitated by the findings on rachicentesis. The latter shows whether the dura will have to be incised. A deep abscess may form in the cerebellum instead of diffuse meningitis developing, in which case the incision will have to be carried into the cerebellum. Alexander has reported a case thus cured, Wittmaack two, and Stacke here reports the details of another. The last patient was a woman of 34, cured by the operation, which put an end also to the chronic ear affection. Stacke emphasizes the importance of lumbar puncture in ear disease, the findings not only revealing intracranial otitic complications by the composition of the fluid, but also by the pressure. With repeated lumbar puncture he has been able to detect and operate for an intracranial complication before serious harm had been done, and also to refrain from operating in dubious cases in which the course proved the correctness of the conclusions drawn from the normal cerebrospinal fluid. He has never witnessed the slightest harmful by-effect from lumbar puncture, and it gave the clue to successful treatment in the case reported; the cure has been complete for two years to date. Vomiting is one of the gravest symptoms when it comes on with a suppurative ear disease, especially when accompanied by vertigo, fever or intense headache. Rachicentesis should be done at once. He regards the radical operation as indicated with these symptoms even when the fluid is clear, but if the severe symptoms do not promptly and permanently subside, the labyrinth should be operated at once, and repeated lumbar puncture will permit an oversight of conditions as the cure progresses. Success depends on the promptness of the intervention.

78. **Physiology and Pathology of Digestion.**—Cohn has obtained very instructive findings by having the patient swallow two small capsules filled with bismuth and then examining him with the Roentgen rays. The ordinary bismuth technic distends the stomach and distorts the actual picture, while one or both of the bismuth capsules float on top of the stomach content and may be arrested at a point much higher than the stenosis is apparently located by other technics. The higher the stenosis the more difficult the operation, as the point is hidden by the ribs. Even after the ordinary bismuth suspension technic has been applied, it is a good plan to follow it with the bismuth capsules, as this may confirm the enlargement in connection with spastic stenosis and thus differentiate a pyloric ulcer. He gives radiographs of a number of typical cases, showing various unexpected features of the physiologic processes in the intestines; among them is one that

shows three segments of the large intestine contracted concentrically at brief intervals, so that the shadow is like that of three strings of beads. He explains this tonic contraction in part as a process to squeeze the fluid out of the feces—part of the physiologic task of the large intestine. He ascribes great importance to the intestinal gases as a factor in the movements of the feces, regarding the gases accumulated at the splenic flexure as a kind of buffer, so that the splenic flexure may be regarded as the first natural sphincter. Any exaggeration of this normal sphincter function would lead to distention of the large intestine, the meteorism possibly so severe as to induce distention ulcers. The gases accumulate mainly on the left side and are liable to push the stomach far over to the right, stretching it into queer shapes. This may explain some of the puzzling radiographs of the stomach. He found extensive accumulations of gas in the splenic flexure with pathologic conditions in the left chest, some inflammatory affection there arresting by reflex action the excursions of the diaphragm on that side. The accumulated gases at the splenic flexure push up the paralyzed diaphragm and may alter the position of the heart and large vessels, throwing light on certain hitherto puzzling functional disturbances. In examining with the Roentgen rays it must be remembered that the gases seek always the highest point, and thus they change about as the person lies or stands. In conclusion, Cohn urges physiologists to pay greater attention to research with the Roentgen rays in this special field of work. His previous communication on this floating capsule test of stomach functioning was summarized in The Journal, Nov. 5, 1910, page 1688. One of the capsules contains half a gram and the other a gram of bismuth, so that one will float and the other sink to the bottom, or both are given of the same weight so that the two will float side by side. When they are then seen one above the other it shows that the lumen has become contracted, so that there is only room for one at a time.

Jahrbuch für Kinderheilkunde, Berlin

June, LXXIII, No. 6, pp. 675-790

80 *Cerebral Infantile Paralysis. (Zur Klinik und Pathologie der cerebralen Kinderlähmungen.) A. Lindemann and F. v. Marenholtz.
81 *Splenic Anemia in Children. S. Ostrowski.
82 *Roentgen-Ray Examination of Cicatricial Stenosis of the Esophagus in Children. H. Flesch and I. Peteri.
83 Chvostek's Sign Suspended on Approach of Convulsions. (Facialisphänomen und eklamptischer Anfall.) W. Stoeltzner.
84 *Intercurrent Vaccination Aborts Whooping-Cough in Infants. (Zur Behandlung des Keuchhustens im frühen Säuglingsalter.) Mehnert.

80. **Cerebral Infantile Paralysis.**—Lindemann and Marenholtz report four cases of cerebral paralysis in its initial stage in infants with necropsy findings. They belonged to the class of vascular lesions with hemorrhage in the brain or meninges or subdural space resulting from trauma affecting the skull or other mechanical injury before, during or after birth, and checking the growth of parts of the brain. Cerebral paralysis resulting from actual malformation in the germinal tissue is comparatively rare, while encephalitic processes due to various infections or intestinal affections are more common. This classification of cerebral paralysis into these three groups according to origin is more rational than classifying them by symptoms which may be common to all forms.

81. **Splenic Anemia.**—Ostrowski reviews the clinical picture of splenic anemia as he has observed it in ten infants between 1 and 3 years old. All had been fed early with cow's milk, and there was a history of diarrhea in all. The children were under weight and pale and had rachitis to a greater or less extent. The spleen was enlarged, but the liver was of normal or nearly normal size, and the lymph-nodes were not enlarged. He is convinced from these experiences and study of the literature that splenic anemia is a secondary condition, generally following some catarrhal affection of the digestive tract in undernourished children. The changes in the red corpuscles are typical of splenic anemia. In differentiating it from leukemia, note the lack of noticeable leukocytosis and the changes in the lymph-glands with the comparatively small proportion of myelocytes in the blood. The prognosis of splenic anemia is grave, he adds, saying that treatment seems to be necessarily restricted to iron, arsenic and the Roentgen rays.

82. **Roentgen-Ray Examination of Stenosis of the Esophagus in Children.**—Flesch and Peteri comment on the shocking frequency in children in Austro-Hungary of corrosion of the esophagus from drinking lye. At the Stefanie hospital at Budapest there have been in the last nine years 516 cases of acute disturbances from this cause, and 267 cases of cicatricial stenosis of the esophagus, all the result of leaving a solution of lye ready to be used in washing, within reach of young children. It has proved possible to examine the condition with the Roentgen rays by having the children swallow a soft porridge containing 30 or 40 per cent. of oxid of zirconium. This substance is insoluble in acids, strong alkalies, etc., and seems to have no action when injected subcutaneously into animals so that no toxic action need be feared from it; for Roentgen work it has several advantages over bismuth. As the child swallows each mouthful of the porridge, the progress of the mouthful down the gullet can be watched with the Roentgen rays, and the regions where it passes along smoothly and where it seems to be arrested or makes its way slowly are marked and compared. By this means it has proved possible to detect multiple strictures, and treatment applied on the knowledge thus obtained has proved remarkably successful instead of the blind, haphazard work without radioscopy. The details of twenty cases are given to show the workings of the method. Investigation in this way can be applied during the first six weeks after the injury when it is still dangerous to introduce a sound.

84. **Vaccination in Treatment of Whooping-Cough in Infants.**—Mehnert writes from Jamestown, Cape Colony, to expatiate on the remarkable way in which whooping-cough disappears in young infants after an intercurrent vaccination. The children must be protected from renewed whooping-cough infection, and if not seen until the stage of venous congestion in the brain has been reached, venesection may be advisable in addition to the vaccination. The effect of the vaccination does not seem to be modified by the presence of the pertussis. He is so convinced of the efficacy of vaccination as a means of aborting pertussis, that he suggests the advisability of postponing the vaccination of infants until they are a year or so old, so as to utilize its dual action in case of an epidemic of whooping-cough.

Medizinische Klinik, Berlin

June 25, VII, No. 26, pp. 991-1030 and Supplement

85 *Strabismus and the General Constitution. (Schielen und Gesamtveranlagung.) F. Krusius.
86 *Treatment of Acute Pancreatitis. H. H. Dreesmann.
87 *Two Cases of Febrile Iodin Poisoning. (Jodfieber.) A. Konried.
88 Dupuytren's Contracture as Trophic Element in Clinical Picture of Tabes. G. Stiefler.
89 Advantages of Tuberculin in Treatment of Tuberculosis of the Kidneys. (Weitere Erfahrungen über die specifische Therapie der Nierentuberkulose.) W. Karo.
90 Bacteria Content in Sputum, Blood and Stool with Pulmonary and Intestinal Tuberculosis. (Vergleichende Untersuchungen des Bakteriengehalts im Auswurf, Blut und Kot bei tuberkulöser Lungenschwindsucht und tuberkulöser Darmerkrankung.) W. Boer.
91 Pathogenesis, Diagnosis and Treatment of Polyneuritis. R. Bing.

85. **Strabismus and the General Constitution.**—Krusius has found in his experience that children with squint were either mentally backward or exceptionally bright and ambitious—each a psychopathic extreme, or there were other signs that the children were below par. A latent tendency to squint may be observed in such children which may develop into actual squint after some fright, overexertion or infectious disease. He has witnessed the spontaneous cure of squint after removal of polyps in the nose and after a course of hygienic measures tending to restore normal balance in the physical and mental development. The general practitioner should be on the watch for the tendency to squint and should oversee the child's development, not letting the parents foster the ambition of the nervous child, while seeking to arouse it in the apathetic. Tact, patience and skill are necessary for the task, but this alone goes to the root of the matter, and by removal of the underlying cause puts an end to the disturbances.

86. **Acute Pancreatitis.**—Dreesmann reports nine additional cases since his last publication on this subject. Even when operative treatment is being considered, internal measures should not be neglected. Chief among these are the dietetic, restricting the patient to a strict antidiabetic diet, the advantages of which have been proved beyond question by his own and others' experience. As a further means to reduce the secretion of pancreatic juice, sodium bicarbonate by the mouth during meals has been recommended, but he does not think it necessary unless an operation is impending. Sedatives and stimulants are indicated, but saline infusion has not yet proved its efficacy in acute pancreatitis, and Pewsner's research seems to indicate that large amounts of salt are liable to do harm. Complete rest in bed is necessary, with ice at first and later warmth, guided by the patient's feelings. Personally, Dreesmann has had the best results with superheated air, not going above 80 C. Rinsing out the stomach may also be useful. In conclusion, he warns that patients who have passed through an attack of pancreatitis should be kept under supervision for several years, as the acute pancreatitis may recur or may pass into a chronic phase—the conditions are much the same as with appendicitis; and prophylactic measures are equally indicated.

87. **Iodin Fever.**—In Konried's first case a man of 65 with signs of amyotrophic lateral sclerosis was given potassium iodid and his temperature soon rose to fever heat. The iodid was discontinued, after which the temperature subsided to normal, but rose again each time iodin in any form was given him except by percutaneous cataphoresis of iodin salts. The patient felt well otherwise during the recurring fever, with good appetite and sleep, and the heart and lungs normal, except for a slightly increased pulse-rate and respiration. The thyroid was persistently normal. In the second case a woman of 33 presented the clinical picture of acute circumscribed thyroiditis on two occasions, and it was learned that each had followed the local application of an iodin salve without medical advice; the thyroid was a little enlarged.

Münchener medizinische Wochenschrift

June 27, LVIII, No. 26, pp. 1385-1432

92 Research on Chemical Functioning of the Cells. (Methode zum Studium der chemischen Zellfunktionen und deren Resultate.) M. Hahn.
93 *Pharmacologic Bases for Intravenous Epinephrin Therapy. W. Straub.
94 Sugar Puncture. (Zur Kenntnis der Piqure-Glykosurie.) E. T. v. Brücke.
95 Local Anesthesia for Operations on the Kidneys. A. Läwen.
96 *Influence of Temperature on the Wassermann Reaction. H. Guggenheimer.
97 Treatment of Exstrophy of the Bladder. (Ueber Blasenektopie.) E. Rehn.
98 *Pancreas Treatment in Diabetes. E. Leschke.
99 Photographing Special Features of Diseases in Children. (Zur Technik der Photographie von Krankheitserscheinungen im Kindesalter.) J. Ibrahim.
100 Spontaneous Delivery with Contracted Pelvis. (Spontangeburten bei engem Becken.) O. Jaeger.
101 Fifty Years of Research on Aphasia. P. Marie.
102 *Medical Impressions of America. F. Lange.

93. **Continuous Intravenous Infusion of Epinephrin.**—Straub reports research which confirms the assumption that epinephrin has no cumulative action. Its action, further, is exclusively local, that is, only on direct contact. This teaches that the continual infusion of a weak solution of epinephrin may prove a useful measure in therapeutics. It is thus possible to send the solution continuously into a vein and thus keep up the blood-pressure permanently while this is being done—the effect being dependent on the concentration of the solution, not on the absolute amount of epinephrin infused. It is probable that epinephrin is destroyed with peculiar rapidity; it vanishes from the blood completely and as rapidly as its action subsides.

96. **Influence of the Temperature on the Wassermann Reaction.**—Guggenheimer found in some cases a negative reaction at room temperature when the serum gave a positive reaction at the freezing-point. He could not detect any special laws regulating this in the twenty cases among the 623 tested in which this paradoxical behavior of the reaction was observed. It suggests, however, that in dubious cases it might be wise to test the serum at both temperatures.

98. **Pancreas Therapy in Diabetes.**—Leschke's experimental research shows that fresh pancreas extract increases the elimination of sugar in diabetic persons and animals, and also induces glycosuria in normal animals, with a toxic and even fatal action.

102. **Medical Impressions of America.**—Lange of Munich pays high tribute to the orthopedists of America and the many points in which they lead the world. He describes his visit here as guest of the annual meeting of the Orthopedic Association in Washington last year, and extols a number of features of medical education and institutional work. He remarks that the students of a good school like Harvard and Johns Hopkins are much better informed and better skilled in surgery and orthopedics than the corresponding students at the German universities—stating that he had ample evidence himself of this. Even in most of the other branches, he continues, according to the judgment of professors who have taught both at German and American universities, the average American student is superior to the German, and he thinks that this fact should cause the Germans to pause and ponder.

Wiener klinische Wochenschrift, Vienna

June 29, XXIV, No. 26, pp. 927-962

103 *Microscopic Examination of the Bile in Diagnosis. E. Petry.
104 Influenzal Suppurative Meningitis. E. Prasek and T. Zatelli.
105 Bismuth Paste in Treatment of Cold Abscess. E. G. Beck.
106 Cancer of Common Bile Duct. (Zur Chirurgie des Choledochuskrebses.) Spindler.

103. **Microscopic Examination of the Bile for Diagnostic Purposes.**—Petry has found microscopic fragments of gall-stones in the bile in cholelithiasis, and thinks it possible that this means of investigation may render valuable service. It is easy to see from the characteristics of the microscopic stones whether they are minute, independent concrements or splinters knocked off from the rubbing together of large stones. He obtains fresh bile for the purpose by siphoning out the stomach content half or three-quarters of an hour after the patient has ingested in the morning, fasting, 200 c.c. of olive oil at room temperature. Boldyreff announced in 1904 that oil taken in this way causes the pylorus to open and bile and pancreatic juice then flow into the stomach. Volhard applies this method to obtain pancreatic juice for examination, and Weber in 1908 found it useful to determine the presence of typhoid bacilli in the bile. Petry was able not only to detect the presence of microscopic concrements in the bile in cholelithiasis, but he found characteristic liver cells in the bile obtained in this way in six hares with chronic phosphorus poisoning. This suggests the possibility that liver affections may be diagnosed in this way in dubious cases. Since last summer Petry has been testing with the oil breakfast every patient suspected of cholelithiasis. In the first four cases nothing pathologic could be detected in the bile, but in the fifth case the bile contained minute independent concrements exactly like the large gall-stones found at the laparotomy. He gives illustrations of the microscopic findings in various cases, and discusses the differential significance of pathologically altered leukocytes in the bile and also of cholesterin crystals.

Zentralblatt für Chirurgie, Leipsic

July 1, XXXVIII, No. 26, pp. 889-920

107 Tincture of Iodin Sterilization. (Ueber Grossich's Jodtinkturdesinfektion postoperativen Ileus, Ikterus und Hautnekrosen.) R. Bertelsmann.
108 Behavior of Intestine in Respect to Digestive Activity of the Gastric Juice. (Verhalten des Darmes gegenüber der Verdauungstätigkeit des Magensaftes.) P. Fiori.
109 Care of Stump After Resection of Stomach. (Zur Stumpfversorgung nach Magenresektion.) E. Polya.

Zentralblatt für Gynäkologie, Leipsic

July 1, XXXV, No. 26, pp. 921-952

110 Importance of Systematic Collecting and Manifolding of Photographs of Clinical Cases for Teaching Purposes. (Zur Hebung des klinischen Anschauungsunterrichts.) J. Releh.
111 Operative Cure of "Vaginal Atresia of the Anus." E. Pozsonyi.
112 Influence of Depression of Left Half of Pelvis on Type of Presentation. (Ursache der verschiedenen Schädellagen.) R. Drenkhahn.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 25, XXXII, No. 76, pp. 803-818

113 Management of Abdominal Contusions. G. Tomaselli.

June 27, No. 77, pp. 819-826

114 Operations for Spina Bifida and Occipital Hydrocephalus. E. Chiavellati.

Policlinico, Rome

June 25, XVIII, No. 26, pp. 809-840

115 The So-Called Giant Flagella of Bacteria. (Sopra le cosiddette ciglia giganti o composte dei batteri.) G. Rocchi.
116 *Rhizotomy in Treatment of Tabes. (L'operazione di Mingazzini-Förster nella cura della tabe.) E. Tramonti.
117 Intermittent Fever in Cystitis in Young Children. V. Fusco.

116. **Rhizotomy in Treatment of Tabes.**—Tramonti claims for his compatriot, Professor Mingazzini of Rome, the priority for suggestion of the operation of section of the posterior spinal nerve roots for the relief of pain, but this operation is generally known now as the Förster operation, as Förster of Breslau published it as a "New Operative Method of Treating Spastic Paralysis" in 1908. The operation, however, is listed in the later American dictionaries as Dana's operation (C. L. Dana, New York), "resection of the posterior spinal nerve roots for neuralgia, athetosis and spastic paralysis." Mingazzini's recommendation of it for tabes was made at a meeting of the Accademia Medica of Rome, March 26, 1899. Förster ascribes the first operation of the kind to Abbe in 1888.

Riforma Medica, Naples

June 26, XXVII, No. 26, pp. 701-728

118 Neurasthenia. L. Bianchi.
119 Multiple Sarcomas in Small Intestine. C. Pavesio.

Hospitalstidende, Copenhagen

May 10, LIV, No. 19, pp. 505-536

120 *Phlegmonous Gastritis. J. Jensen. Commenced in No. 18.

May 17, No. 20, pp. 537-560

121 *Animal Remedy for Scorbutus in Greenland. (Animalske antiscorbutica i Grønland.) A. Bertelsen.
122 Importance of the Wassermann Reaction in Rhinology. O. Strandberg.

May 24, No. 21, pp. 561-584

123 *Tuberculin Treatment. (Nogle Forsøg med Tuberkulinbehandling.) O. Helms.

120. **Phlegmonus Gastritis.**—Jensen gives the detailed histories of ten Danish cases, and has found 121 cases on record in the literature elsewhere. The diagnosis of the affection, which used to be impossible, has been made during life in a constantly larger proportion of cases. As a rule, the phlegmonous gastritis is supposed to be typhoid fever, notwithstanding its more sudden onset and abrupt rise in temperature. Meningitis was diagnosed erroneously in two cases, and Löwenstein ascribed the disturbances to a concomitant erysipelas. In one of Jensen's cases they were ascribed to septicemia from a casual trauma. The gastric symptoms generally predominate, the vomiting being more incessant and violent, he says, than with any other affection. The vomit may be purulent, and this gave the clue in Leube's case. There is not so much systemic disturbance or such high fever with other stomach affections likely to be confounded with it. The pain in the stomach is intense and sudden, but it varies with intermissions. The pain, tenderness and spasm are at first above the umbilicus, but gradually spread downward as the peritoneum becomes involved. In one of Jensen's cases the local pain seemed to be limited to the gall-bladder, whence it radiated to the epigastrium and abdomen, but there was no jaundice, and the frequent eructations and hiccup in connection with the slight local tenderness and severe general disturbances suggested more a retroperitoneal lesion. The clinical picture resembles that of subphrenic peritonitis after perforation of a gastric ulcer. Acute hemorrhagic pancreatitis is seldom accompanied by such high fever as the phlegmonous gastritis. The patient may die during the first two or three days, or there may be a remission of symptoms until the fatal peritonitis develops. Seven writers have reported recovery after vomiting up of pus, but the ten Danish cases all terminated fatally in from forty hours to eleven days. Mikulicz operated successfully in one case, as also Bovee in a woman near term, while a number of operative attempts are on record. In several of the ten Danish cases the finding of circumscribed peritonitis at necropsy showed that operative intervention in time might have saved the patients; they died on the fifth or eighth day. In two of his cases there was a cancer in the stomach, and the phlegmonous gastritis developed suddenly after introduction of a stomach sound. In another the sound had been introduced to aid in feeding an insane woman, but this was followed at once by the signs of purulent gastritis with death in two days.

121. **Animal Remedy for Scorbutus in Greenland.**—Bertelsen states that scorbutus is prevalent in Greenland, the very name Eskimo meaning "eaters of raw meat." But, he adds, the natives have empirically found a remedy for the scurvy, namely, chewing the skin of the narwhal, the unicorn-whale. He describes research, with illustrations, showing that the skin of this fish contains a remarkable amount of glycogen, thus supplying sufficient quantities of a carbohydrate to cure the scorbutus. The walrus liver also contains much glycogen.

123. **Tuberculin Treatment.**—Helms reviews his experiences with different kinds of tuberculin in 300 patients with various stages of pulmonary tuberculosis. While the results were not very striking, yet they encourage further work in this line with "old" tuberculin, he declares, and suggests that the treatment need not be feared even if it does occasionally induce a little reaction.

Hygiea, Stockholm

June, LXXIII, No. 6, pp. 673-783

124 Mercuriol-Oil in Syphilis. (Om merkuriol-oljans indikationer och dosering samt om kvicksilfverintoxikation och angina resp. stomatitis ulcero-gangrænosa.) M. Möller.
125 *Experiences with Cataract Operations. (Erfarenheter angående linsens aflägsnande ur ögat.) K. Bjerke.
126 *Combined Action of Sodium Iodid Taken Internally and Ozone Inhaled in Local Treatment of Tuberculosis. ("Fallet Ester.") S. A. Pfannenstill.

125. **Experiences with Cataract Operations.**—Bjerke reviews twenty years of ophthalmologic work, especially with cataract. One of his patients had senile delirium and tore off the dressings again and again after the cataract had been removed, but without impairing the success of the operation. In another case he successfully removed a cataract from each eye of a man who had been blind from this cause since his tenth year.

126. **The Two-Way Route in Local Treatment of Tuberculosis.**—Pfannenstill here reports the final outcome of an especially severe case of pulmonary tuberculosis in a woman with inherited syphilitic taint whose extensive throat lesions healed completely under the combined action of sodium iodid taken internally and ozone inhaled. Nascent oxygen was formed when the ozone came in contact with the sodium iodid attracted from within to the lesion. (His previous communication on this method of local treatment was summarized in The Journal, July 16, 1910, page 264.)

Ugeskrift for Læger, Copenhagen

June 8, LXXIII, No. 23, pp. 823-870

127 The Tasks for School Hygiene. (Skolehygiejnens Opgaver i Nutiden.) P. Hertz.
128 The Use of Sulphuric Acid in Manufacture of Cereals. (Om Præparation af Levnedsmidler, specielt Byggryn, med. Svovlsyrling.) A. Hansen.

Books Received

Gynecology. Edited by Emilius C. Dudley, A.M., M.D., Professor of Gynecology, Northwestern University Medical School, and C. von Bachellé, M.S., M.D., Assistant Professor of Obstetrics, Chicago Policlinic and College of Physicians and Surgeons. Volume IV. Series 1911. The Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Cloth. Price, $1.25. Pp. 232, with illustrations. Chicago: The Year-Book Publishers, 1911.

Medical Missions a Demonstration of God's Love. Annual Report of the Hanyang Medical Mission in Connection with the American Baptist Foreign Mission Society. In Charge of Rev. George A. Huntley, M.D., and Miss Emilie Bretthauer, M.D. For the Year Ending Dec. 31, 1910. Paper. Pp. 19, with illustrations.

Translocation of Plant Food and Elaboration of Organic Plant Material in Wheat Seedlings. By J. A. Le Clerc and J. F. Breazeale, Laboratory of Plant Physiological Chemistry. Bull. 138 U. S. Department of Agriculture, Bureau of Chemistry. Paper. Pp. 32. Washington: Government Printing Office, 1911.

Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. A Manual of Practical Psychotherapy, Designed Especially for the General Practitioner of Medicine and Surgery. By Henry S. Munro, M.D., Omaha, Neb. Third Edition. Cloth. Price, $4. Pp. 409. St. Louis: C. V. Mosby Co., 1911.

The Essentials of Food. By Donald Stewart, M.D. Cloth. Price, 3 shillings 6 pence net. Pp. 182. London: John Bale, Sons & Danielsson, 1911.

Thirty-Third Annual Report of the Board of Health of the City of Lawrence, Mass. For the Year Ending Dec. 31, 1910. Paper. Pp. 65.

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INTRATRACHEAL INSUFFLATION *

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The essentials of the method of intratracheal insufflation consist, (1) in the introduction deep into the trachea of a flexible elastic tube, the diameter of which has to be much smaller than the lumen of the trachea, and, (2) the driving through this tube of a nearly continuous stream of air which returns through the space between the tube and the walls of the trachea. The distinguishing features of this method consist in the following two new principles: 1. By bringing the pure air directly to the larger bronchi, and by driving out the vitiated air from these bronchi through the force of the returning air stream, that part of the "death space" is eliminated which is represented by the mouth, pharynx, larynx and trachea. The chief aim of the complicated nervous and muscular mechanisms of respiration is to establish an efficient ventilation, capable of overcoming the obstacles offered by the mentioned "death space." A well-arranged intratracheal insufflation is fully capable of relieving and substituting the normal respiratory mechanism. 2. The practically continuous recurrent air stream prevents the invasion of indifferent or infectious foreign matter from the pharynx into the trachea.

The usefulness of the method is at least threefold. 1. It is capable, as stated before, of keeping up an efficient respiration in cases in which the normal mechanism of the external respiration fails. 2. It overcomes efficiently and conveniently the difficulties presented by double pneumothorax. 3. It offers a safe and reliable method for anesthesia, especially for the administration of ether.

In the course of the last two years, since the first publication by Dr. Auer and myself on "Continuous Respiration Without Respiratory Movements,"[1] several hundred experiments were carried out in our department at the Rockefeller Institute on the various phases and relations of the method of intratracheal insufflation. In the very short time at my disposal, I shall confine myself to brief reports and considerations of the more practical results of several series of investigations.

THE INNOCUOUSNESS OF THE METHOD

We shall deal first with the question whether any injury can be done to the respiratory organs by the use of intratracheal insufflation, as was urged, on purely theoretical grounds, by critics of this method. We devoted a good deal of attention to this point. The following results give, I believe, an unmistakable answer.

1. The method was practiced in a very large number of experiments, in most of them the insufflation lasted for many hours, and in some as long as twelve hours. In not a single case did bronchitis or pneumonia develop which had to be ascribed to the preceding insufflation. Pulmonary affections are not a rare occurrence in dogs, especially in stray animals. Nevertheless the dogs which were subject to insufflation did not show a greater disposition toward respiratory affections than animals which were not exposed to such treatment.

2. In two systematic series of experiments carried out by Dr. Githens and myself the question of aspiration was studied by means of severe tests. In one series after filling up the stomach with acid solutions, vomiting was produced by hypodermic injections of apomorphin. The vomited material was left in the mouth and pharynx for a long period during the insufflation. In another series mouth and pharynx were filled with a suspension of powdered charcoal. The animals were kept during this period under deep or light ether anesthesia. In not a single case in which insufflation was practiced was vomited matter or some of the charcoal found in the trachea or bronchi. On the other hand, when a tube was in the trachea, but no air was driven through the intratracheal tube, and the condition, therefore, was, to a degree, similar to Kuhn's method of peroral intubation, the contents of the mouth and pharynx often came out through the free end of the tube. Furthermore, when deep anesthesia was induced, in these latter experiments, especially in the experiments with charcoal, the animals died in a few minutes, and at the autopsy trachea and bronchi were found to be loaded with charcoal. When the animal was only lightly anesthetized, so that the deglutition reflex remained active, rapid swallowing seemed to clear away most of the foreign material present in the pharynx. These parallel experiments demonstrate with great distinctness the efficiency and importance of the recurrent air-stream in the insufflation method.

3. In an investigation carried out by Dr. Lamar and myself we succeeded, in a large number of experiments on dogs, to produce lobar pneumonia in every instance, with a mortality of over 15 per cent. Employing now the same method, Dr. Githens and I produced lobar pneumonia in a series of nine dogs and subsequently practiced insufflation on them for one hour every day for eight to ten days. Not a single animal of this series succumbed to pneumonia. These latter experiments certainly show that insufflation brings no greater danger to the respiratory organs even when the animals are already afflicted with such a serious but not intensely fatal disease as lobar pneumonia.

All our various extensive experiences, therefore, demonstrate conclusively that the method of intratracheal insufflation, far from being a menace to the respiratory organs, is rather capable of protecting them against injurious invasions of foreign matter.

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* From Department of Physiology and Pharmacology of the Rockefeller Institute for Medical Research.

[1] Jour. Exper. Med., xi, 622, 1909.

INSUFFLATION, DIFFERENTIAL PRESSURE AND THE FACTORS OF SAFETY

Significant is the following consideration of intratracheal insufflation as a method to overcome the dangers of pneumothorax. Some surgical writers see in the intratracheal insufflation nothing more than a modification of the Brauer, or the overpressure, method; neither do they anticipate that it is capable of accomplishing more than that method. This view is based on an unfamiliarity with the essential principles of either of the methods and is entirely erroneous. The methods of overpressure as well as that of underpressure aim only at keeping the lungs distended, but do not provide for any ventilation of the lungs. This is left, as in the normal animals, entirely to the activity of the respiratory muscles. It is fundamentally different, however, with the method of intratracheal insufflation; if it is properly adjusted, it is able to carry on the process of ventilation with complete efficiency, without any aid of the respiratory mechanism. This difference is a vital point, which, however, is imperfectly understood by the workers in this line. Our own attention was directed to the importance of this difference by some striking results obtained by Dr. Auer and myself in a series of experiments in which the Brauer method and the method of intratracheal insufflation were compared. In these experiments after both pleural cavities were kept widely open for one hour or an hour and a half, both lower lobes of the lungs were removed from their approximation to the diaphragm and the posterior walls. *When using the Brauer method the animals died in a short time, often in two or three minutes.* Furthermore, the replacing of the lobes and even the starting of proper artificial respiration could not, in many, if not in most cases, restore the activity of the heart. In the insufflation method, on the other hand, even a fairly complete lifting out of the lungs from the thoracic cavity never interferes with the activity of the heart. A further difference in the behavior of the heart could be observed, when the pressure keeping up the inflation or the insufflation was discontinued and the lungs permitted to collapse. *In the Brauer method, within a few seconds after the discontinuation, the heart becomes slow and is liable to stop in less than half a minute;* while under the insufflation method a minute and a half and even two minutes may pass before the effects of asphyxia will show themselves. The same difference is manifest in the readiness with which the heart recuperates after the pressure is restored again. What is the cause of this difference?

To my mind the difference consists in the unquestionable fact that *in the Brauer method the respiratory process is frequently deprived of nearly all of its factors of safety,* while in the method of the intratracheal insufflation none is missing. The question of the preservation of the factors of safety is such an important requirement in many fields of surgical activity that I shall try to explain its meaning a little more fully. A few years ago, in a Harvey lecture, I showed that the various mechanisms of the animal body are, like human-made machines, well provided with factors of safety. When a bridge, a building or a machine is constructed, it is built, in the first place, to be able to resist the expected maximum of stress or to accomplish the expected maximum of work. Beside this provision still further powers of resistance are added to the structure, or dynamic efficiency is added to the machine, in order to meet unexpected exigencies. These additions are termed *factors of safety;* they may consist of fourfold units or of tenfold, twentyfold, etc., according to the object for which the structures or the machine are built.

In the animal body we find that the kidneys have functional substance more than twice, the liver four times, the thyroids six times, the pancreas at least ten times more than is absolutely necessary. To come to the point under discussion, the normal respiratory mechanism provides for an exchange of gases to a much greater extent than is absolutely indispensable for the maintenance of life—it is provided, as we say, with a large number of factors of safety. How large they are, we may get an idea when we analyze the conditions prevailing in the Sauerbruch or in the Brauer methods. As stated before, in both methods the actual respiration is accomplished by the contraction of the respiratory muscles. By the inspiratory distention of the thoracic cavity, and the decrease of pressure therein, air is made to rush into it, to make up the deficit. In normal animals the air can rush in only through the trachea; in animals with open thorax, however, air may rush in also through the opening in the wall of the thorax. The same is true also of the expiration, the movements of the air being only in the reverse direction. Now since the opening in the thoracic wall during an intrathoracic operation is by far much larger than the lumen of the trachea or that of the glottis, it is evident that only a very small fraction of the air enters and leaves the tracheal path during inspiration and expiration. That fraction of a respiration is surely too small to maintain life even for a short time. However, we may assume that even under these circumstances air rushes through the trachea into the lowest and most posterior part of the lungs, by the virtue of their close approximation to the respiratory muscles, more readily than through the artificial opening in the thoracic walls. These parts of the lungs, when in normal position, contribute therefore essentially to the maintenance of life under these precarious circumstances; hence the fatal effects of the separation of the posterior lobes from their natural approximation. But, whatever the mechanism may be, it is evident that the total sum of the various contributions to the exchange of air in the methods of differential pressures can be only a small fraction of the exchange which takes place in normal conditions. Nevertheless this fraction is frequently sufficient to keep up the life of the animal for a long time, to keep it up during an operation which may last for several hours.

This shows that the exchange of gases in the normal external respiration is many times more extensive than is necessary for the immediate maintenance of life; in other words, the normal function of the external respiration is provided with many factors of safety. But it shows also that under differential pressure the external respiration is frequently deprived of most of its factors of safety. What is said of the external respiration applies also to the internal respiration, and we may therefore say that in operations under the Sauerbruch or the Brauer methods the nerve cells of the medulla and the muscle fibers of the heart continue to functionate under a minimum exchange of gases. But we must remember that these structures are very sensitive tissues. Normally their activity is protected against any mishap by a great many factors of safety, by an abundance of gaseous exchange. When they persist on a minimum, they are continually on a danger line; the slightest mishap may affect the minimum, and the life of these sensitive structures is extinguished, and what is worse a subsequent abundant supply of internal respiration frequently fails to resuscitate them—artificial respiration fails to resuscitate the animal which was exposed for a long time to the dangers of a minimum respiration.

And here is the general significance of the preservation of the factors of safety during a surgical procedure. Life may seem to continue satisfactorily without the factors of safety as well as with them. But when persisting only on a minimum, life is continually on the borderline of danger; any small accident may destroy it beyond recall. With an abundance of factors of safety small incidents leave no impression, and when a stronger mishap occurs, proper means, early applied, bring recovery—the controlling sensitive tissues are still in a recoverable state. This applies to many surgical conditions. In intrathoracic surgery, under differential pressure, external and internal respiratory processes are deprived of most of their factors of safety, the life of the medulla and of the heart persists throughout the operation on a minimum of the gaseous metabolism. If the operation is terminated without an incident the individual may recover without manifesting any sign that it ever was in danger. If, however, some mishap occurs, be it ever so small, that minimum of internal respiration may become extinguished and life be gone beyond recovery. When this occurs, and it has occurred, surgeons ascribe the fatal result to a vagus effect, a reflex shock and what not else. But the mishap, whatever it may have been, was only the accidental terminal cause; the real cause of the fatal result is to be found in the fact that the life of the patient, under differential pressure, persisted too long on a minimum supply of internal respiration, and medulla and heart lost all their power of resistance. The addition of appliances for artificial respiration to differential chambers will frequently fail to mend the evil; artificial external respiration, and be it ever so efficient, often will not restore the life of the sensitive nerve cells and the heart muscle fibers which, after being exposed for a long time to a mere minimum of internal respiration, lost all their recuperating power.

Summing up in a few words: Under even the best-arranged differential pressure methods, the life of patients with a double pneumothorax persists on a greatly reduced supply of external and internal respiration and is continually exposed to the dangers which may result from it; under properly arranged intratracheal insufflation, however, the patient is supplied with an abundance of external and internal respiration and is at no time in danger from this source.

ANESTHESIA BY INTRATRACHEAL INSUFFLATION

In my first paper[2] on the method of intratracheal insufflation about fifteen months ago my statement with regard to anesthesia read as follows: "On the basis of my observations and experiments it seems to me that the giving of ether by the method of intratracheal insufflation is the safest and the most effective way of administration of this anesthetic." Since making this statement we had considerable experience with the administration of ether by the insufflation method. We used and use it daily, and for all kinds of experimental operations; it is the routine method of anesthesia in our laboratory. And I am willing to state now, and even with greater emphasis than before, that it is the ideal method of administration of ether anesthesia. If properly adjusted and supervised the anesthesia may last for many hours, without the occurrence of serious incidents during the anesthesia or of serious consequences subsequent to it. Eight dogs were kept for twelve hours continuously under profound anesthesia; there were no disturbing incidents during the anesthesia and none subsequent to it. Even in these prolonged anesthesias the animal recovered from them in less than half an hour.

In the numerous experiments of Shaklee and of Githens on the treatment of strychnin poisoning by insufflation, the animals were kept continuously under profound anesthesia for many hours, sometimes as long as eight. The anesthesia by the insufflation method is far superior in many respects to that of the usual method of administration of ether. It is much safer, the anesthesia is much more readily controlled; the animal gets under it more quickly when the ether is turned on and gets more quickly out of the anesthesia when the ether is turned off; it requires only scant supervision, and not much ether is used up. The method offers also the great safety that efficient artificial respiration may be immediately instituted at the first appearance of dangerous or even only of doubtful symptoms, and this merely by turning of a screw clamp or a stopcock. The effects of anesthesia disappear very rapidly and especially so, when after interruption of the anesthesia pure air is insufflated for a few minutes before the removal of the tube.

Of the various studies which we carried on regarding the relation of the insufflation anesthesia to blood-pressure, respiration, etc., I shall mention here very briefly only a few facts. In the first place I wish to make a correction. In my first paper I stated that I did not succeed in killing dogs with ether, when administered by the insufflation method. In recent studies of Dr. Githens and myself on the influence of the anesthesia on blood-pressure and respiration, we found that under certain conditions ether might become fatal even when administered by insufflation. These studies brought to light instructive results. When an animal is brought under the influence of anesthesia under conditions which are just sufficient to make the anesthesia complete, for instance under an insufflation pressure of 30 or 40 mm. of mercury and with an air stream going three-fourths through a bottle containing ether and one-fourth as pure air, the animal will remain in the same excellent state of blood-pressure, respiration, etc., as long as the external conditions remain the same. However, if the conditions change, for instance, if the entire air stream passes through the ether bottle, we may see now the blood-pressure starting to go down, its various undulations gradually disappearing, and the respiration becoming more and more shallow and slow, until it completely ceases. Even then the heart continues to beat regularly and effectively, although the pulse pressure is usually somewhat decreased. If this state is permitted to continue for an hour or longer, the animal cannot be saved any more. However, if twenty or thirty minutes after the spontaneous respiration ceased the former conditions are restored, or still better, the insufflation of entirely pure air is instituted, the blood-pressure begins to rise and the respiration begins to make its appearance, until in a comparatively short time normal and safe conditions prevail again. In these experiments a strong overdose of ether paralyzes first the functions of the medulla and much later that of the heart. Of course these were severe experimental tests and cannot and should not occur in human surgery. Here it should be the rule to reduce the ether as soon as the respiration becomes shallow and slow.

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[2] Meltzer, S. J.: Med. Record, lxxvii, 477, 1910.

Of the further remarks which I wish to make and which of necessity will have to be extremely brief and aphoristic I shall mention in the first place the important fact that if the intratracheal tube is only of moderate size, the insufflation pressure can be increased considerably without causing any injury whatsoever. Under these conditions *an increase of 30 mm. of mercury in the external pressure may mean an increase of only 1 millimeter within the bronchi.* The increase of pressure will often prove beneficial when the patient shows some cyanosis; the tube might in this case be too small. The increase of pressure might prove useful also in facilitating the anesthesia in very resistant individuals. Such an individual resistance to ether occurs also among animals, but not with that frequency and to that degree as it may be met with in human beings with their goodly number of neurotics and alcoholics. The higher external pressure is the means of driving into the bronchi a larger quantity of ether (and air) in a unit of time. A similar result may be obtained by frequently exerting a slight pressure on the larynx for a second or two; this brings a greater distention of the lungs with all the advantages which are to be derived from it. I may mention here also the facts that the anesthesia is more rapid and more effective, the larger the bottle is which contains the ether and the more ether it contains.

Our studies of chloroform are, so far, not so extensive as those of ether, but we know already a few things about it which ought to be mentioned here. Prolonged anesthesia by chloroform led sometimes to hyperemia and even to inflammation of the lungs. Furthermore, chloroform anesthesia requires careful supervision; it affects readily the functions of the medulla. However, with proper supervision chloroform may be used for shorter operations with perfect confidence and it may be readily employed especially in individuals resistant to ether, at least for the purpose of the induction of the anesthesia.

In using insufflation in human surgery, whether for the purpose of anesthesia or for intrathoracic operations, it ought to be the rule that the continuous air stream should be interrupted five or six times per minute for one or two seconds at a time. From extensive experience we know that these short interruptions, which do not admit any aspiration, constitute a very valuable factor, a factor of safety, in making insufflation safe and efficient. The interruptions help also in recognizing the degree of the distention of the thorax. If the distention is too strong, it is due to too high an external insufflation pressure, which is easily remedied, or the tube is too large. In the latter case, no time should be lost in exchanging the tube for a smaller one. Too little distention is due to the comparative smallness of the tube. In this case, it is not always necessary to exchange the tube for a larger one. Increase in insufflation pressure, which should be done not too abruptly, will frequently remedy the deficiency. In addition, a momentary pressure on the trachea, frequently exercised, does excellent service. The pressure, however, is best applied to the larynx where a slight pressure causes a sufficient distention of the lungs.

The tube must possess a certain degree of rigidity and elasticity. However, care must be exercised in the introduction of the tube. By the use of undue force an abrasion of the mucous membranes of the larynx or trachea might occur, which could lead to a serious emphysema. For human beings the best method of introduction is apparently the one which is now being used by Dr. Elsberg, that is under the guidance of a Jackson direct laryngoscope. I shall not dwell on the methods for providing a continuous air stream and for regulating the anesthesia; they are simple mechanical problems which will be solved variously according to the bent of mind of the various surgeons. The simplest method is the one which I suggested some time ago and which consists of foot bellows for the generation of pressure and of a Wolff's bottle, branching rubber tubings and screw clamps for regulating the anesthesia. In our laboratory we employ a respiration apparatus, which provides pressure for insufflation for several animals at the same time. For human surgery, Elsberg's compact apparatus is surely the best; it was developed with ingenuity and foresight and it works with simplicity and perfection.

I shall add yet the remark that under exceptional circumstances air enters through the esophagus into the stomach. Under these circumstances a stomach-tube, which is easily introduced and which does not interfere in the slightest with the insufflation, remedies promptly this insignificant complication.

Finally I may be permitted to quote here from reports on the use of *insufflation anesthesia in human beings* kindly furnished me by Dr. Charles A. Elsberg of the Mount Sinai Hospital of New York and Dr. Charles H. Peck of the Roosevelt Hospital of New York. Dr. Elsberg, who was the first man to introduce intratracheal insufflation into human surgery and who worked on that problem with ingenuity, scientific enthusiasm and perseverance, used this method in over 125 cases; of these, ten were thoracotomies. There were no pulmonary, bronchial or laryngeal complications. Postoperative vomiting occurred only in four cases. In three cases there was some abdominal rigidity. "All the patients awoke very quickly from the anesthesia and were remarkably comfortable afterward." Dr. Peck, who is surely an unbiassed observer, began to employ insufflation anesthesia, by means of Elsberg's apparatus, about April 21, and reports now (June 7) on thirty-two cases. In twenty-eight cases, he writes, "the anesthesia was ideal; the color was perfect throughout and the respiratory movements quiet and regular." "In four alcoholic males there was some difficulty in keeping the patient quiet and relaxed, not enough, however, to seriously interfere with the operation in any case." "The recovery from the anesthesia has been very quick and quiet with less stupor and discomfort than usual." "None of the cases had postoperative hoarseness, bronchitis or pneumonia or any other postoperative complication which could be attributed to the anesthesia. I have been much struck by the absence of ether shock or depression, especially in the old and the feeble patients." The oldest patient was 74 and the youngest 10 years old. Some of the operations lasted three hours. One patient with perforated duodenal ulcer with peritonitis "vomited profusely during the operation without interfering with the anesthesia in the least or aspirating any of the vomitus." "Twenty-three of the patients had no postoperative vomiting, four vomited once very little, three vomited a few times and two had more prolonged and persistent vomiting, one being a three-hour operation on the glands of the neck and one a case of intestinal obstruction with profuse vomiting, both before and after the operation." Both Elsberg and Peck say that in operations on mouth, pharynx, superior maxilla, ets., "the method was ideal in preventing aspiration of blood and mucus, and securing perfect quiet anesthesia without difficulty." Both point out the value in many cases of having the anesthetist out of the operator's way and "that it is much easier to guard against contamination of the operative field." Dr. Peck sums up by saying: "I have seen no ill effects of any kind from the method, and while my experience is still limited, I am convinced that it has many advantages in a variety of conditions, in addition to its special use for thoracic operations."

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TREATMENT OF LOCALIZED APPENDICULAR ABSCESS *

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In a paper[1] read before this Section at the St. Louis meeting last year, Dr. Archibald Maclaren very kindly referred to an article of mine dealing with this subject. Since that time many inquiries have been received concerning the matter, and I have decided to bring the subject before the Section at this time, giving, as briefly as possible, the results of increased experience with the method.

No attempt will be made in this paper to consider the treatment of appendicitis in detail nor will any effort be directed toward the spell-binding oratory so frequently indulged in before this Section, in an effort to fix for all time and all persons, the exact moment most favorable for operation. It is my intention to confine these few remarks to consideration of the question, Should or should we not remove the appendix in practically every case of localized appendicular abscess?

In perusing the literature on this question, or in attendance at the various surgical clinics throughout the country, we find, as probably the most frequently employed plan, the removal of the appendix when it presents itself freely within the confines of the abscess, while in those cases in which it is adherent and buried by the intestinal coils, the operation is limited to simple incision and drainage, leaving the appendix to be removed at some future time. The reason given for the latter course is usually that it is unsafe to separate the adhesions forming the boundary of the abscess, thereby liberating, during the search for the appendix, pus and septic material into the uncontaminated areas of the peritoneum.

This was the course usually employed by me until some three years ago. During the past three years I have operated on 283 cases of appendicular abscess, sharply localized. This list does not include any case in which at operation the general peritoneal cavity was found to be infected, nor those cases of gangrene of the appendix without the formation of a distinct peri-appendicular abscess.

In this series of cases the appendix was removed in every instance at the first operation whether it could be easily detected within the abscess cavity or whether deeply buried by adhesions. In these 283 cases there occurred three deaths. One patient, a little girl, aged 4, died thirty-six hours after operation; another, a man aged 49, died sixteen days after operation from cardiac thrombosis; and the third, a boy aged 17, died four days following operation from septicemia. There were no deaths from peritonitis.

The ages of the patients included in this series ranged from 10 months to 84 years. The latter case, an old man referred by Dr. Oliver Fisher of Sloan, Iowa, had a large abscess due to a perforated appendix, and is the oldest patient suffering with appendicitis seen by me in an experience of over 3,000 cases operated on.

These results are infinitely better than those I secured under the former plan of treatment in which the appendix was allowed to remain undisturbed in a large proportion of cases.

Since the adoption of the Fowler position and drainage of the peritoneal cavity by means of a large rubber tube inserted to the bottom of the recto-vesical pouch, or cul-de-sac, supplemented by saline proctoclysis, peritonitis has been shorn of its terrors.

It was noticed in those cases of diffuse septic peritonitis due to perforation of the appendix which were treated in this manner, that convalescence was almost uniformly rapid and smooth and without distressing sequelæ. In fact, it soon became a matter of common observation that those patients whose appendices had been removed and in whom the above method of drainage was employed, recovered more rapidly and more frequently than those with localized abscess, which had been merely opened and drained. If, then, we are no longer afraid of diffuse septic peritonitis, why should we hesitate to remove the appendix in all cases? Such considerations later led to the gradual adoption of the plan of systematic removal of the appendix in abscess cases.

As experience in the treatment of these cases increased and the appendix was removed with increasing frequency at the first operation, it was noticed that during search for and removal of the appendix, small pus collections were frequently encountered here and there among the adherent coils of intestine and omentum whose presence had not been suspected, and which would have been overlooked had not the adhesions been separated. Drainage of the larger pus collection would not have reached these smaller hidden septic foci.

It was also noted that in many cases of peri-appendicular abscess which were tightly walled off, even at times high in the pelvis, separation of the adhesions would reveal a large amount of pus or purulent serum in the recto-vesical pouch or cul-de-sac, which would most certainly have been otherwise overlooked. Thus were exposed the reasons for many a secondary operation for so-called secondary abscess.

The free separation of adhesions during the removal of the appendix tends greatly to lessen the danger of postoperative obstruction, which does not occur with nearly the same frequency in cases so treated as in those cases which are merely subjected to incision and drainage of the abscess. The separation of adhesions and the establishing of free communication between the region of the cecum and appendix, formerly occupied by the abscess cavity, and the lowermost pelvic peritoneal fold (the recto-vesical pouch in males, the cul-de-sac in females), permits the best possible drainage to be instituted by the placing of a large split rubber tube carrying a wick of iodoform gauze in the lowermost peritoneal pouch and permitting it to emerge through the lower angle of the wound. This does away with the necessity of multiple drains either of tube or gauze, and thereby lessens to no small extent the tendency to the formation of postoperative adhesions. Drainage instituted as above described removes the necessity for placing either tube or gauze in contact with the cecum at a point where its vitality has been impaired by the infectious process,

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] THE JOURNAL A. M. A., June 25, 1910.

and thus is lessened the occurrence of fecal fistulæ, the development of which is frequently encouraged by the ill-advised placing of such drains in contact with an already weakened and diseased cecal wall, with resulting pressure necrosis.

With the patient in Fowler's position, a large rubber tube will drain the lower peritoneal pouch much more rapidly and completely than the region immediately adjacent to the cecum can be so drained, as a tube in the latter position will be more rapidly shut in by limiting adhesions than the former; and through the influence of gravity we secure at once the collection of all septic fluids at the most dependent portion of the peritoneal sac, whence they are rapidly discharged to the surface through the tube before its capacity for drainage has been destroyed by surrounding adhesions.

Because of the rapid free drainage so secured, the tendency to postoperative sepsis manifested by hepatic abscess, pylephlebitis, subphrenic abscess, empyema, etc., is much less marked than in those cases where a leaking appendix is permitted to remain and hourly add its burden of septic and infectious material to a cavity imperfectly drained, because slowly drained, and drained for much too short a time.

The removal of the appendix at a secondary operation is frequently a very difficult procedure because of the density of the surrounding adhesions, and in the majority of instances it will be found much easier to remove it at the first operation and this should now be done rather than subject the patient to a prolonged and often serious second operation.

In my experience the necessity for a second operation following appendicitis with abscess formation in which the first operation consisted merely of incision and drainage, has been noted to arise with much greater frequency than usually stated in text-books. As nearly as I can estimate it occurs in from 25 to 30 per cent. of cases. This one fact is a strong argument in favor of the removal of the appendix at the primary operation.

A few words as to the technic of the operation: The incision is invariably made through the right rectus muscle, splitting the fibers, and the peritoneal cavity freely opened. A small gauze pack is tucked into the upper angle of the wound and so adjusted as to prevent any extravasation of pus toward the liver or diaphragm. Another small pack is tucked in toward the median line from the upper angle of the wound to the lower pelvis to prevent any extravasation toward the left. The abscess cavity is then freely opened with the fingers unless opened by the peritoneal incision, and the pus rapidly mopped up with gauze sponges. The appendix is then exposed and removed. All adhesions separating the abscess cavity from the lower pelvis are now freely separated and the pus or sero-pus, which is usually found in the lower peritoneal pouch, is rapidly mopped up with sponges. A large split rubber tube, from one-half inch to one inch in diameter and carrying a wick of iodoform gauze, is inserted through the lower angle of the wound to the bottom of the recto-vesical pouch or cul-de-sac, the protecting gauze removed and the wound closed down to the tube with interrupted, through and through silkworm sutures. Attention is called to the large size of the tube, as I believe the first hours of drainage are those which count. I had these tubes made to order in 1902, and have employed them ever since for peritoneal drainage.

The patient is then placed in bed, the head of which is elevated at least thirty inches from the floor. The patient is turned sharply on his right side and furnished with a special nurse who is instructed to see that the right-side posture is maintained for at least twenty-four hours. Proctoclysis is immediately begun and continued as long as the individual case requires. Water is allowed at once, but in small quantities. Not more than one ounce at a time and frequently repeated. Morphin is given and repeated whenever necessary to control pain. No nourishment is given for forty-eight hours and then sparingly.

The two hundred and eighty-three cases mentioned above represent but a small portion of peri-appendicular abscesses which have been so treated, as I have been working up to this point for years by gradually increasing the indications for the removal of the appendix in these cases, and they are reported merely because they represent an unbroken series of cases which have been so managed. Since 1902, many patients with diffuse septic peritonitis have been treated by the same form of drainage and increasing experience with its value when so employed seemed to justify the belief that peri-appendicular adhesions may be separated not only with impunity, but under proper precautions, even with benefit.

The method is not advocated for the occasional operator, nor is the claim advanced that it should be invariably employed by men of great experience. However, it is urged that it should be much more frequently employed by competent surgeons than is now the custom, and I believe that the instances in which it is contra-indicated should be very rare indeed.

SUBPHRENIC ABSCESS THE RESULT OF ACUTE INFLAMMATION OF THE VERMIFORM APPENDIX*

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It is no doubt true, as Jopson[1] has stated, that subphrenic abscess is an uncommon affection at any time of life. Nevertheless, the constantly increasing number of reported cases must be taken to mean that while the affection is uncommon it is not very rare.

Before the era of abdominal surgery, it was generally believed that subphrenic abscess most often arose from disease of the upper abdominal viscera, and that other sources of origin were rare. More extended experience with the inflammatory affections of the abdomen has demonstrated that appendicitis is one of the most frequent causes of subphrenic abscess; that such an abscess is one of the gravest complications of appendiceal disease, and that it is one of the conditions associated with appendicitis most often overlooked.

The principal points to be noted in a consideration of subphrenic abscess complicating appendicitis are:

I. The frequency and incidence as to age, sex, etc.

II. The mode of infection.

III. The anatomy of subphrenic collections arising from disease in the right iliac fossa.

IV. The symptomatology.

V. The treatment.

I. FREQUENCY

In 3,391 consecutive cases of acute appendicitis at the German Hospital, there occurred thirty cases of subphrenic abscess or 0.8 per cent.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Jopson: Arch. Pediat., 1904, xxi, No. 2.

In 500 consecutive cases of acute appendicitis in children under 14 years of age at the Mary J. Drexel Home, there was one case of subphrenic abscess, or 0.2 per cent.

In the total number of 3,891 cases of acute appendicitis in adults and children, there were thirty-one cases of subphrenic abscess, or 0.7 per cent.

Sir Frederick Treves[2] in 1,000 cases of acute appendicitis had six instances of subphrenic abscess. Kelly and Hurdon[3] quote 410 consecutive autopsies at the Boston City Hospital. Of these cases there were thirteen of subphrenic abscess, seven of which were appendiceal in origin.

Lance[4] collected the records of 943 cases of subphrenic abscess, and of these 222 were due to acute appendicitis.

Piquand[5] collected 890 cases of subphrenic abscess, and of these 191 were due to appendiceal disease.

From these statistics we may safely draw the following inferences:

1. Subphrenic abscess following appendicitis is more common than formerly was supposed.
2. It occurs in from 0.5 per cent. to 1 per cent. of all cases of acute appendicitis.

The exact ratio of subphrenic abscess due to appendicitis and cases due to other causes in our own experience at the German Hospital, I have been unable to determine, but a fairly thorough examination of the records, leads to the conclusion that appendicitis outranked all other causes combined. It is true that there were far more cases of appendicitis treated than of any other intra-abdominal condition, and the preponderance, I believe, was more marked than in most general hospitals or surgical clinics.

II. MODE OF INFECTION

The mode of infection of the subdiaphragmatic spaces from disease of the appendix has been most carefully studied. Barnard,[6] Lance,[4] and Cosentino[7] have gone into the question most thoroughly; the first from the anatomic side; the second from the clinical; and the third from the clinical and experimental sides. Their classifications and views as to the relative importance of each method of infection vary somewhat, but they agree that the infection may occur:

1. As a part of the general peritonitis—these cases are not to be included in a consideration of true localized subphrenic abscess.
2. By direct extension up the lower peritoneal fossæ.
3. Through the medium of the portal vein (Barnard and Lance). This, in our experience, is a very rare occurrence, being found in but two of twenty-one autopsies at the German Hospital in which subphrenic abscess was present.
4. By lymphatic extension (a) up the right retroperitoneal cellular tissue or (b) up the lymphatics around the deep epigastric artery to the falciform ligament. (Barnard.)

I believe that the second of these methods of approach is by far the most frequent. Cosentino also has laid especial stress on this as a result of his anatomic investigations and experiments with the course taken by various fluids when introduced into different localities in the abdominal cavity.

An interesting assertion in this connection is that of Lance,[4] that in the retroperitoneal form of infection, early operation will not prevent the subsequent formation of infected foci as a result of the extension in the cellular tissue. It is perhaps too broad a statement to make, that operation, however early, will not prevent this diffusion. But I have found that cases in which such infection takes place are among the most virulent and fatal of all cases of appendicitis and, when the retroperitoneal cellular and lymphatic tissues have been thoroughly invaded by the infectious bacteria, death from extension or toxemia is sure to occur.

Some of the French authors credit the appendix with a double lymph supply and state that the lymphatics of the appendix, in addition to draining to the glands at the ileocolic junction, have a close communication with the lymphatics of the ascending colon. If this be true it would furnish perhaps some reason for the frequency of the retroperitoneal origin of subphrenic abscess following appendicitis.

The infection of the subphrenic fossæ by the general circulation is mentioned by several authors as a theoretical possibility, but there has been no instance reported in which this seems to have been the sequence of events.

The extension by means of lymphatics about the deep and superficial epigastric arteries, is supported by one case cited by Barnard[6] and this he considers as not being definitely proven.

Lance[4] mentions as predisposing causes for the formation of a subphrenic abscess, several locations of the appendix, notably those in which the appendix runs high behind the colon, is retrocecal or retroperitoneal. It is perfectly evident that any one of these conditions must tend to render subphrenic abscess more likely.

III. ANATOMY

For all methods of formation of subdiaphragmatic collections following appendicitis, except that by means of the retrocecal retroperitoneal cellular tissue, we must find some anatomic explanation, for it would seem unlikely that infectious pus should gravitate in that direction. No better statement of the conditions favoring such an extension can be given than that of Barnard. He says:[5]

> The recent investigations of surgeons in connection with the treatment of diffuse peritonitis have shown that the main cause of subphrenic accumulation is gravitation. As a patient lies flat on his back in bed, the posterior extremity of his subphrenic spaces are only separated from the mattress by the skin, the ribs and the diaphragm, which together do not make up much more than ½ inch of tissues. The pouch of Douglas or the rectovesical pouch in the male, in a similar way are only separated from the mattress by the skin, the coccyx, and the width of the flattened rectum. Between these two dependent pouches the thick muscles and tissues of the loins, with the kidneys and the perinephric fat, rise as two elevated mounds. When the general peritoneum is infected, a profuse flow of serum is poured out, and this gravitates upward into the subphrenic spaces and downward into the pelvic pouch. If the patient is well propped on pillows or is supported by an efficient bed rest (Fowler's position) fluids will run from beneath the diaphragm over the loin mound into the pelvic pouch, from which it may be drawn off by a tube passed to the bottom of that fossa, from a puncture above the pubes. This method is effective in preventing subphrenic abscess only while the exudate is diffused. When it is shut in and localized, special measures must be adopted to evacuate it.

The French authors also lay great stress on these anatomic relations—indeed, the gutter formed by the colon and the abdominal wall on the right side is by them named the right parietocolic sinus (of Lafeyre).

The most minute and painstaking investigation of the anatomy of subphrenic abscess has been made by Barnard.[6] He divides all subphrenic abscesses according to their location as regards the falciform and lateral ligaments of the liver into:

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[2] Treves, F.: Operative Surgery, London, 1905.
[3] Kelly and Hurdon: Appendicitis, 1905.
[4] Lance: Gaz. d. Hôp. Par., 1909, lxxxvii, 63, 99.
[5] Piquand: Rev. de chir., 1909, xxxix, 150 et seq.
[6] Barnard: Brit. Med. Jour., 1908, i, 371.
[7] Cosentino: Policlin., Rome, 1907, xix, sez. chir., pp. 251, 386.

- A. Intraperitoneal.
  - 1. Right.
    - I. Anterior.
    - II. Posterior.
  - 2. Left.
    - III. Anterior.
    - IV. Posterior.
- B. Extraperitoneal.
  - V. Right.
  - VI. Left.

A right anterior intraperitoneal abscess is one situated between the upper surface of the right lobe of the liver and the diaphragm.

A right posterior intraperitoneal abscess is one in the subhepatic pouch, a pyramidal space bounded laterally by the abdominal parietes, in front by the liver and gall-bladder, posteriorly by the abdominal parietes and having its apex formed by the upward slope of the margin of the left lobe of the liver.

A left anterior intraperitoneal subphrenic abscess or perisplenic abscess lies in the fossa bounded by the diaphragm above, the left lobe of the liver below and to the right, and the spleen to the left. It is bounded sharply to the right by the falciform ligament. Barnard describes a fossa lying between the vertebral column, the descending colon and roofed in by the mesentery by which the fossa first described communicates with the rectovesical or recto-uterine pouch.

A left posterior intraperitoneal subphrenic abscess is one situated in the lesser peritoneal cavity.

A right extraperitoneal subphrenic abscess is one formed in the cellular space between the layers of the coronary and other peritoneal ligaments of the liver.

A left extraperitoneal subphrenic abscess is one formed in the retroperitoneal cellular tissue of the left loin.

In Barnes' experience in twelve cases of appendiceal subphrenic abscess practically all were on the right side.

I have found it impossible so closely to determine the exact anatomic variety of subphrenic abscesses as has seemed possible to some investigators. They may all be grouped into those of the right and left, anterior or posterior. The intraperitoneal or extraperitoneal origin is often impossible to determine.

Of thirty-one cases at the German Hospital:

29 were on the right side only.
1 was double right and left.
1 was on the left side only.

These figures would tend to show that in most instances the extension to a subphrenic fossa from a diseased appendix is not from an accompanying peritonitis in the pelvic basin, but arises directly from the original appendiceal focus.

Numerous isolated instances of left subphrenic abscess following appendicitis have been reported.

It is, moreover, not absolutely determined that an abscess of extraperitoneal origin cannot in every way come to assume the characteristics of one of the intraperitoneal variety.

It is to my mind a refinement of diagnosis at present impracticable of accomplishment, for any one to determine definitely the variety of subphrenic abscess before operation. As will be seen later, we are fortunate indeed always to diagnose even the existence of a subphrenic abscess.

The usual contributing factors in reference to subphrenic abscess, complicating appendicitis need not be discussed at length. The bacteriology of the complicating infection is that of the original diseased focus. The incidence as to age is identical with the range of ages in appendicitis. Statistics would seem to show that subphrenic abscess is rarer in appendicitis in children. But of eight cases from the Pennsylvania Episcopal and University Hospitals in the past two years, four occurred in patients 15 years of age and under.

Pathologically, subphrenic abscess in association with appendicitis falls into three groups:

1. Those occurring or found at operation, i. e., an immediate and primary complication of the disease.
2. Those making themselves manifest as late or postoperative sequelæ during the postoperative stadium.
3. Cases occurring a long time after the primary infection.

	1. Primary	2. Post-operative	3. Late	Total
German Hospital	18	11	2	31
Collected cases	1	6	1	8
Mary Drexel Home....	1	..	..	1
	20	17	3	40

IV. THE SYMPTOMATOLOGY

The mode of onset of the symptoms of subphrenic abscess must vary with the time of its occurrence.

It has been my experience that when the condition has been found at the first operation, it has often been not definitely diagnosed. The diagnosis of appendicitis with abscess is made, but the definite localization of a subphrenic collection has been overlooked. This, however, is not always a matter of such grave importance, since at the operation the collection should be discovered, particularly if it be one formed by direct extension. There can be no doubt that, on the other hand, certain isolated and well walled-off abscesses which were present at the first operation, are at times overlooked. In the series of thirty-one cases at the German Hospital, there was one undoubted instance of this and probably one or two others.

The collection occurring as postoperative sequelæ are those in which our diagnostic powers are taxed to the utmost.

There may be two methods of onset: (a) sudden and (b) insidious.

Many surgeons have stated it as their experience that subphrenic abscess after appendicitis most often makes itself known quite suddenly. As regards the major symptoms this is no doubt true. Yet, it has been my experience, even in those cases in which the symptoms of the secondary collection came on with apparent suddenness, that the convalescence previously had not been entirely uneventful. It is quite true that the onset of pleural pain, high fever and delirium is sudden, but it appears more so if the previous malaise without symptoms of definite character has been more or less slighted.

Jopson[8] has particularly laid stress on this point. He says that "a moderate continuous elevation of the temperature, a pulse little if any above the normal, an entire absence of abdominal symptoms, and a physical expression of comparative comfort and well-being are to be recognized as not inconsistent with the presence of a subphrenic abscess."

Barnard's statement, therefore, that all of his twelve cases of appendiceal subphrenic abscess had an acute onset, must be considered as referring to the onset of local symptoms and of marked sepsis.

In giving, therefore, a list of symptoms of subphrenic abscess, I should place first sepsis following an operation for appendicitis without evidence of its cause, the primary incision progressing favorably.

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[8] Ann. Surg., 1910, vli, 427.

Second in importance to the symptoms of general sepsis, we find the signs of pulmonary involvement at the base of the lungs. The most valuable of these indications is the presence of a more or less marked area of dulness. In addition to this, we often find the other indications of a collection in the pleural cavity, i. e., lessened breath sounds and fremitus. In several instances in the series of cases at the German Hospital, the dulness and other physical signs have been noted anteriorly, and in one case the first indication of trouble was in the left axillary space. Pleural friction sounds are at times noted as in the case last mentioned.

The exact condition of the lung and pleural space above a subphrenic abscess, is most difficult of exact determination. The dulness and changes in the resonance and fremitus are accounted for by the pressure upward on the vault of the diaphragm. But the comparative frequency of pleural friction, cough and the occasional early occurrence of râles would seem to indicate that in many instances of subdiaphragmatic abscess there is early involvement of the pleural cavities themselves, and indirectly of the lung tissue. It is fortunate that these changes give rise to empyema as rarely as they do. Of twenty-one fatal cases coming to autopsy but five showed purulent pleurisy, and one a pleurisy with exudate not purulent. Two of these five cases showed actual perforation of the diaphragm.

The abdominal symptoms of subphrenic abscess, when present, are those of any collection within the abdomen. They are the presence of a mass; pain, and tenderness; Barnard found that in thirty-three of his seventy-seven cases a mass formed by the abscess itself was noted in the abdomen. This, however, includes cases of subphrenic abscess due to all causes. In my own experience with this form of abscess following appendicitis, the proportion of cases in which there was an abdominal swelling has been decidedly less. This perhaps is due to the fact that, since the infection is oftenest by direct extension along the lumbar fossa, the abscess is most often found deep under the liver or else above it and concealed between the upper liver surface and the vault of the diaphragm. In the latter class of cases there may be some slight bulging of the chest-wall on the infected side.

The pain encountered is localized to the area of infection, but often not definitely confined to a limited area. Indeed, the pain oftenest complained of is a pleural pain. In some cases, the onset is such that a pleurisy seems primary and the subdiaphragmatic abscess secondary. Tenderness will be encountered when the abscess presents at an accessible part of the abdomen—often it is elicited only by quite deep palpation.

Needling is an important aid in localizing suspected collections of pus beneath the diaphragm, as in those above it. Barnard recommends that it be done in a most systematic and thorough way and only under complete anesthesia. With the latter provision I cannot agree. Even in the presence of pus, our attempts at aspiration may be negative and while a positive finding confirms the diagnosis, a negative by no means sets it aside.

Mention has been made of those cases of subphrenic abscess in which the onset is long delayed. Such an instance is Case 19 of this series, in which the onset of the disease occurred a year after a primary appendiceal infection. In a case reported by Ashhurst,[9] the interval was four months, and Meisel[10] has reported an instance in which there is no doubt that a subphrenic abscess occurred one and one-half years after a primary appendicitis. In these cases, the onset is usually more or less sudden. There is a sudden awaking of a long-latent infectious focus, and the event partakes oftenest of the nature of a grave abdominal catastrophe as in the instances quoted.

The diagnosis of subphrenic abscess being a matter of such considerable difficulty, it is to be expected that the differential diagnosis is one hardly definable by strict rules. Most often the differentiation is between a subdiaphragmatic and a supradiaphragmatic condition. An important guide is the history of an antecedent abdominal condition apt to give rise to a subphrenic collection, even if the two illnesses have been separated by a considerable interval of time. How difficult this distinction is may be gathered from the numerous instances Barnard cites, in which it was impossible to distinguish between the two conditions. It is a well-known fact that intrathoracic conditions may simulate almost any acute abdominal condition in their symptomatology. How probable it is, then, that a condition localized immediately beneath the pleural cavities and separated from them by but little tissue, should give rise to symptoms practically identical to those of a purulent or merely serous pleurisy!

Only the most careful study of individual cases will give us even an approach to correct diagnosis. Of the other conditions most frequently confused with subphrenic abscess, it is necessary only to mention hepatic infection following operation. The symptoms of this condition are also often overlooked. Two authors give what they consider distinguishing features. Besredka states that there is never jaundice in uncomplicated subphrenic abscess and that the fever is not so high in liver infections. Jullard states that in liver infections the leukocytosis is higher than in any other abdominal condition—a by no means infallible sign, as in isolated instances the white blood-count has been excessive also in subphrenic abscess.

How difficult may be the diagnosis of subphrenic abscess is shown by Case 31, reported from the Mary Drexel Home. In this instance the symptoms pointed to the presence of a meningitis, and lumbar puncture gave turbid fluid. Chest dulness finally developed and pus was obtained on puncture, and the subphrenic condition made itself evident.

V. TREATMENT

The treatment of subphrenic abscess following appendicitis is that of any other collection within the abdominal cavity.

It may not be out of place here to mention certain factors which may influence the formation of subphrenic abscess and which must be considered at the primary operation.

Primarily, when there is a localized collection, it is essential to explore it as to its extent and direction. When it is drained, the drainage must be sufficient.

When pelvic pus is present, the pelvis must be drained, no matter how slight the amount of fluid may be.

If there be a diffuse peritonitis, it is essential that the patient be placed in a semisitting or Fowler position to facilitate the gravitation of septic fluids away from the diaphragmatic area.

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[9] Ashhurst: Tr. Philadelphia Acad. Surg., 1910, xiii, 154.

[10] München med. Wchnschr., 1909, lvi, 1411.

The appendix should be removed whenever possible, to prevent its acting later as a source of infection.

The operations for subphrenic abscess may be classed in three groups:

1. The Abdominal or Loin Incision: This is applicable to those cases in which there is definite pointing of the abscess either in the upper abdominal area or in the loin. It must be placed so that we can procure the maximum of exposure to the diseased area. The further procedure is that of any abdominal abscess.
2. The Subpleural Route: This incision consists of resection of the tenth rib in the midaxillary line and traversing the diaphragm below the pleural reflection.
3. The Transpleural Route: According to the probable location of the pus, one or two ribs are resected, the pleura opened and the collection evacuated through the pleural base. The only point of importance in this operation is the suturing of the two layers of the pleura after incision before opening the subdiaphragmatic abscess—this to prevent diffusion of infectious material throughout the pleural cavity.

In all of these methods of procedure there must be drainage by tubes of sufficient caliber and rigidity to insure the evacuation of all infectious fluids.

Case 1.—J. D. Death April 16, 1901. Diagnosis, acute appendicitis. Incision about 8 inches long made through the right rectus. Intestines showed evidence of diffused peritonitis. General cavity walled off with gauze; appendix found up under the liver, gangrenous and perforated. Small quantity of pus present; some pus between the diaphragm and the liver. Appendix removed.

Case 2.—J. P., aged 23. Death March 13, 1902. Diagnosis, acute appendicitis. At operation the following note made: "Secondary abscess up near the liver."

Case 3.—F. E. W., aged 16. Death July 13, 1902. Diagnosis, acute appendicitis. Incision through the right rectus muscle; appendix outer side of the cecum; gangrenous and perforated. Abscess cavity extended up underneath the liver, and there were numerous adhesions in the locality. Appendix removed. Drainage; one piece of gauze extended up as high as the liver.

Case 4.—J. G. R., aged 52. Death Dec. 13, 1902. Incision 5 inches long in the right linea semilunaris over a mass about 2 inches by 4 inches, which can be palpated under ether. Appendix found covered with a large mass of exudate to the outer side of the cecum and ascending colon. Mass extending almost to the liver margin. Fifteen days after operation, sclera yellow, tenderness over the liver, with edema over the right costal margin. Very weak. Two days later: "Liver tenderness still present." No necropsy.

Case 5.—Daniel J. S., recovery, April 30, 1904. Diagnosis, acute appendicitis. At operation the following noted: Incision 20 cm. long, along the outer border of the rectus (right); omentum found adherent to the parietal peritoneum; bowels bound together generally by numerous adhesions; general peritoneum walled off by pads and the adhesions freed in the right iliac fossa; the appendix not found in the right iliac fossa.

Then the ascending colon was freed from adhesions almost up to the liver. To the outer side of the ascending colon just below the liver, a small pocket of pus was opened. This was swabbed out and a fecal concretion was found bound up in a mass of adhesions and exudate.

Case 6.—Cora L. Recovery May 27, 1904. Diagnosis, appendiceal abscess. At operation, March 22, 1904: Incision 5 inches long through the upper right rectus; edema of the peritoneum, on opening of which a large amount of pus escaped. Intestines and the under surface of the liver protected by gauze pads. Free pus welled up from the flank. Appendix not sought for; neither was the gall-bladder. Six pieces of gauze inserted for drainage; two pieces in the flank; two pieces under the liver; and two pieces to wall off the cecum and the ascending colon.

April 11, patient had an attack of right-sided pleurisy.

May 9, the tract extending back under the skin was laid open. It was found to communicate with another tract in which a rubber tube 15 cm. long was placed. This tube extended upward, but whether above the liver could not be determined.

May 27, patient discharged. Sinus seemed to be closing from the bottom.

Case 7.—J. B. C. Death March 11, 1905. Diagnosis, acute appendicitis. At operation the appendix found high up on the cecum and beneath the right lobe of the liver. No abscess. The appendix semigangrenous.

Before operation note was made of the tenderness of palpation over the upper part of the right iliac region. Postmortem showed a feeble attempt to wall off the infected area and general peritonitis.

Case 8.—F. W., aged 23. Death April 2, 1905. Diagnosis, acute appendicitis. At operation the appendix found and removed, also abscess around it.

At second operation "peritoneum opened and adhesions found between the gall-bladder and the liver: great omentum and hepatic flexure of the colon. These adhesions were broken up and a small quantity of pus oozed from the outer and under side of the liver margin. Pus was traced and found a large abscess the size of an orange between the liver and the diaphragm which was evacuated. Drain with tube and gauze."

The patient had four operations before he died: (1) for appendicitis; (2) for subdiaphragmatic abscess; (3) gastro-enterostomy and entero-enterostomy; (4) iliosigmoidostomy for obstruction.

Case 9.—E. M., aged 26. Death April 24, 1905. Diagnosis, acute appendicitis; abscess. At post-mortem, a subphrenic abscess found.

Note from the post-mortem: "Adhesions separated and the appendix found 11.5 cm. in length pointing directly upward towards the liver and lying beneath the abscess cavity. Appendix gangrenous at the tip." On lifting up the colon and separating the adhesions a large abscess was found extending upward beneath the liver and containing about 250 c.c. of thick, yellowish pus.

Case 10.—C. F., aged 15. Death July 20, 1905. Diagnosis, acute appendicitis. Post-mortem findings: "Large abscess beneath the liver entirely walled off."

At operation the appendix had been removed and the abscess drained.

Case 11.—Alice H., aged 21. Death Aug. 7, 1905. Diagnosis, acute appendicitis. At post-mortem subdiaphragmatic abscess found. At operation a counter incision in the loin made for drainage. First incision was oblique. Appendix not found at operation. Two weeks after operation the patient began to expectorate pus.

Post-mortem notes: "Region of the appendix showed a plastic peritonitis. There is a large abscess between the right lobe of the liver and the diaphragm which has ruptured through the diaphragm into the right pleural cavity and then into the lung which shows septic bronchopneumonia."

Case 12.—Magdeline H., aged 32. Death Aug. 10, 1905. Diagnosis, acute appendicitis. On examination, great tenderness between McBurney's point and the right costal margin. At operation the appendix found high up beneath the liver, gangrenous at the tip and perforated. Counter-incision made in the midaxillary line to the right of the upper angle of the original incision. Just before death, tenderness noted below the liver. At post-mortem, an abscess found to the outer side of the liver.

Case 13.—Septimus A. K., aged 26, Death, 1905. Diagnosis, acute appendicitis with abscess. Appendix found pointing upward, gangrenous and perforated; foul-smelling whitish pus escaping from the abscess to the outer side of the cecum. At post-mortem a secondary abscess found beneath the liver.

Case 14.—Katharine A. Death May 1, 1905. Diagnosis, acute appendicitis, and subphrenic abscess. Noted at operation. In the examination of the patient the following note is made: Tenderness present; most marked just below the costal border, anterior axillary line, right side. At post-mortem examination a subphrenic abscess and a lobar pneumonia of the right lung found. Appendix removed; found pointing toward the liver. The appendix was gangrenous.

Case 15.—Samuel S. Death Dec. 17, 1905. Diagnosis, acute appendicitis; subdiaphragmatic abscess found at post-mortem. On physical examination tenderness noted in the right flank No tenderness on the left side. At operation an appendiceal abscess found. Post-mortem: Perforation of the appendix at the site of the fecal concretion. Large abscess walled off and located beneath the liver and between the liver and the diaphragm. No evidence of general peritonitis. Incision through right semilunar line.

Case 16.—Margaret P., aged 43. Recovery March 29, 1906. Diagnosis, acute appendicitis with abscess. At the first operation, the appendix removed. No mention of any subdiaphragmatic abscess. At the second operation, the incision made through the right rectus to the costal margin. Abscess evacuated outer and under surface of the liver.

Case 17.—Thomas F. A. Death April 19, 1906. Diagnosis, acute appendicitis. At operation the appendix found postcecal, gangrenous and perforated. Free pus in the peritoneal cavity. Post-mortem note: Large purulent collection around the liver and on the left side beneath the transverse colon. General purulent peritonitis.

Case 18.—Lena E. Recovery May 13, 1907. Diagnosis, acute appendicitis. Extraperitoneal incision. Peritoneum thickened and congested. Opening the peritoneum which bulged into the wound, large amount of free, foul-smelling pus escaped; carefully wiped out. Appendix sought for. Finger run up outside of cecum toward the liver. Large amount of free pus found here and evacuated. More pus escaped in manipulating down toward the pelvis. Appendix removed. Second operation for fecal fistula.

Case 19.—Nicholas B, aged 19. Recovery June 23, 1907. This patient was in the hospital in March. The case was diagnosed as chronic appendicitis and the patient was operated on for that. The appendix was removed and uneventful recovery resulted.

In the history of the second admission is noted the following: "One year began having pain in the right lumbar region, coming once or twice a week, running around to the right abdomen, at times to the testicle and now it goes down the thigh. For a week after the operation, the patient was relieved but on the day of discharge he felt his old pain. Does not vomit. Never passed bloody urine; no gravel, but he claims he passed crystals. At times his urine was very dirty-looking. Makes urine twice at nights. Often has stoppage of the stream during the act. Since admission, he has had pain in the left lumbar region similar to that in the right side save not transmitted to the abdomen."

Physical examination notes the following: "Posteriorly below the angle of the right scapula is a prominence the size of the palm, tender to palpation. Spine negative. A very tender point in the midaxillary line just below the costal margin." At operation, incision over the tenth rib; resection of this rib. A large amount of bloody semipurulent material was evacuated. Origin was not discovered; seemed to come from under the surface of the right lower lobe of the liver." Patient received great relief from the operation and made a rapid uneventful recovery.

Case 20.—Dr. V. Death March 6, 1908. Diagnosis, acute appendicitis. Began with diarrhea. Stools a bright yellow, frothy, with a little odor.

Patient vomited and was "bilious." On the day before admission he had sudden severe agonizing pain shooting from the right lumbar region around to the inguinal region and up the anterior and lateral aspect of the chest. Taking breath at this time caused severe pain. Patient had cold sweat at time of pain but no chill. Resonance was impaired over the right chest. Two inches above the normal liver dulness, there was flatness.

Post-mortem notes: Gangrenous appendix which had sloughed off. Extraperitoneal and subdiaphragmatic abscess. Extending up to the diaphragm there was a pus cavity between the right lobe of the liver and the diaphragm, which contained about 50 c.c. of yellow pus. Right diaphragmatic pleurisy. Lung showed no noteworthy changes.

Case 21.—George F. Death Oct. 30, 1908. Diagnosis, subdiaphragmatic abscess. About one year previously the patient had an attack of acute appendicitis and was operated at another hospital. He had drainage. After the operation he was all right. He had some trouble with his stomach.

Present illness began about six weeks before with severe cramps in the abdomen which required morphin. The pain subsided and the patient had a soreness in the abdomen. He did not vomit at first but has several times since then. Did not vomit the food he had eaten but vomited a greenish fluid. Bowels were very constipated; appetite fair and patient has had no trouble in urinating.

Physical examination: Abdomen moderately distended; very rigid in the epigastrium and the left hypochondrium. In the left side in the costal margin was felt a mass on deep palpation somewhat tender and immovable. No tenderness over the gall-bladder.

Operation: Incision in the upper abdomen through the right rectus down to the peritoneum. Peritoneum opened and gall-bladder exposed. No lesion in the stomach. Stomach was lifted up and underneath the liver was evacuated an abscess containing pus and gas. Intestines packed away. Abscess evacuated and two pieces of gauze introduced. After notes: Patient developed a severe cough with a foul-smelling expectoration (purulent). Examination of the left axilla showed signs of cavity formation. Needle introduced and pus was obtained. Patient gradually became more and more septic and died.

Case 22.—Henry M. Death June 12, 1909. Diagnosis, acute appendicitis. At first operation the appendix was removed and the abscess drained. Appendix was gangrenous and perforated. Four weeks later patient noticed a dulness in the left axillary line, beginning at the transnipple line. There was pleural friction here; absence of breath sounds over this area; no fremitus, more tender in the splenic region.

At operation: Incision over the tenth rib in the axillary line; resection of this rib (1½ inches); pleura and diaphragm perforated with the finger and a large amount (500 c.c.) bloody pus escaped coming from below the diaphragm and from around the spleen. Many recent pleural adhesions about the base. Drained, etc. Third operation ten days later. Resection of the seventh rib. At first no pus was located; later a subdiaphragmatic abscess was located and the thick yellow pus evacuated. (In the notes there is no mention of the incision being right or left but from the previous mention of the dulness in the left axilla, I presume that the two abscesses are in the left; also because the spleen is mentioned.)

Case 23.—Oliver M., aged 17. Death July 14, 1909. Diagnosis, acute appendicitis. At operation appendix found behind the cecum. The appendix removed. Pus present. One month after operation patient was troubled with pain in the right chest with dulness and distant breath sounds for one week. Aspirated, blood but no pus. Later the patient became delirious. One week later the right chest was aspirated and pus found.

Operation: Incision over the ninth rib; part of this rib removed and about 500 c.c. of thin pus drawn off. Later 2,000 c.c. of similar fluid was removed from the cavity. Note of July 14, 1909: "No post-mortem but lesion considered to have been a subdiaphragmatic abscess with rupture into the pleura."

Case 24.—Moritz H., aged 65. Death March 10, 1910. This patient was admitted to the medical wards, the case being diagnosed as carcinoma of the cecum. Note was made that the patient was simple-minded and did not answer questions sensibly. Patient had not been well for a couple of years, but not seemingly sick until six months previously, when a profuse diarrhea began which lasted during this illness. Patient had noticed a mass in the lower right side of his abdomen; a double direct hernia has also given him trouble. (From his daughter it was learned that he had had a definite attack of pain in the abdomen about one year ago.)

Examination: Liver dulness began at the top of the fifth rib and extended below the costal margin for a distance of 1.5 c.c. Liver was smooth and the edge was not easily palpable. In the right lower abdomen was to be felt a mass of moderate density, fixed. It did not move on deep respiration. Tympany was elicited in front of it. It was tender and painful on palpation. There was hernia on each side, not complete.

Patient died of edema of the lungs. The necropsy was performed by Dr. Kelly and the diagnosis of abscess made. At post-mortem there was found a large abscess in the region of the appendix, one around the liver and pancreas and one around the spleen, all old processes and all walled off.

Case 25.—Michael McC., aged 44. Recovery May 26, 1910. Diagnosis, acute appendicitis with abscess. At operation the abscess cavity found extending to the diaphragm; part of the tenth rib resected and the abscess drained; a loin incision made and one up right rectus; the two connected. "Abscess found postcecal and extended to the diaphragm." Vaccine treatment helped to heal in this case.

Case 26.—Lewis E. Recovery Dec. 2, 1910. Diagnosis, acute appendicitis with abscess. At operation, appendix was found lying in thick yellow pus. The appendix removed; incision was enlarged upwards; subhepatic fossa covered with exudate. Two pieces of gauze carried to the fossa.

Case 27.—Harry H., aged 23. Death Dec. 9, 1910. Diagnosis, subdiaphragmatic abscess. Operation: (1) Straight incision. Pus found, subhepatic; (2) loin incision and pus found, subdiaphragmatic; (3) incision in the tenth interspace and much pus escaped. Appendix found retrocecal, gangrenous and perforated, extending to the subhepatic fossa; removed.

Case 28.—George E., aged 49. Death Dec. 28, 1910. Diagnosis, subdiaphragmatic abscess. Pain in the lower abdomen right side. One day's duration. Incision in the eighth interspace; resection of the ninth rib; pleural effusion. Diaphragm pierced, evacuating a subdiaphragmatic abscess. On Dec. 25, 1910, empyema tapped and 500 c.c. of foul pus drained.

Case 29.—William H. M. Recovery Dec. 28, 1910. Diagnosis, subdiaphragmatic abscess. Pain under the right costal border. Pain for two weeks in the right subdiaphragmatic region. Patient sick for four weeks. Incision in the postaxillary line and 5 c.c. of the ninth rib resected. Nothing in the pleural cavity. Diaphragm opened and pus evacuated.

Case 30.—Walter C. Recovery Jan. 15, 1911. Diagnosis, acute appendicitis. At operation a right-sided subdiaphragmatic abscess was found. Pain in the abdomen and distention. Three days' duration. No pain in the costal margin. Dulness in the upper right abdominal quadrant. Operation: loin incision; appendix gangrenous, perforated and amputated. Subdiaphragmatic abscess found and drained.

Case 31.—Emma K., aged 10. Death April 13, 1910. Family and previous medical history negative. No history of previous appendiceal attacks. Patient admitted to the Children's Hospital of the Mary J. Drexel Home on March 19, 1911. The attack began the day previous suddenly at school after eating light breakfast. Patient had severe abdominal pain and projectile vomiting. There was restlessness which passed almost immediately (in a few hours) into semiconsciousness and later complete unconsciousness. There was violent delirium. The next day the temperature rose to 104; respiration 24; pulse 128.

On admission the child was violently delirious. She was lying on the left side with her head drawn back; thighs (both) flexed on the abdomen; legs flexed on the thighs. The patient was restless and irritable. Every fifteen minutes she would have a general clonic convulsion. Meningitic cry present. The fingers were tightened into the palms during these attacks. Examination at that time showed heart and lungs negative. The abdomenal walls were rigid but not distended, and there was apparently great tenderness all over the abdomen, more marked in the right lower quadrant. Knee-jerks were absent; no ankle-clonus. Babinski and Kernig positive. Slight opisthotonos. Lumbar puncture showed tension of fluid very low, 10 c.c. obtained of cloudy fluid. Examination revealed marked increase in polynuclears; no increase in albumin; 15 c.c. of Flexner's serum injected.

March 20, 1910: Day after admission. Temperature normal; child rational and comfortable; abdomen relaxed and not tender

March 21: High fever all day; temperature 105; respiration 40; pulse 130—irregular in type. Vomiting frequent; regurgitation of bile. The whole abdomen was very tender. Patient had five loose, watery, yellow stools. No rigidity of the neck. No exaggeration of knee-jerks; no clonus; right ear discharging; left tympanic membrane, red but not bulging. Was punctured by Dr. Bliss. Surgeons decided peritonitis was not present and advised against operation. Similar puncture 8:30 p. m.; 11 c.c. turbid red serum obtained; 15 c.c. antimeningitic serum injected.

March 25: Temperature again elevated; child very ill; abdomen distended and generally rigid; vomiting has ceased; bowels greenish and frequent. Spot of dulness obtained over the base of the right lung, with marked resistance to finger and consolidation was suspected. Breath sounds not increased.

March 27: Condition better; abdomen tender but soft. Tenderness more marked in upper right quadrant. Examination still showed spots of dulness in chest. Temperature 103; pulse 120; respiration 40. Dr. J. B. Deaver advised against operation when brought into consultation with Dr. Hand and Dr. H. C. Deaver.

March 29: Temperature lower, 102; respiration 44; pulse 116. Physical signs show same area of dulness.

March 31: Child's general condition seems much improved. Chest condition reveals dulness extending downward from the seventh interspace, in postaxillary line; breath sounds very distant. No edema or bulging of interspaces. Temperature 100, pulse 108, respiration 44.

April 2: Needle introduced in the eighth interspace in postaxillary line downward and forward 4 inches. Pus obtained. Child somewhat emaciated. Liver could not be palpated below costal border. Abdomen somewhat distended but no tenderness or rigidity.

April 3: Operation: Dr. H. C. Deaver made incision over the seventh rib. Diagnosis, empyema. Rib resected; the pleural cavity explored; small amount of sero-pus found; finger introduced downward through the diaphragm and a large subdiaphragmatic abscess evacuated, probably 2 pints of foul-smelling pus. Diaphragm was then stitched to the muscle and pleura, so as to isolate pleural cavity. Large drainage-tube inserted into the abscess and a tube of smaller caliber inserted into the pleural cavity. Culture of pus showed colon bacillus.

April 13: Child died suddenly after dressing of cardiac syncope. No post-mortem obtainable.

Collateral Findings.—Leukocytes varied from 28,950 on admission 3-20-10, with 96.5 per cent. polynuclears, to 14,000 with 86 per cent. polynuclears at operation, April 3, 1910.

March 28: Blood-culture sterile. Urine showed faint trace albumin; no casts. Culture showed colon bacillus. Cerebrospinal fluid showed large numbers of polynuclear cells; no micrococci.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. ROSS AND KNOTT

Dr. Thomas W. Huntington, San Francisco: In a long experience, attended with occasional humiliations, I have arrived at this conclusion with reference to the removal of the perforated appendix at the time of the initial undertaking: First, a condition which appears simple in the beginning may involve an exercise of the highest surgical judgment and skill. Second, the question of the removal of the appendix at the time is one which can be decided only at the time. In a word, the appendix at times can be removed even though it seems to be fairly well incorporated in the abscess wall; while on another occasion to touch an appendix which is incorporated in a barrier in the wall, is to invite failure if it does not insure it. My guide in this matter has been the condition existing prior to operation. If we can be perfectly sure that we are encountering a vicious type of infection, if the patient is melting down under it, if he has deteriorated materially within the preceding twenty-four, forty-eight or seventy-two hours, I have come to regard the appendix as being governed by the principle of *noli me tangere*.

Dr. W. W. Grant, Denver: There is no more unfortunate sequel to or complication of appendicitis than the subdiaphragmatic abscess. We know no such thing as an acute primary appendicitis. Dieulafoy some years ago called attention to the fact that certain forms of appendicitis particularly were prone to infect the regions of the liver, resulting in general sepsis and death, or the formation of an abscess which for its ramifications seems to have no end. I have myself called attention several years ago to the fact that the postcecal and postcolonic cases were the ones in which we expected this manifestation of appendicitis. Ordinarily in the beginning of these cases the tenderness and the pain point is not the McBurney, but it is at the intersection of the angle 2 inches to the right of the umbilicus, and about 2 inches above the McBurney point. If in these cases this point of intersection is examined carefully, it will indicate the location of the appendix.

It is a fact that the delay in operating is most frequent in this class of cases, and the resulting consequences only emphasize what we already know, that it is a serious matter to delay diagnosis, and thus delay performance of appropriate and immediately demanded operation, which is necessary to avert these serious consequences.

In other words, this form of trouble frequently called empyema, after the abscess has perforated the diaphragm, and the patient is expectorating pus through the bronchial tubes, is still not an uncommon consequence and error at the present time; and it is because the profession does not make early diagnoses and still further because early operation is not done to prevent these ulterior sad consequences, that a reflection is cast on the diagnostic skill and acumen of the profession.

In reference to the abscess cases, my own rule has been to remove the appendix whenever possible, without opening the peritoneal cavity. I still see no urgent reason, in the absence of peritonitis and extravasation, why we should open the peritoneal cavity. Why not pursue the safer course and avoid the added danger of exposing to infection healthy peritoneum, and thus have occasional bad sequelæ in the form of general peritonitis and possible death.

With drainage, results are good; a second operation to remove the stump is seldom required, and when so, it is under more favorable conditions than exists in acute abscess.

Dr. Archibald MacLaren, St. Paul: The point which Dr. Knott raises here is the question of the treatment of peritonitis. We have all accepted Dr. Murphy's theory in regard to the treatment of general peritonitis, then by following Dr. Knott's suggestion we advance it to a protective measure and so we do away with the troublesome and dangerous complications which so often follow the older methods as we have all been accustomed to pursuing them.

The universal removal of the appendix, which was advocated by some surgeons a number of years ago, was on the wrong principle, because they did not provide for drainage of the cul-de-sac. The success of all acute appendiceal operations goes back to the proper drainage of the bottom of the peritoneal cavity. My own personal experience before adopting this suggestion of Dr. Knott's was that in 100 appendiceal abscess cases, I found that to get the patient well, I had to open and drain through the rectum fifteen times. Possibly some of these patients would have recovered if let alone—but when you have a distinct abscess pointing in the anterior wall of the rectum; the safe thing to do is to open and drain it. Now, by following Dr. Knott's suggestion in practically all these cases of appendicitis it has only been necessary to open the rectum twice in fifty cases. So that has reduced the necessity for rectal drainage in my experience just one-half.

One of these cases of rectal drainage is quite interesting, because the patient had originally come with an appendiceal abscess which had been opened above and drained. Six days later he had to have an opening through the rectum to get rid of an accumulation of pus. He recovered and was perfectly well for one year and a half. Then he came back again with another appendiceal abscess. This abscess was opened above and the appendix removed, a drain was put through a suprapubic stab into the cul-de-sac. He did well until the fourth day when he had to have his rectum opened again before he entirely recovered.

My experience during the last year agreed with Dr. Knott's. In all abscess cases, I have opened the abscess, broken down the adhesions and removed the appendix in every case without a death. I have had two deaths in appendiceal cases this past year. One was in a young man with acute general septic peritonitis, opened and drained in the first thirty hours. The other was an intestinal obstruction due to an adherent appendix, operated on after she had vomited fecal matter for over forty-eight hours. The first was a case we would all operate on under any system. The second should not have been operated on at all, but surgery had to shoulder the responsibility of neglect.

Dr. A. J. Ochsner, Chicago: The results in as skilled hands as Dr. Knott's I believe will be good with the removal of the appendix in practically all cases. I follow this rule: In any given case in which I can be practically certain that, with the experience that I have had with similar cases, the patient will get well if I remove the appendix, I always remove the appendix. If there is the least possible doubt in my mind concerning my ability in the case under consideration I drain and do not remove the appendix. I always drain in cases in which I do not remove the appendix. I leave the wound open entirely—put in an enormous drain and see to it that the patient gets a very handsome ventral hernia.

Then I direct this patient to live on liquids until the appendix is removed. In two instances in which I had not taken this precaution, the patients ate carelessly after a time and died, one of an acute intestinal obstruction and the other one of an acute recurrent gangrenous appendicitis with diffuse peritonitis. Both patients were shipped into the city from the northern peninsula of Michigan, and when they arrived they were practically dead. Since I had these two experiences in which I was not positive enough in my directions I insist on the patient living on liquids.

I have never lost one patient in these secondary cases since I have postponed the second operation until the acute conditions had entirely subsided, and I have never had one in which the ventral hernia could not be cured safely, but I do not hurry about the secondary operation. Some years ago I was anxious about these cases and sometimes made the secondary operation too early, and in that class of cases I lost several patients.

As regards opening down into the cul-de-sac, the results which the essayist gives show that this is a good method. But I have never followed this method, because by simply removing the appendix and making a stab wound laterally and draining through this stab wound and then placing the cecum down on the drainage and placing the omentum around the wound, my results have been satisfactory. But evidently this method is at least as satisfactory.

The point that Dr. Knott makes about placing the patient on the right side and keeping him there and keeping the head of the bed elevated is a very important matter. In our recovery wards we have three beds in a row, and I noticed some years ago that the patient who had the left side of his bed along the wall, and who was compelled therefore to lie on the right side, always did well; and the patient along the other wall never did well—because he could not be kept on his right side. He would roll over to see some other patient, speak to the nurse, or do something else equally reprehensible. Since that time I have insisted on placing this class of patients in the bed first mentioned.

Dr. William Fuller, Chicago: I believe the rule that should govern the surgeon in dealing with practically all acute suppurations, whether in the head, chest, abdominal or pelvic cavity, or elsewhere, is that of drainage and that only.

It is possible, of course, for skilled surgeons to remove the vermiform appendix in acute suppurative conditions, and instances may be met with in which the plan is a safe one; but when adhesions must be broken down in order to accomplish this step, it is not without danger in the best hands. For operators with moderate skill and for young surgeons the method is not to be recommended.

I heartily agree with Drs. Ochsner and Grant who do not, as a rule, break down adhesions to remove the appendix in acute cases; but who first drain, then remove the appendix later. Adhesions are life-savers and should not be disturbed merely for the purpose of removing an organ which can be removed without danger subsequently.

Dr. W. T. Reynolds, Kansas City, Mo.: Recent studies of the blood have taught us that in localized abscesses there has been an autogenous vaccination which has brought about a great resistance. In peritubal abscesses we never think of draining the abscess and leaving a leaky tube. The same proposition confronts us in the vast majority of instances in localized appendiceal abscesses. It is not usually hard to find a line of cleavage which makes it comparatively easy to divide the adhesions and find the diseased appendix. I am heartily in accord with the essayist and have found in my own experience a greatly reduced mortality in fearlessly draining from the bottom of the pelvis.

Dr. Van Buren Knott, Sioux City, Ia.: Not many years ago at a meeting of this society we listened to claims that no appendicitis patient should be operated on. So I am not surprised to find men still claiming that a leaking, stinking appendix should be left in an abdomen to make the patient as uncomfortable as possible. Reform does not always come at once, but slowly and usually through hard knocks. But as far as my own experience is concerned, I am removing this appendix for a different reason. Some seem to think that the removal of the appendix at the time of the original operation is merely a matter of cosmetics—not that there is any reason to think that its removal can do the patient any good. But that is not the point. We remove the appendix to lower the mortality; and my mortality has been reduced from 8 to 1 per cent. in these cases; and these men will have to show me a lower mortality than 1 per cent. in these abscess cases before I will agree with them.

Sioux City is a small town, but we are near Missouri; and we shall be glad to show anybody who doubts the kind of work we are doing there. Two or three good men in Omaha and in Kansas City, Dr. MacLaren, of St. Paul, and other men throughout the middle west, are doing this kind of work. Dr. Ross tells me he has not left an appendix in the abdomen in four years and that in nearly every one of these cases he has described to you of subphrenic abscess, that came to post-mortem, he found there was always an appendix left. It is a fact that patients will not die from peritonitis; we did not have a death from peritonitis in this series of cases. I believe most cases of circumscribed abscess will die of sepsis rather than peritonitis, and they will be more apt to die of sepsis if drainage is superficial.

I am surprised to find so many different hidden pus pockets scattered through the lower portion of the pelvic cavity. These could not be reached by incomplete surgery. In my experience such surgery leads to an unnecessarily high mortality.

It is all nonsense to say that after the abdomen is opened you will decide whether or not you will remove the appendix, because no man can decide whether an appendix will come out hard or easy, if it is more or less tangled with adhesions.

No one should undertake this operation who is going to occupy thirty minutes in finding the appendix and getting it out after the peritoneum is opened; and if he does start to remove it and backs out because it is a little hard, he has exposed his patient to all the trauma he would get any way.

Dr. Ochsner says if he thinks his patient is going to die, he leaves the appendix. But this is just the class of cases in which we remove them.

Dr. George G. Ross, Philadelphia: I agree with what Dr. Knott has said. I have not left an appendix in four years, and as yet I have had no occasion for regret.

I believe that the mortality in these acute appendicular localized abscesses is not so much due to the infection of the peritoneum as it is to the fact that the infection gets behind the endothelial coat of the peritoneum. It is this type of retroperitoneal infection that is attended by a very high mortality for the reason that the retroperitoneal space cannot be drained.

TUMORS OF THE MESENTERY

WITH A REPORT OF FOUR CASES *

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In spite of the contributions that have appeared from time to time concerning mesenteric tumors and the interest manifested in certain reported cases, there is good reason to believe that these growths have been neglected and that they have not received the systematic attention to which their importance entitles them. That they are comparatively uncommon is admitted; but this would seem to supply a stronger reason for their careful study. When one has to depend on text-books or even on readily available periodic literature, one must encounter serious difficulty in the management of such cases. Under the clearest conditions, they require judgment and, above all, experience which may be gained at the cost of stumbling on them unawares.

In this paper an attempt will be made, first, to classify the existing pathologic and clinical knowledge of the subject; second, to record some personal cases, which will bear on questions of diagnosis and operative method; and third, to review the important articles found in the recent literature. It will not be necessary to go into historic detail, since Douglas[1] covered the facts in 1903, and both Vance[2] and Bowers[3] restated them in 1906.

ORIGIN

Our topic includes only those tumors which originate in the mesentery itself and not the so-called retroperitoneal growths. The latter may arise from any tissue behind the peritoneum and push forward between the layers of the true mesentery. They have served in a way to confuse the classification.

In order to appreciate the situation and character of these tumors, it is well enough briefly to consider the mesentery, its development and its structure. Any fold of peritoneum connecting a part of the intestine to the posterior wall of the abdominal cavity may be called a mesentery, though this unqualified term is generally employed to designate the special portion of the membrane attached to the small intestine (*mesenterium commune*).

In the development of the embryo, as the right and the left halves of the body cavity come toward each other, the early connective tissue is compressed into a primitive mesentery, which is attached to the whole length of the alimentary tube, from the stomach to the anus. Intestine and peritoneum are developed together, two layers of the serous membrane investing the bowel. When fully formed the mesentery is fan-shaped, its length of insertion being many times that of its fixed attachment. It runs obliquely from left to right, extending from the second lumbar vertebra, crossing the spinal column, to the right sacro-iliac joint. Its root, or point of origin of the two layers, is 6 inches in length, while the convex intestinal edge is 21 feet long (Gray).

Between the two layers of peritoneum that constitute the mesentery, run arteries, veins, lymphatic vessels, lacteals, and nerves—all imbedded in connective tissue and fat. These enter and leave through the posterior space, where the intestine is not completely surrounded by serous membrane. It is readily seen, therefore, that tumors of the mesentery must be largely of the mesoblastic or connective tissue type.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

1. Douglas: Surgical Diseases of the Abdomen.
2. Vance: Ann. Surg., 1906, lxiii, 366.
3. Bowers: Ann. Surg., 1906, lxiv, 892.

VARIETIES

Growths of the mesentery may be solid or cystic. Cysts are by far the more common and, according to their contents, are either serous, chylous, hemorrhagic, hydatid or dermoid. Solid tumors are benign or malignant. The former are lipoma, myxoma and fibroma and the latter sarcoma. It is very probable that the lipomata greatly outnumber the others, but sarcomatous degeneration is said to take place sooner or later in the majority of the simpler neoplasms. The lipomata and fibromata are very often prone to attain an enormous size. The pathology of these tumors differs in nowise from that of similar growths in other organs.

ETIOLOGY

Little can be said of the etiology, because, indeed, little is known of it. Undoubtedly, some growths are congenital in origin, and certainly many exist for a long time before they are recognized. It is in such cases that the influence of trauma is given credence, for an injury may light up or call attention to a preexisting growth. Bachmann[4] refers to this fact in his report of the case of a boy of 9, who, eight weeks before examination, had fallen across a barrel and on whom an autopsy was done two months later, which showed large masses of multiple fibromata in the mesentery. He quotes Pean as having noted the fact that large tumors may be present for years, only to be revealed in their final stage by some sort of traumatism. Age and sex apparently are not factors in the occurrence of these growths. In childhood, however, we very rarely meet the solid tumors.

REPORT OF CASES

Before discussing more practical questions, it will be well to put on record the cases which form the basis of this paper. By virtue of those peculiar coincidences which sometimes crop out in our work, four mesenteric tumors fell to my lot last year, within the space of six months, the last three coming all within a period of a little more than one month. They are presented in the order of their occurrence.

CASE 1.—*Dermoid Cyst of the Sigmoid Mesocolon.*—Mrs. Y., aged about 40, of frail constitution, mother of three children, two weeks before coming under observation, had a sudden severe abdominal pain, beginning in the right iliac region, but quickly transferred to the left; she vomited and had fever. There was a history of previous colics and of one attack nearly a year before resembling this, except that the pain was chiefly in the bladder region.

Examination.—On the first visit, March 28, 1910, temperature was 101; there was pain and tenderness all over the abdomen, but particularly at the border of the left rectus, low down; very little distention. At the second visit, evening of same day, the tenderness was much less, but the fever much higher (104); local signs diminishing. It was agreed that no interference should be advised until the acute process had passed away. By April 12 there was a practical subsidence of fever and pain; the abdomen was flat and the patient's general condition was good. Local symptoms were centering in the right lower iliac region, where a very sensitive mass could be felt; this mass was easily palpated on bimanual examination and gave indistinct fluctuation. A likely diagnosis was pyosalpinx, but in the absence of any history leading to that affection, it was considered improbable. No definite statement was ventured.

Operation.—Rex Hospital, April 13, 1910: right rectus incision. A mass of adhesions was encountered around the bladder, uterus and cecum; the sigmoid flexure had been drawn far over to the right and within the folds of its mesentery, near the intestinal border, was found a somewhat flattened cyst of the size of an orange. In the process of enucleation the cyst was ruptured and the character of its contents—teeth, hair and bone embedded in a mushy material—was determined. The mesenteric vessels were uninjured and no ligatures were required, only whipping over the edges with catgut. The uterus, tubes and ovaries were normal; the appendix, being engaged in the adhesions, was removed. A drainage tube with tape was inserted into the lower angle of the wound.

The patient had a very pleasant recovery and is in better health than she had been for several years. The specimen (Fig. 1) is a typical dermoid cyst, containing hair and a well-marked alveolar process with several perfect teeth.

Dermoid cysts of the mesentery are, of course, very rare. According to Bell and Yeoman,[5] up to 1908 about 150 cases of mesenteric cysts were found scattered throughout the literature; but of all these cases, there are certainly not more than twenty described as dermoids. These writers report a dermoid of the jejunal mesentery in a woman of 24, which was felt as a large, round, tender and movable "lump" between the uterus and the bladder, and thought to be a fibromyoma of the uterus. It was found lying between the folds of the mesentery with a loop of bowel curving around it. Attempts at enucleation being unsuccessful, the entire cyst was excised, the hole in the mesentery closed and a loop of bowel resected. The patient made a tedious recovery. Ehler[6] also operated successfully on a patient, aged 22, for a dermoid cyst of the descending colon, which had to be dissected widely and was associated with another similar cyst at the hilum of the kidney. These two are the only other dermoids of the mesentery reported since 1907, and bring the number to not more than twenty-three, including the case herewith presented.

Dermoids, wherever found, have their origin in fetal inclusion or implantation from the ectoderm and are, therefore, congenital growths. They belong to the class of teratomata. The mesenteric forms are commonly derived as post-rectal dermoids, which may develop at any point along the infolding process. They do not usually give clinical signs until long after infantile life and are more apt to contain teeth than are dermoids in any other situation.

CASE 2.—*Sarcoma of Sigmoid Mesocolon.*—M. A. F., male, colored, aged 50, for several months had been troubled with abdominal pain and tenderness. At first his bladder was irritable; lately his rectum had been troubling him. He was sent in with a diagnosis of bladder tumor. He had lost about 30 pounds in weight.

Examination.—In appearance he was emaciated and hollow-eyed. The abdomen showed a hard nodular tumor, low down, near the mid-line, but chiefly to the left; on rectal examination it was found somewhat movable and apparently lying on the rectum. It had exactly the "feel" of a uterine fibroid in a woman.

Operation.—St. Agnes Hospital, Sept. 1, 1910: a low left rectus incision. About a pint of serous fluid was in the cavity. The large tumor (Fig. 2) was attached to the sigmoid flexure and was seen to spring from its mesentery. With some difficulty the growth was stripped off the bowel and enucleated from the mesosigmoid. The raw areas were closed with catgut. There were metastatic growths lower down, along the rectum and behind the bladder. The operation lasted twenty-five minutes.

At first the patient did well, but he became distended and vomited and, though his bowels moved and the pulse was never very rapid, he died on the fifth day. No autopsy was allowed. The pathologic report proved the tumor to be a round-cell sarcoma. It was not so soft as such growths usually are and was definitely encapsulated.

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[4] Bachmann: Inaugural Dissertation, Erlanger, 1908.

[5] Bell and Yeoman: Brit. Med. Jour., 1908, ii, 810.

[6] Ehler: Rév. de méd. technèque, Prague, 1908, i, 38.

Since 1906, when Vance[2] reviewed the literature and in addition to his own case, found seven others of mesenteric sarcoma, there have been reported two more. These were both of mixed type. König's[7] case was that of a woman, 69 years of age, with cyanosis, dyspnea, anasarca, ascites and a feeble pulse. He tapped and drew off 15 liters of fluid, locating a tumor of the shape and size of a child's head below the umbilicus. Operation revealed a tumor, partly solid and partly cystic, growing from the mesentery and loop of small intestine. Extirpation and resection of portion of bowel, with use of the Murphy button. Uneventful recovery followed. Microscopic examination showed the tumor to be a fibrosarcoma with large spindle cells. Marullaz[8] presents the case of a man, aged 65, who had noticed swelling of the abdomen for two years. It was 108 cm. in circumference; the patient's general condition was poor, but no edema or ascites was present. At operation the large growth was found adherent to the stomach and transverse colon; resection was necessary for its removal and the patient died thirty-six hours afterward. The tumor weighed over 6 kg., and turned out to be a myxosarcoma of the mesentery.

Case 3.—*Blood Tumor of Mesentery.*—J. S. F., male, aged 60, had always been healthy up to a year ago, when he began to have pain in his right side. He was treated in January, 1910, for what was thought to be appendicitis. He seemed to recover in four days and did not complain again for six months. At that time an enlargement was found in his right abdomen. He was then advised to seek surgical aid, but declined. For the past three months he had lost much flesh and strength, but had been almost free from acute pain.

Examination.—There was found in the right half of the abdomen a swelling of the size of a grapefruit, located almost on a level with the umbilicus. It was freely movable and seemed too far forward for the kidney. A mesenteric growth was the most probable condition.

Operation.—At Rex Hospital, Sept. 23, 1910: an incision in the right rectus muscle exposed the hard nodular dark-red tumor, which grew in the mesentery of the ileum. It encroached so closely on the intestinal wall and appeared so plainly malignant that a lateral anastomosis was decided on. Nine inches of the bowel were removed along with a corresponding amount of mesentery down to its root. The patient did very well until the second day, when he suddenly developed pain, vomiting and delirium without unusual distention, and died probably from gangrene of the intestine. It was impossible to make a post-mortem examination. The pathologist's report, somewhat of a surprise, was as follows: "Sections from four different portions of tumor show only young connective tissue (an organizing clot). No indication of malignancy" (Fig. 3).

This was a very difficult case. Resection was undoubtedly demanded, and yet one hardly hoped to have success with it. The large V-shaped portion of mesentery, which had to be excised, contained thrombosed blood-vessels, and they probably extended into apparently healthy areas beyond the line of division. Malignant degeneration of a preexisting growth was certainly suggested by the history. Possibly a slow-forming mesenteric thrombosis may have accounted for the condition. There is a chronic thrombosis which gives rise to a large blood tumor between the layers of the mesentery, but it is much more rare than the acute form. Codman,[9] in speaking of this condition, says: "I have not made the diagnosis in any of them, nor do I expect to in the next." According to Douglas,[1] mesenteric blood-cysts may be due to injury with non-absorption of the effusion or to hemorrhage into a preformed cyst, as observed by himself. No sort of possible history of traumatism could be elicited in the case now being considered. So, in the light of the pathologic findings, it has been put down as a blood-tumor of the mesentery, due most probably to a long-continued process of embolism and thrombosis.

Case 4.—*Round-Cell Sarcoma of Transverse Mesocolon.*—Mrs. G. W. D., 52 years old, had her menopause in 1904. In June, 1910, she began to flow again and this went on almost continually to the time of her admission on Oct. 6, 1910. Soon after the flow started, she felt an enlargement in her right side, accompanied by more or less pain. This lump continued to grow rapidly. During this time she lost weight, perhaps 20 pounds or more, and did not feel well at any time.

Examination.—A very freely movable tumor, about 8 inches long and 4 inches wide, soft in consistency, was found apparently attached near median line, below and just to the right of the umbilicus; it could be pushed into the pelvic region and might easily be mistaken for an ovarian cyst; the uterus was normal; no growth on the cervix or on the endometrium; the adnexa showed no disease.

Operation.—Oct. 7, 1910, Rex Hospital: A long median incision below the umbilicus revealed a mass rolled up in the omentum. This was tied off and the tumor brought up. It was a growth (evidently sarcoma) of the transverse mesocolon, and was shelled out without wounding the bowel or the mesenteric vessels. The bleeding was easily controlled. Hard metastatic nodules were felt in the pelvic cul-de-sac. The pathologist reported "sarcoma—round-cell type."

The patient made an easy operative recovery and went home in two weeks. Before she left the hospital, the growth was larger than it was when she came in, and she died at her home about one month later.

There was no opportunity here to do any bowel resection owing to the secondary growths and the patient's enfeebled condition. The diagnosis was evident from the rapidity of the tumor growth and the patient's malignant appearance. It was a typical mesenteric sarcoma (Fig. 4), its consistency being, as described by Bazin,[10] "neither soft nor fluctuating, but pasty; the surface not smooth but lobulated." It differed markedly from that of the second case in this series, though they were of the same cellular type. The comments made under that case will apply here.

DIAGNOSIS

One hesitates to lay down any rules whatever for the diagnosis of mesenteric tumors. It is often impossible to say beforehand that a recognizable enlargement is certainly a growth of the mesentery, and it may be well to feel contented simply with deciding in most cases that surgical intervention is or is not indicated. Exploratory diagnosis is unquestionably the easiest and surest way. A few principles for guidance, however, may be set forth, these being based on the collected experience of those who have in late years written on the subject. Douglas is the only author who gives adequate consideration to the diagnosis. I shall not here undertake a labored presentation of symptoms and signs. Rather will it be better profit to lay emphasis on those things which point to an existing tumor as being possibly mesenteric and to mention those conditions which might prevent confusion in distinguishing this growth from some other neoplasm.

Subjective symptoms, if present, are not usually distinctive. Pain, which is the most important, is not apt to be attributed to the rare condition of a mesenteric tumor, but more probably to biliary, nephritic or appendicular colic; constipation is nearly always the rule, and digestive troubles, especially nausea and vomiting, are common, but so they are in many other conditions. Intestinal occlusion, volvulus and invagination may result from the presence of the tumor and give the symptoms attending those conditions.

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[7] König: München. Med. Wchnschr., 1906, liii, 330.

[8] Marullaz: Arch. de méd exper. et d'anat. path., 1907, xix, 263.

[9] Codman: Med. and Surg. Papers, Mass. Gen. Hosp., iii, No. 2, p. 146.

[10] Bazin: Thèse, Paris, 1907.

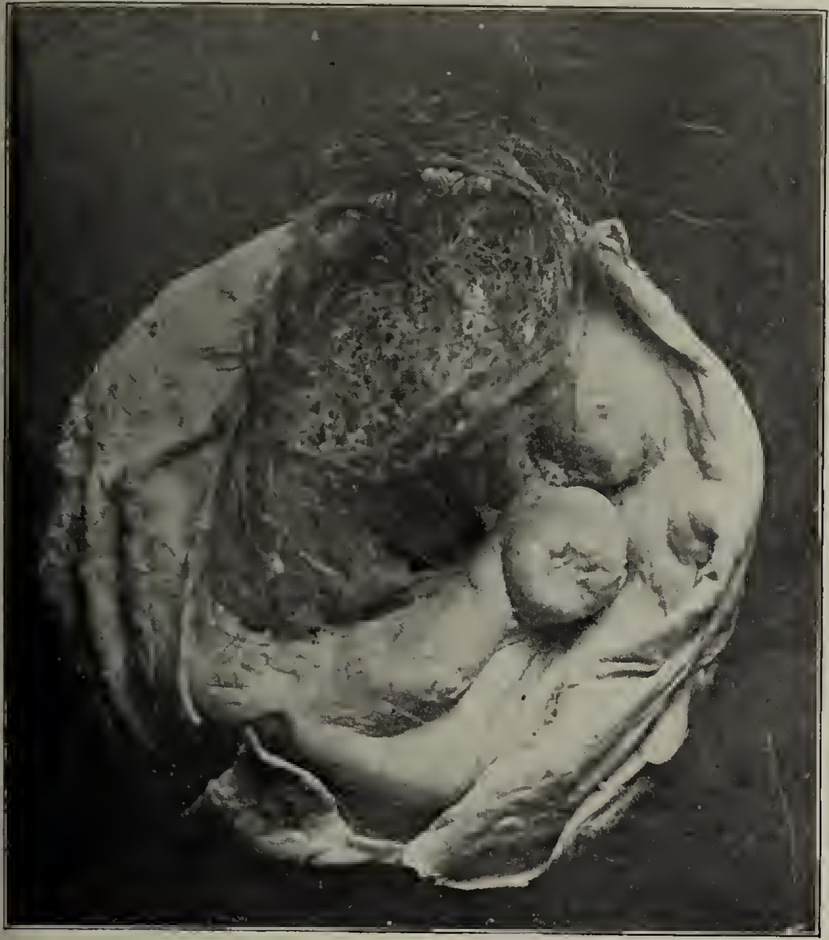

Fig. 1.—Dermoid cyst of sigmoid mesocolon.

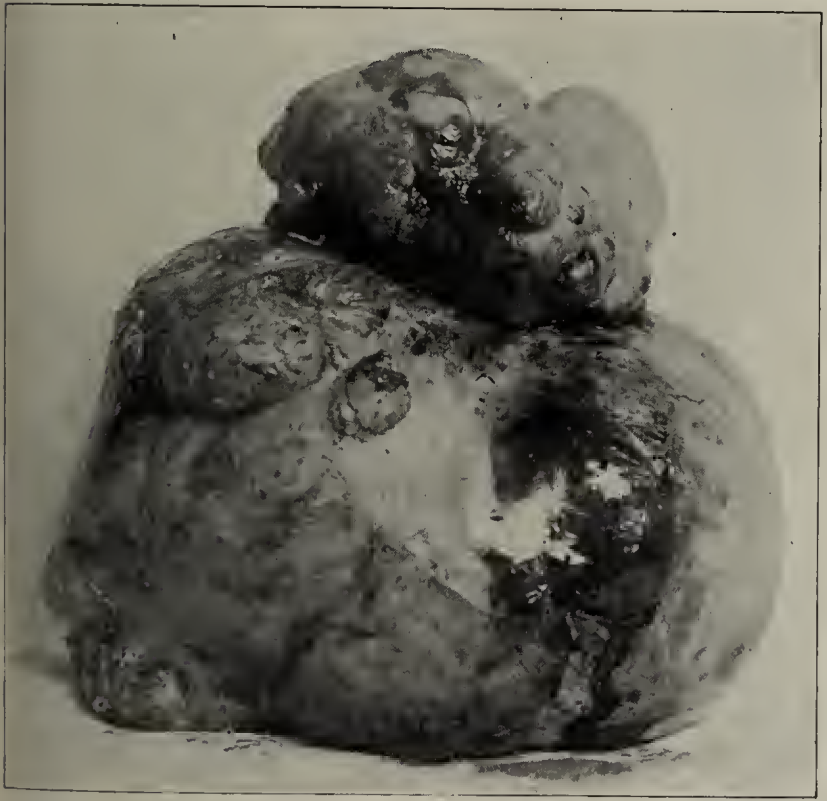

Fig. 2.—Sarcoma of sigmoid mesocolon.

The signs that most clearly give evidence of mesenteric tumors concern their position, their mobility and their relation to other organs. They are situated either in the middle line or far to either side over the course of the large bowel. Free mobility is the most important single sign, as no other abdominal tumor will show this to the same degree. The motion from side to side is especially marked. This may in a measure be diminished when the tumor is allowed to advance to a great size. If it can be determined that the tumor is separable from the solid viscera, a long step forward in the diagnosis will be made. Bazin speaks of a zone of resonance in front of or below the growth, and Douglas suggests that this may be of value in eliminating pelvic tumors, if the patient is examined in the Trendelenburg posture. König regards these as the important points: colicky pains radiating toward the umbilicus, the presence of bowel over the tumor and unusual mobility of the growth; and yet in his case none of these signs was present. Ascites is one of the common complications.

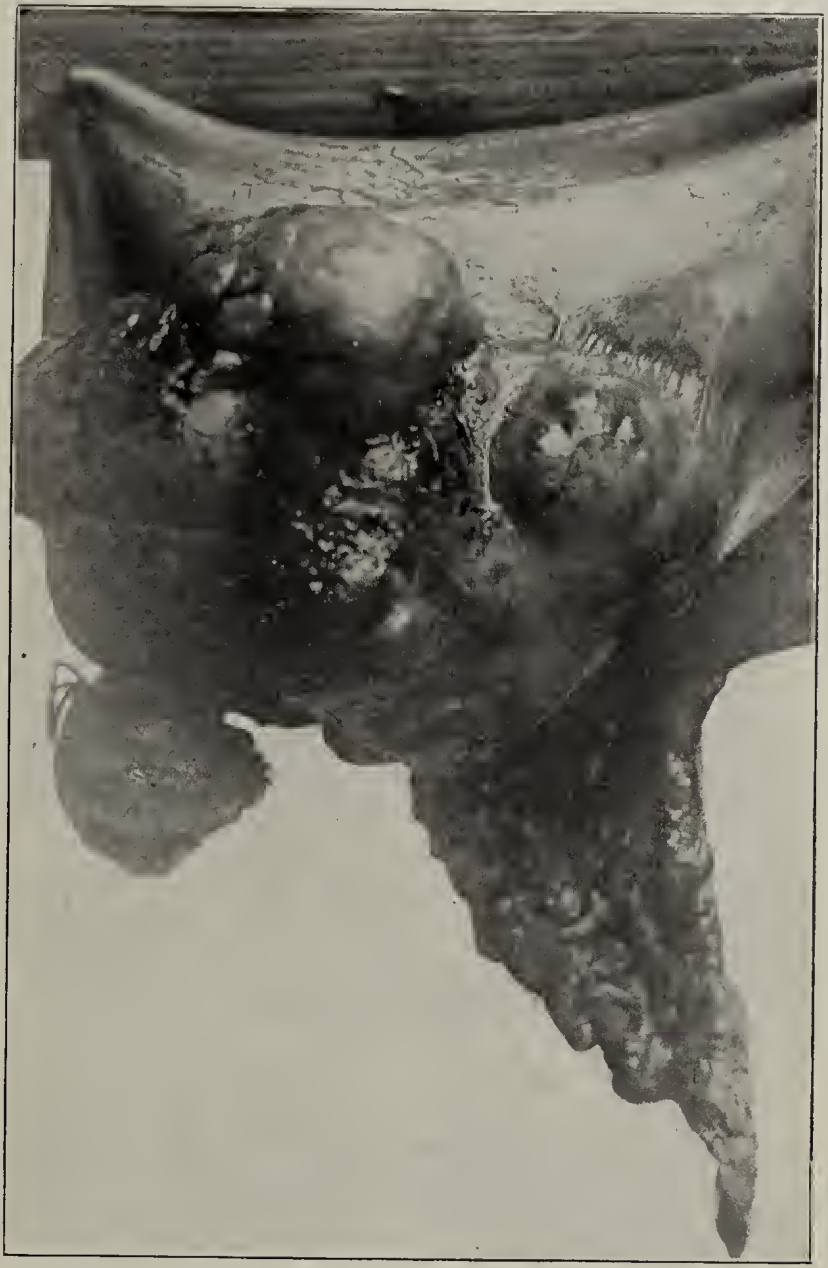

Fig. 3.—Blood tumor of mesentery.

The differential diagnosis offers a wide field of problems. Chief among these are ovarian cysts (which figured very strongly in the fourth case of my series), tumors of the liver, enlargements or displacements of the kidney, growths of the bowel itself and cysts of the pancreas. It will hardly be expedient to go over the detailed characteristics of these conditions, as they are well known. One must keep them strongly in mind, however, when differentiating abdominal growths and be prepared to learn that the diagnosis of mesenteric tumors is not a simple affair. Their very rarity is a reason for their being often overlooked. Reporting a fibromyxolipoma of the mesentery four years ago, Wiesinger[11] remarked: "In the many thousand laparotomies performed by the author for several years, this is the only case he has observed." Cysts, more than the solid tumors, are likely to furnish sources of error in diagnosis, from the areas of fluctuation usually present. These may be noted also in a lipoma when soft and of large size, as mentioned by Terrier. Bazin considers the diagnosis of sarcoma very difficult. He lays stress on "the rapidity of the growth, the cachexia and the more or less profound yellow tint of cancer." Furthermore, he seems to advise aspiratory puncture; this, he states, "will yield a cystic liquid mixed with blood, which is not the case in a lipoma owing to its lack of vascular supply." The European surgeons, as a rule, write very unconcernedly of this method, as if it were their custom to aspirate all abdominal swellings for diagnostic purposes—a practice which surely cannot be commended. Myxoma of the mesentery has been confounded with multilocular cyst of the ovary. Diagnosis must depend on excluding all possible evidence of the latter.

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[11] Weisinger: Mitt. a. d. Hamburg. Staatskrankanst., 1907, vii, 191.

PROGNOSIS

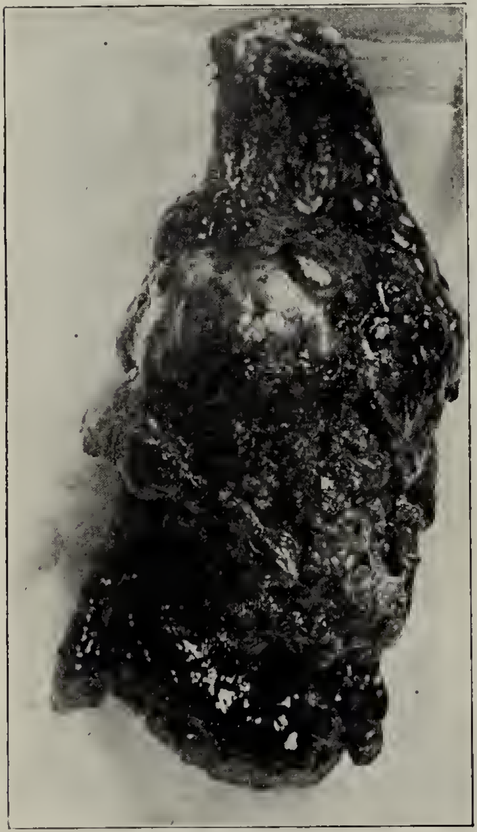

Fig. 4.—Round-cell sarcoma of transverse mesocolon.

The outlook depends largely on the character of the growth. Danger results not only from malignancy which may be present or imminent, but also from pressure due to the large size such tumors often attain. Early recognition and prompt removal are the remedies for both of these perils. Unfortunately, late diagnosis and tardy removal have appeared to be the order of the day, and thus the mortality has been high. In 1898 Begouin collected notes of twenty-nine solid tumors of the mesentery; of the patients only fourteen survived the operation (mortality 51.7 per cent.). Writers have since stated that our results are now better; but more recent reports do not show great improvement. Vance, in 1906, found twenty-seven cases in the literature of the five years preceding and eleven of the patients died, a mortality of 40.7 per cent. Since that date, I have records of nine cases (including two dermoids) with three deaths; these, added to the four of my own, give a total of thirteen cases with six deaths, or 45.1 per cent. mortality.

OPERATIVE METHODS

In deciding on the proper procedure at the operation, one must have in mind three questions: First, is the tumor benign or malignant? Second, is it primary and isolated? Third, how much, if any, intestine is to be sacrificed in its extirpation? These points are often very difficult to determine. Since the last issue must depend on the first two, the whole matter may be resolved into a decision on the indications in any given case for resection of the bowel. The mortality percentage will be closely concerned with this decision. In Vance's twenty-seven collected operations the intestine was resected thirteen times, with seven recoveries and six deaths; three of the tumors were sarcomata and all the patients died, while of the five fibromata cases only one resulted fatally. Obviously, one should be aware of the risk when electing to perform resection. Yet Murphy removed two feet of bowel, Lexer six and a half feet, and Shepherd seven feet eight inches, all successfully, for benign growths. It must be conceded, of course, that the cases suitable for resection are those in which malignancy is evident or in which the growth by its size or situation encroaches dangerously on the bowel; both of these conditions will naturally be associated with a high death-rate. Most assuredly the danger is increased by the removal of a portion of the bowel and the time consumed in the consequent anastomosis, on account either of shock, which has been given as the cause of death in many of the operations, or of gangrene of the intestine, resulting from injury to the nutrient vessels, or of peritonitis, due to imperfect technic. We can heartily join Wiesinger, therefore, in his advice to avoid resection wherever possible, and, as a sort of corollary, to be careful not to wound the blood-vessels of the mesentery in extirpating the tumor. When that golden age shall arrive, in which the surgeon will be given early the privilege of examining and, if it seem wise, of operating on these patients promptly, then the vexatious questions which have just claimed our attention may trouble us less and less.

HAVE WE AN IDEAL OPERATION FOR INTERNAL HEMORRHOIDS?

A NEW HEMORRHOID CLAMP

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It is proper to acknowledge, by way of introduction, that no operation in surgery of equal importance has been performed as often or with as uniform success as that for the relief of internal hemorrhoids. This record is all the more remarkable when the number and indiscriminate qualifications of the operators are considered, and when the many diverse methods advocated and practiced are called to mind.

It is probably no exaggeration to say that operation by the ligature and clamp-and-cautery methods has been performed hundreds of thousands of times under every imaginable condition, with a resulting mortality so low as to be practically negligible. And the same is true of an additional large number of cases in which the long list of modified and new methods have been employed. With this phenomenal history of achievement, it would seem that there is little ground for criticism either of the standard or of the more recently devised methods of operating. And let me hasten to add that such is not the purpose of the present brief paper, except in so far as the several methods fail to conform to the accepted principles and precepts of modern surgery.

Now what are those principles and precepts as applied to the surgery of internal hemorrhoids? Among the more important are: (1) complete hemostasis, (2) immediate closure of the operative wounds, (3) preservation of the function of the parts, (4) permanency of cure, and (5) due consideration of the factors of safety, simplicity of technic, time required for recovery, and the amount of post-operative pain. Antisepsis is not included in the list for the reason that at the present time this is recognized as the indispensable requisite of all surgery.

Considering first the two older or, as they may be properly termed, standard, methods of operating, in the light of the requirements enumerated, we find that each is open to criticism on one or more counts.

The ligature operation conforms to all the principles laid down except the second; that the open wounds with the sloughing stumps and granulating surfaces resulting when this method is employed are far from ideal, cannot be gainsaid; indeed, it is one of the wonders of rectal surgery that infection and disaster do not follow this operation uniformly instead of so rarely as to be virtually unknown. In this one important respect the operation by ligature is to be strongly condemned.

The clamp-and-cautery operation meets perfectly the first four requirements, but fails to meet the fifth. As performed by the average operator it is neither so safe and simple nor so expeditious and painless as to merit unqualified endorsement. Secondary hemorrhage following this method is by no means unknown; the technic is far from simple, an elaborate apparatus and an extra assistant being always required; the operation itself consumes more time and the period of confinement is certainly not shortened; and finally the amount of post-operative pain is greater than follows any other method in common practice. It cannot be said, therefore, that the method is beyond criticism, even though the final results approach the ideal.

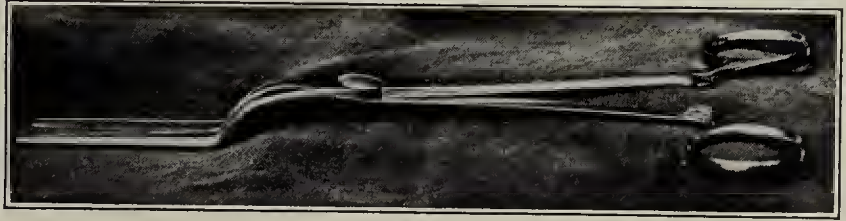
Of the numerous more recently devised methods, I shall only refer to the three which are probably best known and most distinctive in conception. Of the five classes of principles laid down by which to estimate the merits of the various operative procedures, the Whitehead operation conforms to only two; i. e., the second and fourth. The vitally important principles embodied in the third and fifth classes are totally disregarded, while that of the first class is practically ignored during the progress of the work itself. The enormous loss of blood incident to the performance of the Whitehead operation is a serious drawback. Scarcely less so is the ever-present danger of impairment of the function of the part by the substitution of abnormal relations or as the result of vicious cicatrization. It is also the most dangerous as well as the most complicated of all operations for internal hemorrhoids. Added to this series of disadvantages is the further consideration, which I state as a personal conviction, that it is both an unnecessary and an unjustifiable procedure. Of the many hundreds of patients operated on by me, I do not now recall a single one in whom the Whitehead technic seemed especially indicated, and I have never had occasion to regret the choice of another method.

The operation by means of Earl's clamp is in reality a modification of the Whitehead method. It is also a distinct improvement on it, in that the great loss of blood is prevented and the important advantages of comparative safety and simplicity gained. But it is open to the same indictment under class 3; namely, that it presents the practically identical danger of interference with the function of the parts.

Pennington's enucleation operation is an ingenious one, and one which has many features to commend it; but it unquestionably falls short with reference to the first-named of our arbitrary list of surgical principles. In the skilful hands of its experienced originator, the danger of hemorrhage may be and doubtless is reduced to a minimum, but in the hands of the average operator this feature of inadequate hemostasis certainly constitutes a glaring and formidable objection. It is, moreover, by no means a simple procedure either in the execution of the operative work or in the care and discrimination required in the adjustment of a proper dressing.

Now, after the foregoing iconoclastic onslaught, the question will at once be asked, does the critic know of a method more free from objections? With all becoming humility I answer, he believes he does.

The clamp and suture operation performed according to the following technic fullfils perfectly all of the conditions embodied under the five headings: A narrow clamp with tapering blades is applied to the base of the hemorrhoid to be removed in a direction parallel with the long axis of the intestine and so that its smaller, or free, extremity engages the upper, or proximal, portion of the tumor. By depressing the handle of the clamp the end of the blades where the suturing is to begin is brought into full view. A No. 1 or No. 2 chromicized cat-gut suture threaded on a round, half-curved needle is now passed beneath the tip of the clamp and securely tied on the sound mucosa above the base of the tumor. This is the most important step of the operation as, if properly executed, the blood-supply of the tumor that is being dealt with is at once effectively controlled. With scalpel or scissors the portion of the tumor outside the grasp of the clamp is amputated and a continuous suture inserted over the clamp blades, as in the Earl operation. The clamp is then gently loosened and withdrawn and the suture carefully and uniformly tightened and secured at the skin margin. Each pile tumor in turn is treated in a similar manner. If one or more of the growths is of the externo-internal variety, the clamp should be so adjusted as to include as much of the anal margin as may be indicated at each application. In order to avoid the possibility of the tissues slipping from the grasp of the clamp, it is best to amputate the overlying portion of the tumor by degrees, following the knife or scissors closely with the sutures. As a rule the sutures should be placed from 1/6 to 1/8 of an inch apart, though when the first one is properly placed, the danger of hemorrhage is largely eliminated and approximation of the edges of the mucosa is the chief purpose of the remainder.



The only dressing required is a small, well-lubricated, strip of gauze passed into the rectum, an external compress and pad and a T-badge. The operation can be performed very rapidly with a little experience, the amount of time required in a given case depending, of course, to a great extent on the number of tumors to be removed. The post-operative pain is not greater either in degree or duration than that following other methods and convalescence is fully as rapid.

This method lends itself to local as well as general anesthesia, though in the former case rapidity of operation is much more essential, particularly if multiple tumors are to be removed. Special attention to antisepsis is necessary in order to obtain the best results.

It will be observed that this method is closely analogous to the clamp-and-cautery operation, the only difference in technic being that in the former the suture instead of the cautery is relied on for hemostasis and permanent closure of the wound. That, when properly applied, it is much more dependable for these purposes cannot be denied. In addition, in my experience, it is followed by less after-pain and fewer reflex disturbances.

Considered in the abstract, I have always regarded the clamp-and-cautery method as more perfectly meeting the surgical conditions involved in the operative treatment of internal hemorrhoids than any other in general use. If, as I believe is true, the method here presented retains the advantages of the former at the same time that it overcomes in a practical way its few defects, I am prepared to say that it is the most nearly ideal of all methods yet devised.

I would have it distinctly understood that I claim neither priority nor originality for the technic here advocated. It has probably been described before, but I have not sought to ascertain by whom first, or when. My object has been rather to emphasize its value and again bring it to the attention of the workers in this field. Many times in recent years, particularly when performing operations on adjacent organs at the same time, e. g., lacerated perineum, I have resorted to it because of its obvious advantages. More lately I have been employing it frequently in simple cases, and always with complete satisfaction.

The only new feature I wish to call attention to is the clamp herewith presented, which, as will be at once recognized, is merely a modification, or rather an adaptation, of the original pattern of Earl's clamp. Formerly I used merely a pair of narrow-bladed artery forceps and, while they answered the purpose fairly well, I always recognized the need of a longer and stronger clamp of similar design. I have had occasion to use the new instrument only a few times as yet, but can unreservedly recommend it to those who may be sufficiently impressed to give the method a trial.

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EXPERIMENTAL DIRECT TRANSPLANTATION OF TENDON AND FASCIA *

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CHICAGO

Tendon and fascia are not highly differentiated, regenerate rapidly, under favorable conditions, to repair extensive defects and require but little blood to maintain functional activity. They should, therefore, be well suited for purposes of direct transplantation. The feasibility of the direct transplantation of tendon and fascia first suggested itself to us some two years ago while repairing an extensive defect of the extensor tendons of the fingers resulting from a burn by a hot rolling iron such as is commonly used in steam laundries. The space to be bridged was so wide that it was necessary that the long tendinous flaps, which had to be used, should remain attached to the parent tendon by merely enough tissue to insure continuity. Although in this case the greater part of the tendinous flaps were independent of the parent tendon so far as nutrition is concerned, the functional result, complete extension of the fingers together and independently, was perfect.

Gluck,[1] while experimenting on the direct transplantation of muscle, was the first to demonstrate that tendons could be transplanted directly. He transplanted the gastrocnemius from one fowl to another and demonstrated that the function of the transplanted segment could be maintained. The tendo Achillis, which had been transplanted with the muscle in these experiments, had a perfectly normal gross appearance when examined. One of the transplanted tendons was examined after forty days. No histologic examination of the transplanted segments was made; at least, no mention is made of such an examination.

This experimental work never had a very extensive practical application, but few cases having been reported in which direct tendon transplantation has been attempted in man. Heuck,[2] in 1893, while repairing a defect in the long extensor of the thumb, accidentally tore off the flap from the parent tendon. The completely separated flap was sutured in position, and, notwithstanding that two pieces of the transplanted tendon sloughed out, a good result was finally obtained.

Peyrot,[3] in 1887, used a heteroplastic transplant with apparent success. In this case both flexor tendons of the left middle finger had been lost. A piece of tendon 4 cm. in length was removed from a young dog and sutured into the defect with catgut sutures. The transplant healed in position, although the cutaneous wound did not heal by primary intention. In this case the function was not completely restored, but it was greatly improved.

Monod,[4] the same year, transplanted a tendon from the hind leg of a rabbit into a defect in the flexor longus pollicis measuring 5 cm. in length. The functional result of this operation is reported as perfect, a thick, round tendon being felt at the site where the transplant was inserted. Monod was unable to state whether the transplanted segment acted as a bridge or as a true substitute for that which had been lost. Mainzer,[5] in 1902, reports two cases in which direct homotransplants were used successfully to bridge over defects while transferring tendons. In his first case, the tendon of the paralyzed peroneus tertius was used as a direct transplant to bridge a space between a flap taken from the tendo Achillis and the extensor longus digitorum. In this case the patient could extend the toes and flex the foot after thirteen weeks and could walk normally after one year. In the second case the tendon of the peroneus tertius was used as a direct transplant to unite a flap from the tendo Achillis with the extensor longus digitorum. Dorsal flexion of the foot was good after seven days. These are about the only instances in which direct transplantation of tendon has been attempted in man.

Plastic operations on tendons by means of dead foreign material such as catgut, silver wire and silk have never been used extensively in the repair of defects of the flexor and extensor tendons of the fingers, notwithstanding that the silk tendon, as employed by Lange, has yielded such brilliant results in the correction of palsies following infantile paralysis. Lange himself says,

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Gluck, T.: Ueber Muskel und Sehnenplastik, Arch. f. klin. Chir., 1881, xxvi, 61.

[2] Heuck: Ein Beitrag zur Sehnenplastik, Centralbl. f. Chir., 1882, No. 18, p. 289.

[3] Peyrot: Centralbl. f. Chir., 1887, No. 20.

[4] Monod: Centralbl. f. Chir., 1888, No. 51.

[5] Mainzer: Ueber indirekte Sehnenüberpflanzung, München. med. Wchnschr., 1902, No. 21.

concerning the repair of tendon defects caused by suppuration, that the infection remaining at the site where the artificial tendon is to be inserted may cause the latter to be extruded, and that even if the artificial tendon healed in position, the dense scar tissue may lead to such strong adhesions that the function of the artificial tendon may be seriously interfered with. It is in the repair of defects of the flexor and extensor tendons that a living transplant is especially desirable, although the autoplastic operation devised by von Hacker[6] some eight years ago has given results in his hands which can hardly be improved on.

Dogs were used in the experimental work which has been done by us. In one series of experiments, pieces of tendon measuring 1 or 1¼ inches were removed from the tendo Achillis of one dog and inserted into a defect of about the same length in the tendo Achillis of another dog. The legs of these animals were immobilized long enough to insure integrity of the sutures, then the cast was removed, for as will be shown later, early use of the leg in which the transplant is inserted seems to have an important effect on the viability and development of the transplant.

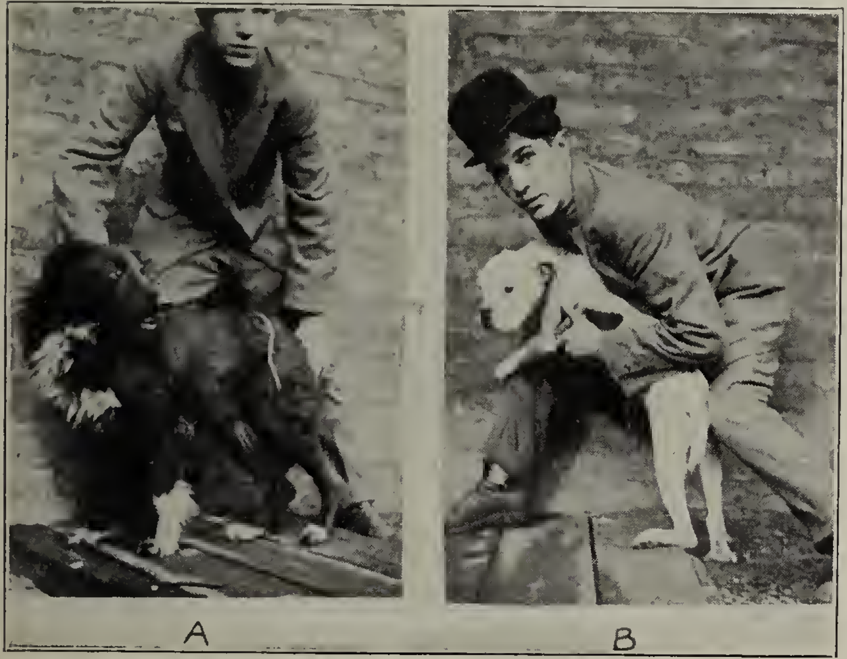

Fig. 1.—A dog from left hind leg of which a piece of tendon one and one-quarter inches in length had been removed and replaced by a piece of tendon of about the same length from another one. Picture taken four weeks after transplantation. The dog walked in two weeks after the operation, with only a slight limp. B, control dog. A piece of tendon measuring from one to one and one-quarter inches was removed and not replaced. The heel drops, resting on the board.

In another series of experiments pieces of tendon measuring 1 or 1¼ inches were removed from the tendo Achillis and inserted into a pocket in the subcutaneous fat of the abdomen. These pieces were placed in the subcutaneous fat rather than in the muscle or between the fascia, because the circulation would not be so readily established. The experiment was thus subjected to a severe test and, besides, if direct transplantation were attempted, it would be advisable to run the transplant through tunnels in the subcutaneous fat whenever possible.

In studying the fate of fascial transplants, strips of fascia lata or of the sheath of the rectus abdominis measuring ¾ inch in length and ½ inch in width were dissected loose and buried either under the subcutaneous fat or placed free on the fascial plate from which they had been separated.

TENDON EXCHANGE, THE TENDO ACHILLIS BEING TRANSFERRED FROM ONE DOG TO ANOTHER WITH EARLY USE OF THE LEG AFTER THE OPERATION

The tendon transfers were made under careful aseptic precautions, as primary wound healing is essential to success. The pieces of tendon were traumatized as little as possible and protected from drying during the process of transplantation. In order to insure early use of the leg, without danger of separating the transplant from the muscle and tendon to which it had been sutured, rather heavy iodin catgut or Pagenstecher's linen were used and accurate approximation of the ends secured. It is important that the leg carrying the transplant be used early. Some dogs, in which a piece of tendon had been removed and not replaced, were used as controls. These animals always walked with a drop foot, there being no restoration of function. In one control dog, the defect remaining after removal of the tendon was filled in by new tissue. This differed markedly, however, from the transplant, and although there was in this case what might be called an anatomical restoration of the tendon, there was no return of function. This tissue was present forty-five days after the segment had been removed.

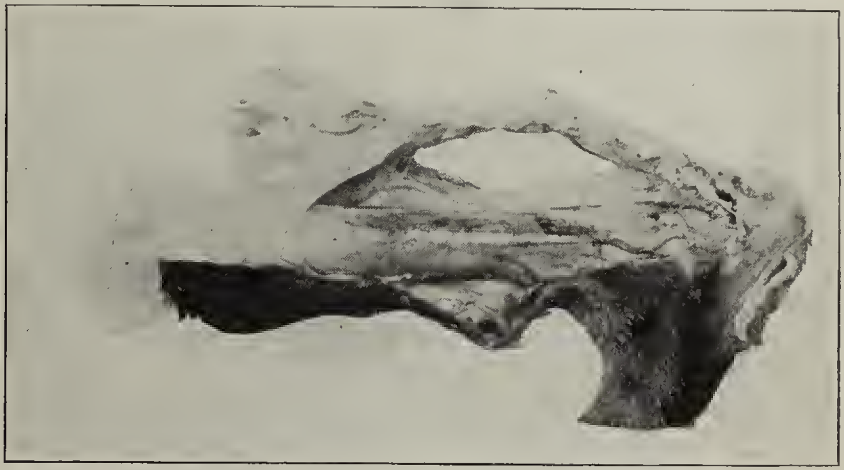

Fig. 2.—Appearance of tendon three weeks after transplantation. The transplanted tendon is larger than the normal one on the opposite side. It is fusiform in shape and does not taper down to its insertion as the normal tendon does. The line of suture can no longer be made out.

The transplanted tendons were examined after seven, seventeen, twenty-one, thirty-five and fifty-nine days. In these cases a round, resistant, somewhat enlarged tendon could be felt beneath the skin under which it moved quite freely. In some of our cases, the transplant underwent regressive changes as the result of infection or of undue tension on the segment. In these the transplant became soft and pulpified and imparted to the palpating finger a much different sensation than that imparted by the living transplant. In all of the successful cases, the dog could use the leg at the end of a week, and at the end of fourteen or fifteen days, the animal could walk without much of a limp or any dropping of the foot.

We will not give a minute description of the changes occurring in each case, but will mention those which we consider to be most characteristic.

Some of the most important changes relate to the size and form of the transplant. At the end of seven days the transplanted segment, which has not increased much in size, lies in a mantle of grayish red embryonal tissue which is usually separated from the transplant proper by a thin layer of plasma. At the end of seventeen days the transplant shows some enlargement, and the mantle of granulation tissue which surrounds it has formed a rather intimate union with the transplanted tissue. At

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6. Von Hacker: Ueber den autoplastischen Ersatz der Streck und der Beugesehnen durch entbehrliche Sehnen des Handrückens, Beitr. z. klin. Chir., 1910, lxvi, 259.

the end of three weeks, the tendon transplant is from two to three times thicker than the normal tendon on the opposite side. In the tendo Achillis of the dog there are three separate tendon bundles, each surrounded by a synovial sheath. In the transplanted tendon these three bundles become united so that they can no longer be isolated, this union being due apparently to proliferative changes in the peritendineum.

This change in size has been noted by both Kirschner[7] and Rehn[8] in their experimental work dealing with transplantations of tendon. In describing a tendon examined thirty-three days after transplantation, Kirschner remarks that the exposed tendon appears as a rounded cord which is about twice as thick as the normal tendon on the opposite side, and that it is so sharply delimited from the surrounding tissues that there is no doubt as to the exact limits of the transplanted tendon. Rehn says, in describing one of his specimens removed after seven weeks, that the transplanted segment is about three times as thick as the tendon on the opposite side.

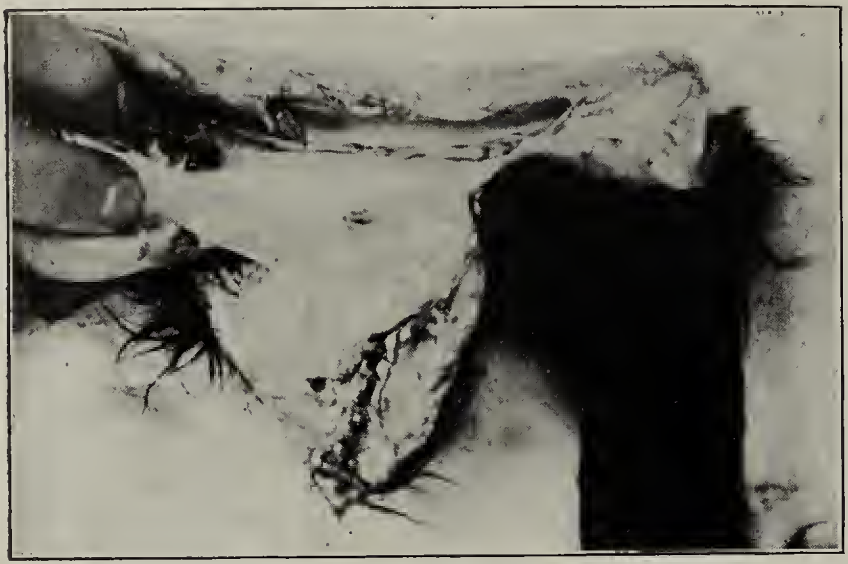

Fig. 3.—Appearance of tendon fifty-nine days after transplantation. The tendon resembles quite closely a normal one. It is still somewhat larger than the normal one on the opposite side, but it approaches the normal closely in shape, tapering down to its point of attachment, being no longer fusiform.

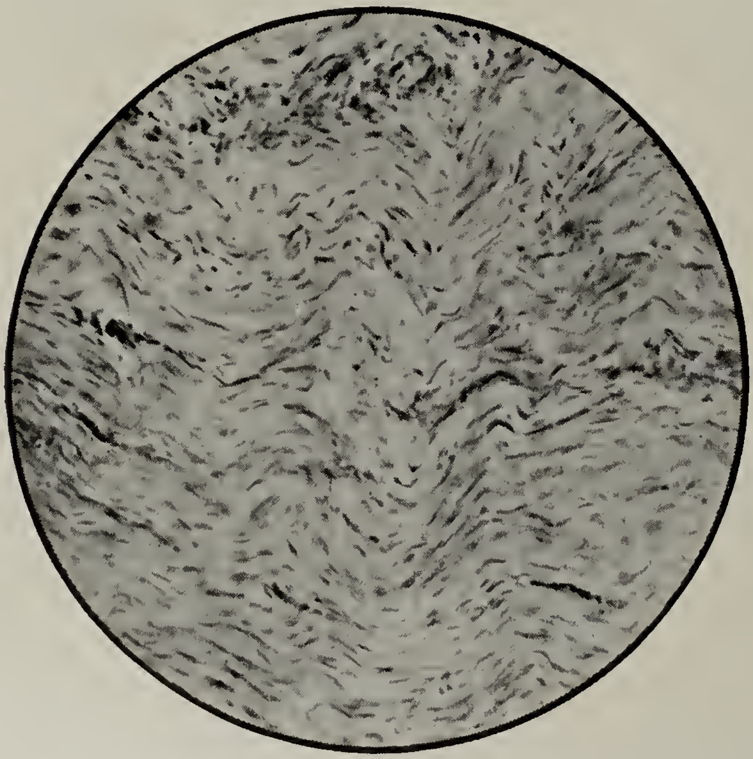

Fig. 4.—Longitudinal section through a tendon three weeks after transplantation. The fibrillæ and nuclei stain well and appear practically normal. There are some proliferative changes in the peritendineum.

The tendon transplants become fusiform in shape and do not taper down to their point of attachment as does the normal tendo Achillis. The center of the transplant is usually the widest part, there being a gradual reduction in size on either side of the middle of the transplant down to the suture line.

The changes in size and shape of the transplants are due, we believe, to two things: (1) proliferative changes in the subcutaneous tissue surrounding the transplanted tendon and in the peritendineum externum and internum; (2) edema of the transplant, resulting from an imperfect reestablishment of the circulation.

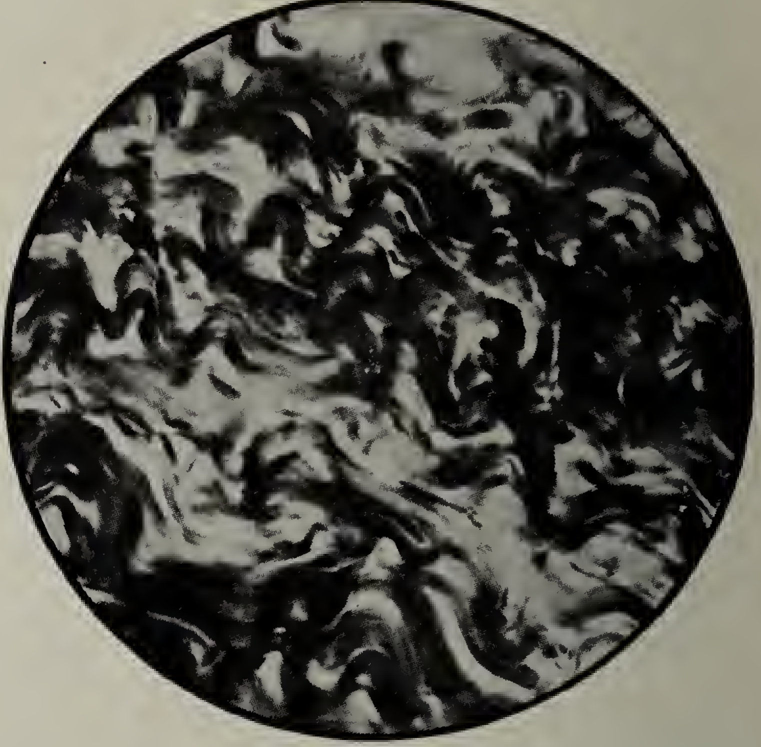

Fig. 5.—Section parallel to long axis of tendon five weeks after transplantation, showing swollen curled fibers of transplant.

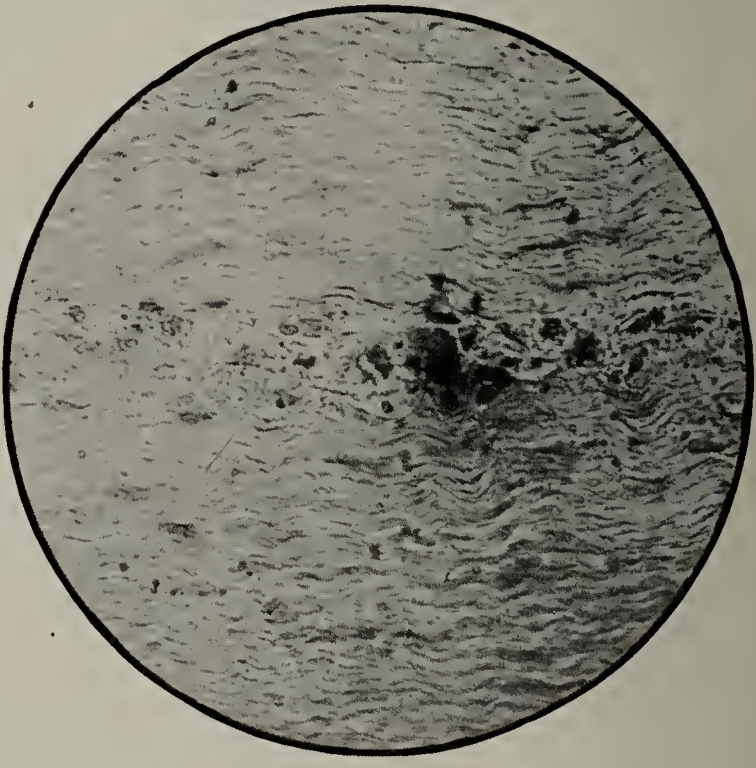

Fig. 6.—Longitudinal section through tendon fifty-nine days after transplantation. Tendon practically normal.

As regards the proliferative changes in the peritendineum externum and internum, our findings are in accord with those of Rehn. He states that, during the first three weeks after transplantation, proliferative changes in the peritendineum are the most prominent of

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[7] Kirschner, M.: Ueber freie Sehnen- und Fascientransplantation, Beitr. z. klin. Chir., 1909, lxv, 472.

[8] Rehn, E.: Die homoplastische Sehnentransplantation im Tierexperiment, Beitr. z. klin. Chir., 1910, lxviii, 417.

any occurring in the transplanted tendon, and that by the twenty-first day the peritendineum externum has proliferated to form a thick mantle of newly formed tendon tissue which surrounds the transplanted segment and supplies the latter by numerous capillaries which develop from it with nutrition.

The mantle of tissue which we have observed is developed partly from the peritendineum externum and partly from the subcutaneous tissues which form the bed for the transplanted segment. This mantle of tissue is rich in blood-supply, and undoubtedly furnishes the greater part of the nutrition for the transplanted tendon. When the proliferative changes in the transplant are most marked, the mantle of proliferating tissue and the transplanted segment are closely united.

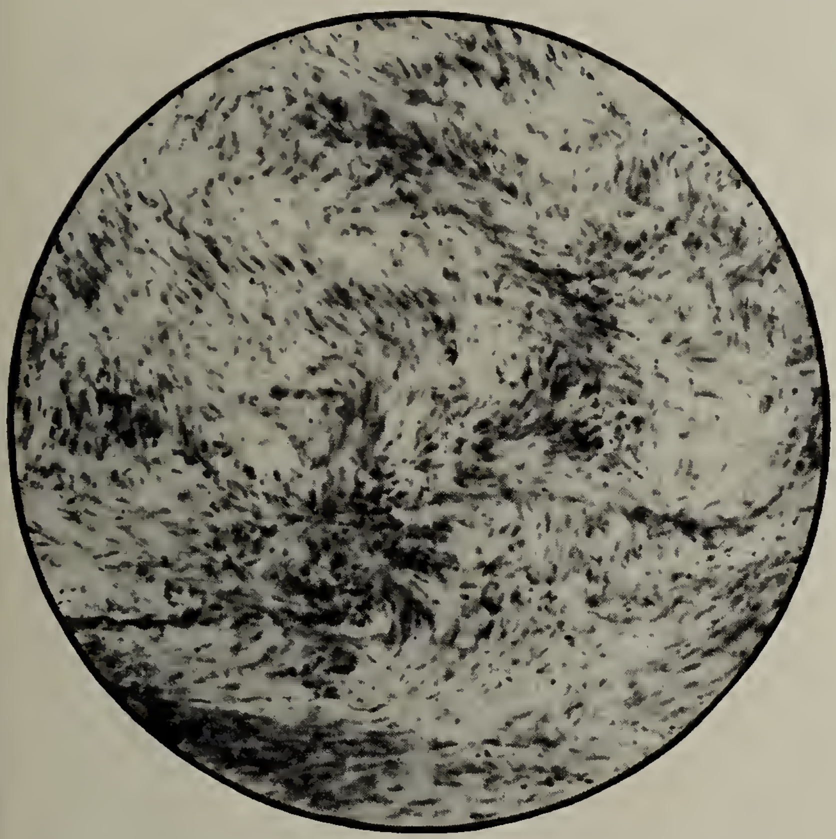

Fig. 7.—Cross-section through piece of tendon transplanted into the subcutaneous fat and removed after five weeks. Piece of tendon reduced considerably in size. There is considerable leukocytic infiltration in certain areas. Neither the fibrillæ nor the peritendineum show an evidence of proliferative changes.

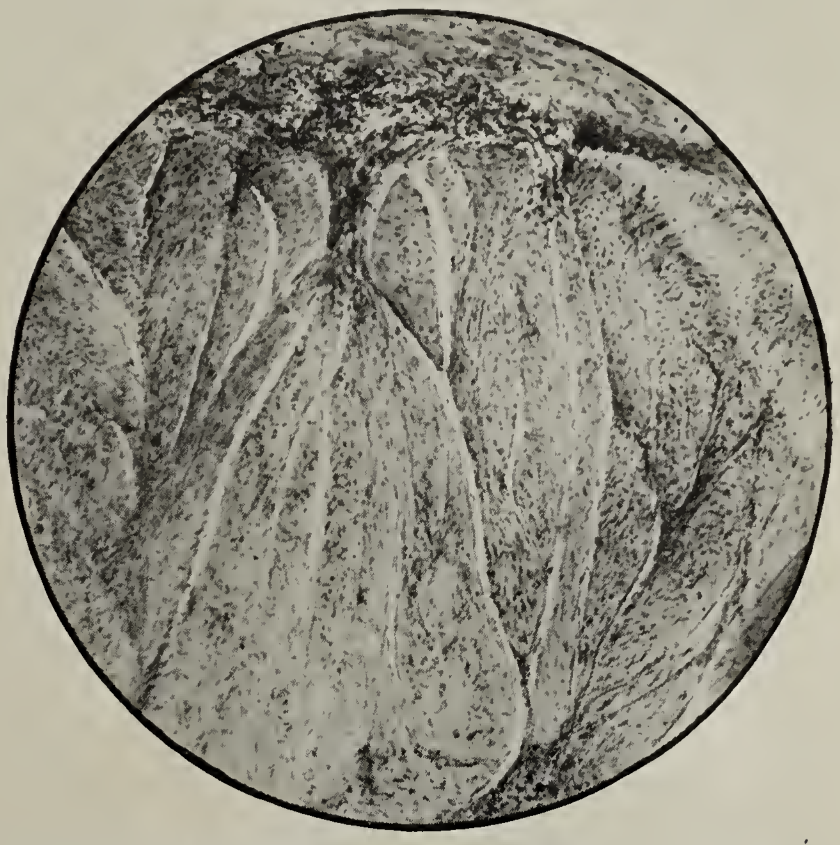

Fig. 9.—Cross-section of a piece of fascia from the rectus abdominis transplanted into the subcutaneous fat of the abdomen and removed twenty-three days later.

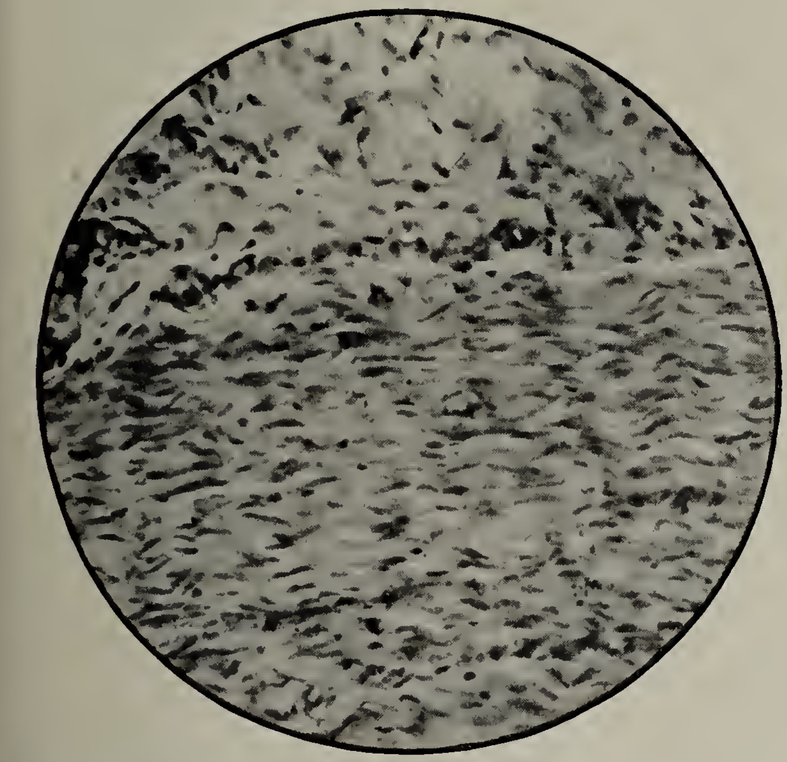

Fig. 8.—Fascial transplant removed after fourteen days. The transplanted tissue preserves all of the characteristics of normal fascia.

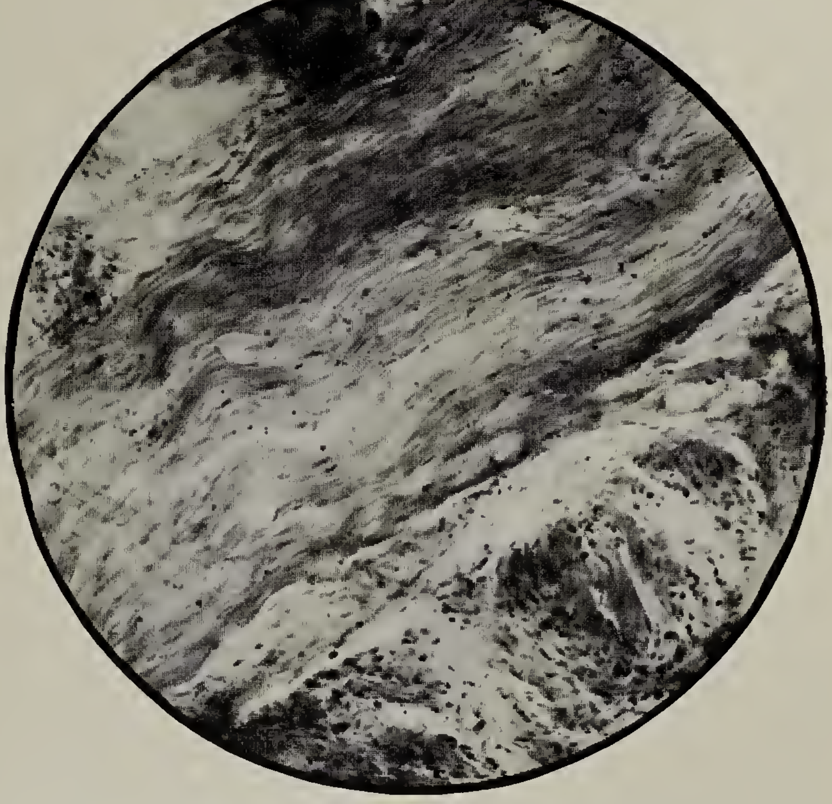

Fig. 10.—Longitudinal section of a piece of fascia removed from the rectus abdominis and transplanted into a subcutaneous pocket in the abdominal wall. Fascia examined thirty-five days after transplantation.

CHANGES IN SIZE OF THE FIBRILLÆ AND EDEMA OF THE TRANSPLANT

In the transplanted tendons, after three and five weeks, the fibrillæ seem to be larger than normal, and many seem to be gnarled and twisted, the bundles of fibrillæ often being separated by a granular mass. Although these changes are most marked in the three and five weeks old transplants, they are also observed as late as fifty-nine days after the tendons have been exchanged.

These changes we believe to be due to an edema of the transplanted segment resulting from an imperfect reestablishment of the circulation. They are not of a regressive character, for both the fibrillæ and the nuclei react normally to stains. This edema may account in part for changes in the size of the transplant.

While in all the transplants there are evidences of regressive changes in small areas, the fibrillæ having undergone hyaline changes or appearing granular, the transplant as a whole remains alive, not being invaded by either leukocytes or round cells. A transplant, examined after fifty-nine days, has practically the appearance of normal tendon and moves readily beneath the skin. The cell mantle has been greatly reduced in size, and the cut surface has a white glistening appearance. But even in cases in which the transplanted segment resembles so closely normal tendon, the three bundles normally found in the tendo Achillis have fused so that they can no longer be isolated, and the tendon is larger than the normal one on the opposite side.

The dog from which the tendon was removed for purposes of examination fifty-nine days after operation had been walking for five weeks with practically no limp and without any dropping of the foot, the transplanted tendon having restored completely the function of the leg. In our control animals, in which the segment removed was not replaced, there was never a restoration of function, although, in one case, after forty-five days, there was partial anatomic repair.

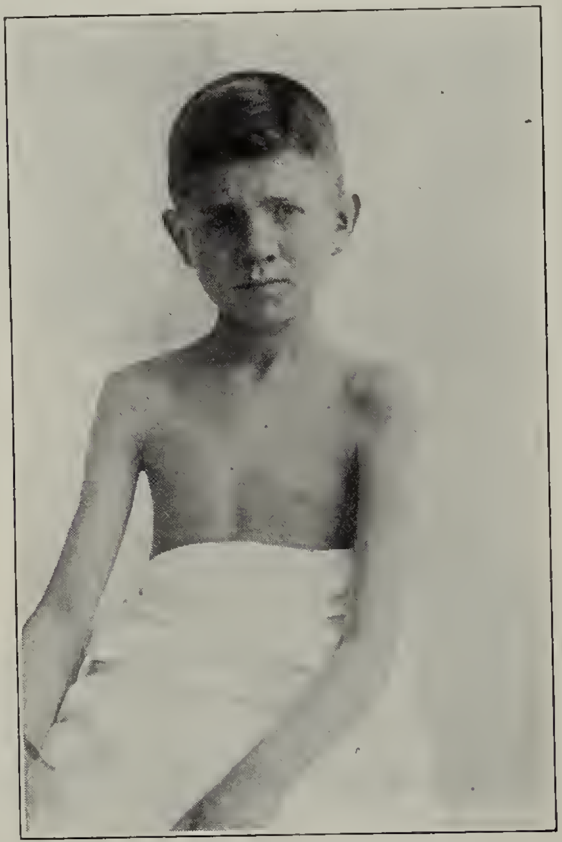

Fig. 11.—Deltoid paralysis of five years' standing following anterior poliomyelitis.

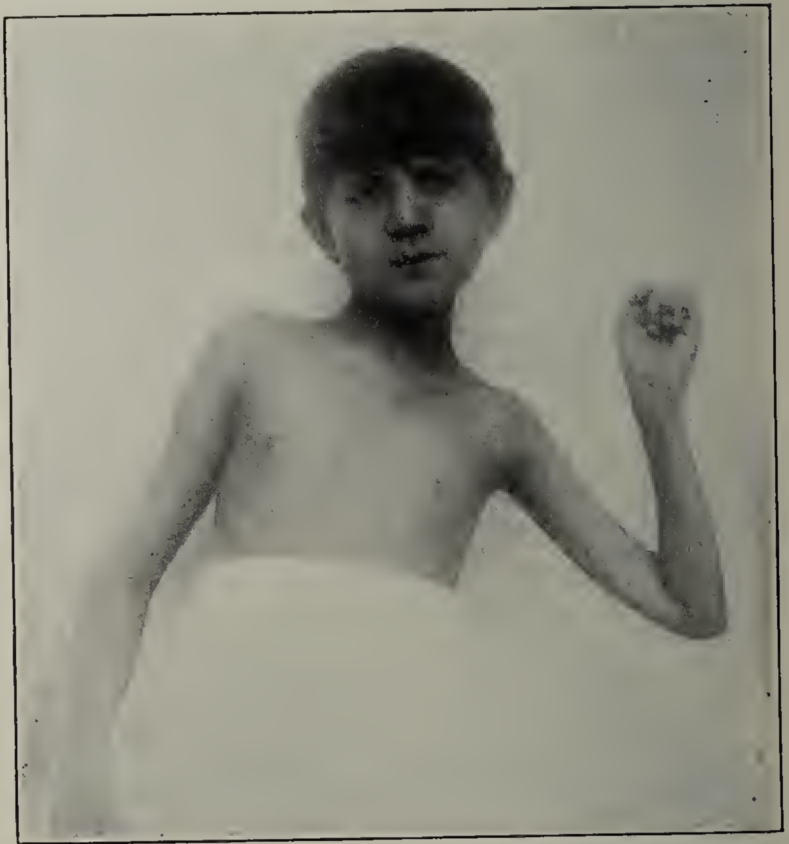

Fig. 12.—Ability to abduct the arm and maintain abduction after trapezius transplantation in patient shown in Figure 11. In this case it was impossible to suture the trapezius as low down on the humerus as desired. A piece of fascia lata was therefore transplanted directly between the trapezius, which had been freed, and the deltoid insertion to act as the tendon of the trapezius muscle.

The staining reactions of the nuclei and fibrillæ of the transplanted segment, the absence of leukocytic and round-cell infiltration, and the absence of any great number of karyokinetic figures, indicate that the transplanted segment acts as a true, viable substitute for the part which has been removed and not as a bridge for developing tenoblasts.

TRANSPLANTATION OF PIECES OF TENDON INTO THE SUBCUTANEOUS FAT OF THE ABDOMINAL WALL

In our second series of experiments, pieces of the tendo Achillis, measuring 1 or 1¼ inches in length, were placed in pockets made in the subcutaneous fat of the abdominal wall. The transplanted pieces were not united by suture to any of the surrounding tissues. They were removed for examination after seven, sixteen, twenty-three, twenty-eight, and thirty-five days. The changes observed in these transplanted tendons differ markedly from those described above, as occurring in tendinous transplants, which assume the function of the segment for which they have been substituted.

There is a tendency for pieces of tendon transplanted into the subcutaneous fat of the abdomen to become progressively smaller. Pieces of tendon, which measured 1 or 1¼ inches when transplanted, were only one-third as long or less when examined five weeks later. Although in this case the transplanted tissue had all of the physical properties of tendon and could easily be identified as such, there were no evidences of any proliferative changes such as occur in transplants which assume the function of the tendon for which they have been substituted. In a tendon removed four weeks after transplantation, the three bundles occurring in the normal tendo Achillis could still be isolated, surrounded by its synovial sheath. After transplantation into the subcutaneous fat, the tendon shrinks to form, in those cases examined some time after the operation, a small ball of tendinous material. These transplanted pieces form with the subcutaneous fat close adhesions, but the line between the tendon and fat is sharply demarcated.

Microscopic examination shows that the fibrillæ and nuclei stain well and that the piece of transplanted tendon may be regarded as viable. There is some leukocytic and round-cell infiltration. The most striking difference between transplants which have assumed early the functions of the segment for which substituted and those which have been placed into the subcutaneous pockets without assuming function, is the absence of any proliferative changes in the peritendineum, of the latter. The peritendineum of pieces of tendon transplanted into the abdominal wall is perfectly passive, there being no effort to form a cell mantle. Apparently there is also no edema of such a transplant. Such a transplant may be compared to a paralyzed limb. It has circulation and is viable, but becomes shrunken and differs in many ways from a transplant which has assumed the function of the tendon for which it has been substituted. Some of these differences may be accounted for by the early establishment of circulation from the end of the muscle, in those cases in which the tendon has been substituted, for a tendon which has been removed. Transplanted tendons which assume function early, do much better than those which are immobilized for long periods of time, both regarding the viability of the transplanted segment and the freedom with which they move beneath the skin. Sutures, such as those recommended by Dreyer or Fritsch, which do not strangulate the tissue, but still insure a union so firm that the tissues cannot be separated by movements begun shortly after the operation, should be employed.

TRANSPLANTATION OF FASCIA

Kirschner, while experimenting on the direct transplantation of tendons, was the first to suggest that fascia might be used to repair defects in tendons. In discussing the possibility of fascial transplantation, he remarks that we have in fascia, especially in the fascia lata with its strong iliotibial band, a tissue which can be easily used in bands of practically any length or breadth, and in almost unlimited amounts without interfering with the function of the structure from which it is removed. These strips may be used either in the form of narrow strips or sewn into the form of a tube uniting the ends of the tendon which is to be repaired.

In determining the viability of fascia, we have transplanted into the subcutaneous fat of the abdomen or under the skin of the thigh either pieces of the fascia lata or of the sheath of the rectus abdominis. The pieces which were transplanted measured ¾ of an inch in length and ½ an inch in breadth. These transplanted pieces of fascia were examined after four, ten, fourteen, twenty-three and thirty-five days. Transplanted pieces of fascia, when not sutured in position, curl up and become smaller than when first separated from the fascial band or aponeurosis. The changes in form and size of the transplanted pieces apparently depend on the direction of the tension planes of the fibers in the piece transplanted. In these experiments the transplanted fascia was not sutured in position, because we desired to subject the transplanted tissue to a severe test, and a line of suture would favor the early development of circulation in the transplanted fascia. As the transplanted fascia curls up, it is necessary to cut the transplanted tissue somewhat larger than the defect to be covered, in order to insure against undue tension.

The fascia examined four days after transplantation was removed from the sheath of the rectus abdominis and placed in the subcutaneous fat of the abdominal wall. After four days, when the dog was killed, the transplant preserved all the characteristics of fascia. It had become somewhat reduced in size, because it was somewhat curled on itself. The fascia had contracted slight adhesions with the subcutaneous fat, but could be moved easily under it. On histologic examination the fibers of the fascia reacted normally to stains. A layer of leukocytes with some round cells surrounds the transplanted tissue, but has not invaded it.

The fascia examined ten days after transplantation was a piece of about the same diameter as that mentioned above. It was removed from the fascia lata and placed on the same fascia at a lower point without suturing. When examined after ten days, the transplanted piece was adherent to the fascia lata by a thin layer of granulation tissue and fibrin. It had all of the characteristics and microscopic features of normal fascia.

Figures 8, 9 and 10 indicate the condition of transplanted pieces of fascia after fourteen, twenty-five and thirty-five days. In Figure 8 the transplanted fascia has been cut parallel to the long axis of its fibers. The subcutaneous fat is adherent to the transplanted tissue, but there is very little reaction about the fascia, but few leukocytes and round cells, none of which have invaded the transplant, being found. Figure 9 represents a cross-section through a piece of fascia examined twenty-three days after transplantation. The fibers of the fascia which are cut transversely stain normally. There is considerable leukocytic and round-cell infiltration in this case at the margins of the transplanted fascia. There has been, however, but little invasion of the transplanted tissue, and this has occurred about the septa separating the different bundles composing the fascia.

After thirty-five days the transplanted fascia has contracted firm adhesions with the subcutaneous fat and has been considerably reduced in size. The piece transplanted still preserves all the physical characteristics of fascia, although it is considerably more resistant than at the time of transplantation. The fibrillæ of the transplanted fascia react normally to stains, preserve their wavy characteristics and are not invaded by leukocytes or round cells. This piece of fascia, thirty-five days after transplantation, although it is somewhat reduced in size, is viable and could be used as a substitute for tendons when repairing defects in the latter.

Fascial grafts have been used in a few instances to transplant a muscle to a new insertion or to correct a deformity, such as a drop shoulder resulting from paralysis of the spinal accessory nerve. Payr, mentioned by Kirschner,[9] has used a piece of fascia lata to correct a congenital ptosis in a boy 12 years of age, after an unsuccessful attempt with the silk-strand method. At the second operation, the scar remaining from the first operation and the silk tendon were removed. A piece of fascia lata measuring 2 cm. in width and 10 cm. in length was then removed and sutured below to the tarsus and above to the frontal muscle, enough tension being maintained to elevate the lid. Another transverse incision was then made, two fingers' breadths above the original wound, and after the skin was undermined the fascia was again sutured to the frontal muscle. The result was almost perfect, as after the operation the opening and closing of the lids is the same on both sides. Rothschild[10] has transplanted with success a piece of fascia lata to correct a functional disturbance, due to paralysis of the trapezius muscle. In this case a piece of fascia lata 20 cm. long and 4 to 5 cm. broad was sutured to the vertebral border of the scapula and to the supraspinous ligament, thus correcting the drop shoulder.

We have transplanted pieces of fascia lata into the hand, when attempting to restore anatomic conditions destroyed as the result of a burn or injury. In the two cases in which we have transplanted fascia into the palm, the grafts have apparently healed for they have not been extruded.

Recently, while transplanting the trapezius to correct a deltoid paralysis of five years' standing in a patient kindly referred by Dr. J. L. Porter of Chicago, we were unable to use the cleido-occipital portion of the trapezius because it was involved in the paralysis. The acromial and spinous portions of the trapezius were then freed, but we could not suture them as low down on the humerus as we desired. A piece of fascia lata measuring 3 inches in length and 1½ inches in breadth was then removed and sutured into the trapezius above and into the deltoid tendon at its points of insertion below. A thin layer of fat was removed with the fascia. The fat was placed next to the shoulder-joint and the neighboring tissues, in order that the transplanted fascia would not adhere to the subjacent structures. In this case a portion of the pectoralis major muscle was freed and attached to the humerus above the deltoid insertion, with the idea that this muscle might aid in bringing the arm upward and forward. The paralyzed deltoid muscle was then imbricated over the fascial transplant being sutured to the trapezius muscle. The wound healed by primary union.

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[9] Kirschner: Die praktischen Ergebnisse der freien Fascientransplantation, Arch. f. klin. Chir., 1910, cxii, 888.

[10] Rothschild: Ueber funktionelle Heilung der Cucularis-Lähmung mittels freier Fascienplastik, Zentralbl. f. Chir., 1910, No. 45, p. 1441.

Seven weeks after the operation, the patient could abduct the arm to 70 degrees, and could maintain it in this position for some length of time.

The success accompanying the few cases in which fascia lata has been transplanted directly to form tendons, warrants a more extensive use of it for this purpose, for it has considerable resistance, its elasticity is greater than that of tendon, and its thinness practically guarantees the nutrition of the piece transplanted. We are indebted to Dr. E. Kirk and Dr. A. M. Moody for the preparation of the sections from which the accompanying photo-micrographs were made.

ABSTRACT OF DISCUSSION

Dr. Leonard W. Ely, Denver: Rehn seems to have gone furthest in this line heretofore, but his work is characterized largely by scolding and by credulity. As I understand it, he implanted a piece of tendo Achillis in the walls of the abdomen, and because one layer was better developed than another, he deduced that motion was necessary.

He believed the story of some civil engineers who had been in China and had heard of this reparative tendon work there. There are many branches of scientific knowledge which seem to be so limited in application that we wonder where their particular value will come in, and I had been inclined to look at this tendon and fascia transplantation more as an interesting abstract study than anything else. Rehberg is reported in the *Berliner Klinische Wochenschrift* as having trephined for traumatic epilepsy, removed the thickened dura and transplanted fascia lata in its place, with great success. No praise for such work as this of Dr. Lewis' can be too high.

Dr. Kenneth A. J. Mackenzie, Portland, Ore.: I think we are all agreed that so far as treatment of traumatisms which have led to the creation of big gaps in tendons the problem is solved by this procedure. I notice that in the abstract of this paper reference is made to the use of tendons to fill gaps created by trauma in the case of nerves, although I do not think that Dr. Lewis made any reference to this in his paper.

It would seem to me that the fact that has been well brought out, that when the tendon is implanted remotely in the tissues no cellular infiltration takes place in the graft and no histologic changes except apparently normal changes, would lead fairly to the conclusion that the tendon might be very useful as a conduit for nerve flaps or grafts, the tendon being used as a container or carrier. I should like to have heard some reference in the paper as to what has been done with the tendon in this connection. Those who are confronted with cases in which nerves have been destroyed over long stretches will find a good deal of comfort in the fact that even in the case of very large gaps in nerves, bridging may be done by the use of very long flaps when properly protected.

In a case that I reported two years ago the sciatic nerve was the seat of malignant tumor, and the entire trunk of the sciatic was resected. Flaps from the popliteal branches were lifted up at different times two weeks apart; these flaps were 19 inches in length, the gap in the sciatic being 12 or 13 inches in length. The ends of these flaps were brought up to the truncated end of the sciatic at the lower point of section, one popliteal end was anastomosed into the other and the slender flaps bridging the gaps were sutured into the sciatic trunk above. the grafts being placed in separate muscular beds by suture. At the end of eighteen months the functional results were so satisfactory that the man could walk and work as well as formerly without aid to locomotion, although, of course, there was a permanent and extensive impairment of the sciatic sensory area.

Dr. Joseph Kurtz, Los Angeles: Since 1903 I have practiced rather extensively tendon transplantations. In 1903 I had the pleasure of being in Europe with Lange of München and Wolfius of Heidelberg, the two men who did more for tendon transplantation than all the rest of the surgical world. The art of transplantation, if I may say so, has long since passed its experimental stage; it is as perfect as an amputation or a laparotomy. We know now perfectly well what we can do. We take a healthy tendon and transplant that into a weak tendon, or part of a healthy muscle into a muscle that is weakened either from paralysis or injury and fortify it.

The tendon or muscle which is fortified by transplantation of healthy tissue, becomes practically healthy normal muscle or tendon. The change in the tonicity of the tendons is remarkable. You know that a diseased tendon is flabby; it has lost its luster, its ivory shine, and as soon as you have implanted a healthy or part of a healthy tendon into such a diseased tendon, you can notice after three or four weeks, if you should get the opportunity to see it, that this fortified, originally diseased tendon looks just as bright as the one that has been implanted into it.

Now the greatest use of tendon transplantation is made in those conditions which are left after cases of anterior poliomyelitis. How long is it since we have really considered that a paralytic club-foot is curable? I do not believe it is more than five years. We can transplant the adductors into the abductors, or *vice versa;* the flexors into the extensors, or *vice versa*, in club-foot; and we can do the same thing with the arm, as has been explained, with perfect results as to function. Within one month the function, if not perfect, is at least good. Within a year, I venture to say, after operation, the functions in the originally diseased tendons become as good as in any of the other tendons.

Dr. Dean D. Lewis, Chicago: In the abstract we referred to the use of fascia in the form of a tube, which might be used in the repair of nerve defects; the ends of the fascial tube being sutured over the ends of the nerve, thus forming a tunnel of living tissue through which the regenerating nerve fibers could pass.

I admit that the method of tendon transplantation or transfer which Dr. Kurtz was discussing is not in an experimental stage. The work of Vulpius and Lange has shown this. Lange's periosteal silk strand method is an accepted and most valuable procedure in treating paralysis following poliomyelitis. But in traumatic cases or the results of sloughing of infected tendons, bad results may follow the use of the artificial silk tendon. Lange himself says in a recent article that in these cases the silk tendon may be contra-indicated and that the method of direct fascial transplantation may be the one of choice.

Graves' Disease at the Age of 10.—The case of J. W. H., boy, aged 11, who exhibited undue prominence of the eyes at the age of 10, is reported by W. Essex Wynter (*Proc. Roy. Soc. Med.*, June, 1911). When admitted to Middlesex Hospital in March. 1911, there was obvious proptosis, with all the usual signs. The thyroid gland was enlarged, both isthmus and lobes; the fingers when extended, exhibited fine tremor; the skin was moist and flushed and about the hands and neck showed yellowish pigmentation. There were no cramps, but the patient had faint attacks, flushes and occasionally showed some temporary puffiness of the face. There was incontinence of urine; the urine was clear, amber-colored, acid, specific gravity 1,015 and contained a trace of albumin. The pulse ranged from 92 to 124.

THE INFLUENCE OF CLIMATE ON MIDDLE-EAR DISEASES AND THEIR PREDISPOSING CAUSES *

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PUEBLO, COLO.

The intimate relationship between diseases of the middle ear and abnormal conditions in the nose and throat has furnished a theme rich in interest for the otologist on the one hand, and no less attractive to the rhinologist on the other. Both have studied this relationship, which has strengthened as the work has progressed. The former arbitrary separation of diseases of these organs having been outgrown, there has arisen between them a mutual dependence, of which reports of modern progress are full and convincing. That the nose is the seat of numerous predisposing causes of middle-ear diseases is generally admitted to-day, whereas a few years ago no such relationship was dreamed of. In the symposium under discussion, a consideration of climate which lost sight of the interdependence of affections of these mutually related organs would entirely fail in its comprehensiveness.

Permit me, at the very outset, to make it plain that I am not dealing with climatic treatment of middle-ear disease. Climatic treatment, *per se,* like any other treatment *per se,* would fail to meet adequately all of the indications of any class of cases. The direct influence of climate alone on established middle-ear disease is very slight, whereas the indirect influence on the predisposing causes is considerable. As the majority of middle-ear diseases are secondary, so climatic influence is greatest indirectly. It is not my aim to underrate the importance of the surgical treatment of predisposing conditions in the nose and throat. On the contrary, I accept them all, if indicated. Neither is it intended to minimize the merit of constitutional or local treatment. I wish merely to present briefly a few such observations and opinions as will emphasize the importance of climate from a prophylactic and therapeutic standpoint. From a mere viewpoint of definite cure of chronic cases of middle-ear disease, climatic influence seems not to take a high place, since few patients are cured by it alone, compared with cures obtained from other lines of treatment. It seems to me, however, that reports of cures of these convey an inadequate idea of the influence of climate on conditions admittedly predisposing to middle-ear disease.

That there is enormous worth in intranasal surgery, removal of tonsils, adenectomies, etc., is not denied, but when it is remembered that complete obstructions in both nostrils may continue for some time without affecting the hearing; that the pernicious furor to attack every irregularity within the nose has led to a large amount of unwarranted operating in the nose and throat; that intranasal operations have frequently been done on patients whose conducting apparatus had already been injured by pathologic processes; that adenoid operations have often failed to ameliorate the symptoms for which they were performed; that we can have middle-ear inflammation and suppuration without enlarged tonsils and adenoids; when we recall facts like these, we can begin to rate, at something like their true value, other lines of treatment and question whether surgical operations are always of the transcendent importance assumed.

While it is impossible, in the brief time at my disposal, for me to take up a discussion of climate in general, I may enumerate a few of the characteristics of the climate, altitude and environments of Colorado, New Mexico and Arizona and the influence they produce on the body, and leave to your judgment the effect of opposite conditions. This portion of the Rocky Mountains has a moderate temperature and a decidedly dry atmosphere. It varies in altitude from 4,000 to 9,000 feet with numerous mountain peaks from 10,000 to 14,000 feet, the temperature varying with the altitude. My personal observations are drawn from a residence of five years in western New Mexico, very near the Arizona line, at an elevation of 6,000 feet, and seven years in southeastern Colorado at an elevation of 4,700 feet, both of which might be classed as moderately high elevations. The air is dry, having a low degree of absolute and relative humidity. It is pleasant, tonic and stimulating, with a minimum of those properties that depress and debilitate. There is a maximum of sunshine and the sun's rays are intense. The atmosphere contains few impurities. Owing to good natural drainage, the desiccating action of the atmosphere, and the rarefaction of the air and intense solar heat, the soil dries rapidly, and bacterial activity and multiplication are strongly inhibited. Solly, in his admirable textbook on climates, states that "the air is aseptic and antiseptic." A verification of this statement is found in the manner in which the Mexican preserves his beef and mutton. Pieces of meat are strung on a line and dried in the sun as we dry laundry. His *carne* receives no other treatment for its preservation. Animals die and decompose on the plains, producing but slight odor. The offensive malodorous, nauseating breath of atrophic rhinitis loses much of its unpleasantness. The properties of the atmosphere and sun that cause these conditions, inhibit the action of bacterial infections of the nose, throat and upper respiratory tract, as well as infections in general, and hence indirectly favor the integrity of the ear.

Dr. W. Freudenthal[1] has said, regarding the evil effects of dry, foul, overheated living-room air as a cause of nasopharyngitis:

> If we compare our mode of living with that of a hundred or two hundred years ago, we must confess that we have returned to a very ancient style of living. We have become, *mutatis mutandis,* actually cave-dwellers again. In a ten by fifteen room the average human being passes twenty-three of the twenty-four hours of the day, or even more. The room is nothing but a cave-dwelling, with the exception that it is tightly closed from all sides during the greater part of the year. It makes little difference whether we call this cave a sitting-room in a fashionable house, or whether we term it a sweat-shop. The difference is only in degree. The room is, as a rule, tightly closed against the invasion of fresh air.

Although some of us of the dry and sunny Southwest may not ventilate as we should, most of us live in strong contrast to the conditions above quoted. The pure air, the stimulating breezes, the few mists, fogs and clouds and the great number of sunny days are constantly inviting people into the open and even lead them to sleep out of doors, both summer and winter. The sleeping-porch and the tent-house, which originated here, have done so much for the prevention and cure of nasal, throat and respiratory affections that their service is no longer limited to this region.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Freudenthal, W.: Some Hints on the Treatment of Chronic Nasopharyngeal Catarrh, William Wood & Co.

That the inhabitants of the region under discussion do have colds is not denied, but I have repeatedly been told by patients that their "habit of catching cold" in the East had left them since coming here. This is particularly true of those who sleep on porches or within tents. Fortunately for our people, the umbrella, rubber overshoes, raincoats, etc., which pamper our bodies and act on our *pars minoris resistentiæ,* are rarely used. When we remember that dirty streets, foul air, acrid vapors, overheated rooms, cloudy weather, and wet walks and soil are at a minimum, and that there is a maximum of bright clear days, a pure atmosphere and a dry soil, we can appreciate that in this locality many of the conditions predisposing to colds and indirectly to middle-ear disease, are wanting.

The atmospheric properties are stimulating to the respiratory, circulatory and nervous systems. The vasomotor nerves are, therefore, generally in a healthy state and hence the body resists taking cold. There are two theories regarding the etiology of cold: one, that the cause is an infection; the other, that there is a vasomotor change consequent to exposure, environment, etc. Whether one inclines to the former or to the latter view, I am certain of the fact, based on practical observation as well as on theoretical considerations, that acute colds and acute inflammatory conditions of the nose, throat and ear prevail here with considerable less than average frequency.

Adenoids have been attributed to nearly everything. Although there is much lack of uniformity of opinion on the multitudinous causes generally set forth, I believe that the majority of observers are in accord with the theory that frequent colds, damp, cold, cloudy, changeable weather and badly ventilated, overcrowded rooms increase the percentage of these vegetations. Granting that this is true, it follows that our climate, habits of life and environment naturally mitigate the harmful influence of these causative factors.

Nasal obstructions are of two varieties, hard and soft. The hard variety includes pathologic conditions in the osseous and cartilaginous structures. Except in cases of very moderate degree, they require surgical correction. Climate, unaided by other accepted methods of treatment, could have no trustworthy effect on the real condition in bad cases, although it might change the symptoms considerably, and, I am sure, if judiciously selected, it would improve accompanying conditions, increase the patient's comfort and enhance the postoperative results.

On various occasions, I have left my practice for a course of study in, or visit to, some of the cities of low elevation and damp climates. I have been strongly impressed with the fact that soft tissue obstructions are much less general and are of a milder grade in a dry than in a humid climate. Acute purulent rhinitis in children almost never exists, and acute obstructive conditions of the soft parts are much less severe. The red, swollen, boggy, discharging condition of the mucous membrane and underlying spongy tissue occurs much less frequently in the child, and there is a corresponding decrease of chronic enlargements with accompanying stenosis in the adult.

The lamented Dr. Solly first called our attention to the shrinkage of the mucous membrane and the underlying vascular and glandular tissue with coexisting decrease of nasal discharge. These facts have been impressed on me in clinics and in case histories. My experience with and impressions from the use of cocain and adrenalin solutions were obtained in Vienna and London. The shrinkage caused by their application to the mucous membrane was much less marked and fewer cases responded to their use in Colorado than in those cities or Chicago.

The absence of these obstructive conditions affords better drainage and ventilation to the nose and ear, and may entirely relieve all the symptoms unless hard obstructions exist, and even then their absence would ameliorate the effect. This increased nasal space is beneficial to respiration and drainage and, hence, indirectly to the maintenance of normal hearing. The majority of diseases of the middle ear either occur or begin in childhood when the ear is least in condition to stand harmful influences. Even the adhesive process of later life has its foundation laid during the tender period of childhood. I am convinced, from the examinations for the public schools, that otitis media is less frequent among children here than in a damp climate. Acute tubotympanic catarrh seems to be less frequent and of shorter duration and less inclined to recur. This is due to greater nasal and tubal lumen, an advantage of great importance to the child, whose anatomic and physiologic conditions directly facilitate tubal obstruction. The horizontal tube, the increased vascularity of the underlying mucous membrane, and the increased physiologic activity of the child, coexisting as they do, afford adverse conditions which may, by a very slight change, entirely complete the tubal occlusion with all its consequent damage to the ear. The removal of adenoids, tonsils, etc., employed everywhere for the improvement of these cases, seems to improve them more in a dry than in a humid climate.

Climatic influence on the prevalence and character of acute catarrhal or acute suppurative otitis media, depends on the cause. For instance, it might have very little effect on otitis complicating scarlet fever or measles, whereas its influence on the frequency and severity of otitis from cold in the head, hypertrophic rhinitis or nasopharyngitis would be considerable. In the former group of affections, the percentage of cases might be quite as great in a dry, elevated atmosphere as elsewhere, in strong contrast to the percentage in the latter group, which would be considerably less.

Dr. James Patterson[2] of Colorado Springs states that patients suffering from chronic suppurative otitis media "come to Colorado, of their own accord, yearly because they find the discharge lessens and their general condition is greatly improved by doing so." I have seen a few cases in which remissions were longer and in which improvement on changing from a humid to a dry climate simulated that experienced by some in a damp atmosphere when the weather changes from a humid, cloudy condition to a clear, dry atmosphere. In cases of suppuration of the middle ear without bone necrosis which continue to discharge despite the removal of the adenoids and tonsils, the patients should try climatic treatment.

In the southwest, tuberculous patients are numerous. The tuberculous and non-tuberculous suffer from the same middle-ear diseases. The affections in the tuberculous, however, and by that I mean the pulmonary form, are modified by the constitutional condition of the individual and by the relative increase in the number of cases that acquire tuberculosis of the middle ear by auto-infection. Ordinarily, suppurative otitis media in the tuberculous runs an uncommonly chronic course. Many of the patients improve on changing to a dry climate. Comparatively few of this number fail to derive benefit from accompanying aural affections. Of all ear affections, there is none in which climate is of such comparative reliability as in those accompanying pulmonary tuberculosis in which the general condition will support the infection. Those early cases with sufficient vitality to improve do infinitely better here than elsewhere, owing to the stimulating effects of the environment, altitude and atmosphere on the general health of the individual, thus indirectly alleviating the ear disease. A necrosis of the temporal bone that would seem trivial in a healthy individual, might be serious in the tuberculous patient.

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[2] Patterson, James: The Climate of Colorado Etiologically and Therapeutically Considered, Laryngoscope, September, 1908.

Tuberculosis of the middle ear is so insidious in its onset, so complex in its course and so disastrous in its ultimate effects, that an early diagnosis and prompt treatment are paramount. The favorable opportunity for the arrest of tuberculous otitis, even more than in other forms, is in the beginning. The successful treatment of tuberculous infections hinges on the development of an immunity which, in turn, depends on healthy constitutional conditions. Immunity is obtained by furnishing the patient freely with good food, pure open air day and night and a maximum of sunshine. The effect of all these agencies is enhanced in the Rockies. There is surprising increase in appetite, weight, hemoglobin and metabolism. Dr. De Forest Willard[3] says: "For thirty years, even before Koch's discovery of the tubercle bacillus, I have persistently advocated and practiced the fresh air method of treatment for tuberculosis of the hip and spine and have never known it to be without benefit." Precisely the same is true of the open-air treatment of tuberculous otitis, and there is no place under the sun quite so favorable for ideal open-air treatment as is the Southwest. Here the climate, by its beneficial influence on the patient and its destructive action on the tubercle bacilli, affords the most favorable opportunities for ideal open-air treatment. Here the climate has a powerful influence on the treatment, whether it be local or surgical.

In case of hypersecretion with turgescence of the mucous membrane and underlying spongy tissue of the tube and nasopharynx; in secretory catarrhal affections in which, despite the removal of nasopharyngeal obstructions, ample tubal nasal lumen cannot be obtained; in patients operated on for obstructions without improvement in hearing, on account of an unhealthy state of the mucous membrane; as an accessory treatment to intranasal surgery and as an aid to the constitutional and local treatment of catarrhal otitis media, climate plays an important rôle. A large percentage of cases of secretory and dry catarrhal otitis media, which develop in a damp, changeable climate and which are aggravated by inclement weather, improve in a dry climate and may be permanently arrested, unless there has already taken place too much hypertrophy and atrophy of the sound-conducting mechanism.

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Pulse-Rate in Male and Female.—A. H. Stewart says in the *Medical Record* that in man, as in nearly all animals, the pulse-rate is slightly slower in males than in females, in the proportion of 72 per minute for men and 80 for women. But as slowness of pulse, like slowness of respiration, nearly always goes with increased weight, the difference is probably no greater than would naturally be expected. In old age woman's pulse-rate is inclined to increase slightly more than man's.

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[3] Willard, De Forest: Open-Air Treatment of Surgical Tuberculosis, Tr. Internat. Cong. Tuberc., 1908.

HOW FAR MAY CONDITIONS IN THE NOSE AND THROAT BE RESPONSIBLE FOR MIDDLE-EAR DISEASES? *

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I have confined myself to a discussion of the extent to which diseased conditions of the nose and throat are either directly or indirectly a factor in the production of diseases of the middle ear.

That involvement of the middle ear is, in a great majority of cases, due to a diseased condition of structures contiguous to the Eustachian tubes is a fact on which all otologists are agreed. It is not a question, then, as to whether diseases of the nose and throat may be responsible for ear involvement; that question was quite definitely settled by Wilhelm Meyer[1] in 1870 when he published his paper on "Adenoid Vegetations in the Nasopharyngeal Cavity" and pointed out the effects of such growths in the causation of deafness. The questions at present are: To what extent are nasal and nasopharyngeal lesions responsible for deafness? What form of nasal and nasopharyngeal abnormalities are responsible for such ear complications. And are we attributing too little importance to the upper respiratory tract as an etiologic factor in the production of otitis media?

If there is a dark chapter in the history of otology, I think you will all agree with me that it is in the unsatisfactory and unsuccessful results with which we have to be content in the treatment of many of those cases of advanced adhesive processes of the middle ear attended by marked impairment of hearing, and, for that reason, another discussion and further emphasis of this clinical relationship between the upper respiratory tract and diseases of the middle ear seems advisable, although I regret that I have nothing new to present to you.

That impaired hearing is an extremely common affliction is evident, and of the different forms of deafness catarrhal otitis media and purulent otitis media furnish the vast majority of cases. Otosclerosis is not considered within the province of this paper, as, so far as I am aware, no evidence has been presented that it is due in any way to nasopharyngeal diseases or that any benefit is to be obtained by treatment directed thereto. Moreover, true otosclerosis furnishes such a small proportion of cases of deafness that it does not affect the importance of the subject under discussion.

Involvement of the middle ear may occur in the following manner: 1, through the external auditory canal, by involvement of the membrana tympani; 2, by the blood-vessels and lymphatics, and 3, by way of the Eustachian tubes. In considering the method of involvement of a middle-ear disease, it should also be remembered that any factor that impairs the vitality of the patient will be a contributing factor in the onset and progress of a middle-ear disease. I think it a conservative estimate to say that in 90 per cent. of all cases of catarrhal deafness and purulent otitis media the source of the involvement is by way of the Eustachian tubes.

Weil[2] examined 5,905 children and found that about 30 per cent. had some degree of deafness. Bezold[3] found, among 3,826 children, that 20 per cent. had deafness. Cheattle[4] examined 1,000 school children and found 335 had a discharge from one or both ears. Preysing[5] examined 100 children (post mortem), aged 1 day to 3 years, deaths due to various causes, and found that eighty-one showed middle-ear disease.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Meyer: Med.-Chir. Tr., London, 1870, liii.

[2] Weil: Quoted by Politzer, Diseases of the Ear.

[3] Bezold: Quoted by Politzer, Diseases of the Ear.

Miller[6] examined fifty cases (post mortem), and thirty-seven showed pus in one or both ears. Meningitis was found in ten cases and eight of them showed pus in the middle ear. Randall[7] states that one-third of all adults are deaf in one or both ears and that among school children 25 per cent. are deaf. Bardes[8] estimates that two-thirds of the people have an aural defect. Barth[9] places the percentage of all children having otitis media during the first year of life as high as 80.

Bryant[10] states that the middle ear is involved in 98 per cent. of all cases of deafness; that the middle ear alone is involved in 84 per cent. of the cases, and that chronic middle-ear catarrh furnishes 69 per cent. of all cases of chronic deafness. Bürkner[11] states that among every 100 cases of ear disease, 67 per cent. are cases of middle-ear disease.

Diseased conditions in the nasopharynx are a prolific source of involvement of the Eustachian tubes and cavum tympani which may be caused in the following ways:

1. By mechanical obstruction of the osteum of the tube by large masses of adenoid tissue or by smaller masses situated laterally in the nasopharynx and encroaching on the orifice of the tubes and interfering with ventilation and drainage from the middle ear. This mechanical theory to account for the involvement of the Eustachian tubes by adenoid masses is one that has been quite generally accepted by otologists in the past. I believe that its importance has been greatly overestimated and that an extension of the adenoid mass to the opening of the Eustachian tube is the exception.
2. By direct extension of an inflammatory process from the nasopharynx to the pharyngeal opening of the Eustachian tube thus causing obstruction and infection from involvement of the tubal mucous membrane.
3. By entrance of mucous and infected material into the fossæ of Rosenmüller and into the pharyngeal opening of the Eustachian tubes, due to the presence of hypertrophied glandular tissue or to a chronic hypertrophic or atrophic pharyngitis.
4. By interference with the action of the tubal muscles, the levator palati and tensor palati, the proper and normal function of which is so necessary in maintaining normal ventilation and drainage of the middle ear.
5. By the presence in the fossæ of Rosenmüller of accumulations and adhesive bands, often the remains of former adenoids, or due to operative measures for the removal of adenoids.
6. In occasional cases, proper passage of air into the middle ear may be interfered with by paralysis of the fauces, resulting in an interference with the action of the tubal muscles.
7. By tumors of the nasopharynx.
8. By blood-vessels and lymphatics.
9. By adhesions of the soft palate to the pharyngeal wall.

The presence of hypertrophied glandular tissue in the pharynx and epipharynx is the most frequent source of middle-ear disease. That a considerable proportion of children, as well as many adults, are afflicted with adenoids, is a fact well known not only to the medical profession but to the laity. It is also a well-recognized fact that disease of the middle ear among children is very frequently due to adenoids, but I do not believe that the fact is sufficiently emphasized by otologists that many cases of deafness, which apparently have their origin in adult life, are due to the presence of adenoids during the early years of the life of the individual. While ear involvement is the most frequent complication of adenoids in children, yet it frequently happens that the involvement of the Eustachian tubes and tympanum is mild in character, not attended by pain or marked impairment of hearing, and is so insidious in its onset that it escapes attention. These repeated attacks of Eustachian salpingitis may be the cause of what is apparently a beginning chronic catarrhal otitis media in adult life. Kopetzky[12] found that 27 per cent. of adult cases showed the origin of the ear involvement to be in childhood. Barbarin[13] found that out of 100 cases of chronic middle-ear suppuration among adults, forty-two were traceable to infancy or childhood. The statement of Makenzie that the discovery of adenoids by Meyer had saved 100,000 people from deafness is a conservative one. A reference to the published statistics of different writers on the occurrence of middle-ear disease, as a complication of adenoids, will show a great lack of uniformity as to the frequency of this complication. This may be due, in some cases, to the class of patients from which the material for examination is obtained, or it may be that ear complications occur more frequently in some countries, or in certain portions of a country, than in others, or it may be due to the manner in which such examinations are made. If a careful objective examination were made in those cases of adenoids where there are no subjective symptoms or history indicating ear involvement some change would be found in the appearance of the membrana tympani in a very large proportion of cases, indicating some interference with the ventilation of the middle ear. Intermittent attacks of deafness in young children, occurring in connection with an acute coryza, are due to acute congestion of existing adenoid tissue with temporary involvement of the Eustachian tubes. Recurring attacks of subacute otitis media, usually mild in character, where the child complains of ear-ache for a short time, are due to temporary closure of the Eustachian tubes as a result of adenoids. Exclusive of the ear complications of the acute infectious diseases, a vast majority of the cases of acute purulent otitis media in children is due to adenoid tissue. In many of these cases there is no history of nasal obstruction or of mouth breathing and the only subjective symptoms are the attacks of ear involvement and of acute coryzas.

Arslan[14] found, in a series of 426 cases of adenoids, that 59 per cent. had ear complications. Barth[15] found 30 per cent. of adenoid patients had middle-ear disease. Wood[16] found 42 per cent. of adenoid cases had ear complications (149 cases). Kerrison[17] examined fifty children who had adenoids and found forty-five of them showed some evidences of aural disease, many of the cases showing greater retraction of the membrana tympani than usually accompanies tubal obstruction in adults.

From an examination of the records of 600 cases of adenoids, I found middle-ear involvement in 31 per cent. In my cases, only such ear complications were noted as were revealed by subjective examination. Barstow[18] reports that out of fifty-seven cases of adenoids in adults, twenty-five of the cases had aural complications. I have also called attention[19] to the frequency of adenoids in adults and to their influence in the production of middle-ear disease.

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[4] Cheattle: Quoted by Miller, Brit. Med. Jour., 1907, ii, 1772.
[5] Preysing: Schmidt's Jahrbücher, 1906.
[6] Miller: Brit. Med. Jour., 1907, ii, 1772.
[7] Randall: Am. Jour. Med. Sc., July, 1910.
[8] Bardes: New York Med. Jour., Dec. 24, 1910.
[9] Barth: Ztschr. f. Ohrenh., 1898, xxxii.
[10] Bryant: New York Med. Jour., May 23, 1908.
[11] Bürkner: Quoted by Politzer, Diseases of the Ear.
[12] Kopetzky: Ann. Otol. Rhinol. and Laryngol., 1907, xvi, 621.
[13] Barbarin: Quoted by Kopetzky.
[14] Arslan: Quoted by Herzig, New York Med. Jour., Feb. 6, 1909.
[15] Barth: Monatschr. f. Orhenh., 1897, xi.
[16] Wood: Am. Med., Oct. 3, 1903.
[17] Kerrison: New York Med. Jour., 1906, lxxxiii, 816.

The presence in the fossæ of Rosenmüller of accumulations of lymphoid tissue, or of adhesive bands, is a frequent source of middle ear involvement. In many cases these accumulations in the fossæ are the remains of adenoid tissue present during childhood. Logan[20] has called attention to the presence of chronic epipharyngeal periadenitis in adults as a cause of middle-ear disease. He has shown, by pathologic examination, that the disease involves not only the glandular structure but extends to the muscular, vascular and connective tissues and considers it of special importance with reference to the tubal muscles. He reports 284 cases, between 25 and 59 years of age, and of the 284 cases, 210 had chronic progressive deafness; twenty-four were subject to recurrent attacks of acute otitis media; seventeen had chronic suppurative otitis media; thirty-three had no ear complications. Of the 210 cases of chronic progressive deafness, 182 showed improvement after the operation. Of the twenty-four cases of recurrent acute otitis media operated on, sixteen have had no recurrence. Of the seventeen cases of chronic suppurative otitis media, five have had no recurrence since the operation. The author found that these masses exist in greatest abundance in the fossæ of Rosenmüller. Emerson[21] frequently found degenerated tissue in the fossæ and showed that it is an important factor in causing or maintaining morbid conditions in the middle ear. Hays,[22] in a series of fifty cases of chronic catarrhal otitis media, varying in age from 5 to 70 years, found abnormalities of the nasopharynx in thirty-nine cases, and in thirty-three of them there was a diseased condition of the fossæ of Rosenmüller. He is of the opinion that adhesions are present in the fossæ in all cases of chronic catarrhal otitis media. Packard[23] has also called attention to the presence of adhesions in the nasopharynx and their influence on the middle ear. Jervey[24] has forcibly called attention to this condition and states that these formation bands in the fossæ consist apparently (1) of mucofibrous bands, or webs, generally in a perpendicular plane to the long axis of the fossa, and (2) of masses of granulation tissue, or hypertrophied glandular tissue, similar to adenoids, lying above, between and below these bands. He usually found them in adults and considered them as residua of old adenoids. Bryant[25] and others have emphasized the etiologic importance of adherent bands in the fossæ of Rosenmüller in the production of chronic catarrhal otitis media.

Diseased faucial tonsils are an important etiologic factor in the production of disease of the middle ear, either directly or indirectly causing involvement of the Eustachian tubes. I believe this relationship between disease of the faucial tonsils and the middle ear has not been sufficiently emphasized. It is not at all unusual to have patients volunteer the information, immediately after a tonsillectomy under local anesthesia, that they can hear better, and this sometimes occurs with patients who have made no complaint as to their hearing and in whom a previous history has elicited no subjective symptoms indicating an ear complication. As diseased faucial tonsils are so frequently associated with abnormal conditions in the nasopharynx it is difficult to say to what extent the tonsils are the direct cause of such ear involvement. An associated nasopharyngitis may be, and frequently is, due to diseased tonsils and the secondary pharyngitis usually shows marked improvement on removal of the offending tonsils. The variety of diseased tonsils which I have found most likely to be the contributing cause of a middle-ear complication, is the deeply embedded diseased gland so frequently present in adult life and these tonsils may be the means of causing or maintaining a middle-ear complication as follows: by direct extension of a chronic inflammation to the orifice of the Eustachian tube; by direct pressure backward and outward in the tonsillar fossa, thus interfering with the ventilation of the tympanum; by maintaining a constant source of infection from which pathogenic microorganisms or infected mucus may gain entrance to the tubes; by interfering with the physiologic action of the levator palati and tensor palati muscles; by causing venous congestion of the blood-vessels, thus causing a constriction of the caliber of the Eustachian tube and interfering with the entrance of air into the tympanum; by infection through the blood and lymph streams.

Attention has been called to the effect of diseased faucial tonsils on the middle ear by Myles,[26] Reik,[27] Hays[28] and others. Hays, in his study of fifty cases of chronic catarrhal otitis media, found that in ten cases the faucial tonsils indirectly affected the ears and adds that the tonsillar condition was in all cases associated with some pathologic condition in the nose and this association produced abnormal conditions in the nasopharynx.

The clinical relationship of diseases of the middle ear to diseases and abnormalities of the nasal passages must be considered an indirect rather than a direct one. Reference to the literature of the past ten years will show a great diversity of opinion as to whether an abnormality of the nasal passages is responsible for an ear involvement. That a nasal obstruction, if unaccompanied by an inflammatory condition posterior to it and by a normal nasopharynx, will not be responsible for disease of the middle ear is probably true. That the nasal passages have too frequently been held responsible for ear diseases and that the nasopharynx has escaped its share of responsibility is also true. We are forcibly reminded of this whenever we are consulted by that numerous class of patients whose nostrils have been subjected to such radical operative work, for the relief of a middle-ear involvement, that there is hardly a normal functionating structure left within the nasal passages.

The presence of a nasal obstruction does not always mean that it is a factor in a middle-ear involvement. A marked deviation or irregularity of the nasal septum may be of such a character that it interferes but slightly with either the inspired or expired current of air. An obstructive lesion situated low down in the nostril may so interfere with the expired air that the nasal secretions accumulate and may give rise to a nasopharyngitis, or a violent expiratory effort in blowing the nose, may drive the infected secretion into the Eustachian tubes and cause an involvement of the middle ear. I believe it may be stated, as a general rule, that any nasal lesion that is capable of causing a nasopharyngitis, or is attended by a purulent discharge, or so interferes with drainage of the nasal passages that the accumulated secretions may gain entrance to the Eustachian tubes, may be a cause of middle-ear disease.

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[18] Barstow: New York Med. Jour., May 6, 1905.
[19] Murray: Tr. Minnesota State Med. Soc., 1901, p. 107.
[20] Logan: Tr. Am. Otol. Soc., 1909, p. 511.
[21] Emerson: Ann. Otol. Rhinol. and Laryngol., 1907, xvi, 694.
[22] Hays: Ann. Otol. Rhinol. and Laryngol., June, 1910.
[23] Packard: Tr. Am. Otol. Soc., 1909, p. 505.
[24] Jervey: THE JOURNAL A. M. A., 1908, l, 1600.
[25] Bryant: Med. Rec., New York, lxxiii, 217.
[26] Myles: Am. Jour. Surg., July, 1908.
[27] Reik: Laryngoscope, 1908, xviii, 943.
[28] Hays: Ann. Otol. Rhinol. and Laryngol., June, 1910

A purulent discharge from an infected nasal sinus is a constant source of danger to the middle ear. This is particularly true of the sphenoid and posterior ethmoid sinuses the discharge from which passes backwards into the nasopharynx and is the cause of a nasopharyngitis, which, in turn, may extend to and involve the Eustachian tubes, or the purulent discharge may be blown into the tubes and cause an otitis media. Cobb[29] believes that in the treatment of chronic catarrhal deafness, the key to the situation is that most common of all causes of nasal catarrh, obstruction to drainage from the ethmoid cells, and he believes that the active factor in this obstruction is a peculiar formation of the middle turbinate. Jackson[30] of England believes that caries of the superior and middle turbinate and ethmoid cells is frequently responsible for middle-ear disease and quotes Woakes, who lays great stress on the association of deafness with atrophic changes in the ethmoid. Woakes[31] states that out of 921 cases of deafness, one in three and one-half (274 in number), showed also the presence of ethmoiditis. Of those showing both deafness and ethmoiditis, one in four had tinnitus only, one in twenty-five had vertigo only, and one in fourteen had both tinnitus and vertigo. Of the 647 of the 921 cases in which deafness was not associated with ethmoid disease, one in nine had tinnitus only, against one in four; one in 64 had vertigo only, against one in twenty-five, of the preceding 274; and one in thirty-two had both tinnitus and vertigo, against one in fourteen of the same group. Dundas Grant,[32] in his address before the American Academy of Ophthalmology and Oto-Laryngology in 1906, in discussing the question as to whether nasal obstruction, as such, can cause or keep up catarrhal conditions of the middle ear, referred to the report of Röpke of Solingten, who investigated the question of the influence of nasal obstruction on the ear and found that in a large majority of cases the hearing power was lower on the side on which the nose was obstructed. If there was lowered hearing power on both sides, it was almost invariably the ear of the side on which the nose was obstructed which was the worse. A further outcome of the investigations was that the hearing (in the majority of cases) was improved or even became normal within a few weeks after operative correction of the nasal obstruction, without catheterization or any other therapeutic measures being employed. He attributed the ear involvement to accumulation of secretions behind the obstruction and to their being driven up the Eustachian tubes. Grant does not refer to the character of the ear involvement present in Röpke's cases; a point of great importance in a consideration of the excellent results recorded by Röpke from nasal operation.

Atrophic rhinitis, usually accompanied by atrophic pharyngitis, is, in a considerable percentage of cases, complicated by middle-ear disease. Such ear involvement is due (1) to the atrophic condition of the mucous membrane of the pharynx, (2) to the patulous openings of the Eustachian tubes, as a result of the atrophic process, and (3) to the presence in the region of the tubal openings of crusts and mucopurulent discharge which may easily cause infection of the middle ear. Sendziak,[33] from a study of 1,142 cases of atrophic rhinitis, found aural complications present 166 times (14.5 per cent.). Wyss[34] found aural complications forty-seven times in sixty cases. Jurasz[35] found aural complications in twelve out of 170 cases of ozena.

Middle-ear involvement is one of the frequent complications of the acute infectious diseases of childhood. Statistics show that scarlet fever is complicated by ear involvement in from 12 to 30 per cent. of the cases, depending on the severity of the epidemic, and that measles is also complicated by ear involvement in about the same proportion. Statistics also show that a large proportion of those intractable cases of chronic purulent otitis media and of total deafness originate during an attack of the infectious diseases. What is the relation between the infectious diseases of childhood and diseases of the middle ear? During the acute diseases, most likely to be accompanied or followed by ear complications, such as scarlet fever and measles, there is present an acute inflammation of the nasopharyngeal structures which, in connection with the lowered resisting power of the patient and the short, wide, more nearly horizontal Eustachian tube of the young child, favors infection of the middle ear. In addition to this, if the patient has a nasopharyngeal obstruction, such as adenoids, which interferes with drainage or ventilation through the Eustachian tubes and furnishes a constant source of infection from microorganisms, there is added a very great source of danger to the middle ear. Moreover, after the onset of an acute purulent otitis media, during the course of an infectious disease, the presence of adenoids will be a most important factor in the continuance of the purulent discharge with resulting permanent deafness. In connection with this influence of adenoids on the middle ear during the course of the exanthemata, the investigations of Leland are of interest. Leland[36] examined 127 cases of scarlet fever at the Boston City Hospital. He found that eighty-four of the cases had adenoids and forty-three of the cases did not have adenoids. Of the eighty-four cases with adenoids, twelve of them, or 14 per cent., had ear complications, while there were no aural complications among the forty-three cases that did not show the presence of adenoids.

In connection with nasal and nasopharyngeal abnormalities it should be emphasized that any factor that lowers the resisting power of the patient, or a functional derangement of other organs of the body, may be an important factor in causing or maintaining the diseased condition of the upper respiratory tract, which may be the cause of a middle-ear involvement. This is particularly true of granular pharyngitis, which is often due to gastro-intestinal disturbances.

From this brief consideration of the etiologic relationship between diseases of the nose and throat and diseases of the middle ear, I would emphasize the following points:

1. A very large proportion of people are subject to some aural defect; disease of the middle ear furnishes from 65 to 70 per cent. of all aural diseases, and of all cases of deafness the middle ear is responsible for about 85 per cent.

2. Of all sources of involvement of the middle ear, about 90 per cent. are caused by involvement through the Eustachian tube.

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[29] Cobb: Med. Rec., New York, 1908, lxxiii, 818.
[30] Jackson: Brit. Med. Jour., 1907, ii, 969.
[31] Woakes: Quoted by Jackson, Brit. Med. Jour., 1907, ii, 969.
[32] Grant: Laryngoscope, January, 1907.
[33] Sendziak: Ann. Otol. Rhinol. and Laryngol., xvi, 814.
[34] Wyss: Quoted by Sendziak.
[35] Jurasz: Die Krankheiten der oberen Luftwege, 1891.
[36] Leland: Laryngoscope, October, 1909.

3. Adenoids in children are complicated by ear diseases in at least 30 per cent. of the cases. This percentage will be much higher if careful objective aural examinations are made and any change in the appearance of the drum membrane noted.

4. The nasopharynx is directly responsible for a very great majority of all diseases of the middle ear, and any intranasal or sinus disease that is capable of causing a nasopharyngitis, or is attended by a purulent discharge, or so interferes with drainage of the nasal passages that accumulated secretions may gain entrance to the Eustachian tubes, is a constant menace to the middle ear.

5. Many cases of chronic catarrhal otitis media that apparently begin in adult life, are the result of some diseased condition of the nasopharynx existing during childhood.

6. The presence of hypertrophy of the pharyngeal tonsil increases greatly the liability of serious middle ear complications during an attack of the acute exanthematous diseases.

7. Any conditions that interfere with the normal physiologic action of the Eustachian tubes will predispose to middle-ear disease, and the means of obtaining and maintaining such normal function of the tubes is through a normal nasopharynx and an important factor in maintaining a normal nasopharynx is a normal nose and fauces.

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WHAT IMPROVEMENT CAN RATIONALLY BE EXPECTED FROM TREATMENT OF THE NOSE AND THROAT IN MIDDLE-EAR DEAFNESS?*

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The title of this paper suggests that diseases of the nose and throat may cause, or at least may perpetuate when once begun, diseases of the ear. I believe no qualified aurist to-day questions the statement that pathologic states of the upper air tract exert a continued evil influence on the ear; and since the amount of benefit to hearing which may be derived from treatment of the nose and throat will depend largely on how much harm to the ear a given nasal or throat affection may have, or is continuing to exert, on the aural function, it will be necessary at the outset to discuss briefly two points, namely: (1) the dependence of normal aural function on a perfectly normal state of the nose and nasopharynx; (2) the determination of the manner in which a diseased aural environment may affect the middle ear; for, with the physiologic and clinical facts relating to these points before us the answer to the question involved in the title to this paper may be sufficiently answered in a few brief paragraphs.

Otologists are familiar with the fact that, in order to functionate normally, the drum-cavity must at all times contain air at a pressure approximating that which surrounds the body as a whole, and that which presses on the external surface of the drum-head in particular; that the normal air of the middle ear must be replenished by the circulation of air through the Eustachian tube; that such circulation of air in the drum-cavity, to the end that there shall be an equality of pressure on both sides of the membrana tympani, is brought about, not inevitably or by chance, but by the action of a delicate, well-balanced system of muscles, including the palatoglossei, the palatopharyngei and the palatolevatori.

Granting that the renewal of air in the middle ear is necessary to a healthy function, and that the coordinate action of the above system of muscles is essential to bring about the necessary renewal of air in the drum-cavity, it becomes easy to understand that the presence of any pathologic condition in the nose or nasopharynx which by mechanical pressure in any way hinders the action of this group of muscles, or which, because of adjacent disease and infection, may in any way impair their function, will, in proportion to the degree of such injury, impair the function of the middle ear and thereby open the way to aural diseases of a congestive, exudate or infective nature. Any hypertrophy, deformity or new growth in the posterior portion of the nose or of the nasopharynx constitutes such an obstruction. Take, for instance, one of the commoner affections which block the nose or nasopharynx, such, for example, as an adenoid hypertrophy, cystic polypus or posterior nasal hypertrophy. How do these affect the middle ear? In three ways: 1. The normal function of the entire epipharynx is mechanically interfered with. Normal action of the tubo-palatal muscles is hindered to an extent that the Eustachian tubes are not sufficiently opened for ventilation. Since nasal respiration is impossible, mouth breathing is enforced, and one physical result is that the air in the nasopharynx, Eustachian tubes and middle ear is thereby constantly exhausted and rarefied. This rarefaction is made more complete by the act of swallowing, which, when performed by persons whose nose or nasopharynx is obstructed from any cause, forcibly sucks the air from the tubes and middle ear, thus impairing function and inviting middle-ear disease. 2. The venous return circulation from the middle-ear and Eustachian tube empties into the veins of the pharynx. Local pressure, therefore, of obstructive growths in or near the nasopharynx retards this circulation to an extent that congestion of the mucous lining of the tubes and drum-cavities takes place, with the inevitable result that exudates or transudates into the middle ear sooner or later occur. Such a venous congestion must be regarded as a potent predisposing cause of suppurative otitis media as well as of the several plastic affections commonly known as dry middle-ear catarrh. 3. The mechanical stimulus produced by the presence of any growth in the nasopharynx results in the secretion of large quantities of ropy mucus, which, because of the difficulty with which it is dislodged by the patient, becomes stagnant and infected. This is especially true in case the obstruction is an adenoid hypertrophy. An examination of many hundred specimens of adenoid hypertrophy that were removed *en masse,* by one sweep of the adenoid curette, shows that this growth consists of several lobes which are separated by fissures which often extend from the surface of the adenoid down to the underlying fascia. In large adenoid hypertrophies these fissures are sometimes an inch long and almost half as deep. These deep recesses produce and harbor much of the vitiated, infected mucus in question. The adenoid itself is the seat of inflammatory action as a result of almost every sudden change of temperature. An examination of the nasopharynx of the adenoid patient shows, in nearly every instance, the presence of the vitiated mucus which covers the hypertrophy, fills the crypts and often stretches from the adenoid to the lip of the Eustachian tube, to the upper surface of the palate, or to other neighboring structure. As already stated it is difficult, because of the obstructed nostrils and the thick consistency of the mucus, for the patient to dislodge this secretion, and, lying stagnant in the epipharynx as it must, it furnishes an excellent pabulum for the propagation and growth of pathogenic bacteria, which lie, as it were, at the very threshold of entrance to the middle ear, ever ready to invade this organ, whenever, as is usually the case in the presence of conditions here enumerated, a fertile soil has been prepared in the mucous membrane which lines the Eustachian tubes and middle ear.

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Several otologists of note have stated that from 60 to 75 per cent. of cases of defective hearing, with or without aural discharge, can be fairly attributed to the presence of an adenoid, either now or at the time of onset of the aural affection. I quite agree with Bryant in his statement that the cause of tubal entrance of infections is nearly always some nasopharyngeal disturbance which interferes with the normal drainage function of the Eustachian tube, and that 95 per cent. of all middle-ear suppuration is due primarily to the tubal entrance of bacteria, and secondarily to abnormal conditions in the nasopharynx which interfere with the expulsion of bacteria.

It is rare, in my experience, to find a child with well-developed adenoid, untreated till the age of 10, in whom there is not found an easily discoverable loss of hearing. Both parent and patient may and often do stoutly assert that the hearing is perfect, and are in many instances honestly mistaken in this belief, inasmuch as they base their opinion on the fact that the child continues to hear spoken words without apparent difficulty. Ability to hear spoken words fairly well is, as we all know, not a sufficient evidence that the individual's hearing is unimpaired, for it is the common experience of all to find, on careful test by instruments of precision, that the function is often greatly impaired without the patient's having the slightest knowledge of the fact.

Although adenoid hypertrophy stands first as the initial cause of middle-ear deafness, the ill effects on the ear are not limited to early childhood, or to that period of the patient's life in which the adenoid is usually largest. While an adenoid may remain large to the fortieth year, as I have witnessed, it usually atrophies to a greater or less degree before the twentieth year. In its atrophic state, however, it continues to exert its damaging effect on the ear, for it continues, especially in bad weather, in a thickened and much-inflamed state, and, moreover, the fissures which originally separated the lobes, continue into old age, furnishing a perpetual source of mucoid, infected secretion. In most of these cases of long-standing adenoid on thorough inspection of the whole nasopharynx by means of the rhinoscopic mirror or pharyngoscope, it will be found that there is present a chronic nasopharyngeal inflammation. In many cases adhesive bands are seen, stretching between the posterior lip of the Eustachian tube and a near-by lobe of the adenoid. In some instances there exists an inflammatory adhesion between one or more lobes of the adenoid, and in nearly every instance gross evidence of a damaged and unhealthy epipharynx is present.

It has been pointed out by Reik and others that the faucial tonsils are a potent factor in the causation of middle-ear affections; that when hypertrophied and diseased they cause impaired ventilation of the tympanic cavity because of mechanical interference with the tubopalatal muscles; that they harbor infection in the tonsillar crypts and as a result of pressure-interference with the return venous circulation from the middle ear they cause passive congestion in the latter cavity. Both from a dissection of the parts involved, and from a study of the anatomic region, as shown in the drawings of the most eminent anatomists, I am unable to infer that the tonsils could, except when very greatly enlarged, interfere seriously with the normal action of the tubal muscles, or could by pressure greatly retard the venous circulation from the drum cavity; but when they are greatly hypertrophied both these evil results are, I think, clearly apparent. It is, however, true, without question, that the medium-sized, or even small, diseased and submerged faucial tonsil, is a constant menace to the middle ear because of the large amount of infectious substance it constantly retains in its crypts, and because of the acute and severe inflammatory states it so readily takes on, as in tonsillitis and quinsy.

Other new growths or hypertrophied structures, for example, such as nasopharyngeal fibroid, affect the function of the middle ear in the same manner as just described in cases of adenoid hypertrophy, the chief difference being that the adenoid, because of its deep and numerous fissures, furnishes a better field for the growth of pathogenic bacteria, whereas other hypertrophies are usually smoother and harder and do not, therefore, retain the infected, vitiated mucus so well. But no matter what the nature of the obstruction, the continued presence of any obstructive growth in the nasopharynx which interferes with the function of the upper air-tract, becomes a menace to the integrity of the ear. Indeed, clinical experience has amply demonstrated the fact that few patients escape serious damage to the ear provided the nose or nasopharynx remains obstructed for any considerable length of time.

With the above considerations of the intimate physiologic and pathologic relations of the nose and throat to the middle ear in mind, we may more intelligently proceed to answer the question, "What improvement can rationally be expected from treatment applied to the nose and throat in cases of middle-ear deafness?" The answer to the question has been so clearly anticipated by what I have already said in describing the absolute dependence of the health of the ear on a normal state of the nose and throat that it is now necessary to add but little more. I think that the reply can be best given by dividing all aural affections into three periods, and then stating the effect of throat and nasal treatment on the aural disease in each. Following this plan we have, (1) cases in that period of the child's life before any aural disease is actually present; (2) cases in the period when there is an easily discoverable aural ailment, but at a time before the aural structures are seriously or permanently damaged; (3) all cases that have reached the period of chronicity, in which marked and more or less permanent changes in the middle ear are easily discoverable.

In the first of the periods above mentioned the results of treatment of the nose and throat on the ear are entirely prophylactic, since no aural affection is present in the case, and, viewed in this light, may not fall strictly within the subject assigned me. The importance of such treatment at this time, however, furnishes ample justification for the brief paragraph I shall devote to it.

I have for some time entertained the belief that much of the deafness that exists to-day is entirely unnecessary, and that it could have been prevented if intelligent efforts had been made to do so at a time in the child's life before the actual aural affection began. It is the opinion of many otologists that disease of the middle ear seldom starts in the ear itself, but on the contrary has its beginning, almost without exception, in a diseased aural environment, and later extends to the ear from the latter place. Rational treatment of the affected aural environment at this early period, will, therefore, in the vast majority of cases, be the means of preventing subsequent middle-ear disease. By rational treatment I mean the complete removal by surgical means, of all obstruction to normal nasal respiration, and to nasal and aural drainage, at the earliest possible time after it is known that such nasal or nasopharyngeal disease is present.

Patients belonging to the second period suffer only from acute or subacute aural ailments which have been originally set up by impaired nasal respiration plus faulty drainage of the nose and nasopharynx, and which are kept active by continued action of these causes. My experience in dealing with this class is, that good and satisfactory results are obtained in proportion to our ability to eradicate the diseased aural environment. Good drainage from the tympanic cavity is just as essential to successful treatment of middle-ear disease as it is to the satisfactory management of any other infected cavity, and hence this well-known principle of surgery should be followed here as elsewhere, to the extent of providing and maintaining a natural open-air channel between the deeply seated mucous cavity of the ear and the larger air-space of the nasopharynx to which it is accessory. In this period of the progress of the aural affection no plan of treatment yields results that can be favorably compared to those obtained from well directed surgery of the nose and throat. Even in the suppurative aural affections, when destruction of aural tissue has not been great, good results, both as to preservation of hearing and arrest of aural discharge, are usually obtained in greatest measure through medical and surgical means directed toward the nose and throat, for through such means only may we expect successfully to eradicate the bacteria breeding-places, to provide a nomal ventilation to the tympanum and to restore the function of the tubopalatal muscles, all of which improvements to the aural environment are entirely essential, as already shown, to the preservation of aural function.

While it is true that the degree of hearing which may be preserved by this plan of treatment during this period of the aural disease may fall far short of the normal, nevertheless, as already stated, not every one knows the normal, and hence the ordinary patient is well satisfied when he is able to hear common conversation distinctly and to discharge social and business duties without embarrassment.

In the final stages of the middle-ear disease, when tissue changes are palpable and of long standing, the benefits to the ear to be derived from the treatment of the nose and throat become less and less until ultimately no relief whatever may be expected. And yet in some such cases which are well advanced Emerson of Boston has stated that nasopharyngeal treatment is sometimes helpful. Emerson has especially pointed out the good results which may be obtained from breaking up any adhesions that may be found between the posterior lip of the pharyngeal Eustachian tube and a near-by lobe of an atrophied adenoid. He has also found in some cases that the fossa of Rosenmüller was filled with granular adenoid structure, the removal of which has resulted in the improvement of an existing tinnitus and marked benefit to hearing. Logan has obtained equally good results to hearing from the eradication of old, inflamed, adherent adenoid pads, after first breaking them up by means of the finger and then by the employment of the curette or other convenient method of complete removal. While I have secured encouraging results from the employment of the above and other means of nasal and nasopharyngeal treatment in a small percentage of cases, it is my belief that we should expect little in the way of comfort or improvement to hearing in the vast majority of cases. Indeed the ratio between the length of time the aural affection has existed and the amount of benefit that may be expected from treatment of the environment of the middle ear is very direct.

Briefly, it may be said that the earlier nasal and nasopharyngeal treatment is instituted the better the result, and *vice versa*. The statement may be positively made that, when nasal and nasopharyngeal disease is eradicated before the onset of an ear disease in the individual, disease of the ear will usually be prevented. When the child is permitted to "outgrow" the aural ailment, only partially successful results are possible at any time. When the aural affection is allowed to become chronic the value to the ear of nasopharyngeal treatment becomes progressively less effective in proportion to the degree of chronicity. Stated differently, nearly all middle-ear diseases are preventable by early treatment of the diseased environment; most are satisfactorily helped by such treatment in the early stages of the aural involvement; few are benefited by such treatment in the chronic period.

ABSTRACT OF DISCUSSION

Dr. F. P. Emerson, Boston: I think we are all agreed, as the various writers have stated, that the majority of these cases of otitis media originate in the nasopharynx, with the possible exception of those due to trauma, some cases of virulent external otitis, those due to accumulation of cerumen (cases which may themselves be due secondarily to the infection of the nasopharynx), cases due to fracture of the base of the skull, to labyrinthine invasion from meningitis and possibly a few cases of infection from the blood-current. We may expect improvement to the extent that we can localize and drain the focal infection. Treatment, in the nasopharynx, consists in the relief of the infection, which is communicated to the middle ear through the Eustachian tube. The middle-ear trouble is made progressive by constant reinfection. Any operation which does not take into account the involved sinuses, which may later reinfect the Eustachian tube, is of little moment from the otologic point of view. Many of these cases are of sinus origin. As the result of a hyperplastic ethmoiditis, which may be due to a deflected septum, obstruction of the frontal duct and an involvement of the frontal sinuses, which may in turn infect the ethmoid or sphenoid secondarily. Occasionally the sinuses may be involved from the start, with a virulent infection, but that is, in my experience, unusual. The point I wish to bring out is the importance of the Eustachian tube in keeping up, in these progressive cases of otitis, a constant infection, so that we do not get the improvement in the hearing after operation that we would otherwise expect. We are impressed, in using the instrument which I referred to yesterday, with the excursion of the Eustachian tube, which with normal deglutition opens and closes very widely. We find in a great many cases of unilateral deafness with tinnitus that there is granulation tissue in the fossa of Rosenmüller and it is constantly subjected to reinfection. We find also bands in the fossa. In many cases there is a congested area that extends into the tube. About five-eighths of the open end of the tube can be looked into during swallowing. We can determine the condition of the lining membrane of the tube and make out congestion, hypertrophy and atrophy. Sometimes we find lymphoid tissue in the tube. In advanced cases of otitis media, it does not make so much difference what is done in the nares, the patients will continue losing their hearing year by year. The greatest satisfaction follows treating the tube directly and relieving the infection. A great many of them, especially in chronic catarrhal salpingitis, have a narrowing of the tube, which is frequently quite marked at the isthmus. Sometimes there is a suppurative inflammation. Auscultation does not give any clue as to whether the tube is constricted. I have frequently inflated with air and then have been able to pass only a No. 2 sound, and could not pass Nos. 3 or 4, which showed narrowing.

Dr. Fred Stauffer, Salt Lake City: I would like to call attention to the condition of too greatly relaxed tympanic membranes from too much blowing of the nose. Dr. Heath of London has written an excellent paper on this subject. It is more important than we would think unless we look for that condition. From the frequent blowing of the nose, the Eustachian tubes are forcibly inflated and we have partial paralysis of the tensor tympani muscles and too much looseness of the ossicles and tympanic membrane, so that the sound wave does not produce acute hearing. In those cases we get better hearing on the street cars or railroad trains where the loud noises put these parts on tension. The treatment consists not only in the removal of the obstruction in the nose, which causes it originally, but also the toning up of the tympanic membrane with stimulants, as is outlined by Dr. Heath.

Dr. W. R. Murray, Minneapolis: I would only emphasize the fact that in middle-ear disease the amount of improvement to be obtained by treatment is inversely proportional to the extent to which the disease process has extended. In the exudative stage improvement may be expected from treatment. When advanced adhesive processes have taken place within the tympanum the results of treatment are very discouraging. Our treatment should be preventive.

Dr. J. F. Barnhill, Indianapolis: I only want to emphasize what Dr. Murray has said, that the one time to treat middle-ear trouble is before you get the disease—by preventing it.

REFRACTION CHANGES IN DIABETES *

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Since Horner first called attention to the subject and reported two cases to the Ophthalmologic Society of Zurich in 1873, a number of examples of sudden change in the refraction of glycosuric patients have appeared in the literature. The text-books have had little to say on the subject and what is to be found in the standard works is misleading.

The object of this paper is to call attention once more to the fact that the refraction not only may be increased in diabetes, but that it may be diminished; that both changes may occur in the same patient; and that the changes bear no necessary relation to the amount of sugar in the urine. As is well known, diabetes sometimes causes a true paralysis of accommodation, and in a number of cases of refraction change due to this disease there has been either a limited range, or a more or less definite paralysis. One author, at least, it seems to us, has confused a case of increased hyperopia with paralysis of accommodation. This case will be referred to later. Cases of increase in the refraction of the eye (increased myopia or diminished hyperopia) in glycosuria have been reported by Grimsdale, Appenzeller, Hirschberg, de Schweinitz, Neuberger, Groenouw, and others; but with these we have no present concern. The following cases from the literature, it seems to us, offer trustworthy evidence of diminished refraction due to diabetes:

Horner's[1] Case.—The patient was a woman, aged 55, who since August, 1870, had suffered with diabetes mellitus, passing an enormous quantity of urine, heavily loaded with sugar. She had been wearing no glasses, except for near work at night, when she used R. E. +0.75 Sph. L. E. +1.50 Sph. By the end of October her sight was failing and her glasses no longer were suitable. On November 19, she accepted, both eyes, +2.75 Sph. R. V. =5/5, L. V. =6/5; +1.50 Sph. was added for near. There was no intra-ocular lesion. As the diabetes improved the convex lenses no longer suited. Jan. 13, 1871, she accepted, both eyes, +0.75 Sph. Vision was the same as above noted, and the correction for presbyopia also the same (+1.50).

Risley's[2] Case 1.—The patient was a woman, aged 49, who had improved under treatment, and developed dimness of vision only after her symptoms of diabetes were largely relieved. Her old lenses (+2.75 Sph.) no longer served, and her vision was reduced to 1/5 in the right eye, and 1/4 of normal in the left eye; and there was no range of accommodation. With mydriatic, the following refraction was revealed:

R. E. +5.00 Sph. +1.25 Cyl. Ax. 75°, V. =6/6, L. E. +6.00 Sph. +0.75 Cyl. Ax. 105°, V. =6/6.

Ten days later her vision was again dim with glasses, and she accepted:

R. E. +3.00 Sph. +1.25 Cyl. Ax. 75°, V. =6/6, L. E. +3.50 Sph. +0.75 Cyl. Ax. 105°, V. =6/6, and accommodation was still absent.

Fifteen days later she accepted:

R. E. +1.25 Sph. +1.25 Cyl. Ax. 75°, V. =6/6, L. E. +1.50 Sph. +0.75 Cyl. Ax. 105°, V. =6/6.

Through several months of careful observation no further change was noted, though the patient steadily grew worse, with persistent glycosuria.

Risley's[2] Case 2.—The patient, a man of 74, had suffered with diabetes for at least six years, when he complained of dimness of vision. His refraction proved to be:

R. E. +1.50 Sph. +1.25 Cyl. Ax. 180°, V. =6/7.5, L. E. +1.25 Sph. +1.25 Cyl. Ax. 180°, V. =6/10.

From this time (August, 1896) until April, 1897, there was no change in the eyes. April 23, he complained of dimness of vision for distance and inability to read even large type with his reading lenses. His diabetes at this time was improved. He now accepted:

R. E. +2.50 Sph. +1.25 Cyl. Ax. 180°, V. =6/7.5, L. E. +2.50 Sph. +1.25 Cyl. Ax. 180°, V. =6/10.

May 20, he returned complaining that his vision was blurred with the distance lenses after a few days' use, and that he must hold his book too close in reading. He accepted his old glasses and had vision: R. E. 6/7.5 ?, L. E. 6/10.

Carpenter's[3] Case.—The patient, a woman aged 51, had consulted Carpenter six years before on account of presbyopia. She now complained of sudden inability to see clearly at a distance or to read with her near glasses. Her refraction, which had been a slight myopic astigmatism, was now hyperopic: R. E. +1.50 Sph. V. = 6/6, L. E. +2.50 Sph. V. =6/6. With +2.25 Sph. added she read Jaeger 1 at 30 cm. The urine had contained a large amount of sugar four weeks previously; and a reduction in the amount of sugar, under strict dieting, was coincident with the failing vision. There was no lesion of media or fundi. In three weeks, vision again blurred with glasses and she showed a myopia of 0.50 D.

Gallus'[4] Case.—The patient was a man of 51, who had had symptoms of diabetes for some time but had been under treatment only two weeks. He had been seeing well at a distance and wearing +2.00 spheres for reading. Recently his distant vision had failed and he saw better for distance with his reading lenses which no longer served their former purpose. His refraction, on March 28, 1905, was found to be:

R. E. +1.50 Sph. +0.50 Cyl. Ax. 180°, V. =5/8, L. E. +2.00 Sph. +0.50 Cyl. Ax. 180°, V. =5/5. +2.00 Sph. added enabled him to read the finest print. The eyes were in every way normal except for a slight pallor of the temporal halves of the disks and slight narrowing of the form fields with overlapping of red and green. May 23, the sugar was absent, and the patient was using his old correction (+2.00 Sph.) for reading. Refraction now was:

R. E. +0.50 Sph. +0.50 Cyl. Ax. 180°, V. =5/7, L. E. +0.50 Cyl. Ax. 180°, V. =5/5. With +2.00 Sph. added for near he was able to read the finest print. The fields were now noted as being wider but not normal.

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* Read in the Section on Ophthalmology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Horner: Klin. Monatsbl. f. Augenh., 1873, xi, 488.

[2] Risley: Tr. Am. Ophth. Soc., 1897, p. 121.

[3] Carpenter: Abstracted in Ophth. Rec., June, 1902.

[4] Gallus: Ztschr. f. Augenh., 1906, xv, 319.

Lichtenstein's[5] Case.—This is of especial interest, inasmuch as it exhibits diabetes in a youth of 17 years, with complete paralysis of accommodation and an increase in hyperopia, proved by repeated examinations under cycloplegia. This patient showed, on March 8, 1906, a slight anisocoria, and reduced vision. His eyes were otherwise normal. His manifest refraction was +1.50 Sph., both eyes, V. =6/6. This agreed with retinoscopy. A +12.00 Sph., both eyes, was required to read Jaeger 1 at 9 cm. The diagnosis of complete double-sided paralysis of accommodation was made, for which no cause could be discovered by the ophthalmologist or neurologist, except diabetes, which was established by the internist. There was 4.5 per cent. of sugar in the urine, of which six liters were passed daily. The diabetes increased in spite of treatment. On the following day the manifest refraction was +2.50 Sph., and +13.00 Sph. was required for near. Homatropin was then used, with the same finding; namely, +2.50 Sph. Two days later, under atropin cycloplegia, hyperopia =3.50. There was no change in the next two weeks, during which time the sugar was reduced and the patient gained in weight. In another week the refraction was still +3.50 Sph., and now a +11.00 Sph. was sufficient, instead of +13.00, to bring the near point to 9 cm. Thereafter a steady strengthening of the accommodation was manifested by the progressively smaller convex lenses required, until two months later, when a +5.00 Sph. sufficed. During this time the hyperopia was found to be 3.00, 2.50, 2.00, and finally 1.50, the latter estimate being with atropin cycloplegia. The thoroughness of the use of cycloplegia in this case is attested by the patient's refusing to return for further examination on account of his fear of atropin.

Landolt's[6] Case.—No mention is made of the use of a cycloplegic, and the amount of hyperopia developed is too small to be conclusive. The patient was a woman, the subject of a traumatic diabetes, who had arrived at an age when the accommodation is almost *nil*, and in whom the refraction was made repeatedly with great care, according to the authors' statement. A hyperopia of 0.50 developed, and the refraction showed variations in direct proportion to the amount of sugar in the urine, finally returning to emmetropia.

Doyne's Case.—Unfortunately we do not know the refraction of Doyne's[7] patient, a physician aged 40, previous to his acute diabetes; but the subsequent history points strongly to an increase of hyperopia, later approximating emmetropia with the cure of the diabetes. Early in the course of the disease, when vision had become very dim, hyperopia was 3.00 D. With improvement in the patient's general condition the error gradually lessened until, when the urine was entirely free from sugar, the refraction was +0.75 Sph. with homatropin cycloplegia.

Jackson's[8] Case.—A woman, aged 52, came with a history of diabetes of some years' standing. Recently the amount of sugar had greatly increased and the general condition was worse. Until a few weeks before, the patient's distant vision had been good. At the time of her visit vision was 4/60. With R. and L. +2.25 Sph., vision was 4/4. These lenses were prescribed for distance, and +2.00 added for near. Three months later she returned complaining that she could not see with the distance glasses and the reading lenses were unsatisfactory. Vision without lenses was now 4/4, and the same with +0.50 Sph. She was given +2.75 Sph. for near work and there was no change six weeks later, but she grew rapidly worse and soon died.

Lundsgaard's[9] Case 1.—The patient was a woman of 57, who was given +0.50 Sph., both eyes, V. =6/6, in March, 1902. No lesion was found in her eyes at this time. In July, 1905, she developed abnormal thirst and hunger and passed three to four liters of urine daily. Numerous examinations of the urine during 1905 revealed no sugar. A trace was present in February, 1906. In August, 1906, there was 7.75 per cent. of sugar. With restricted diet the percentage fell to 2.25 per cent. in ten days. August 24, the patient noted a dimness of vision which remained unchanged for eight days. Examination revealed R. E. +2.50 Sph. V. =6/6; L. E. +2.00 Sph. V. =6/6. No lesion of either eye. Accommodation was recorded as corresponding to the patient's age. The sugar diminished in quantity during September, and on September 15 the refraction was: R. E. +2.00 Sph., L. E. +1.50 Sph. By October 14 sugar was absent, and on November 19 the cloudy vision had disappeared. She read with her old reading lenses, and the refraction was the same as in 1902 (hyperopia =0.50), with normal vision.

Lundsgaard's[10] Case 2.—The patient was a woman aged 50. She had had diabetes for half a year. July 8, 1907, she suddenly found that her glasses (+1.50 Sph.) caused blurring. Her refraction was now found to be R. E. +3.00 Sph. V. =6/6, L. E. +3.50 Sph. V. =6/6. Accommodation was normal and ophthalmoscopic findings normal. Tension normal. Two days later the dimness of vision vanished and she saw with her old glasses. On July 15, the refraction was recorded as emmetropic. V. =6/6. The sugar, which was 6.2 per cent. on June 26, fell to 2.5 per cent. on June 29, 1.7 per cent. on July 2, 0.3 per cent. on July 5, 0.2 per cent. on July 8; thus we note a sudden increase in hyperopia occurring some days after the sugar had fallen from a high percentage to a mere trace. The accommodation remained normal throughout. The author states that he had no opportunity to use atropin.

Lundsgaard's[10] Case 3.—This is unique in the thoroughness with which it has been studied and reported. A woman, aged 50, stated that her vision had been good until presbyopic symptoms appeared one year previously. She had been given a glass for near work which was later increased to +1.50 Sph. For a half year she had suffered with diabetes, and the sugar had increased from 2.5 per cent. to 6 per cent. At the time of her first visit (Nov. 5, 1909) she was disturbed by blurring of distant vision and inability to use her reading lenses. She had headache and saw objects distorted, curved and angular, with the left eye. Refraction showed R. E. +1.50 Sph. V. =6/6, L. E. +2.00 Sph. V. =6/12. With +3.50 Sph. both eyes, she could read Jaeger 1. With the left eye the letters were out of line, some higher, some lower. The Schiötz tonometer revealed normal tension and the Javal ophthalmometer showed corneal astigmatism. The right pupil was slightly smaller than the left. Both reacted normally. The media were clear except for a mass of grayish, punctate flecks, partly vacuoles, in the right eye. They appeared to be in the front part of the lens, distinctly seen with the corneal loupe. The left eye showed no such appearance when the pupil was widely dilated with homatropin.

November 15, R. E. +2.50 Sph. V. =6/6—; L. E. +2.50 Sph. V. =6/12.

November 18, sugar 0.85 per cent.

November 22, no change; atropin, left eye.

November 30, R. E. +1.00 to +1.50 Sph. V. =6/6—; L. E. +2.00 Sph. V. =6/12.

November 15, R. E. +2.50 Sph. V. =6/6—; L. E. +2.50 Sph. V. =6/12—.

December 30, refraction and vision were unchanged. Flecks and vacuoles unchanged. Sugar 2.3 per cent.

January 16, 1910, no change in refraction or vision. Atropin was used each time in the left eye in order to study the lens changes with a dilated pupil. The opacities seemed less numerous than formerly and very superficial and mostly in the periphery.

February 1, the right eye was reported emmetropic with vision 6/9; the left eye (manifest and under atropin) +0.50 Sph. V. =6/12. The distortion of objects in the left eye was unchanged, though the usual tests with straight lines for metamorphopsia showed no abnormality. During these numerous examinations, the ophthalmometer and tonometer readings showed at no time any change in tension or corneal astigmatism. The patient said that she saw as well as before the development of her diabetes, though the lens opacities remained unchanged.

Knapp's[11] Case 1.—The patient was a woman of 47, who was found to be emmetropic by skiascopy, and accepted no lens for distance, in December, 1907. She was given +1.25 Sph. for her presbyopia. Oct. 26, 1908, she reported that she had suffered with diabetes since the first of the year, and for several days her vision had been poor for distant and near objects. Her vision was 6/36. Skiascopy showed hyperopia of 2.00 D., and +2.00 Sph. gave 6/9 vision. With +4.00 Sph. she read finest type at 30 cm. Ophthalmoscopy revealed red disks, but no lesion. November 9, there was no sugar in the urine and she accepted: R. E. +1.00 Sph. V. =6/6; L. E. +0.50 Sph. V. =6/6; agreeing with skiascopy.

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[5] Lichtenstein: Ztschr. f. Augenh., 1906, xvi, 330.

[6] Landolt and De Wecker: Traité complet d'ophthalmologie, iii, 388.

[7] Groenouw: Augenleiden bei Diabetes Mellitus, 1907, p. 46.

[8] Jackson: Tr. Acad. Ophth. and Oto-Laryngol., 1905, p. 221.

[9] Lundsgaard: Ztschr. f. Augenh., 1907, xvii, 156.

[10] Lundsgaard: Klin. Monatsbl. f. Augenh., 1910, xlviii, 38.

[11] Knapp: Ztschr. f. Augenh., 1909, xxi, 420

November 23, R. E. +0.50 Sph.; L. E. +0.25 Sph. No sugar.

February 13, 1909, R. E. +0.50 Sph. V. =6/6; L. E. emmetropia, V. 6/6. R. E. +1.00 Sph. gives Jaeger 1 at 25 cm. L. E. +1.00 Sph. gives Jaeger 1 at 22 cm. The refraction was the same at this time with homatropin cycloplegia.

Knapp's[11] Case 2.—The patient was a man of 48, who had a severe diabetes of only a few weeks' duration when, in April, 1908, he complained of dimness of vision, coming on over night, for both far and near. Skiascopy revealed a hyperopia of 1 D., and +1.25 Sph. brought vision up from 1/3 to normal. To read Jaeger 1 at 20 cm., +5.00 Sph. was required, showing a weakened accommodation. Four weeks later the sugar had disappeared and the patient's sight was good without lenses. Skiascopy revealed emmetropia and V. =6/6 without lenses. Accommodation, 2 to 2.50 D. In March, 1909, emmetropia, both eyes, and V. =6/6. With +1.00 Sph. the patient read Jaeger 1 at 35 cm. He continued well and worked as a chemist without glasses. Neither of Knapp's cases had any abnormality of tension or demonstrable lesion in the eye.

Zentmayer's[12] Case.—The patient was a woman, aged 58, who had been under treatment for glycosuria for three weeks when she consulted the ophthalmologist, Oct. 4, 1909, complaining of rapid loss of vision for the past ten days. She had worn glasses only for near work during the preceding six years, but now could see better with these lenses for distance than without them. Vision was R. E.=6/60, L. E.=6/60; fields practically normal. Tension of left eye +?. There was marked arteriosclerosis of the retinal vessels. Otherwise the eyes were normal. Refraction was found to be:

R. E. +2.50 Sph. +0.25 Cyl. Ax. 165°, V. =5/5, L. E. +2.50 Sph. +0.50 Cyl. Ax. 15°, V. =5/5; +2.50 Sph. added, both eyes, enabled her to read type 0.37 at 25 cm. October 26, there was no change noted in the hyperopia or vision. November 9, R. E. +1.25 Sph. V. =6/5 pt.; L. E. +1.25 Sph. V. =6/5 pt. Accommodation unchanged.

Jan. 17, 1910, R. E. +0.50 Sph. V. =6/6 pt.; L. E. +0.75 Sph. V. =6/6 pt. Accommodation unchanged. Dr. Zentmayer states that the sugar, which had been as high as 5 per cent., was lessening at the time when vision failed, and had been absent for two days previous to her first visit to him (October 4).

Roberts'[13] Case.—Roberts reported the following case under the title of "Transient Cycloplegia Due to Glycosuria": A man, aged 51, the subject of diabetes, complained of inability to read with his old reading lenses and inability to see distant objects distinctly without lenses. Heretofore he had seen distinctly, without lenses for distance, and with +1.75 Sph., both eyes, for near. The sugar in the urine was now 3/8 per cent., whereas two weeks before it had been 7 per cent. R. E. V. =6/22.5; L. E. V. =6/15. Manifest refraction was: R. E. +1.75 Sph. V. =6/5; L. E. +1.75 Sph. V. =6/5. The addition of +2.25 Sph., both eyes, was necessary to bring the near point to 13 inches. No lesion was discovered in either eye. One month later his general health was improved. His last glasses had been satisfactory until within a few days; but now they blurred his distant vision, and required that he hold his book too close to the eyes. Vision, with correction, was 6/12. Manifest refraction showed: R. E. +1.00 Sph. V. = 6/5; L. E. +0.75 Sph. V. =6/5; with +2.25 Sph. added for near. Nine months later he reported that his eyes had gradually returned to their previous condition and he used his original lenses for reading (+1.75). It would seem to us that this is really a case of increase of hyperopia in the course of diabetes, with a very small amount of paresis of accommodation; for the patient required +1.75 Sph. for presbyopia before his diabetes, and only +2.25 Sph. added to his distance correction when first seen by Dr. Roberts; and when seen later his presbyopia remained the same, while his hyperopia had diminished 0.75 D. in the right eye and 1.00 D. in the left; later still both the hyperopia and the slight paresis of accommodation disappeared practically, allowing the use of the original reading lenses only (+1.75).

Gould's[14] Case.—In April, 1907, Dr. George M. Gould reported a case of rapidly changing refraction in the person of a physician suffering from glycosuria, and reviewed the literature. His patient was a man, 58 years of age, whose eyes he had repeatedly examined under cycloplegia. In December, 1902, he had been wearing:

R. E. —2.62 Sph. —0.75 Cyl. Ax. 35°, V. =20/20+; L. E. —2.62 Sph. —1.25 Cyl. Ax. 167°, V. =20/20+, with +1.75 added for near in bifocals. On the eighteenth of that month the patient complained of eye-strain and blurred distant vision and accepted the following:

R. E. —3.25 Sph. —0.75 Cyl. Ax. 25°, V. =20/20+; L. E. —3.25 Sph. —1.50 Cyl. Ax. 166°, V. =20/20+, with +2.12 added for near in bifocals. There was also a limitation of the range of accommodation. Other symptoms suggested examination of the urine, which was found loaded with sugar. A strict diet was prescribed, and in a week the sugar had disappeared from the urine, but the eye-strain had returned. A reexamination showed that the error of refraction had returned almost exactly to the point of seven days before. In the next four years the patient was less careful of his diet, and in December, 1906, accepted the following:

R. E. —2.87 Sph. —0.37 Cyl. Ax. 25°, V. =20/20+; L. E. —3.00 Sph. —1.50 Cyl. Ax. 172°, V. =20/20+, with +2.50 added for near in bifocals. In February, 1907, there was increasing evidence of ill health, a high percentage of sugar in the urine, and symptoms of eye-strain. The rigid diet was resumed and in a few days the glycosuria had disappeared, but the eye-strain was worse than ever. Examination showed the following error:

R. E. —2.00 Sph. —0.62 Cyl. Ax. 20°, V. =20/20+; L. E. —1.87 Sph. —1.37 Cyl. Ax. 170°, V. =20/20+, with +2.00 added for near.

Dr. Gould writes us that the patient continues in good health and is now wearing:

R. E. —2.50 Sph. —0.87 Cyl. Ax. 35°, V. =20/20+; L. E. —2.50 Sph. —1.50 Cyl. Ax. 170°, V. =20/20+, with +2.37 added for near.

Attention is called to the fact that, ignoring the astigmatism, the myopia increased from —2.62 to —3.25 and then, after a period of careful dieting, fell to —2.00 in one eye, and —1.87 in the other, five-eighths of a diopter in one eye and three-quarters in the other, below what may be termed the normal myopia for the individual—the amount present before the glycosuric changes began. This, we believe, is not to be explained on the ground of careless refraction or lack of cycloplegia.

Dr. Gould very properly calls attention to the fact that no case of this sort can adequately be studied without cycloplegia if the patient still retains any accommodation, and that the previous static refraction should be known. He also says that there is no reported case of myopia (with sudden change in diabetes) in which glycosuria has not had the effect of increasing the myopia. He believes it illogical, if not impossible, that the same cause can also bring about an increase of hyperopia, and questions the accuracy of the observation of those who have reported such cases. It seems to us that Dr. Gould's own case disproves his contention. As we have already pointed out, after increasing and then falling back to normal, and increasing again, his patient's myopia diminished five-eighths and three-quarters of a diopter below the starting point. The following cases from our practice, however, show that the refraction may increase and diminish in the same patient in glycosuria:

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[12] Zentmayer: Abstracted in Ophth. Rec., February, 1911.

[13] Roberts: Arch. Ophth., 1909, xxxviii, No. 4.

[14] Gould: New York Med. Rec., April 20, 1907.

Wescott's Case.—Miss K. H., stenographer, aged 36, was referred to one of us (C. D. W.), because of headache, in February, 1896. Under complete cycloplegia with homatropin and cocain she accepted:

R. E. +0.75 Sph. V. =6/6; L. E. +0.75 Sph. V. =6/6. She was given the full correction for near work only, with relief from her headaches. In May, 1898, she was complaining again and under homatropin and cocain accepted:

R. E. +0.87 Sph. V. =6/6; L. E. +0.62 Sph. V. =6/6. She was given the above, less 0.25 Sph., for constant use, and was again relieved of her symptoms. In May, 1903, she suffered again from headache and was again examined under homatropin and cocain, accepting:

R. E. +1.00 Sph. +0.25 Cyl. Ax. 180°, V. =6/6+; L. E. +1.25 Sph. +0.25 Cyl. Ax. 180°, V. =6/6+. She was given the above, less 0.37 Sph., and was comfortable once more. In July, 1906, she was again complaining, and under the same cycloplegia accepted:

R. E. +1.25 Sph. +0.25 Cyl. Ax. 180°, V. =6/6; L. E. +1.00 Sph. +0.25 Cyl. Ax. 180°, V. =6/6. Given the above, less 0.25, for distance and added +0.50 for near in bifocals. In September, 1907, when the patient was 47 years of age, she returned, saying that she could not see well with her distance glasses. The external eye, reflexes, and fundus were normal. Under homatropin and cocain she now accepted:

R. E. —0.25 Sph. +0.50 Cyl. Ax. 15°, V. =6/6—; L. E. —0.25 Sph. +0.50 Cyl. Ax. 165°, V. =6/6—. A few days later without cycloplegia she accepted:

R. E. —0.50 Cyl. Ax. 105°, V. =6/6—; L. E. —0.50 Cyl. Ax. 75°, V. =6/6—. This was prescribed, with +0.75 Sph. added in bifocals. There was no paralysis of accommodation. Diabetes was suspected and the patient was advised to consult her physician for general examination and treatment. November 2, 1907, she returned, complaining that she could no longer see to read with the glasses prescribed in September, and her bifocal segments were increased to +1.50 Sph. At this time her physician, Dr. Annie Sage, reported 5 per cent. of sugar in the urine. November 12, sugar 8.266 per cent. Acetone absent. March 19, 1907, the patient returned, complaining that she could not see well, far or near, with or without glasses. Examination showed that distant vision was reduced to 6/45, with either eye, with her correction, and near vision to Snellen 2 D. at 14 inches. With +3.00 Sph. added, distant vision was restored to 6/6—, and near vision to Snellen 0.50 D. at 8 to 18 inches. She was given +3.00 Sph. in a grab front to be worn over her bifocals. Sugar 4.533 per cent. Diacetic acid and acetone absent.

November 25, sugar 6 per cent.

December 2, sugar 4.266 per cent.

December 12, 1907, the patient returned her grab front, as the vision had improved so much that she was able to get along with her correction. Distant vision at this time was 6/12 with either eye. There was 5.866 per cent. of sugar in the urine on March 28, 1908; she saw better without her glasses than with them, and was again examined under homatropin and cocain, with the following result:

R. E. +1.00 Sph. +0.37 Cyl. Ax. 180°, V. =6/6; L. E. +1.00 Sph. +0.37 Cyl. Ax. 5°, V. =6/6. The patient was given the above, less 0.25 Sph., for distance, with +1.25 Sph. added in bifocals. At this time when the refraction had increased to and beyond what was normal for her when the rapid change began, the urine contained 6.66 per cent. of sugar. After this examination, however, her health failed rapidly, the amount of sugar increased to 15 per cent., and she died in coma, without being seen by us again. This case also shows that hyperopia may decrease, increase, and decrease again, while the amount of sugar more or less steadily increases.

Ellis' Case 1.—Catherine M., domestic, aged 40, seen in December, 1907, for some time had noticed that vision was variable, and three weeks previously Dr. N. S. Davis of Chicago had diagnosed diabetes. Vision: R. E. 6/30; L. E. 6/15. Under cycloplegia with homatropin and cocain she accepted the following:

R. E. +4.50 Sph. V. =6/6+; L. E. +4.50 Sph. V. =6/6+. A few days later, without cycloplegia, she accepted:

R. E. +4.00 Sph. V. =6/6+; L. E. +3.75 Sph. V. =6/6+, and this was ordered for constant use. At this time the urine contained 3 per cent. of sugar.

In March, 1908, the patient returned, complaining that she could no longer see well with the glasses and had discarded them. Reexamination under homatropin and cocain gave the following result:

R. E. +2.25 Sph. +0.25 Cyl. Ax. 10°, V. =6/6; L. E. +1.37 Sph. +0.37 Cyl. Ax. 30°, V. =6/6. Given the above, less +0.50 Sph. The patient was then passing four quarts of urine containing 2.5 per cent. of sugar.

Ellis' Case 2.—Mrs. J. T. W., aged 48, was referred by Dr. Julius Hoelscher of Chicago in September, 1910. The patient complained that her eyes had so changed in the past few weeks that she could see clearly in the distance with glasses used for some time for reading, and that they were no longer satisfactory for near work. Dr. Hoelscher reported polydipsia and polyuria and 4.5 per cent. of sugar in the urine. No diacetic acid or acetone was present. The patient had been examined by him one year before, and six months before, and no diabetes was found. The external eye, the reflexes, and the fundus were normal. R. V. =6/45, L. V. =6/45. With old reading glasses:

R. E. +2.50 Sph. +0.75 Cyl. Ax. 45°, V. =6/5; L. E. +3.00 Sph. V. =6/5. Under homatropin and cocain the patient accepted:

R. E. +2.75 Sph. +0.50 Cyl. Ax. 60°, V. =6/5; L. E. +2.75 Sph. V. =6/5. After passage of mydriatic a few days later she accepted:

R. E. +2.50 Sph. V. =6/5; L. E. +2.50 Sph. V. =6/5. The above was ordered, with +1.50 Sph. added for near. There was no paralysis of accommodation. In December, 1910, the patient came complaining of poor distant vision with glasses, and stated that vision was much better without them. Examination showed vision 6/9 in either eye without glasses, and 6/30 with correction. Without mydriatic she accepted:

R. E. +0.75 Sph. +0.50 Cyl. Ax. 45°, V. =6/5—; L. E. +0.75 Sph. V. =6/5, which was given, with +1.50 added for near. At this time the urine was free from sugar. February 14, 1911, this patient was again examined under homatropin and cocain. The fundus was normal and she accepted:

R. E. +1.00 Sph. +0.37 Cyl. Ax. 45°, V. =6/6+3; L. E. +1.25 Sph. +0.25 Cyl. Ax. 165°, V. =6/6+4. A few days later without mydriatic she accepted the above, less 0.25, and +1.50 added for near. No paralysis of accommodation. This case, like our first one, shows an increase of hyperopia, though we do not know how much, followed by a very marked decrease.

Ellis' Case 3.—A woman, aged 65, was seen July 12, 1910. Her distant vision had been failing rapidly for three months, with dull headache on near work. The ophthalmoscope showed sclerosis of the lenses and pronounced retinal arteriosclerosis. R. V. =6/22—1, L. V. =6/22—1. She was wearing +2.75 Sph., both eyes, for near, and read Snellen 0.50 at 9 inches. Under homatropin and cocain she accepted:

R. E. —0.75 Sph. —1.00 Cyl. Ax. 15°, V. =6/9; L. E. —0.75 Sph. —0.50 Cyl. Ax. 135°, V. =6/12. She was given the above, with +2.50 added for near. On August 16, 1910, she saw better without glasses. R. E. V. =6/22; L. E. V. =6/22; with glasses V. R. E. =6/45; L. E. =3/45. Under homatropin and cocain she accepted:

R. E. +1.75 Sph. +0.25 Cyl. Ax. 120°, V. =6/9+; L. E. +1.75 Sph. +0.25 Cyl. Ax. 180°, V. =6/9. March 17, 1911, she again saw better without distance glasses than with them. She admitted carelessness in diet.

R. V. =6/12+, with correction =6/30; L. V. =6/12+, with correction =6/30. Under homatropin and cocain she accepted:

R. E. +0.75 Cyl. Ax. 130°, V. =6/9+2; L. E. +0.50 Cyl. Ax. 15°, V. =6/9—2.

A review of the above cases shows that a much more extended and accurate study is necessary for a solution of the problem involved. As has been pointed out, the static refraction of the patient in health should be known, and careful examinations are desirable as often, at least, as the patient is able to recognize changes in his vision. It goes without saying that all examinations should be made under cycloplegia when any accommodation remains which could interfere with accuracy. Frequent and regular examinations of the urine should be made for sugar and other substances which may affect the refraction or the accommodation. The fact that there is no definite relation between the amount of sugar in the urine and the refraction changes is very suggestive, as is also the fact that partial or complete paralysis of accommodation may or may not be present in cases showing an equal amount of sugar in the urine. The fact that the most startling changes in the vision and refraction have occurred when the general condition was improving and the urine free from sugar, points to the possibility of another agent as the offending factor in at least a portion of the cases. We regret exceedingly not being able to make more extended studies in our own cases; but two of our patients were working women who could give us little time, and who gave the internist even less opportunity for the study of their metabolism.

Numerous theories have been proposed in explanation of refraction changes in the course of diabetes, generally assuming that the presence of sugar in the lymphatic circulation of the eye produces alteration in the refractive indices of the media, cornea, aqueous, lens, and vitreous; or else that the volume of the globe is altered through the loss of fluid in diabetes. For example, Landolt[6] explained his case of diminished refraction on the theory of augmentation of the index of refraction of the vitreous body, since the vitreous presents a concave surface to incident rays. He thought that changes in the volume of the globe could not occur rapidly enough to account for the changes in refraction observed in his patient. On the contrary, Horner[1] believed that sudden loss of fluid from the eye was responsible for developing hyperopia. Schmidt-Rimpler,[15] not referring to diabetic cases especially, said that loss of fluid, with minus tension, does not alter the refraction of an eye. In perhaps the most thoroughly studied of all the cases found in the literature, Lundsgaard's third case,[10] repeated examinations with the ophthalmometer and the Schiötz tonometer revealed no alterations in corneal curvature or tension of the eyes during the period of varying refraction.

An increase of refraction in the course of cataract development is a very frequent phenomenon. On the contrary, Machek[16] detailed three cases of diminished refraction in the course of the devolepment of subcapsular cataract with central transparency of the lens; and Priestley Smith[17] speaks of hyperopia developing in incipient cataract. In diabetic cataracts, the lens has been found, on chemical examination, to contain sugar (Liebreich, Leber); Nagel, on the contrary, did not find sugar in the lens. Lichtenstein[5] thought that change in the index of refraction of the lens was the explanation of his case, as did Knapp,[11] who compared the diabetic toxin with nicotin and strychnin in the rapidity of its action.

Against the idea of alteration in the refractive index of the aqueous caused by the presence of sugar in this fluid, is the experiment of Hess[18] showing that 20 per cent. of grape-sugar is necessary to produce a myopia of 1 D., while Deutschmann[18] noted cloudiness and swelling of a lens after immersing it in a 5 per cent. sugar solution for a few hours. Obviously these two experiments are inconsistent with the idea that a considerable change in refraction, without cataract formation, is due to the presence of sugar in the fluid bathing the lens.

It seems to us that none of these theories will do. The problem is an interesting one, however, and no doubt will some day be solved. It offers opportunity for the internist, the physicist, and the physiologic chemist, as well as the ophthalmologist.

In conclusion, we wish to express our indebtedness to Dr. Emory Hill for his painstaking care in abstracting the published cases, and for other assistance in the preparation of this paper.

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ABSTRACT OF DISCUSSION

Dr. William Zentmayer, Philadelphia: Dr. Wescott's analysis of cases is particularly interesting, especially those that have a decrease in the static refraction. The cause is difficult to explain. There are other known ocular changes in diabetes which may throw light on the cause of the decrease in refraction in this affection. We know that we have paralysis of accommodation, cataract and myopia as the result of diabetes. Now as to the accommodation theory, Dr. Roberts' case certainly indicates that a paresis of accommodation may be the cause of the decrease in the static refraction, but there are many cases on record in which the static refraction was known before the change took place, particularly in Risley's, Carpenter's and Lundsgaard's cases, and it was again estimated under atropin, and after the atropin had passed off and it was shown that it was due to actual change in the static refraction. In my own case I did not know what the static refraction was before, but during the time there was no change in the accommodation. Recently the patient has had a second attack and again there was no paresis of accommodation. Paralyses of accommodation in other affections are not so fugacious; they are not so intermittent as these changes which occur in diabetes. Then again, there is no other way of explaining the increase in refraction except by the swelling of the lens. I think it is fair to infer that the change, as curious as it is, must be a lenticular one. Now a possible explanation of it has been given by Grimsdale. If there is an increase in the index of refraction of the cortical layers of the lens there is a more uniform index in the entire lens, and such a lens, of course, is less refracting than a lens which has a different index of refraction in its various layers. It seems to me that this is a plausible explanation of these cases.

Dr. C. D. Wescott, Chicago: I am indebted to Dr. Zentmayer for his interesting remarks. As Dr. Roberts is not able to be here and was expecting to say something with reference to his own case, I should like to call attention to one or two points, and I will read my excerpt of his case. It was reported under the title "Transient Cycloplegia Due to Glycosuria:"

> A man, aged 51, the subject of diabetes, complained of inability to read with his old reading lenses and inability to see distant objects distinctly without lenses. Heretofore he had seen distinctly, without lenses for distance, and with +1.75 Sph., both eyes, for near. The sugar in the urine was now 3/8 per cent., whereas two weeks before it had been 7 per cent. R. E. V. =6/22.5; L. E. V. =6/15. Manifest refraction was: R. E. +1.75 Sph. V. =6/5; L. E. +1.75 Sph. V. =6/5. The addition of +2.25 Sph., both eyes, was necessary to bring the near point to 13 inches. No lesion was discovered in either eye. One month later his general health was improved. His last glasses had been satisfactory until within a few days, but now they blurred his distant vision and required that he hold his book too close to the eyes. Vision, with correction, was 6/12. Manifest refraction showed: R. E. +1.00 Sph. V. =6/5; L. E. +0.75 Sph. V. =6/5; with +2.25 Sph. added for near. Nine months later he reported that his eyes had gradually returned to their previous condition and he used his original lenses for reading (+1.75). It would seem to us that this is really a case of increase of hyperopia in the course of diabetes, with a very small amount of paresis of accommodation; for the patient required +1.75 Sph. for presbyopia before his diabetes, and only +2.25 Sph. added to his distance correction when first seen by Dr. Roberts; and when seen later his

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[15] Schmidt-Rimpler: Graefe-Saemisch Handbuch der gesamten Augenheilkunde 6, vii.

[16] Ztschr. f. Augenh., xix, 330.

[17] Smith, Priestley: Graefe-Saemisch Handbuch des gesamten Augenheilkunde, 11, vi.

[18] Hess: Quoted by Parsons: The Pathology of the Eye, iii, 929.

presbyopia remained the same, while his hyperopia had diminished 0.75 D. in the right eye and 1.00 D. in the left; later still both the hyperopia and the slight paresis of accommodation disappeared practically, allowing the use of the original reading lenses only (+1.75).

I venture to say that if Dr. Roberts had examined his patient under complete cycloplegia he would have no doubt in his mind as to my view of the case; for it then would have been most evident that there was a positive decrease in the refraction of the eye, with possibly a slight paresis of accommodation, followed by a return to the original condition with improvement in the patient's health.

Since coming to Los Angeles, I have been advised by telegram that Dr. Ellis has just seen an additional case of diabetes in a woman aged 40, with a sudden increase of hyperopia. The patient had been wearing +0.50 Sph. for distance, and +2.50 for reading. One week ago these lenses gave satisfactory vision. She now requires +2.00 Sph. with +0.50 Cyl. Axis horizontal for distance. Vision is 6/7, and accommodation normal for her age.

THE IMPORTANCE OF A CERTIFIED OR PASTEURIZED BUTTER [*]

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The title of my paper may seem somewhat out of the province of the activities of the Association of Certified Milk Commissions. However, the association has accomplished such laudable results in raising the standard of our milk-supply that it seemed only fitting that we should turn to it, in seeking a similar uplift of the standard of butter. It is indeed strange that in spite of our knowledge, the fruit of various investigations in this field, the attempts to provide a safe butter have been so feeble.

There is no need of repeating the evidence to the effect that cream contains tubercle bacilli even in larger amounts than the milk from which it is made. When the cream rises, whether it ascends by means of gravity or through the agency of centrifugal force, the fat globules carry with them a large proportion of the bacilli, which are filtered out from the underlying skim-milk into the cream and the sediment. The tubercle bacilli of the cream constitute the tubercle bacilli in the butter. It is difficult to state the percentage of contamination of the butter sold in large cities, but we probably shall not go far wide of the mark if we accept Cornet's[1] figure of 12 per cent. as an average. It has been demonstrated by Schroeder that these bacilli can maintain their virulence, in spite of the salt which the butter contains, for a period of three months. These facts naturally lead to a consideration of the subject which has been the main field of contention among those actively interested in the investigation of the cause of tuberculosis, namely, the importance of infection in man by the bovine type of tubercle bacillus, and of the alimentary tract as a portal of entry. It is not necessary in this place to discuss this question in detail. However opinions may vary on these questions, I think that almost all are now ready to accept the conclusion that the bovine bacillus constitutes a real menace to the welfare of infants and young children. The investigation in England by the British commission, the more comprehensive one in the United States by Park and Krumwiede, and that of the imperial Health Bureau of Germany force this deduction on us. So that it seems certain that in childhood, and especially in the first few years of life, bovine tuberculosis plays an important rôle.

So much for the contamination of butter by means of the tubercle bacillus. Investigations of recent years have directed us with ever-increasing frequency to the milk-supply as the source of epidemics of typhoid fever, scarlet fever, diphtheria and possibly some other of the infectious diseases. It is difficult to be precise in a discussion of scarlet fever; however, as regards typhoid fever we can adduce some interesting facts to illustrate the lesson of this article. If milk is infected with typhoid bacilli, these organisms will rise with the cream and be incorporated in the butter,[2] as we saw was the case with tubercle bacilli. It has, furthermore, been demonstrated by Bruck[3] that typhoid bacilli can maintain their viability and virulence in butter for at least twenty-nine days, and, indeed, multiply in this medium for the first few days.

In this connection it may be well to consider some phases of this topic which bear directly on our subject. It is claimed by some that the salting of the butter and its maintenance in cold storage kill the bacteria and render it a safe product. This question must still be considered an open one, in that a precise answer as to the exact influence of these factors on butter cannot be given. The consensus of opinion, however, seems to be that the addition of from 2 to 3 per cent. of salt, which is the usual salt content of commercial butter, has but a mild inhibitory effect on bacterial life or growth, and that in spite of the salt and the temperature of zero centigrade, bacteria have been found to multiply. These experiments record the results of bacterial counts of a gram of butter, and concern themselves with the estimation of lactic acid and other saprophytic bacteria. Such figures have little value for us, as we are concerned only with the viability of pathogenic organisms, such as the typhoid bacillus. As far as I have ascertained, a thorough study of this organism in this regard has not been made.

The attitude of the community toward butter and milk may be stated as follows: The people are warned not to drink milk unless it is certified or pasteurized; that is, unless it is pure or purified, on account of the danger of tuberculosis, typhoid, and other infectious diseases. Nevertheless they are urged to partake of butter which may well have these same pathogenic bacteria, but which by our silence we seem to concede is innocuous. It may be thought that the danger is slight because the amount of butter ingested is comparatively small. But, although this no doubt mitigates the evil, it does not by any means do away with it. I have shown elsewhere[4] that partaking daily of milk containing small numbers of tubercle bacilli may cause infection, whereas the same quantity given in one dose failed to produce tuberculosis. It should also be borne in mind that very young children, 2 years of age or younger, at a time when they are still very susceptible to infection by the bovine bacillus, consume considerable quantities of butter, and are thus exposed to infection.

When we come to consider the remedy of this evil, an evil which I realize is secondary to that of infected milk, we are met by the same difficulties and problems which beset us in the consideration of the milk problem—the ideal of a clean product which we can certify, and the practical makeshift of a safe product which we must permit. The certification of butter should impose the same requirement as the certification of milk, specifying besides that the butter be made under clean and sanitary conditions. The demand for certified butter could never be general, for just as the price of certified milk is prohibitive to many a householder, so it would be in the case of the butter. But there are many who, if told of the dangers of the ordinary butter, of its contamination by tubercle bacilli and possible other pathogenic organisms, would be quite ready to pay the additional price for the surety of having a safe product for their children. It would be a butter for children, just as the certified milk is primarily a milk for infants and children. Some dairy which has butter-making machinery, especially one situated at some distance from the railway and therefore handicapped in selling its product as milk, might be induced to put a certified butter on the market. In proportion to the amount of milk used in making butter, butter is less expensive than milk; in fact, this is one of the exceptional cases in which the manufactured product brings less than the raw material. I hope to see this idea carried out in the near future, and do not doubt that some one will be found to enter this field.

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[*] Read at the annual meeting of the Association of Certified Milk Commissions, Philadelphia, May 24, 1911.

[1] Cornet: Die Tuberkulose, part 1, p. 122.

[2] Hess: Middle Milk Mixtures, THE JOURNAL A. M. A., Aug. 14, 1909, p. 523.

[3] Bruck: Deutsch. med. Wchnschr., 1903, xxvi, 460.

[4] Hess: The Subsequent Health of Children Who Drank Milk Containing Tubercle Bacilli, THE JOURNAL A. M. A., May 6, 1911, p. 1322.

Although a certified butter is out of the reach of the masses at the present time, a pasteurized butter, which is the other form of safe butter, is well within their reach. It is noteworthy that in spite of the fact that so many of us realize the advantages of a pasteurized butter, that we know that it is the staple butter in some countries, for example, Denmark, and is used in many other countries, that we have not been able to create a sufficiently strong demand to force the supply of this product. I need not add that pasteurized butter has no distinctive taste, and in color, texture and other qualities is no different from unheated butter. I believe that it is high time that it be rendered possible to purchase a labeled pasteurized butter, especially for the use of children. In New York a butter of this kind will be put on the market in the near future, and will cost five cents more per pound than the raw butter. This increase in price is permissible at this time; however, I do not believe that it will be found necessary when the demand is determined and found adequate. I believe that if our young children are protected from infection through butter we shall, in a very practical and simple way, be making another step along the road of preventive medicine.

154 West Seventy-Second Street.

THE DIAGNOSIS OF PANCREATIC DISEASE

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In spite of the progress made in the knowledge of the physiology of the pancreas, its diseases remain difficult and uncertain of diagnosis. The cause of this is apparent in that the clinical aspects of pancreatic disease are in most instances indefinite and not characteristic, and many of the laboratory aids have not proved efficient. My desire to test the value of the newer methods devised for diagnosis prompted some work along this line in the Klinik von Noorden, in which I was associated in the work with Docent Dr. Salomon.

The newer methods of determining the pancreas function for diagnostic purposes aim to test for the presence of the ferments in the stool. To facilitate rapid peristalsis after a breakfast of mixed food followed by an enema, calomel 0.2 gm. and phenolphthalein 0.5 (as recommended by Muller) prove very satisfactory.

The two ferments made use of in the determination from the stool of pancreas activity are trypsin and amylopsin and their absence from the stool would point toward pancreas obstruction or insufficiency.

To determine the presence or absence of trypsin, the Fuld-Gross method may be used or the methods of Muller[1] and Schlecht,[2] which latter is as follows: The stool is rubbed up with a small quantity of glycerin to prevent evaporation, and several drops of the mixture placed in Petri plates containing Loeffler blood-serum and heated to 50-60 C. for twenty-four hours. The high temperature prevents the growth of bacteria, but not the action of the enzymes, and the presence of softening and depressions in the serum would indicate trypsin digestion, varying in degree according to the quantity of the enzyme present.

The simplicity of this method would commend its use, but already Schlecht has reported negative findings in the fat-stools of icterus, in obstipation, bloody stools and stomach carcinoma, and Komarelli has reported like observations. Frank and Schittenhelm[3] contend that the *succus entericus* also contains a proteolytic ferment, which would seem to place a doubtful value on these tests for the trypsin content.

The Fuld-Gross-Goldschmidt method (reference below) requires a solution containing 1 gm. each to the liter of casein, chloroform and sodium carbonate. To 5 c.c. of this solution varying dilutions of stool filtrate are added in different test-tubes, or, in the absence of a fluid stool, 5 gm. of stool is rubbed up with 20 c.c. physiologic salt solution, centrifuged and filtered and added to the casein solution. The mixture is allowed to digest at 38 to 40 C. for twenty-four hours, and the end-result is tested by the addition of a 1 per cent. acetic acid solution, which causes a precipitate in the tubes, when digestion is incomplete. The Fuld-Gross method proved very satisfactory in our work in the hospital and was carried out at the same time as the Wohlgemuth[4] method for amylopsin. The method of Wohlgemuth requires a 1 per cent. solution (Kahlbaum's soluble starch), which is best prepared on a water bath for eight to ten minutes with considerable stirring. Similar dilutions of stool filtrate as in the Fuld-Gross method are added to 5 c.c. of the starch solution in test-tubes, toluol added and the whole digested for twenty-four hours at from 38 to 40 C. At the end of this time the test-tubes are filled to near the top with tap-water, one drop of tenth-normal iodin solution is added to each tube, and a blue color no longer appears in the tube when the starch has been entirely digested. The dilution of stool used for both the trypsin and amylopsin tests are the same and are made with physiologic salt solution. In dilutions of 1 to 10, 1 to 100, 1 to 1,000 they are sufficient for all purposes. Of each of these dilutions it is best to take 2 c.c., 1 c.c. and 0.5 c.c., which are added to the tubes containing either casein or starch. The quantitative estimation of the ferment content is reckoned from the tube containing the greatest dilution, which has still been able to transform the starch or casein. The estimation is made in units, one unit representing the ability of 1 c.c. stool filtrate to transform 1 c.c. starch or casein solution. Suppose that the tube containing 1 c.c. of the 1 to 1,000 dilution is the greatest dilution which can transform 5 c.c. of starch solution; then 1 c.c. of undiluted filtrate would thus be able to digest 5,000 c.c. of starch solution, which would represent 5,000 units, a normal finding. The number of units usually ranges between 500 and 5,000, though cases may show 10,000 units and even higher, and 100 units may be considered the minimum. In my tests the non-pancreatic cases did not fall below 250 units, while the greatest interest attached to those giving a smaller number of units, which pointed to a deficiency of pancreatic secretion.

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[1] Deutsch. Arch. f. klin. Med., 1907, xci; 1908, xcii.

[2] München. med. Wchnschr., 1908, p. 725.

[3] Zentralbl. f. d. ges. Physiol. u. Path. d. Stoffwechs., 1909, p. 881.

[4] Biochem. Ztschr., 1909, xxi

Wohlgemuth tied off the pancreatic ducts of a dog and found by his starch test that the stool contained a minimum quantity or practically no diastatic ferment. By means of a Thiry-Vella fistula, he found that the amylopsin of the *succus entericus* was very small in comparison with that of the pancreatic juice, and inferred that the amyloptic ferment present in the stool was in great part pancreatic.

Wynnhausen[5] worked with the Wohlgemuth methods, and in four cases of pancreas disease his findings were confirmative in giving results under 50 units. In two cases he worked simultaneously with the Fuld-Gross method and found low values in both tests.

Hirschberg[6] also found Wohlgemuth's method reliable in finding scanty diastatic ferment in the stool of pancreatic patients, at the same time finding by similar methods the increase of the ferment in the urine.

My clinical results with these methods may be given briefly as follows: My first attempts were with the Wohlgemuth methods of estimating the diastatic ferments in the stool. In the beginning the results were unsatisfactory and I soon detected the cause of this in the character of the cathartic used in order to obtain fluid stools. Rhubarb, cascara and the aperient waters frequently gave negative results, until calomel and phenolphthalein, as suggested by Muller, were used. In fifty non-pancreatic cases the stools showed ferment values ranging from 500 to 10,000 units. These cases included heart (compensated and uncompensated), diarrheas, stomach and intestinal neuroses, cardiospasm, organic nervous diseases, diabetes, and in nine cases of icterus, which were of special interest, the ordinary catarrhal icterus showed a normal range of value. A malignant jaundice which was suspicious of a pancreas obstruction, with much fat and muscle fiber in the stool, showed a value of 500 units, and at autopsy showed the disease limited to the bile passages and no pancreatic lesion. In a second case, which appeared at first malignant, 10,000 units were found, and pancreas disease was correctly excluded by subsequent history. The pancreas diseases were as follows: 1. Acute pancreatitis with necrosis, which came to operation in the Klinik Hochenegg, showed a value of 25 units. 2. Malignant icterus (Klinik von Noorden), 20, 25 and 100 units. Autopsy disclosed carcinoma of the pancreas head and of the bile-passages. 3. Malignant icterus (Klinik von Noorden), the patient operated on in the Klinik von Eiselberg, showed a value of 20 to 25. Exploratory operation revealed the entire region of the bile-passages, duodenum and pancreas head entirely matted together. No further exploration was attempted and the patient was taken home shortly after operation. 4. Acute pancreatitis (Klinik von Eiselberg), patient operated on four weeks previously, healed, with no disturbance of digestion or gross changes in stool, showed 5,000 units. 5. Pancreatic cyst operated on by Dr. Joseph Ransohoff (Cincinnati Hospital) gave 25 units.

These results would tend to show that considerable reliance may be placed on these methods.

Low unit values with both the Wohlgemuth and Fuld-Gross methods alike seem to point to a pancreatic obstruction or insufficiency.

The two tests mentioned have a rational basis and commend themselves also on account of their simplicity.

22 West Seventh Street.

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[5] Berl. klin. Wehnschr., 190, No. 300; 1910, No. 11.
[6] Deutsch. med Wehnschr., 1910, No. 4.

DEATH OF FETUS DUE TO TWISTING OF CORD IN UTERO

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The following case is reported with the idea that it may be of interest to some medical men who have had similar cases.

The patient was 18 years old, of Finnish nationality, pregnant for the first time, in good health and had always felt well. When six months pregnant, she noticed that there seemed to be no life. On examination no fetal movements could be detected. Rest was advised, and two days afterward labor pains came on. No effort was made to check them and in four hours the fetus, which apparently had been dead three or four days, was born. The cord was about 18 inches long. About 6 inches from the placental attachment, the cord had been twisted into a hard knot. From the placenta to the knot, the cord was normal. Beyond the knot to the fetus, the cord was beginning to shrink away and had been dead for a number of days. No other abnormal conditions were observed and to my mind it was merely a case in which the twist had shut off the blood-supply and killed the fetus. This patient lived in a second story and thus had to climb the stairs very often, also having to carry her own wood and water. This may have had something to do with the twisting of the cord.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

LIQUID NITROUS OXIDE—Nitrosum oxidum liquefactum. —Liquid nitrous oxide is dinitrogen monoxide, N_2O, in the liquid state.

Liquid Nitrous Oxide is a colorless mobile liquid, boiling at –89.8 degrees C. and solidifying at –102 degrees C., and having a sp. gr. of 0.937 at 0 degrees C. Liquid nitrous oxide returns to the gaseous state when the pressure is reduced and the temperature raised. The gas obtained from liquid nitrous oxide should have the properties of and respond to the following tests: It should be colorless, have a faint odor and a slightly sweet taste; it should not be inflammable, but should support combustion; it should be soluble in one volume of water at ordinary temperatures. No reaction should occur when 4 liters of the gas to be tested is passed slowly through each of the following: barium hydroxide solution, neutral litmus solution, silver nitrate solution, potassium iodide solution containing starch solution and alkaline mercuric potassium iodide solution.

If nitrous oxide gas be shaken in a gas burette with an alkaline solution of pyrogallol, the contraction in volume should indicate not more than 2 per cent. oxygen.

If nitrous oxide gas, after removal of the free oxygen be exploded with hydrogen gas in a Hempel gas apparatus, the reduction in volume should be at least 94.9 per cent. of this oxygen free gas, indicating not less than 93 per cent. dinitrogen monoxide, N_2O, in the original material.

If the above quantitative estimations be made in nitrous oxide gas, the residue of nitrogen gas should not exceed 5.5 per cent.

Actions and Uses.—Nitrous oxide gas causes anesthesia by direct influence on the central nervous system, as well as by the production of asphyxia. After a few deep inspirations, the face assumes a deadly pallor and the patient becomes unconscious. It raises the arterial blood-pressure. The death-rate from this gas, used as an anesthetic, is less than 1 to 500,000.

The gas derived from the liquid nitrous oxide is applicable to produce anesthesia for brief operations. For more prolonged anesthesia, admixture with oxygen is used. It is also used for the purpose of introducing anesthesia with ether or chloroform.

Dosage.—Liquid nitrous oxide is obtainable, under pressure, in steel cylinders. The liquid is allowed to evaporate in the cylinder and the gas is inhaled by the patient from a suitable inhalation apparatus.

Pharmaceutical Preparations Accepted for N. N. R.

The following dosage forms of accepted proprietary articles have been accepted for N. N. R.:

Cargentos Aseptic Vaginal Tampons.—Colloidal Silver Oxide Aseptic Vaginal Tampons. Aseptic wool tampons impregnated with 0.325 Gm. (5 grains) of Cargentos. The tampons are contained in No. 10 thin gelatin capsules. A silk cord is attached to the capsule, permitting the ready removal of the wool.

Cargentos Dusting Powder.—Colloidal Silver Oxide Dusting Powder. A mixture containing cargentos 10 parts, purified talcum and magnesium carbonate sufficient to make 100 parts by weight.

Cargentos Ointment.—Ointment of Colloidal Silver Oxide. An ointment said to contain cargentos 1 part with anhydrous wool fat 9 parts by weight, put up in collapsible tubes.

Therapeutics

ALOPECIA: BALDNESS

Several different forms of this condition have been described, of which the following are the types.

Alopecia congenitalia is an exceedingly rare condition in which a child is born without any hair. Microscopic examination of the skin in some cases shows an entire absence of follicles. In other cases the follicles are present, and after weeks, months, or possibly two or three years, the hair grows, although it is usually finer and thinner than in the average child of the same age.

Another variety is *alopecia senilis,* in which the loss of hair is an accompaniment and an indication of the general atrophy of the tissues throughout the entire body.

There is the disease called *alopecia areata,* which is characterized by a complete falling of hair from limited areas of the scalp or other hairy portions of the body. This is a distinct disease, and will not be considered in this connection.

There remains the form of *alopecia prematura,* in which the patient loses more or less of the hair to which he has become accustomed, but in which this loss is not associated with the changes characteristic of old age. This form of premature baldness is customarily divided into two classes; the idiopathic and symptomatic. In the idiopathic form few causes can be found for the occurrence, while in the symptomatic form there will be found some pathologic condition of the scalp, or some disease which has affected the general nutrition of the entire body. Under the latter head may be included the falling of the hair which so frequently follows typhoid fever, and which has recently been discussed at some length in this department. Omitting at the present time a discussion of the other forms of alopecia, a few words will be said in regard to the common form of premature alopecia.

Recalling the anatomy of the skin, it will be remembered that the hair grows from the hair follicle, at the bottom of which is the hair papilla, which is supplied with capillary blood-vessels and nerves, and from which the new cells are developed which form the hair. These at first are soft, and later become hard and cohere so as to form the normal hair. Under abnormal conditions when the general nutrition of the body is impaired, and when in particular as an incident of this general impairment of nutrition the nutrition of the hair papillæ is disturbed, these new cells do not undergo their normal development, but, remaining soft, the hair drops out. If the impairment of nutrition is not permanent, a new hair will form. If, however, the impairment of nutrition continues, the opening of the follicle may finally be closed up, and then no further development of hair from that follicle will take place.

Various causes may give rise to this interference with development; various infectious diseases, especially the exanthemata, may do so. Erysipelas is a common cause of such interference with nutrition, as is also pregnancy. Various forms of mental and nervous disturbance, such as shock or worry, may also interfere with the development of the hair.

The causes which have been enumerated are general causes. There are, furthermore, a series of causes which are local in their action. Among these may be mentioned, as the most prominent cause, the occurrence of dandruff, which in most cases is due to a cutaneous disease variously designated as eczema seborrhoicum or dermatitis seborrhoica. There is even now some difference of opinion as to the ultimate cause of this seborrheic condition of the scalp, some attributing it to a microscopic organism, and others denying that such a cause has been determined. It must be admitted that very many cases of dandruff are seen in which apparently there is no special tendency to falling of the hair, but, on the other hand, it will be found that a very large proportion of patients who are losing their hair in this premature way are suffering from some form of dandruff, generally the seborrheic form.

TREATMENT

The treatment of baldness, whether due to a local inflammation of the scalp or to the result of some general disturbance of nutrition, is a somewhat puzzling matter. The treatment adopted must be continued for several weeks or even months before a result of much importance can be observed. Obviously at first the constitutional condition of the patient should be carefully inquired into, and any disturbance of it should be promptly remedied. If care and worry are apparently important factors in the disease, these should be remedied as far as possible. If the digestion is not properly performed, measures should be adopted which will correct it.

Certain internal remedies have appeared to have some control over the nutrition of the skin and scalp. Perhaps none surpasses arsenic in this respect, and in many cases the use of this drug will seem to contribute to a favorable result. If anemia is present, iron may be combined with arsenic. For instance:

℞	Gm. or c.c.		
Arseni trioxidi	04		gr. ⅔
Massæ ferri carbonatis	2	or	ʒss

M. et fac pilulas 20.

Sig.—Take one pill, three times a day, after meals.

Another drug which has appeared to have a selective action on the skin and scalp is sulphur, and in some cases this drug has been given with benefit, especially if there is constipation, or if there is observed a tendency to suppurative inflammation of the skin.

The question of local applications to the scalp is one which must be approached with some hesitation. The variety of drugs which have been recommended for application to the scalp to stimulate the growth of the hair is so great that one naturally feels suspicious in regard to the value of any one. This, however, must not discourage the physician from trying to select a suitable one which will prove of benefit to his patient. If dandruff is abundant on the scalp, one of the simplest applications is a solution of borax, with glycerin and water.

℞	Gm. or c.c.		
Sodii boratis	4		ʒi
Glycerini	25	or	fl.ʒv
Aquæ	ad 200		ad fl.℥vi

M. et Sig.—Shake, and apply externally twice a day.

This, like all applications designed for use on the scalp for the purpose of stimulating the growth of the hair, should be applied to the scalp and not to the hair. This may be accomplished by using a comb to part the hair, separating it so that the application may be made directly to the scalp, and when the application has been made along one part, making successive applications along other parts, until the application has been made over the entire scalp.

Another remedy which has been extensively used for the relief of dandruff is resorcin. This may be used in the form of either a lotion or an ointment.

℞	Gm. or c.c.		
Resorcinol	6		ʒiss
Alcohol	75	or	fl.℥ii
Aquæ	ad 200		ad fl.℥vi

M. et Sig.—Shake and apply to the scalp twice a day.

Or,

℞	Gm. or c.c.		
Resorcinol	50		gr.x
Adipis lanæ hydrosi	25	or	℥i

M. et Sig.—Rub into the scalp twice a day.

These remedies are especially useful when there is any evidence of inflammatory action in the scalp because of their soothing and anti-inflammatory action. In these cases remedies which are stimulating should be avoided. If there is no evident pathologic process going on in the skin except the falling of the hair, more stimulating remedies may be applied. Of these the most important are alcohol, quinin, cantharides, and ammonia. These, with resorcin, which has been already mentioned, are the fundamental ingredients of most popular hair tonics. Bay rum, a favorite application to the hair with many people, owes its pleasant effect largely to the alcohol contained in it.

The tincture of cantharides is often combined with alcohol and castor oil as in the following prescription:

℞	c.c.		
Tincturæ cantharidis	10		fl.ʒii
Olei ricini	5	or	fl.ʒi
Alcoholis	ad 100		ad fl.℥iii

M. et Sig.—Apply externally.

When corrosive sublimate is used the proper strength is half a grain to an ounce (0.03 gm. to 30 c.c.) of alcohol.

Ammonia may be used, as in the following prescription of Erasmus Wilson:

℞	c.c.		
Aquæ ammoniæ fortioris	10		
Chloroformi	10		
Olei amygdalæ expressi	10	or	āā fl.℥ss
Olei limonis	3		fl.ʒi
Alcoholis	ad 100		ad fl.℥iv

M. et Sig.—Apply by dabbing on the scalp with a small piece of cloth, but not with friction.

The hydrochlorid of pilocarpin may be used in the form of an ointment:

℞	Gm. or c.c.		
Pilocarpini hydrochloridi	1		gr.xv
Olei lavendulæ	1	or	♏x
Petrolati	10		ʒiiss
Adipis lanæ hydrosi	30		℥i

M. et Sig.—Use externally.

A sulphur ointment may sometimes be used with advantage.

PROPHYLAXIS

It is apparently little considered by the average individual that the hair should receive as particular care as do the teeth and nails. To be sure, it is the custom of most people to comb their hair, but this is generally done for the cosmetic rather than for hygienic effect. By improper care of the hair great harm may be done, and conversely, people who desire to preserve their hair in good condition should take pains to encourage its healthy growth. Many people overdo the matter of making applications to the scalp, applying strong alcoholic preparations or other so-called tonics too frequently. Others, with an excess of pains, bathe it too frequently, especially with cold water, as is the case with people who take a daily cold shower bath. Others indulge too frequently in the luxury of a shampoo. While occasional washing of the hair is beneficial, too frequent application of water to the hair does harm by withdrawing the natural oil from the hair and scalp. The best authorities advise shampooing the scalp not more frequently than once a week and not less frequently than once a month. Probably nothing better can be used on these occasions than Castile soap and warm water.

It is a common belief, and appears to be well founded, that too closely covering the head has a bad effect on the growth of the hair. The stiff hats so commonly worn by men at the present day, which fit so closely about the head, and which are worn by many so constantly, it can readily be believed would have a bad influence on the hair. In the first place, the tight binding of the scalp must interfere with the circulation through the scalp and around the hair papillæ; and in the second place, the space in the crown of the hat must allow a considerable quantity of air to become heated above the temperature of the body, and this also must have a bad effect on the nutrition of the hair.

While a certain amount of sunshine and fresh air is probably beneficial to the hair, on the other hand, it is probably better that the hair and scalp should be protected from constant exposure to the rays of the sun and to the wind and dust.

With women, the case is somewhat different, but they have their special unhygienic practices which must be mentioned and condemned, especially the curling of the hair by winding it about hot curling-irons or doing it up in curl-papers over night.

In women, if the hair is found to be cracking at the ends and becoming thin and unhealthy, the ends should be cut off. Most men habitually have their hair cut frequently. Whether this is of advantage or a mistake is not so easily decided. There are good arguments on both sides.

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INFANTILE SPLENIC ANEMIA AND KALA-AZAR

Among the affections whose etiology is still more or less obscure, the so-called blood diseases occupy a prominent place. It has long been acknowledged that some of these which we now consider as entities may in reality consist of a group of distinct diseases, closely resembling each other clinically, but independent in causation. One such instance, indeed, is well known—that of infection with *Bothriocephalus latus* and its resulting anemia, distinguishable from "primary" pernicious anemia only by the presence of the parasite. Another somewhat similar instance has apparently been brought to light by a group of Italian investigators, in the splenic anemias of childhood. These may be differentiated clinically into a febrile and afebrile type; and in the former, at least as found in the Mediterranean valley, a parasite has been demonstrated with remarkable constancy. In 1905, Pianese first announced the finding, in various organs of patients with this disease, of organisms morphologically indistinguishable from the Leishman-Donovan bodies of kala-azar. Since then various investigators have amply confirmed this, and an inspection of the accumulated data as given in a recent article by Jemma and Di Christina,[1] leaves little doubt as to the accuracy of their conclusions. Strangely enough, the cases so far reported are limited to a rather narrow geographic environment—Sicily, the Liparic Islands, Calabria, Tunis and Malta; one case has recently been found in Lisbon. That the real distribution will finally prove to be so restricted is of course improbable; with wider dissemination of knowledge concerning the disease, a much wider range is to be expected, more especially as the two affections most likely to be confused with it, malaria and Malta fever, infest much the same districts. The peculiar form of infantile splenic anemia with fever, known as *ponos,* which is endemic in the two small islands of Spezzia and Hydra near the Peloponnesus, is clinically indistinguishable from this infection and proper investigation will very probably prove their identity.

Clinically, the disease is distinguished by splenic enlargement, anemia and irregular fever, and less characteristically by gastro-enteric disturbance, usually diarrhea, enlargement of the liver, in some cases hemorrhages from the mucous membranes and under the skin, and edema of the feet and ankles. The splenic swelling is very hard and may extend across the abdomen. The anemia may be quite marked and is characterized by a peculiar waxy pallor, though at times the skin may be earth-colored or subicteric. The color-index seldom varies much from unity; nucleated red cells are absent or very rare. Leukopenia, with predominance of mononuclear cells, seems to be the rule, though at times leukocytosis occurs. The fever is almost typical, inasmuch as there may be several exacerbations and remissions in the course of a single day. The disease, as a rule, runs a chronic course, lasting over months or years, and is subject to marked remissions, when fever is absent and the general condition improves temporarily. Although, as its name indicates, it was at first believed to be limited to infancy, recent cases have been reported in adolescence and early manhood. The ultimate diagnosis rests, of course, on finding the parasites, most conveniently as a rule by splenic puncture; their presence in the peripheral blood is disputed and is at best very rare.

As in the case of kala-azar, little or nothing is known of the contributing etiologic factors. Its sporadic occurrence, in neighborhoods apparently free from previous cases, precludes the idea of direct contact infection; and this, in connection with the protozoan character of the parasite, has directed attention to the possibility of intermediate animal hosts. The great majority of cases have come from among the poorer classes, mostly peasants and fishermen, all of whom are possessors of large numbers of dogs. Investigation of spontaneous infection of these has led to diverse results. In Tunis four of 253 animals were found infected, while in Palermo, like Tunis a site of the disease, none were found in 300 investigated. On the other hand, in Rome, where no human cases have hitherto been reported, sixteen of sixty dogs gave positive results. In regard to the possibility of an insect carrier, Patton's work on kala-azar, in which he found the Leishman-Donovan bodies infecting the bedbug, is of interest.

The identity of this type of splenic anemia with kala-azar is still a matter of dispute, which probably will not be settled until our knowledge of the parasites is considerably increased. In favor of the acceptation of a common organism for the two infections are the following points: first, the identity in morphology and distribution in the host of the parasites; second, the similar pathologic changes—splenic and hepatic enlargement, alterations in the bone-marrow, and intestinal ulceration; third, the chronic course, extending in both over months. On the other hand, the organism of the Mediterranean disease has been cultivated by one observer to indefinite generations on the Novy-MacNeal medium, while that of kala-azar has been so far grown only on citrated blood and for not over three generations. The Mediterranean organism has been inoculated into dogs, though, it is true, with some difficulty. Attempts to inoculate these animals with the organism of kala-azar have so far been unsuccessful, nor have any cases of spontaneous infection been found in some 1,000 dogs investigated. And finally, the almost complete limitation of the Mediterranean infection to childhood, and the occurrence of kala-azar at all ages, might argue against their identity.

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[1] Jemma and Di Christina: Centralbl. f. Bakteriol., u. Parasitenk., 1911, lix, 109

It is not likely that any considerable number of cases will ever be found in the United States, where climatic and hygienic conditions are so different. Sporadic cases may quite possibly occur, however, and it behooves our American practitioners, particularly those whose work leads them much among the Italians, to be on the alert for them.

CIVILIZATION AND THE TROPICS

It has long been a matter of popular belief that tropical or subtropical regions are unsuited to the higher developments of civilization, and that the whip of more rigorous conditions is needed to awaken the sleeping elements of progress in man. The present-day distribution of civilization would seem to support this view. With few exceptions our most progressive communities are located in temperate regions; and, at least until recently, any invasions of the tropical and semitropical zones by representatives of our northern civilization have either suffered rapid decline, or have been kept vigorous only by constant reinforcement from their source.

It would seem that this superiority of the colder latitudes as a place for human development has not always existed. Almost without exception, the parent sources of human progress, so far as one can trace them, have been in tropical or at least in subtropical countries. Mesopotamia in Asia, Egypt in Africa, the eastern Mediterranean valley in Europe—all represent sites of apparently original civilizations, and are located well within the warmer zones. So, too, our indigenous American civilizations have been located wholly in the warmer latitudes of the continent. The mysterious relics of Central America and Mexico on the one hand, and of Peru on the other, are so situated. It is true that in this latter case the altitude is such as to change climatic conditions; but there is evidence to show that marked elevation has taken place here comparatively recently, and that the more ancient remains in this region actually antedate this elevation.

If, then, the tropics, originally the source of human culture, have been incapable of maintaining it, some change in condition must be responsible. One probable explanation, in view of recent experience, lies in the spreading of the peculiarly tropical diseases, due to the increased exchange of people and products so characteristic of later years. The decline of Greece and Rome has been ascribed to the introduction of malaria along with African slaves, and in our own continent we have an even better-established instance of this sort. Torquemada, speaking of Yucatan, itself a site of prehistoric American civilization, says: "Men die of pure old age, for there are none of those infirmities that exist in other lands; and if there are slight infirmities, the heat destroys them and so there is no need of a physician there." But with the coming of the white man and negro and their alien diseases, conditions changed until southern Mexico and Central America became notorious as hotbeds of tropical fevers.

With progress in sanitary science, this position of the warmer latitudes promises to undergo another alteration. Already in Cuba and Panama the possibility of mastery over these diseases has been shown, and it is only a matter of time until the methods and results attained there have a world-wide application. When this has occurred, will the warmer latitudes resume their old relationship as forcing-beds of human progress, or will they retain their present minor importance? It may well be, even with elimination of special disease, that the warmer climate will be unsuited to the white man, with his centuries of habituation to a colder sun. In that case, will our darker-skinned brother, free from the handicap of disease, take up the torch in his turn again? The problem has its philosophical as well as practical interest, and on the manner of its solution will depend in large measure the fate and character of future man.

THE PURITY OF ANESTHETICS

While pharmaceutical chemists work untiringly in attempting to discover new compounds that may be of use in medicine, there seems to be a disinclination to study those already discovered with a view to improving their quality. At least, those chemists who could render most efficient service are but rarely attracted by such work. The result is that studies on the purity of drugs in common use are usually left to those who are commercially interested in them or to the overworked federal or state authorities who, as best they can, safeguard the health of the people by watching for the grosser adulterations.

But many drugs and medicines are sorely in need of a careful scientific study, both as to their purity and as to the effects of various impurities on their medicinal action. The painstaking investigations which these drugs require might well attract the scientific workers in universities. The composition of anesthetics—drugs in which small amounts of impurities may have serious effects—is an illustration. We have previously called attention to the valuable service rendered by the Council on Pharmacy and Chemistry, when it secured the investigation of commercial brands of compressed oxygen.[1] In the Propaganda for Reform department of this issue, the Council gives the results of an examination of commercial nitrous oxid, by Professor Smith of the Lewis Institute.

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[1] Smith, W. R., and Leman, E. D.: THE JOURNAL A. M. A., March 18, 1911.

In this connection, attention should also be called to similar work that is being independently pursued by Professor Baskerville of the College of the City of New York. Professor Baskerville is making an exhaustive study of the purity of oxygen and of anesthetics—a piece of work which should do much to increase our knowledge of anesthesia, and which should materially lessen the accidental deaths arising therefrom. So far he has published reports on ether, oxygen and nitrous oxid, and it is interesting to note that his findings and the tests for purity which he proposes for compressed oxygen and liquid nitrous oxid,[2] are in close accord with the findings of Professor Smith and the standards adopted by the Council on Pharmacy and Chemistry of the American Medical Association. Let us hope that other investigators may realize that a reinvestigation of many old subjects is well worthy of their attention and perhaps of vastly more importance to public welfare than the ceaseless search for new substances.

Current Comment

TEXAS DECISION ON "UNPROFESSIONAL CONDUCT"

In another department[3] appears an abstract of the decision of the Court of Civil Appeals of Texas, affirming the action of the State Board of Medical Examiners revoking the license of J. Lafayette Berry. According to the evidence in the case, Berry advertised himself as a physician especially skilled in the treatment and cure of gall-stones. To those confiding persons who paid him in advance as much as they were able to secure he administered olive oil and epsom salts, thereby converting these persons into perambulating soap factories, guaranteed to produce large quantities of "gall-stones" on short notice. This fraud has already been exposed in The Journal.[4] The court held that such methods were "grossly unprofessional and dishonorable, and of a character likely to deceive and defraud the public," that the board was warranted in revoking Berry's license and that the lower courts were right in sustaining the action of the board. The attorneys for the defense pleaded that the law did not define unprofessional and dishonorable conduct; that representatives of other "schools" of medicine than the defendant were not competent to testify against him and that violation of the "code of ethics" of the medical profession was not a crime in Texas. The court, however, made short work of these pleas, saying, "His [Berry's] testimony alone was sufficient to justify the jury in finding that his treatment was a fraud and that he knew it and also knew that the material passed by his patients which he pronounced gall-stones was not actually gall-stones. . . . When the unprofessional conduct of a member of the medical profession is of such a character as to deceive and defraud the public then the law denounces such conduct and strips the offender of the means which makes it possible to impose on the credulous and unwary." J. Lafayette Berry has, we are informed, disappeared from Texas since his conviction. We do not know in what state he will resume the wholesale soap business, but we respectfully commend him to the tender care of the various state boards of medical examiners, feeling sure that sooner or later J. Lafayette will once more yield to a desire to relieve his victims of "gall-stones" (and cash). Should he at any time put in an appearance some interesting facts regarding his professional history may be secured from the attorney for the Texas State Board of Medical Examiners.

A TRUST WHICH DESERVES ENCOURAGEMENT

In a recent speech in the United States Senate, Hon. Robert L. Owen of Oklahoma, in an argument for a national Department of Health, said, after reading the recent editorials of *Collier's Weekly* into the record: "Mr. President, the American Medical Association has published at great length scientific and careful analyses of most of the nostrums and patent medicine frauds of this country. They have given wide publicity to it and in that way they have excited the violent animosity and hostility of the patent medicine people so that the declaration is made by them that the medical profession comprises a trust. In point of fact, if the American Medical Association forms a trust and if they are concerned in establishing a Department of Health with a view to preventing sickness, which would be the purpose of the Department of Health, they would be engaged in tearing down their own business; they would be engaged in depriving themselves of their patients from whom they make their living. It would be the only trust in existence which is concerned in diminishing its own revenues and destroying its own financial foundation. Such a trust as that is a very noble trust and one that deserves encouragement." It might also be of interest to our readers to know that when Senator Owen asked permission to insert the *Collier* editorials in the record, Senator Gallinger of New Hampshire was the only member of the senate who objected. Senator Gallinger is also the only member of the United States Senate who claims a medical degree.

THE PROGRESS OF CREMATION

Cremation in the present-day manner seems to have had its inception in 1866. There are now about eighty crematories in Europe; twenty-two are in Germany, seven in Switzerland, and thirty in Italy. About 13,000 bodies were cremated in Europe during 1909. Many Americans have died in Europe, whose bodies have been cremated, the ashes having been sent to their American homes for inurning or burial. In 1874 the Cremation Society of England was founded, Sir William Thompson being made its first president. There are now at least thirteen crematory furnaces in England in which, during 1909, more than 800 bodies were burned. Cremation is thus a legal procedure in that country. In the United States 13,012 cremations were recorded between the years 1876 and 1900. The number of crematories is steadily increasing; it is not rare to see among the tombs in cemeteries, columbaria, where the ashes of other dead are inurned. In Boston the idea of substituting crematories for potter's fields has long been agitated; this might well be done in all large cities, with obvious advantages and with no essential disadvantage of any kind whatever. At quarantine in New York harbor the bodies of immigrants who have died of infections are (in accordance with the statutes) burned on Swinburne Island in the lower bay; though this is not done if the relatives have religious scruples against cremation. In New York state a person may direct what is to be done with his body, provided the disposal be consistent with propriety and decency. And such is no doubt the prevailing sentiment and legal status of the matter in American communities.

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[2] Jour. Industr. and Eng. Chem., July and August, 1911, pp. 471 and 579.

[3] Medicolegal Department, p. 582.

[4] Fruitola, The Journal A. M. A., Sept. 24, 1910, p. 1128; also April 16, 1910, p. 1314.

Medical News

CALIFORNIA

A New Case of Plague.—A case of bubonic plague, said to have been transmitted by ground squirrels, is reported from Contra Costa County. The patient, 7 years of age, is reported to have died July 26, after having been scratched and bitten by a ground squirrel.

Changes in Stanford Faculty.—The following appointments have been made in the Medical Department of Leland Stanford Jr. University: Dr. Thomas Addis, Carnegie Research scholar, F.R.C.P., Edinburgh, assistant professor of medicine, to have charge of the work in clinical chemistry; Dr. James Eaves of Edinburgh and Guy's Hospital, London, instructor in surgery, to have charge of surgical pathology; Drs. George Lyman, W. H. Banks, William R. P. Clark, Walter Schaller and W. H. P. Luttrell, assistants in the medical dispensary, and Drs. W. Winterberg and Isaac Walton Thorne, assistants in the surgical dispensary. Provision has also been made for the appointment of an academic professor of obstetrics and gynecology.

Personal.—Dr. Fred Baker, San Diego, who went to Brazil as physician of the Leland Stanford Jr. university expedition, expects to return by the way of Panama, next month.——Dr. Phil. Abbott, Piedmont, has returned from Europe.——A bomb was exploded on the front porch of the home of Dr. Charles A. Davis, Pasadena, July 16.——Dr. William V. Brem has accepted the chair of pathology in the University of California, Los Angeles, and will open a clinical laboratory in connection with Dr. Avrum H. Zeiler.——Dr. P. S. Goodmann, Sutter Creek, is recovering slowly from burns sustained a few days ago when his sanatorium was burned.——Dr. John Wesley Trueworthy is reported to be critically ill at his home in Los Angeles.

COLORADO

Church Opens Hospital.—The Methodist Church of Colorado Springs has rebuilt and opened Bethel Hospital at a cost of $25,000.

Opium Smuggled.—Custom officers report that large quantities of opium are being smuggled into Pueblo, Colorado Springs and Denver by proprietors of opium dens. In a raid lately made by the Denver police, 125 pounds of opium was found and confiscated.

Personal.—Dr. and Mrs. Edward Jackson, Denver, are spending the summer in Great Britain.——Dr. Perry F. Perdue, Sterling, who was recently operated on for appendicitis, is convalescent.——Dr. Lewis E. Lemen and Dr. Josiah N. Hall, Denver, and Dr. Vivian Russell Pennock, Longmont, have resigned from the State Board of Health.

GEORGIA

University of Georgia to Assume Control of the Medical School at Augusta.—The bill authorizing the University of Georgia to take over and assume full control of the Medical College of Georgia, Augusta, was passed by the Georgia legislature and has been signed by the governor. This will mean extensive improvements in the medical school at Augusta.

IOWA

Health Train for Iowa.—The State Board of Health is planning to equip a state health train which will commence a thorough propaganda on the lines initiated by Louisiana. The chief purpose will be to bring into the home knowledge of more sanitary methods of living, to give practical everyday health hints for the home, and to spread the antituberculosis campaign.

Personal.—Dr. David Carson, Council Bluffs, has been elected secretary of the Council Bluffs Medical Association, vice Dr. John Frederick Sprink, deceased.——Dr. John H. Crippen, Waterloo, is reported to be critically ill at his home.

KANSAS

State Board Elects.—At the June meeting of the Kansas State Board of Medical Examiners, Dr. Albert S. Ross, Sabetha, was elected president and Dr. Henry A. Dykes, Lebanon, secretary.

Personal.—Dr. Samuel M. Myers, Potter, is reported to be seriously ill as the result of an automobile accident in Easton, July 26.——Dr. Willard A. Phares, Wichita, has returned after a year abroad.——Dr. William T. McKay, Arkansas City, for several years physician to the Chilocco Indian School, has resigned.

Does Not Approve Madstone.—At the request of Dr. Samuel J. Crumbine, secretary of the State Board of Health, the attorney general has ordered the arrest of the owner of a madstone in Hutchinson, if he endeavors to use it in an effort to cure a boy who was bitten by a dog in Winfield a few days ago. The county authorities have been instructed to find the boy and have him sent to the State University Hospital, Rosedale, where Pasteur treatment will be administered.

MARYLAND

Baltimore

New Laboratory Building.—A three-story building will be erected in the rear of the Baltimore Medical College, 22 by 68 feet, and at a cost of $3,000, to be used for laboratories.

Personal.—Dr. G. Halstead Boyland, who is now traveling in Europe, sails for home, August 16.——Dr. Christian Deetjen, who recently underwent an operation for prevention of cancer of the skin due to exposure to *x*-rays, is reported to have recovered.——Dr. Thomas C. Bussey, Texas, Baltimore County, is reported to be critically ill on account of a cerebral hemorrhage.——Bishop Luther B. Wilson, M.D., who has been seriously ill with fever contracted in Portuguese East Africa, is reported to be convalescent.

Corrections.—Attention has been called to three errors in the news from Maryland: In the item "Portrait of Old Physician," Dr. William J. Todd, Mount Washington, is the chairman of the committee, and not Dr. William Tarun of Baltimore, as stated on page 401 of THE JOURNAL of July 29, and the name of the society should be "Baltimore County Society" and not "Baltimore Medical Society."——In THE JOURNAL of August 5, page 488, the item entitled "Fund Raised for Pathology" states Dr. John Randolph Winslow as the one through whose efforts a large sum of money was added to the maintenance fund. The credit of this work should be given to Dr. Randolph Winslow.

MICHIGAN

Upper Peninsula Physicians Meet.—At the annual meeting of the Upper Peninsula Medical Society, held in Escanaba, July 27-28, the following officers were elected: president, Dr. Charles L. Girard, Escanaba; vice-presidents, Drs. Edward Sawbridge, Stevenson, and Alfred W. Hornbogen, Marquette, and secretary, Dr. Calvin R. Elwood, Menominee. Menominee was selected as the next place of meeting.

New County Societies.—The physicians of Cheboygan met July 25, and organized the Cheboygan County Medical Society. The following officers were elected: president, Dr. Wilbur F. Reed; vice-president, Dr. Willis E. Chapman, and secretary-treasurer, Dr. Charles B. Tweedale, all of Cheboygan.——Alpena County Medical Society has been reorganized with the following officers: president, Dr. James D. Dunlop; vice-president, Dr. Edward E. McKnight, and secretary-treasurer, Dr. Clarence M. Williams, all of Alpena.

MISSOURI

Personal.—Dr. Norman F. Terry has been elected president; Dr. Theodore A. Coffelt, vice-president; Dr. Robert L. Pipkin, secretary, and Dr. Lee Cox, treasurer, of the Springfield Hospital Association.——Dr. and Mrs. Joseph J. Carter, Weston, have gone abroad.

Changes in State Hospital Staff.—The board of managers of State Hospital No. 4, Farmington, has elected Drs. William S. Hutton, Fornfelt, and John A. Tiller, Bloomfield, assistant physicians at the institute, vice Drs. Henry Lloyd and F. S. Weber.——Dr. James A. Waterman, head physician of the State Penitentiary, Jefferson City, has been elected superintendent of State Hospital No. 4, Farmington, vice Dr. Robert S. McGee, Green City, appointed assistant superintendent of State Hospital No. 1, Fulton.

Medical Staff Assigned.—At the regular meeting of the board of control of Levering Hospital, Hannibal, the following assignments for the year were made: physician in charge, Dr. John N. Baskett; attending surgeon, Dr. Thomas Chowning; consulting surgeons, Drs. Henry L. Banks and Charles E. Paxon; attending physician, Dr. Elmer E. Waldo; consulting physicians, Drs. John J. Farrell and W. Cloyd Guss; attending gynecologist, Dr. William H. Hayes; consulting gynecologists, Drs. Isaac E. Hill and Richard M. Winn; attending obstetrician and pediatrist, Dr. John J. Farrell; consulting obstetricians and pediatrists, Drs. William H. Hays and Thomas C. Procter; attending genito-urinary surgeon, Dr. Richard Schmidt; consulting genito-urinary surgeons, Drs. James F. Cooper and W. Cloyd Guss; pathologist, Dr. Mary S. Ross; attending oculist and aurist, Dr. James S. Howell; consulting oculists and aurists, Drs. Edward T. Hornback and Ulysses S. Smith, and roentgenologist, Dr. Isaac E. Hill.

St. Louis

Medical Reserve Corps Organized.—The officers of the Medical Reserve Corps, U. S. Army, located in St. Louis, met July 12, and organized the St. Louis Society, Medical Reserve Corps U. S. Army, adopted a constitution and by-laws and elected the following officers: president, Lieut. Harvey G. Mudd; vice-president, Lieut. Walter C. G. Kirchner; secretary-treasurer, Lieut. William H. Luedde, and executive committee, Lieuts. William A. Hardaway, Amand N. Ravold and Frederick C. E. Kuhlmann. At a special meeting of the society held at Jefferson Barracks, July 12, Lieut.-Col. Jefferson R. Kean, M.C., U. S. Army, outlined the history of the development of the Medical Reserve Corps, and detailed its purposes and functions.

MONTANA

Personal.—Dr. W. A. Halbush, Cut Bank, has been appointed local surgeon of the Great Northern System.——Dr. John McIntyre, Butte, was seriously injured recently by being thrown from his carriage.——Dr. Albert F. Longeway, Great Falls, has been elected vice-president of the University Club. ——Dr. J. Rudolph E. Sievers and family, Butte, are spending the summer abroad.

NEBRASKA

Personal.—Dr. William D. Gibbon, Lorton, was seriously injured in an automobile accident, July 13.——Dr. Leo A. Dermody, Omaha, was operated on for appendicitis, July 25.

New Officers for Board of Secretaries.—The Board of Secretaries of the State Board of Health has reorganized with the following officers: president, Dr. Herschell B. Cummins, Seward; vice-president, Dr. E. Arthur Carr, Lincoln; secretary, Dr. Clifford P. Fall, Beatrice, and treasurer, Dr. Porter F. Dodson, Wilber.

Quarterly Meeting of County Society.—At the third quarterly county meeting of the Dawson County Medical Society, held at Cozad, June 30, the address of the evening was given by Dr. Harry M. McClanahan, Omaha, who spoke on "Summer Diseases of Children." The next meeting will be held at Cozad in October.

State Sanatorium Purchased.—The Grothan Sanatorium, Kearney, known as Elmwood Place, has been purchased by the state as a tuberculosis sanatorium for $24,000. The remainder of the appropriation of $40,000 will be used for the necessary remodeling and improvements. An appropriation of $10,000 has also been made by the legislature for maintenance.

NEW YORK

Gift to Hospital.—Mrs. Harriet M. Biglow has given $1,000 to be added to the endowment fund of the Corning Hospital. This institution now has an endowment fund of $37,000.

Food Commission Appointed.—Governor Dix has appointed a New York Food Investigating Committee. In addition to a number of lay members Dr. Eugene Porter, State Health Commissioner; R. A. Pierson, State Commissioner of Agriculture; Dean Bailey, Director of the State College of Agriculture, and Whitman H. Jordan, Director of the New York State Agricultural Experiment Station, have been appointed to serve. All members are to serve without compensation and are authorized to inquire into the purity, prices, production, distribution and consumption of foodstuffs and farm and dairy products and to recommend remedial legislation next year.

New York City

Personal.—Dr. Hubbard W. Mitchell and Dr. and Mrs. Livingston Farrand have sailed for Europe.——Dr. George Gibier Rambaud was seriously injured in an automobile accident near Poughkeepsie on August 2.

Danger from Cholera Passed.—There were on August 5 only three cases of cholera remaining on Swinburne Island, while two weeks earlier there were eighteen cases. During this time fifteen patients have been discharged as cured. The Health Officer of the Port, Dr. Doty, expresses the belief that the danger of a cholera invasion is at a minimum.

Fewest Deaths in Thirteen Years.—The mortality for the week ended July 29 is the lowest, for a corresponding week, reported since 1898, being 14.10 per 1,000 and is 23 per cent. less than for the corresponding week of last year. The decrease occurred in all age groups. The deaths of infants numbered 375 as compared with 575 for the corresponding week of last year.

NORTH DAKOTA

Begin Work on Sanatorium.—The board of trustees of the state tuberculosis sanatorium, to be located at Dunseith, met July 19 and decided on plans for the building which is to cost $25,000, and which will be erected as soon as practicable. The building will be 42 by 50 feet, and two stories and a basement in height. In addition a cottage to cost about $3,000 will be erected, containing outdoor sleeping-rooms for patients.

New Examining Board.—The governor has named the following physicians as members of the State Board of Medical Examiners, following the recommendations of the North Dakota State Medical Association: Drs. Henry G. Woutat, Grand Forks; Arthur G. Patterson, Lisbon, and Francis R. Smyth, Bismarck, for one year; Drs. Albert W. Skelsey, Fargo; Francis Peake, Jamestown, and George M. Williamson, Grand Forks, for two years; and Drs. Paul Sorkness, Fargo; Alexander J. McCannel, Minot, and John E. Countryman, Grafton, for three years.

OKLAHOMA

Personal.—Dr. John W. Riley has resigned from the health board of Oklahoma City.——The office of Dr. Daniel David Roberts, Nashville, was burned in a fire which caused a loss of $15,000 to that village recently.——Drs. Richard Stephen McCabe and George Hunter, Oklahoma City, have been appointed assistant city physicians of Oklahoma City, vice Drs. Joseph T. Martin and Robert Elmore Looney.——Dr. Albert R. Hughes, Indiahoma, has given up the practice of medicine to return to his former profession of the law.

OREGON

New Nurses' Home.—The site for the nurses' home at the Multnomah Hospital, Portland, has been selected. The building will be on ground owned by the county and will cost $13,340.

Personal.—The ranch home of Dr. George Calvin Skinner, Hamilton, O., at Hood River, Ore., was burned to the ground, July 27.——Drs. Andrew C. Smith, Rupert J. Chipman and George Burnside Story have been reappointed members of the Portland Board of Health and Dr. Glenn W. Wheeler has been retained as health officer.

PENNSYLVANIA

Anti-Spitting Law Observed.—State Health Commissioner Dixon notes with satisfaction that in the stations of the state the railway platforms are perfectly clean and free from spit, showing that the railway companies are enforcing the state anti-spitting law and the people also are observing it.

Personal.—Dr. James M. Torrence, Indiana, is reported to be seriously ill with appendicitis.——Dr. Evan J. Groom, Bristol, was thrown from his carriage in a collision with an automobile and was seriously injured.——Dr. David Nathan, Norriston, had a narrow escape from drowning in Perkiomen Lake, July 26.

Governor Appoints Trustees.—Governor Tener has appointed the following as trustees of the State Institution for the Feeble-Minded of Eastern Pennsylvania: Dr. Joseph Kerr Weaver, Norristown; John B. Lober, Philadelphia; John P. Crozier, Upland; Henry F. Walton, Philadelphia, and Dr. U. G. Gifford, London Grove.

Honors to State Board President.—The honorary degree of Doctor of Science was conferred on Dr. Henry Beates, Jr., Philadelphia, for many years president of the board of medical examiners of the state, by Washington and Jefferson College. ——At a meeting of the board of medical examiners, held July 28, at Atlantic City, N. J., resolutions were adopted setting forth the regret with which the board noted the resignation of Dr. Beates, wishing him a long and honorable career and hoping that he may be able to see his high ideals fully realized.

Philadelphia

Bequest.—The will of the late Phoebe Woodward devises that $5,000 be placed in trust and the income paid to a sister during her life and at her death, the principal be given to the Episcopal Hospital for the endowment of a free bed in the name of David and Phoebe Woodward.

Typhoid Outbreak Not Alarming.—Although forty-six cases of typhoid fever were reported to the Health Bureau during the week ended August 5, Dr. Andrew A. Cairns, Philadelphia, chief medical inspector, says that there is no cause for alarm as an increased number of cases is always looked for at this time of year when vacationists return to the city.

Reports on Sane Fourth.—At the meeting of the Citizen's Committee held at City Hall on July 27, it was announced that, as a result of the movement for a Sane Fourth, there were but four cases of tetanus from firecracker injuries this year, none of which was fatal. A resolution was unanimously adopted for a permanent citizens' committee to arrange Independence Day celebrations.

Personal.—The following physicians have sailed for Europe: Drs. John Norman Henry, Frederick P. Henry, John McLernon, Albert C. Sautter, James M. Anders, L. Webster Fox, George E. de Schweinitz and Irwin A. Fries.——Governor Tener has appointed Dr. Edgar F. Smith, Provost of the University of Pennsylvania, representative of Pennsylvania at the International Congress of Applied Chemistry in Washington and New York, September, 1912.

Local Druggists' Association Want Wiley.—At the meeting of the Philadelphia Association of Retail Druggists, held on August 4, a resolution was adopted urging President Taft to retain Dr. Harvey W. Wiley, chief chemist of the United States Department of Agriculture, in his present position. During the meeting, Christopher Koch said that another crusade would be started in this city against the sale of opium, morphin and cocain. The State Pharmaceutical Board has been collecting evidence against the alleged sale of the drugs and is following out clues.

RHODE ISLAND

Bequest.—By the will of the late Oliver Henry Arnold, Providence, Brown University received a bequest of $85,000.

Medicolegal Society Organized.—The Medicolegal Society of Rhode Island, composed of lawyers, physicians, coroners and others interested in medical jurisprudence, was organized in Providence, July 20. Judge Benjamin M. Grim, Cranston, was elected president, Hon. Daniel S. Latham, vice-president, and Dr. Carle R. Doten, secretary-treasurer, all of Providence.

District Meeting.—At the annual meeting of the Woonsocket District Medical Society the following officers were elected: President, Dr. William Francis Barry, Woonsocket; vice-president, Dr. Joseph T. Roswell, Woonsocket; secretary, Dr. Joseph Edgar Tanguay, Woonsocket; treasurer, Dr. George R. Smith, Woonsocket; councilor, Dr. John J. Baxter, Woonsocket; delegate to the state society, Dr. James A. King, and censors, Drs. Edgar F. Hamlin, Slatersville, and Joseph H. Boucher and Edward N. Kingsbury, Woonsocket.

SOUTH CAROLINA

Secretaries Elect.—At the annual meeting of the Association of Secretaries of County Medical Societies, Dr. Claude Clinkscales Gambrell, Abbeville, was elected president, and Dr. L. Rosa H. Gantt, Spartanburg, secretary.

Alumni Election.—At the reunion of the graduates of the class of 1901 of the Medical College of the State of South Carolina, Dr. L. Elliott Bull, Cheraw, was elected president; Dr. David M. Michaut, Dillon, vice-president, and Dr. George McFarland Mood, Charleston, secretary-treasurer.

Personal.—Dr. Robert T. Jennings, McCormick, has succeeded Dr. Frank W. P. Butler, resigned, as physician to the state penitentiary, Columbia.——Dr. W. T. Breeland, Allendale, suffered painful injury by being knocked down by his horse, July 23.——Dr. James Adam Hayne, Greenville, has succeeded Dr. Charles Frederick Williams, Columbia, resigned, as State Health Officer and secretary of the State Board of Health.——Dr. Williams has started for Europe.——Drs. Walter Cheyne and Charles P. Osteen have been appointed members of the Sumter Committee on Health and Sanitation.

SOUTH DAKOTA

State Board Elects.—The state medical examining board held its annual meeting at Mitchell last month and elected the following officers: Dr. Frank S. Howe, Deadwood, president; Joseph Mark Walsh, Fort Pierre, vice-president, and Dr. Leslie Grant Hill, Watertown, secretary. The next meeting of the board will be held at Huron in December.

Personal.—Dr. James E. Miller, governor and chief physician of the Battle Mountain Sanitarium, Hot Springs, has been appointed inspector-general of the National Homes for Disabled Volunteer Soldiers and also of the various state homes.——Dr. E. E. Carle, Roseland, has been operated on recently for injuries sustained in an automobile accident and is believed to be out of danger.

TENNESSEE

Society Reorganized.—The Henderson County Medical Society was reorganized recently at Lexington and the following officers were elected: president, Dr. William B. Keeton, Scott's Hill; vice-presidents, Drs. S. T. Parker, Lexington, and Elmer E. Waller, Juno, and secretary-treasurer, Dr. William F. Huntsman, Juno.

Milk Dispensary Opened.—The Memphis Free Milk Dispensary for Babies was opened August 1, at 215 Market Street. Free milk is supplied to babies whose parents are unable to pay for it and to families who are able to pay the milk will be sold practically at cost. The milk used by the dispensary comes from a farm which agrees to furnish milk certified to be standard.

Personal.—Dr. William Krauss, Memphis, has been appointed by the State Board of Health to investigate pellagra in West Tennessee and Dr. J. C. Brooks, Chattanooga, has been placed in charge of this work in East Tennessee.——Dr. Harry D. Miller has succeeded Dr. Daniel Trigg as city physician of Johnson City.——A portrait of Dr. Henry Berlin, Chattanooga, has been presented by a number of women of that city to the Erlanger Hospital.

TEXAS

No Welcome for Lepers.—Dr. Ralph Steiner, Austin, state health officer, has made a supplemental report to the members of the board chosen to select a site for a state home for lepers. He finds that it is impossible to secure a site on account of the opposition and objection everywhere made, and suggests that the thirty lepers in the state might be cared for by the federal government in one of its four or five institutions.

Personal.—Dr. Isaac P. Poyner, Palestine, has been seriously ill as the result of an overdose of headache powder.——Dr. Christopher C. Rutherford, McDade, was seriously injured by a fall, at the home of his son in Yoakum, July 16.——Dr. John N. Howell, Cisco, suffered a loss of $3,000 by a fire which destroyed his library and surgical instruments, July 7.——Dr. Edward H. Schwob, Yoakum, fractured two ribs and sustained other injuries in a street-car accident in New York City, recently.——A gold-headed cane was presented to Dr. James D. Osborne, Cleburne, retiring president of the State Board of Medical Examiners by his colleagues.——Dr. Marvin B. Grace has been appointed health officer of Seguin.

GENERAL NEWS

Personal.—Dr. Charles E. Ruth, formerly of Keokuk, Iowa, who has been living for three years in Porto Rico on account of his wife's health, announces that she has so far recovered that they will return about October 1 and he will resume practice in town.——The degree of master of arts was recently conferred on Captain Henry D. Thomason, M. C., United States Army, by the Pennsylvania Military College.

Sioux Valley Physicians Hold Meeting.—At the annual meeting of the Sioux Valley Medical Association, held at Sioux Falls, S. Dak., July 20, the following officers were elected: president, Dr. John Edward Garver, Sioux City, Iowa; vice-presidents, Drs. Gilbert Geoffrey Cottam, Sioux Falls, S. Dak., and Charles O. Wright, Luverne, Minn.; secretary, Dr. George Stillman Browning, Sioux City, Iowa, and censors, Drs. Gilbert Geoffrey Cottam, Sioux Falls, S. Dak., Philip Benedict McLaughlin, Sioux City, Iowa, Arthur E. Cook, Randolph, Neb., and Alfred E. Spalding, Luverne, Minn. The next meeting will be held in Sioux City, Iowa.

Meeting of Atlantic Coast Surgeons.—At the seventh annual meeting of the Atlantic Coast Line Surgeons, held in Norfolk, Va., July 25 and 26, more strenuous sanitary rules for railroad trains and railroad stations were recommended to the railway companies on the lines suggested by Surgeon Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, in his paper on "Railroad Sanitation." The following officers were elected: President, Dr. James M. Parrott, Kinston, N. C.; vice-presidents, Drs. John Elliott Boyd, Jacksonville, Fla., and Micollins N. Stow, Jesup, Ga.; secretary-treasurer, Dr. Charles P. Aimer, Charleston, S. C. (reelected), and executive committee, Drs. George G. Thomas, Wilmington, N. C., Southgate Leigh, Norfolk, Va., E. L. Cox, Jacksonville, N. C., William S. Lynch, Scranton, S. C., John M. Spence, Camilla, Ga., and George Abner Hammond, Dothan, Ala.

CANADA

Fire in Insane Hospital.—Eight lives were lost in a fire which partly destroyed one of the main buildings of the Hamilton Hospital for Criminal Insane, near Hamilton, August 1, 1911.

Hospital for Fire Sufferers.—At a joint meeting in Toronto, of the relief committee, appointed to distribute funds to fire sufferers in the Porcupine fire-swept district, it was decided to use $10,000 of the fund to establish a hospital at Cochrane, Ont.

Mural Tablets Unveiled.—Two mural tablets were recently unveiled in the entrance hall of the Western Hospital, Montreal; the one in memory of Dr. Francis Wayland Campbell, dean and professor of medicine in Bishop's College and a member of the staff of Western Hospital in 1876 until his death in 1905, and the other commemorating Dr. William Henry Drummond, the Habitant poet, who was a pupil and fellow professor of Dr. Campbell, and an enthusiastic supporter of the hospital.

Opening of Sanatorium.—The Laurentian Sanatorium for the treatment and control of tuberculosis which was informally opened at Ste. Agathe, Que., in May, was officially opened June 15, in the presence of a large gathering of physicians and others from all parts of the Dominion and the United States. The building as it stands has cost $150,000, of which Mr. D. Lorne McGibbon contributed $50,000 and other members of the Laurentian Society $25,000. Dr. Roddick Byer is medical superintendent of the institution.

LONDON LETTER

(From Our Regular Correspondent)

London, July 22, 1911.

Spiritual Healing

In January, 1909, a subcommittee of the British Medical Association consisting of general practitioners, physicians, neurologists and alienists was appointed to investigate the subject of "spiritual healing." Previously, a meeting of clergy and laymen had asked the Bishop of London to form a central church council in the diocese of London for the consideration of questions connected with healing by spiritual means. This led to the conclusion that the subject was of sufficient importance for consideration by the profession. After a study of some literature on the subject the subcommittee had some difficulty in deciding on a clear definition of the meaning attached to the term "spiritual healing" by those who used it. Accordingly a letter was sent to a number of well-known ecclesiastics, including the Archbishop of Canterbury, the Bishop of London, the Dean of Westminster, the Rev. Percy Dearmer (author of "Body and Soul") and others interested in the subject. These gentlemen were asked to assist in clearing up the confusion which existed in connection with the use of the terms "spiritual healing," "faith healing" and "psychic healing." Many long and detailed replies showing a great wish to assist the subcommittee were received. Nevertheless, it cannot be said that these eminent persons threw much light on the subject. They experienced great difficulty in defining the difference between these terms, and none of their utterances added anything to what is generally known. They largely consisted of commonplaces on the influence of mind on body. The subcommittee found great difficulty in obtaining cases for investigation, as those who had written on the subject would not put them in touch with patients treated. The only cases seen were provided by the Emmanuel Society. Ten patients were examined and the diagnosis verified by reference to the records of previous medical advisers, but opportunities for subsequent examination were given in only three cases. It was found that the *modus operandi* in spiritual healing consists in the laying on of hands and praying by the "healer," in surroundings of a more or less impressive character. After carefully considering the various definitions submitted, the subcommittee found that there is no difference in kind between "spiritual healing," "faith healing," "mental healing" and "psychic healing." All these forms seemed to depend for their effect on mental suggestion. There was no evidence to bear out the contention of "spiritual healers" that they had a special "gift of healing." Although there was abundant evidence of the efficacy of suggestion in many disorders, there was none of any authenticated cure of organic disease. The subcommittee concludes that the benefits of suggestion can be obtained from physicians, whose training enables them to distinguish the conditions amenable to it and that, for the protection of the public, it is best left in their hands and they deprecate any formal cooperation between physicians and the clergy.

Fatal Anthrax Contracted by a Laboratory Attendant

A man, aged 24, laboratory attendant at University College Hospital, complained of pains in his head but continued at work. On the third day he came to Dr. Thiele, lecturer on bacteriology at the college and in charge of the vaccine department, and showed him a little pimple on the right side of the neck. Dr. Thiele thought it was a scratch but next morning he noticed that it had become enlarged to the size of a shilling and seemed to show signs of anthrax which was proved to be the case on bacteriological examination. The whole of the lesion was immediately removed, the temperature fell, and in a day or two the patient seemed to be out of danger, but the temperature again rose and in spite of serum treatment he died on the tenth day. The source of infection must have been some tube which he had touched in cleaning up after the students, who were working on anthrax bacilli. Probably he then scratched his neck. Dr. Thiele could not say how this happened, unless some of the students had carelessly allowed some of the organisms to get on the outside of the tube and failed to report it, so that the tube might at once have been put in the steam sterilizer.

A Safe and Efficient Antirabic Vaccine

Lieutenant-Colonel Sir David Semple of the Indian medical service has established the fact that an efficient antirabic vaccine can be made from the dead virus. In a recent research recorded in the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India he has shown that animals can be as highly immunized against rabies with a dead as with a living virus. He found that the rabies virus was easily destroyed by heat; a temperature of 50 C. killed a 5 per cent. dilution of fixed virus in fifteen minutes. An 8 per cent. dilution in normal saline was killed by 1 per cent. phenol (carbolic acid) at 37 C. in twenty-four hours. When this fluid is diluted with equal volume of normal saline it becomes a 4 per cent. virus in 0.5 per cent. phenol—a very suitable strength for antirabic treatment and containing sufficient phenol to prevent subsequent contamination. This proved efficient in the protection of dogs, rabbits and monkeys against inoculation of the virus. In some cases the protection was not complete, but in these the animals developed the disease later than controls. In addition to safety, this method possesses the great advantage of convenience over that of using the living virus such as is employed in the Pasteur institutes. This cannot be sent to a distance without the risk of impairing its efficiency. On the other hand, the dead virus can be sent to any place where it is required.

PARIS LETTER

(From Our Regular Correspondent)

Paris, July 21, 1911.

An Interesting Discussion on Spinal Anesthesia

Dr. Forgue, professor of clinical surgery at the Faculté de médecine de Montpellier, recently made a report to the Académie de médecine de Paris on novocain spinal anesthesia. On the basis of 320 patients observed, Dr. Forgue concluded that the procedure deserved to be substituted for general anesthesia in many subdiaphragmatic operations. Strong objections were raised. On July 18, several members of the Académie de médecine spoke on the disadvantages of spinal anesthesia. Professor Reclus, especially, who has been the great promoter of local anesthesia in France, remarked that out of Dr. Forgue's 320 cases two-thirds of the patients might have been operated on after local anesthesia. Moreover, 320 cases formed a very small series on which to base conclusions of such a matter. At least 1,000 or 1,500 cases should be observed, for if Dr. Forgue had had one death in one of his late spinal anesthesias, his statistics would thereby become most unfavorable. It is known that there is hardly one death in two or three thousand cases from general anesthesia. No reliance, therefore, can be placed on a series of less than that number. As for local anesthesia, in 12,000 operations performed by Dr. Reclus and his pupils, there has not been one death. Dr. Reclus asks, moreover, what the effect is on the spinal cord of the patient submitted to spinal anesthesia. Here is an organ, protected by Nature with infinite precautions, into which the most violent poisons are nonchalantly injected. There is all the more reason to protest against this encroachment of spinal on the field of local anesthesia because, with the use of recently discovered chemical substances, such as novocain, epinephrin, local anesthesia now permits operations which formerly were not possible, especially the radical cure of hernias. It may be used even in major operations where general anesthesia is contra-indicated.

Dr. Schwartz, *agrégé* professor at the Faculté de médecine de Paris, was of the same opinion as Dr. Reclus. Spinal anesthesia appeared to him, at best, a method to be used exceptionally. Schwartz had had confidence in it but he renounced it entirely and forever on observing the complications to which it gave rise. His last case was that of a woman who had large lacerations of the perineum with rectocele and cystocele, and who could not be placed under the influence of ether. The case, otherwise, seemed ideal for spinal anesthesia, which Schwartz accordingly used. He injected 0.06 gm. of stovain and 0.002 gm. of strychnin sulphate as low as possible in the inferior extremity of the lumbar region. Operation was performed with extraordinary facility but after the following day paralysis of the legs and the sphincters appeared and four or five days afterward a terrible decubitus acutus against which all measures failed.

The observation of Reclus and Schwartz were supported by Dr. Delorme, medical inspector-general of the army.

Erroneous Information in Regard to the Academy of Medicine

In the *New York Medical Journal*, July 1, 1911, I was surprised to read that "Dr. Léon Labbé, one of the most distinguished surgeons in France, is president of the academy." This information is rather belated, for Dr. Labbé was president of the Académie de medecine in 1909. In 1910, Dr. Dieulafoy was president and this year Professor Lannelongue has passed from the vice-presidency to the presidency, as I mentioned in a previous letter (The Journal, Jan. 14, 1911, p. 130). It is the rule that the vice-president of one year becomes the president for the following year and the presidency lasts only one year.

Personal

The Académie des Sciences has just elected Professor J. Bernstein of Halle-sur-Saale, as correspondent.

Obligatory Report of Acute Anterior Poliomyelitis (Infantile Paralysis)

On July 11, Dr. Netter, *agrégé* professor at the Faculté de médecine de Paris, read before the Académie de médecine a paper concluding in favor of the addition of acute anterior poliomyelitis to the list of diseases which must be reported. Report should be made, not only on typical cases, but on doubtful cases. This should be done at all times even outside of epidemic periods. Not only convalescents but their brothers and sisters should be excluded from school for three weeks. Objects capable of being soiled by the secretions and excretions of the patient ought to be disinfected in the course of the disease and in the convalescence. The room should be disinfected after recovery. The academy voted in favor of these conclusions.

A Discussion in the Senate on Classical Studies and Medical Instruction

In one of the last sessions of the senate, during the discussion of the budget of the ministry of public instruction, there was an interesting discussion in regard to the utility of classical studies in which several physicians took part. Dr. Léon Labbé especially insisted on the necessity of classical culture to enable one to undertake the study of sciences, medical science in particular. He called to witness the great German chemist Liebig, through whose influence the first "realists" schools (*Realschulen*) were founded in Germany, who later, taught by experience, wrote: "The pupils of the *Realschulen* who come into my laboratory are, during the first year, superior to those of the gymnasia; the second year they are equal to them; the third year they become inferior." Dr. Labbé likewise recalled the incessant demand of the Medical Council of London that more and more stress should be laid on the humanities. He also cited Professor His of Berlin, who devoted his inaugural address of clinical medicine to establish the absolute necessity of a general culture of high order for undertaking medical studies to advantage.

Professor Debierre, who was recently elected senator, likewise considers Latin and Greek as necessary for a physician or lawyer as for a literary man or a man of science. He cites his personal experience, which goes back more than twenty years. As professor of anatomy at the Faculté de médecine de Lille, he took part in the scientific and professional education of several generations of studies under the old and under the new regime. He has been able to observe that medical students having the so-called modern baccalaureate (without Greek or Latin) were less prepared for scientific culture than pupils educated under the old regime. At present, declares Professor Debierre, some pupils of our medical schools do not understand scientific language because they have not learned Greek and Latin.

Rôle of Mercury and Some of Its Salts in Certain Cancers

In one of the last sessions of the Académie des sciences, Dr. Odier called attention to the fact that certain cancer patients who have previously undergone mercurial treatment may retain mercury in their systems for several years. Observations extending over a long period had shown him that nothing was more dangerous for cancer patients than to have them follow antisyphilitic treatment. In view of the irritation produced by mercury in the epithelial cells, Odier asks if mercury and its salts administered copiously and in increasing measure in modern therapeutics do not play an important rôle in the causation of cancer.

International Honor to Sir Patrick Manson

The considerable services rendered by Sir Patrick Manson to the study of tropical diseases are well known. The creation of schools and institutions for the study of these diseases are due to him. A committee has been formed to give an international testimonial in his honor. A subscription has been opened to offer Sir Patrick Manson a gold medal bearing his portrait. This medal will be about 7 cm. high by 5 cm. wide and will be executed by Dr. Paul Richer, member of the Académie des beaux-arts and of the Académie de médecine de Paris and professor of anatomy at the Ecole des beaux-arts.

May Syphilis be Considered an Industrial Accident?

The Paris courts have been called on to decide whether syphilis contracted in the exercise of his profession by a mechanician-dentist constitutes an industrial accident. A mechanician-dentist working for a surgeon-dentist was wounded in the little finger; the patient being syphilitic, the mechanician contracted syphilis. On the ground that his infirmity was permanent and that he had experienced a reduction of 80 per cent. in his professional practice, the mechanician-dentist demanded from his employer an annual income of 2,912 francs. The courts did not accept his point of view on the ground that the profession of dentist was a liberal profession and that the dentist employer was not subject to the law with regard to industrial accidents. In the liberal professions, syphilis cannot, therefore, constitute an industrial accident.

The Chair of the Physiology of Speech in the Sorbonne

M. Marge, a doctor in medicine and science, who has been for eight years giving, at the Faculté des sciences de Paris, a course of biologic physics applied to phonation and audition, has just been appointed to give a course on the physiology of speech. This new chair was connected with the institute of phonetics which will soon be opened.

Danger of Arsenic in Vinegrowing

For some months all vineyards have been devastated by a terrible parasite, the cochylis, against which arsenate of lead has been used. Dr. Cazeneuve, senator of the department of the Rhône, has just addressed to the minister of the interior a letter calling attention to the danger to public health in the unrestrained sale of arsenical compounds, which is contrary to the law. Against the decision unanimously taken by the Académie de médecine and by the Council on Public Hygiene and Salubrity of the Seine, lead arsenate has been sold by thousands of kilos in all the vinegrowing regions, just at the time when the usage of white lead was put under the ban of law. The government has even sent aid under the form of arsenates. Dramatic and sensational accidents, such as were to have been expected, have occurred in several departments, without counting those more numerous cases which escape observation owing to their chronic and insidious character, but which are even more serious and dangerous. According to information furnished Dr. Cazeneuve by competent persons, lead arsenate and the arsenical salts are, moreover, altogether inefficacious against the cochylis. Therefore, Dr. Cazeneuve has just asked the minister to put an end to these dangerous practices which are strictly forbidden in Germany and other countries. It is said that in the south, growers spray not the leaves alone but the bunch of grapes itself with arsenic.

Insufficient Supply of Guinea-Pigs at the Pasteur Institute

The laboratories of the Pasteur Institute use each month more than 2,500 guinea-pigs. There was founded several years ago, therefore, an establishment at Garches, near Paris, for the breeding of these animals, but it produces only about 20,000 guinea-pigs a year, so that the institute is obliged to secure elsewhere about 10,000 guinea-pigs. Since these little animals are very expensive to raise, farmers do not find it profitable to breed them. The price of guinea-pigs varies between 1 fr. 25 and 1 fr. 50 (25 to 30 cents), and they are not easy to procure at that price. Mice and rats used in experimental medicine also have gone up in price. One franc is now paid for a mouse and 1 fr. 50 for a rat. For the maintenance and the purchase of experimental animals the Pasteur Institute spends more than $80,000 (400,000 francs) a year.

The Expenses of the Public Charities

The last report of M. Mirman, director of public charities and hygiene, shows that the number of beneficiaries of medical charity is constantly increasing. The number, including those treated at home and at the hospitals, has increased from 615,871 in 1895 to 996,539 in 1909, a continuous and almost regular increase of 27,000 a year. Expenses have increased still more. From about $739,200 (3,696,000 francs) in 1895, it amounted in 1909 to about $3,483,400 (18,416,000 francs). The number of beneficiaries under the law of 1905 in regard to assistance to the aged, infirm and incurable has not ceased to increase, but is not increasing so rapidly. On March 31, 1911, there were 577,816 beneficiaries under the law.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, July 21, 1911.

Personal

Professor Sahli of Bern has declined the call as successor of Moritz at Strasburg and Professor Wenckebach of Groningen, Holland, has been called. The latter some time ago declined a call to Marburg. His present call to Strasburg is due to the fact that he had been a candidate for the position at Marburg. There seems to be no reason why German investigators of equal worth should not have been given due consideration.

The Medical Profession and the Krankenkassen

As was to be expected, the managers of the Krankenkassen have quickly taken a position with reference to the resolutions adopted at the Aerztetag at Stuttgart. At the session of the Krankenkassen last week the decision was taken to prosecute the fight against the demands of the physicians and especially to work against the free choice of physicians. The president of the local Leipsic Krankenkasse, the largest Krankenkasse of Germany, with great courage announced that in his society, an agreement had been reached on the basis of a free choice of physicians which satisfied the medical interests, and insured to the management their rights. He was hooted down by the majority of the members of the congress. In all the speeches there appeared the desire to regard physicians as workmen and subordinates of the management of the insurance society. According to this expression of the Krankenkassen the continuance of conflict between the two bodies must be expected even under the new insurance law.

Medical Supervision of Educational Institutions

Medical supervision of educational institutions has lately been essentially increased. Every institution heretofore had to be investigated as a rule within a period of five years by the district physician. A new regulation of the department of the interior and of the minister of instruction requires that certain educational institutions shall be subjected to a yearly visit. This provision refers to such institutions as receive wards, orphans, deserted and lost children as well as all orphanages and rescue homes and a part of the institutions for the protection of children. The district presidents and the police are required to furnish the district physician with a list of the institutions that are to be visited annually. The inspectors of schools of a district are to furnish corresponding information with regard to the schools for small children, institutions for the protection of small children, kindergartens and the like.

Civil Responsibility of an Asylum Physician

A decision that will not fail to awaken great interest among the managers of insane asylums has been rendered by the court of a Berlin suburb. A Berlin attorney who was confined against his will for several weeks in an asylum in this district and was released as the result of his own efforts and that of his attorney against the advice of the physician brought suit for damages against all the persons who participated in what he claimed was an illegal imprisonment. The court decided that the demand of the complainant against the director of the institution was justified on the ground that the physician in order to maintain the imprisonment of the lawyer had given a certificate that did not correspond with the facts. Naturally the director of the sanatorium appealed and a second trial will be held in the upper court. If the accused is also convicted here the suits which the directors of insane asylums have heretofore experienced in considerable numbers will be unpleasantly and expensively increased. We do not believe that this will happen.

Prize Offer for Essay on Racial Hygiene

The Berlin Society for Racial Hygiene (Berliner Gesellschaft für Rassenhygiene) has offered a prize of $150 (600 marks) for an essay on the following question: Does material and social advancement involve any danger to families from the standpoint of racial hygiene? As an indication of the scope of the subject the following interesting remarks are made:

"The German people have experienced an incomparable advancement in the last decades. This advance has been accompanied by a remarkable increase of the population which has helped to spread the economic influence and establish the political and military position of the nation. During this period the movement of the population of European nations in the direction of reduction of the birth-rate began, and Germany, especially in its large cities, was rapidly drawn into the current. Especially among the well-to-do and educated classes of the cities, but also among the better situated portion of the working people, the sinking of the birth-rate is already very noticeable. This leads to the extinction of desirable families and thus to the loss of valuable inherited talents and faculties from the life of our race. While men were striving for economic advancement, they forgot the true values of life and have 'overcropped' themselves. On the other hand, it is noticeable that cripples, invalids and degenerates are not only supported by charity, as humanity demands, but the way is smoothed for them to marry and reproduce their kind, while worthy people are prevented from propagation by the harder struggle for existence. Meanwhile the army of the incapable is feeding at the expense of the whole body of society in a constantly more threatening manner, demanding a continually growing sacrifice of money and labor for its care. Thus we are threatened with a diminution, not only in the quantity, but also in the quality of the coming generations.

"We are dealing here with a transmitted heritage of physical and mental constitution which it is our chief duty to transmit unimpaired and if possible improved to our posterity. This general theme is of the greatest importance to the nation and the race and should be cleared up by special research among families. For the family is the unit, the social cell in which, in thousands and millions of individual processes, changes take place which often are only very imperfectly represented in the large figures of statistics. The extent and cause of this phenomenon has not yet been investigated with desirable exactness. Especially should it be determined to what extent the economic and social environment, the changed position in life, produce conditions which are unconsciously active in affecting the fertility and character of families.

"It is left to the discretion of the authors to determine whether they will treat the subject from a physiologic, genealogic, statistical or other point of view. But the work must unconditionally add new utilizable material which will satisfy scientific criticism and must be presented in a generally intelligible manner."—The jury of award consists of Professor von Gruber, Professor Martius, Dr. Ploetz and the president of the Berlin Society for Racial Hygiene.

German Spas

The largest part—194 out of 312—of the German sea and mineral bathing-places are in Prussia. Germany possesses 216 mineral spas of which 102 are in Prussia; there are in all Germany eighty-eight watering places on the East Sea and twenty-eight on the North Sea. In the period from 1870 to

1885 the number of Prussian spas amounted to 202 with eighteen exporting mineral waters; from 1886 to 1900 the spas had risen to 269 and the exporting springs to twenty.

The increase in number of annual visitors to the watering places is a decisive evidence of their prosperity. There has been a steady increase in the number of patrons at all the springs in the period from 1870 to 1900. The number of visitors at the baths rose in this time from 99,136 to 585,460, an increase of 486,324, or more than 350 per cent. The most marked increase was from 1885 to 1900 in the period of great economic prosperity. The number of visitors at mineral springs rose from 168,639 to 345,999, that of the patrons of the seaside resorts from 118,751 to 239,403. The increase was really greater than appears, for since 1895 transients have not been included in the count as before. The number of the patrons of all the bathing places of Prussia rose in this five-year period from 365,472 to 585,460, or about 60 per cent. The great majority of the patrons are naturally Prussians and other Germans, yet the number of foreigners has increased very greatly in the last three decades; Russia furnished the largest number of foreigners, in 1870, 2,024; in 1900, 10,477. While in 1870 America furnished only 401 persons to the contingent of visitors, in 1900 it was 2,611. The number of baths taken was in 1900 about 200,000 more in the mineral spas than at the seaside resorts. There has been quite a remarkable increase in the export of mineral water; it rose from 4,588,768 casks in 1870 to 69,350,208 casks in 1900.

So far as the expense of baths and traveling and other expenses of the patrons is concerned, it may be assumed that a patient will spend on the average for a course of mineral baths $100 (400 marks), for a stay at one of the North Sea resorts $52.50 (250 marks), or on the East Sea $50 (200 marks). On the basis of this uncertain estimate we may calculate that the 374,555 patients in 1905 at the Prussian mineral springs must have spent $34,955,500 (139,822,000 marks), at the North Sea resorts 124,937 visitors would have contributed $18,117,140 (72,468,560 marks), while at the East Sea resorts $10,279,800 (41,119,200 marks) would have been spent by 205,596 patients, altogether $63,352,440 (253,409,760 marks). The export of Prussian medicinal and table waters brought in altogether $3,990,400 (15,961,600 marks). The entire financial returns for Prussia in 1905 thus amounted to nearly $67,500,000 (269,371,360 marks). By a similar calculation for the entire German watering place industry we obtain for 1905 the complete sum of $94,284,433 (377,137,733 marks). [These spas are under the control of the state, which also receives the profits.]

Reduction of the Birth-Rate in the Large Cities

According to official statistics, the two-child system seems well established in Berlin. In 1880 a third of the births were fourth to sixth children, while in 1906 these constituted only a fifth of all births. Of late years the first and second born are relatively much more numerous. In 1906 not only was the actual number of all births much reduced, but the relation between these figures had changed materially in favor of the first born and second born which together constituted 60 per cent. of all births. The families in which there was only one child had increased by 32 per cent. In regard to the reduction in the entire birth-rate the statistics show that in 1900 there were in the month of January 25.56 births per 1,000 of the average population of Berlin, but in the same month of 1905 there were only 23.48 births, and in 1909 only 22.37. The smallest number of births is in October: in October, 1900, 23.37; in October, 1906, 21.09, and in October, 1909, 20.12. In the other large cities, such as Breslau, Hamburg, Hanover and Essen the reduction in the birth-rate has not been so large.

To Prevent Communication of Disease in Telephone Exchanges

For the prevention of the transmission of disease among telephone operators the following regulations have been adopted: In exchanges and public telephone offices the transmitter and the receiver shall be cleansed daily by wiping with a soft piece of leather moistened with a weak (about 3 per cent.) solution of phenol. In exchanges doing a large business the use of the same head received and transmitter (*Brust-Mikrophon*) by several operators or telephone assistants is to be discontinued. Each operator and each telephone assistant must be furnished with a separate head telephone receiver for her personal use. Telephone operators who are affected with contagious diseases must be excluded from this service until the danger of communicating the disease to their fellow workers is past. In doubtful cases the question of contagiousness must be settled by the attending physician. The instrument last used by the sick operator must be thoroughly cleansed without delay.

Marriages

Passed Assistant Surgeon Frederick Gustavus Abeken, U. S. Navy, to Miss Frieda Charlotte Schultz of Seattle, Wash., in St. Louis, July 22.

George G. Chittenden, M.D., Twisp, Wash., to Miss C. A. Ross of Beloit, Wis., at Wenatchee, Wash., July 6.

Thomas Clark Chalmers, M.D., New York City, to Miss Elizabeth Ducat of Downers Grove, Ill., August 1.

Lieut. Henry Clay Coburn, Jr., M.C., U. S. Army, to Miss Elma Matilda Sitley, at San Francisco, July 18.

Lolita Day Bew, M.D., San Francisco, and Mr. William Joseph Fenton, at San Rafael, Cal., June 10.

William James Shaw, M.D., Rome, Ga., to Miss Mabel Frances Norris of Riverside, Ill., August 2.

Frederick Henning Schluter, M.D., to Miss Mildred Elinor Burr, both of Brooklyn, N. Y., July 29.

John J. Burke, M.D., Green Bay, Wis., to Mrs. Goldie M. Browne of San Francisco, Cal., July 19.

Valentine B. Fischer, M.D., to Miss Helen Mae Waltemeyer, both of Boulder, Colo., July 25.

Bryant Robert Simpson, M.D., Adams, Neb., to Miss Lulu Culver of Milford, Neb., July 20.

Waitman F. Zinn, M.D., Baltimore, to Miss Katherine A. Burgess, at Baltimore, July 26.

Clinton James Miller, M.D., to Miss Zona Estella McNutt, both of Ord, Neb., July 26.

Samuel B. Grimes, M.D., to Miss Bessie Teare, both of Cincinnati, July 19.

John Lewis Newman, M.D., to Miss Emma R. Steph, both of Chicago, July 3.

Deaths

William G. Adair, M.D. Western Pennsylvania Medical College, Pittsburg, 1895; a member of the Medical Society of the State of Pennsylvania; for several years a school director of Allegheny and for three terms a member of the common councils of Allegheny and Pittsburg; for fourteen years surgeon to St. John's Hospital; died in the Presbyterian Hospital, Pittsburg, July 28, from septicemia, due to an operation wound, aged 43.

Francis Augustine Howe, M.D. Harvard Medical School, 1854; a member of the Massachusetts Medical Society, and for two years president of the Essex North District Medical Society; said to have been the oldest practitioner of the state; a member of the consulting board of the Danvers State Hospital; died at his home in Newburyport, July 28, aged 84.

Howard Morrison Church, M.D. McGill University, Montreal, 1896; of Montreal; demonstrator of anatomy in his alma mater; a member of the Canadian Medical Association and Montreal Medical Society; surgeon-major of the second (Montreal) regiment of Canadian Garrison Artillery; died in the Montreal General Hospital, July 31.

Orvir E. Osell, Medical-Chirurgical College of Kansas City, Mo., 1903; formerly assistant to the chair of clinical ophthalmology in the Medical Department of the University of Kansas; physician to the El Tigre Mining Company, near Douglas, Ariz.; died suddenly at his home, July 25, aged 43.

George C. Smith, M.D. Jefferson Medical College, 1876; a member of the Medical Society of the State of New York; secretary of the Delaware County Medical Society and health officer of Delhi; a veteran of the Civil War; died at his home in Delhi, July 25, from nephritis, aged 71.

Oscar Asa Tolle Haruff, M.D. University of Colorado, Boulder, 1903; of Pueblo; a member of the Colorado State Medical Society; formerly a member of the city council; died July 26, from injuries due to a collision between his automobile and a railway train, near Pinon, Colo., aged 36.

Adelmann Brookins Manley, M.D. Rush Medical College, 1883; of Shopiere; a member of the Wisconsin State Medical Society, who was operated on at the Beloit Hospital, July 23, for appendicitis and intestinal obstruction; died in that institution, July 27, aged 61.

John Alfred Warren, M.D. Eclectic Medical Institute, Cincinnati, 1873; a member of the Illinois State Medical Society; a member of the local board of pension examining surgeons of Greenville, and a member of the local board of health; died at his home, July 29, aged 75.

David Harmon Lovejoy, University of Michigan, Ann Arbor, 1865 (license, Philadelphia County, Pa., 1894); a clergyman and for fifteen years chaplain at the Episcopal Hospital, Philadelphia; died at his home in Roslyn, Pa., July 26, from heart disease, aged 72.

Levi N. Smith, M.D. Kentucky School of Medicine, Louisville, 1881 (license, Kentucky, twenty years practice, 1894); formerly of Western, Neb.; for thirty years a practitioner of Clinton, Ky.; died at his home in that place, July 1, from typhoid fever, aged 64.

Franz B. P. Becker-Laurich, M.D. Long Island College Hospital, Brooklyn, 1893; for several years house surgeon to the Smith Infirmary, Staten Island, N. Y.; died at his home in Greenpoint, Long Island, July 27, from endocarditis, aged 51.

Carl W. Kuhn, M.D. New York University, New York City, 1874; for forty years a practitioner of Manhattan, but since 1895 a resident of Brooklyn; died in the German Hospital in that city, January 4, from chronic nephritis, aged 76.

James M. Fowler (license, Illinois, years of practice, 1878); a veteran of the Civil War; at one time superintendent of schools of Williamson County and a member of the legislature; died at his home in Crab Orchard, July 27, aged 65.

William Burd Evans, M.D. Maryland Medical College, Baltimore, 1902; a member of the Philadelphia County Medical Society; died suddenly in the Woman's Homeopathic Hospital, Philadelphia, July 28, from uremia, aged 33.

Ansin E. Murphy, M.D. St. Louis College of Physicians and Surgeons, 1896; formerly physician in the United States Indian Service at the Lemhi Agency, Ida.; was shot and killed in his office at Salmon, Ida., July 28, aged 61.

Harry H. Hughes, M.D. Tulane University, New Orleans, 1892; for several years district surgeon at Jackson, Miss. for the Illinois Central Railroad; died at his home in Jackson, July 21, from anthrax infection, aged 42.

Ashael Ebenezer Darling, M.D. Harvard Medical School, 1872; a member of the American Medical Association; died at his home in East Killingly, Conn., July 30, from carcinoma of the stomach, aged 66.

Jeremiah Linden Curtis, M.D. Dartmouth Medical School, Hanover, N. H., 1888; assistant surgeon U. S. V. during the Spanish-American War; died at his home in East Dixmont, Me., July 19, aged 54.

Joseph Pierre Lavalaye, M.D. Yale University, New Haven, Conn., 1903; of New Haven; died at the Polyclinic Hospital, New York City, July 21, a short time after an operation for appendicitis, aged 38.

John F. Carey, M.D. Jefferson Medical College, 1867; a member of the Wyoming State Medical Society; formerly of Sussex County, Del.; died at his home in Cheyenne, Wyo., July 27, aged 69.

David James L. Lackie, M.D. Detroit College of Medicine, 1905; a member of the American Medical Association; died at his home in Grind Stone City, Mich., August 1, from pernicious anemia, aged 33.

Joseph Elias Hayne, M.D., 1895; a colored physician, writer, preacher and ethnologist; a veteran of the Civil War; died at his home in Brooklyn, N. Y., January 14, from lobar pneumonia, aged 62.

Francis C. Clark, M.D. Starling Medical College, Columbus, O., 1898; a member of the Nebraska State Medical Association; died at his home in Craig, July 19, from disease of the brain, aged 38.

Thomas Benton Keplinger, M.D. University of Iowa, Iowa City, 1895; of Conway, Ia.; died at the home of his wife's father, near Sharpsburg, Ia., July 13, from tuberculosis, aged 49.

William E. La Dow, M.D. Western Reserve University, Cleveland, 1891; for several years a practitioner of Warrensville, O.; died at his home in Harlem, O., July 22, aged 43.

Lewis Clarence Sampson, M.D. Ensworth Medical College, St. Joseph, Mo., 1900; died at his apartment in St. Joseph, July 23, from cirrhosis of the liver, aged 37.

William L. Castleberry, M.D. Medical College of Georgia, Augusta, 1871; died in his apartments in Lincoln, Ala., July 14, from heart disease.

E. W. Johnson, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; died at his home in Tulip, Mo., July 7, from diabetes.

Charles Ambrook, M.D. University of Michigan, Ann Arbor, 1870; died suddenly at his home in Boulder, Colo., July 23, aged 71

Ida Charlotte Barnes, M.D. Womans' Medical College of Pennsylvania, Philadelphia, 1890; a member of the American Medical Association and of the staff of Christ's Hospital, Topeka, Kan.; died at her home in that city, July 21, aged 50.

John Millard (license Tennessee, 1889); for forty years a practitioner of Sullivan County; died at his home near Bluff City, July 20, aged 83.

George B. Jones, M.D. University of Buffalo, N. Y., 1869; died at his home in Jamestown, N. Y., July 25, aged 68.

R. J. Howard (license, Kentucky, thirty-two years' practice), 1893); died at his home in Pryorsburg, July 21, aged 60.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

PHARMACEUTICAL SPECIALTIES

In European countries, particularly Germany, there are discovered each year hundreds of new substances which are proposed for use in medicine. Little scientific work of this kind seems to be done in this country. American pharmaceutical houses are apparently content to devote their energies to the devising of "pharmaceutical specialties." These usually are mere mixtures of well-known medicaments so put up as to be attractive both to the eye and the palate—especially the latter—and provided with names that are either meaningless or, more often, therapeutically suggestive.

The representative of a foreign firm in this country was discussing the relation of the pharmacist to the physician and of the manufacturer to both. While his viewpoint naturally was biased, yet much that he said was true. For instance: "Pharmaceutical concerns should also stick more to the one drug or active principle idea, and not encourage so many combinations. Leave these for the doctor to prescribe and the retail druggist to prepare."

On the multiplicity of pharmaceutical specialties to be found in this country, he said: "One firm puts on the market some decided improvement; then, the next thing, your larger pharmaceutical firms, instead of putting their chemists to work to improve what you have, tell them to get busy and try to make an imitation; the outcome is that within a year you have some dozen preparations of the same kind, but under different names."

Of course, it is a fact that most of the new drugs—usually definite chemical compounds—which come from abroad, are found in the long run to constitute no real advance. On the other hand, a product of substantial value is occasionally produced and foreign industries may be credited with a share in medical progress. The credit accruing to our pharmaceutical manufacturers is discouragingly small; in fact, it is no exaggeration to say that the average American "pharmaceutical specialty" is not only of no benefit to medicine or pharmacy, but is a distinct handicap and detriment to both professions.

LIQUID NITROUS OXID

Report of the Council on Pharmacy and Chemistry

The referee of the Council appointed to report on the composition of liquid nitrous oxid as found on the market and to make recommendations as to its inclusion with New and Nonofficial Remedies, submitted the following report:

The Section on Stomatology, at the 1909 session of the American Medical Association, having recommended the inclusion of Liquid Nitrous Oxid with the U. S. Pharmacopeia, the Council voted to describe this product with New and Nonofficial Remedies until such Pharmacopeial recognition had been secured. This action having been decided on, it was necessary to provide a standard of purity for this substance. Correspondence with those who make liquid nitrous oxid, as well as with those who use it, brought out very little information as to what degree of purity should be required. It therefore became necessary to examine the product as it was found on the market.

Prof. Warren R. Smith of Lewis Institute, Chicago, kindly offered to cooperate with the Council and to make an examination of liquid nitrous oxid. The referee herewith transmits the very thorough report regarding the composition of commercial liquid nitrous oxid which has been made by Professor Smith in collaboration with Edwin D. Leman. The referee recommends that the Council express its appreciation for the work, and that it request publication of the report in THE JOURNAL. The referee further recommends that the description of liquid nitrous oxid submitted herewith be adopted for inclusion with New and Nonofficial Remedies.

This report was adopted by the Council, and in accordance therewith the examination of Smith and Leman is published below, and the description of liquid nitrous oxid appears with New and Nonofficial Remedies on another page of this issue of THE JOURNAL. The increasing use of nitrous oxid gas, not only as the sole anesthetic in minor operations, but as a preliminary to ether or chloroform anesthesia, makes the adoption of a standard of purity for this substance highly desirable.

W. A. PUCKNER, Secretary.

The Purity of Nitrous Oxid

PROF. WARREN R. SMITH AND EDWIN D. LEMAN

Nitrous oxid is commonly sold in cylinders containing 25 ounces of the liquid, which is approximately equal to 100 gallons of the gas under ordinary conditions. We have analyzed four cylinders of this material from different makers. Three of these samples were purchased in the open market, and the other was supplied to us through the courtesy of the dealer. We find that all these samples contain nitrogen as the principal impurity, that two of them contain oxygen and that one contains oxygen and carbon dioxid.

All samples were tested qualitatively by passing from 2 to 4 liters of the gas through solutions of barium hydroxid, litmus, silver nitrate, potassium iodid and starch and Nessler's reagent, with negative results in every case except the one which showed carbon dioxid. These results proved that the samples were free from acids, chlorin, the higher oxids of nitrogen, ammonia and various other less probable impurities. The findings in the quantitative analysis are given below.

These results cannot be taken as representing the contents of the cylinders with the same degree of exactness than can be obtained in the analysis of other materials of different nature, because, aside from the ordinary difficulties in the analysis of a gaseous mixture, the problem is complicated by the fact that the impurities (oxygen and nitrogen) are apparently held in solution in the liquid nitrous oxid and as the gas is drawn off, they tend to escape from the solution at a more rapid rate, proportionally, than the nitrous oxid. The result is that the first portions of gas drawn from the cylinders are much more impure than the later portions. From a product containing originally 96.1 per cent. of nitrous oxid, samples varying as widely as from 87.2 per cent. to 98.5 per cent. have been obtained. The greater part of the nitrogen escapes with the first half of the gas, but the oxygen and a small part of the nitrogen persist throughout.

This possibility of variation in the composition of the gas as drawn from the cylinders should be known and reckoned with in the administration of the gas. It seems, also, to make a difference whether the sample of gas drawn for analysis is that which has been standing for some time in contact with the liquid, or is that which comes from the liquid after the gas in the upper part of the cylinder has been drawn off. This variation complicates the analysis, but is hardly enough to be of significance in the administration of the gas. The results given below are either averages of those obtained from samples drawn at intervals during the escape of the entire quantity of gas from the cylinder or of material drawn directly from the liquid itself, methods which we have proved to give results practically identical.

Percentage of	No. 1.*	No. 2.*	No. 3.*	No. 4.*
Nitrous oxid	95.4	93.4	95.8	96.1
Oxygen	0.0	1.4	1.1	00.1
Nitrogen	4.6	5.2	3.1	3.5
Carbon dioxid.......	0.0	0.0	0.0	0.3

* 1 = Johnson & Lund; 2 = Ohio Chemical and Mfg. Co.; 3 = The Lennox Chemical Co.; 4 = S. S. White Dental Mfg. Co.

Carbon dioxid was determined by absorption with alkali, oxygen with alkaline pyrogallol, nitrous oxid by explosion with hydrogen and nitrogen by difference.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TYPHOID VACCINE AND THE WIDAL TEST

To the Editor:—In Major Russell's report to Congress. "The Control of Typhoid in the Army by Vaccination," he states that following the use of typhoid vaccines the blood of the individual treated shows the Widal reaction in very great dilutions. Is this a good test to determine whether the vaccination has "taken" or not? If the blood does not show a positive Widal about four days after the administration of the last dose of vaccine does this mean that immunization did not take place? This has been my experience in using Mulford's vaccine. A. MAVERICK, San Antonio, Texas.

ANSWER.—In Circular 4, issued by the surgeon-general, giving directions for the administration of the typhoid prophylactic, the following statement is made: "The Widal reaction is always positive after typhoid prophylaxis; it appears in about ten days after the first dose and remains positive for six months to a year. This must be considered in diagnosing typhoid in immunized persons; they give a positive Widal regardless of the nature of the illness, and the reaction is consequently of no assistance in making a diagnosis. If typhoid is suspected the diagnosis should be confirmed by blood-culture." The strength of the Widal is increased after the second and third dose and it does not begin to fall off until about ten days after the last dose. If the blood-serum does not give a positive Widal after the administration of the prophylactic the inference is plain that the person has not been immunized and the failure in such a case is most probably due to the use of an inert vaccine.

AN AMBIGUOUS STRYCHNIN PRESCRIPTION

To the Editor:—Will you kindly tell me how to put up this combination?

Strychninæ sulphatis	gr. i
Hydrastinæ hydrochloridi	gr. x
Solutionis acidi borici saturatæ gtts..	cccc

P. J. B. L.

ANSWER.—Inasmuch as the size of a "drop" is variable (depending on the nature of the orifice from which the liquid falls) the prescription is ambiguous. Although under ordinary conditions a "drop" measures usually less than a minim; the prescription was put up by our chemists in the proportion of strychnin sulphate, 1 grain; hydrastin hydrochlorid, 10 grains, and saturated solution of boric acid, 400 minims. It was also put up by using 200 minims of the boric acid solution for the same quantities of the alkaloidal salts. In both cases the salts dissolved readily in the boric acid solution to form a permanently clear solution.

NAUHEIM AND SCHOTT TREATMENT

To the Editor:—1. Please give me the names and addresses of several institutions in this country where the Nauheim and Schott baths are given. 2. Please tell me where I can find some literature regarding the Nauheim and Schott treatment for cardiac hypertrophy.

T. J. WALTHALL, San Antonio, Texas.

ANSWER.—1. Except as may be obtained from advertisements, we have no data from which to select a list of such institutions. 2. The following may be consulted:

Thorne: Nauheim Treatment of Heart Diseases, Pub. Chicago Medical Book Co., Honore and Congress Streets, Chicago. Price, $1.

Thorne: The Schott Method, P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. Price, $2.

Garson: Remedial Gymnastics for Heart Affections, P. B. Hoeber, 69 East Fifty-Ninth Street, New York City. Price, $2.

Franze, P. C.: Success and Failure in Nauheim Cures, *Medical Record*, May 9, 1908.

Wilson, W. L.: Treatment of Chronic Diseases of the Heart by Carbonated Mineral Baths and Auxiliary Exercises, *Jour. Mich. State Med. Soc.*, August, 1908; abstr. in THE JOURNAL, Aug. 29, 1908, p. 784.

Bishop, L. F.: Baths and Exercises in the Treatment of Abnormal Tension of the Heart and Blood-Vessels, *New York State Jour. Med.*, June, 1909; abstr. in THE JOURNAL, Feb. 20, 1909, p. 654.

Bishop, L. F.: Nauheim Methods in Management of Cardiac Disease, *Medical Record*, March 25, 1911.

TREATMENT OF GOITER IN YOUNG GIRLS

To the Editor:—Some time ago I read an article in THE JOURNAL on the treatment of simple goiter or enlargement of the thyroid gland in young girls. Please give me reference to this article.

S

ANSWER.—Probably our correspondent refers to an answer published in this department Oct. 8, 1910, p. 1306. The patient referred to by the inquirer at that time was a young girl, and the answer is appropriate to the question of our correspondent.

QUINZOIN HAIR TONIC

To the Editor:—Can you tell me the approximate composition of "Quinzoin," a so-called hair tonic made by H. S. Peterson & Co., 212 Kinzie Street, Chicago? C. P. Fordyce, Falls City, Neb.

Answer.—The report of an examination of Quinzoin is contained in the *Bulletin of the Kansas State Board of Health*; May, 1910, as follows: "Sample was found to contain 50.4 per cent. of bicarbonate of soda, small quantity of quinin sulphate and approximately 49 per cent. of coarsely ground quassia." Other "prescription fakes" put out by this firm were discussed in The Journal, Dec. 11, 1909, page 2020.

The Public Service

Medical Department, U. S. Army

Changes for the week ended July 29, 1911.

Register, E. C., lieut., left Camp Douglas, Ariz., with troops for Fort McPherson, Ga.

Keefer, Frank R., lieut.-col., left West Point, N. Y., on thirty days' leave.

Rand, I. W., major, left Fort Hancock, N. J., on thirty days' leave of absence.

Hess, Louis T., major, as inspector and instructor, Sanitary Troops, Pennsylvania troops, Indiana, Indiana County, from July 22 to 29, 1911.

Darby, Taylor E., first lieut., is ordered for temporary duty at Fort McPherson, Ga., and after expiration of leave granted, to return to Fort Sam Houston, Tex., until time to depart for the Philippine Islands.

Tiguor, Edwin P., dental surgeon, is granted leave of absence for one month effective about Aug. 1, 1911.

Maguire, Daniel F., first lieut., is ordered from Fort. D. A. Russell, Wyo., to Fort Barrancas, Fla., for duty.

Mount, James R., first lieut., is relieved from further temporary duty at Medical Supply Depot, St. Louis, Mo., and will return to Fort Sheridan, Ill.

Kefauver, Lloyd, A., first lieut., is ordered to proceed from Ft. D. A. Russell, Wyo., to Fort Riley, Kan., for duty.

Brown, Polk D., M.R.C., so much of paragraph 16, Special Orders No. 10, Jan. 13, 1911, War Department, as relates to Lieut. P. D. Brown, M.R.C., is revoked, and by direction of the President, he is honorably discharged from the service of the United States, his services being no longer required, after expiration of leave of absence.

Mount, James R., first lieut., is relieved from duty at Fort Riley, Kan., and will return to proper station, Fort Sheridan, Ill.

Poust, Luther R., M.R.C., relieved from temporary duty at Fort Hamilton, N. Y., and will proceed to Fort DuPont, Del., for temporary duty.

Skelton, Robert, M.R.C., relieved from temporary duty with troops at New York State Rifle Range, and will proceed via Fort Jay, N. Y., to his proper station, Fort Adams, R. I.

Chambers, William H., dental surgeon, reported for duty at Army General Hospital, San Francisco, Cal.

Michie, H. C., Jr., lieut., reported for duty at Fort Missoula, Mont.

Denton, William, lieut., reported for duty at Fort Sam Houston, Tex., from Maneuver Division.

Flynn, Thomas J., lieut., reports for duty at Fort Snelling, Minn., from duty at San Antonio, Tex.

Kefauver, L. A., lieut., reported for duty at Fort Riley, Kan., from San Antonio, Tex.

French, W. H., lieut., reported for duty at Fort Hancock, N. J., from San Antonio, Tex.

Mason, George L., dental surgeon, left Fort Snelling, en route to Fort Leavenworth, Kan., for temporary duty.

Creighton, S. S., lieut., reported for duty at Walter Reed General Hospital, D. C., from San Antonio, Tex.

Clayton, Geo. R., M.R.C., left Fort Sheridan, Ill., with troops for duty at encampment of Organized Militia, Chicago, Ill.

Mudd, Leo C., lieut., reported for duty at Washington Barracks, D. C., from San Antonio, Tex.

Jackson, Thomas W., M.R.C., is granted leave of absence for two months on surgeon's certificate of disability.

Reynolds, Charles R., major, is granted leave of absence for one month and fifteen days, effective Aug. 13, 1911.

Davis, Arthur O., first lieut., is relieved from duty, Maneuver Division, San Antonio, Tex., and will return to proper station, Fort Oglethorpe, Ga., for temporary duty, then after expiration of leave, about September 5, will proceed to Manila, P. I.

Walkup, Joseph O., first lieut., is relieved from duty with the Maneuver Division, San Antonio, Tex., and will proceed to Fort Bayard, New Mexico, for duty.

Divins, George G., lieut., reports arrival at Fort D. A. Russell, Wyo., with Field Hospital and Ambulance Company No. 1 from San Antonio, Tex.

Long, Charles J., dental surgeon, returned to Fort Andrews, Mass., from temporary duty at Fort Ethan Allen, Vt.

Farrow, E. J., M.R.C., left Fort Morgan, Ala., en route to Jackson Barracks, La., for temporary duty.

Poust, Luther R., M.R.C., is relieved from temporary duty at Fort Hamilton, N. Y., and will proceed to Fort Du Pont, Del., for temporary duty, vice Major Hartnett, absent on temporary duty.

Skelton, Robert, M.R.C., is relieved from duty with troops at New York State Rifle Range, and July 20 will proceed via Fort Jay, N. Y., to his proper station, Fort Andrews, R. I.

Ford, Joseph H., major, is assigned as inspector and instructor Organized Militia, New Jersey, at Sea Girt, August 5-12, of Sanitary Troops; and on completion, return to station.

Rutherford, Henry H., major, is detailed for the service assigned Major Hess, as inspector and instructor, Organized Militia, Indiana, Pennsylvania, July 22-29. On completion, return to station.

Brown, Polk D., M.R.C., is granted an extension of twenty days to the leave of absence granted him in Special Order 142, June 22, Department of Texas.

Ford, Clyde S., major, granted leave of absence for one month about Aug. 22, 1911.

Reddy, John R., lieut., reports for duty at Fort Jay, N. Y.

Siner, Joseph L., lieut., reports for duty, Fort Ethan Allen, Vt., from San Antonio, Tex.

Crabtree, George H., major, left Culebra, Canal Zone, en route to the United States, on leave of absence.

Bradley, John R., M.R.C., relieved from duty, Fort Leavenworth, Kan., and from present duty, Department of Texas, and from San Francisco, will proceed to P. I. Sept. 5, 1911.

Campbell, George F., M.R.C., ordered to his home when not needed, Department of Texas, and is relieved from active duty, M.R.C., on expiration of two months' leave of absence herewith granted, effective on arrival home.

Bernheim, Julien R., dental surgeon, is ordered to attend meeting of National Dental Association, at Cleveland, Ohio, July 25-28, as representative of the Dental Corps of the Army.

Manly, Clarence J., major, is relieved from duty with Maneuver Division, San Antonio, Texas, and will return to proper station, Fort Douglas, Utah.

Burnside, F. R., lieut., reported for duty at Fort Riley, Kan., from San Antonio, Tex.

Holland, J. H., lieut., reported for duty at Fort Douglas, Utah, from San Antonio, Tex.

Maguire, Daniel F., lieut., reported for duty at Fort Barrancas, Fla., from San Antonio, Texas.

Mason, George L., dental surgeon, is ordered from Fort Snelling, Minn., to Fort Leavenworth, Kan., for temporary duty, 13th Infantry, and to return to station on completion of this duty.

Aydelotte, John T., first lieut., is detailed inspector instructor of the Organized Militia, Texas, at Camp Mabry, Austin, Texas, Aug. 7 to 16, 1911.

Pinkston, Omar W., captain, granted three months' leave of absence, when he can be spared, with one month extension if desired.

Fauntleroy, Powell C., major, is ordered to Camp Perry, Ohio, to duty as surgeon at National Matches.

Appel, Daniel M., colonel, is granted leave of absence for one month, with permission to apply for extension of one month.

Harmon, Daniel W., first lieut., after his arrival at Seattle, Wash., and on the expiration of leave of absence granted him, will proceed to Fort Oglethorpe, Ga., for duty.

Metcalf, Raymond F., captain, ordered to report Sept. 4, 1911, to Lieut.-Col. James D. Glennan, Medical Corps, President of the Examining Board, at the General Hospital, San Francisco, Cal., for examination for promotion.

Mason, George L., dental surgeon, reports for temporary duty at Fort Leavenworth, Kan.

Gunckel, George I., dental surgeon, reports for temporary duty at Key West Barracks, Fla.

Beery, H. R., lieut., left San Antonio, Tex., en route to station Fort Benjamin Harrison, Ind.; reported at for duty July 25, 1911.

Darby, T. E., lieut., left San Antonio, Tex., en route to Fort McPherson, Ga.

Eckels, Lauren S., lieut., reports for duty at Ft. McKinley, Me., from duty at San Antonio, Tex.

Robinson, James L., lieut., reports for duty at Ft. Wayne, Mich., from San Antonio, Tex.

McBrayer, Charles E., lieut., reports for duty at Fort Howard, Md., from San Antonio, Tex.

Trinder, John H., M.R.C., left Ft. Jay, N. Y., en route to Ft. Hunt, Va., for temporary duty.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended Aug. 2, 1911. + + +

White, J. H., surgeon, granted twenty days' leave of absence, without pay, from July 20, 1911.

Gardner, C. H., surgeon, granted one month's leave of absence from Aug. 5, 1911.

Cumming, H. S., surgeon, directed to proceed to Cape Charles City to examine keepers and surfmen of the life-saving service.

Vogel, C. W., P. A. surgeon, granted seven days' leave of absence from Aug. 1, 1911.

Pettyjohn, Joseph, P. A. surgeon, granted one month's leave of absence from July 15, 1911, on account of sickness.

Preble, Paul, asst. surgeon, granted three days' leave of absence from July 24, 1911.

Kolb, L., A. A. surgeon, granted two days' leave of absence, July 5 and July 15, 1911, under paragraph 191, Service Regulations.

Altree, G. H., A. A. surgeon, granted fifteen days' leave of absence from Aug. 3, 1911.

Barclay, James, A. A. surgeon, granted fifteen days' extension of annual leave on account of sickness, from July 5, 1911.

Carter, P. I., A. A. surgeon, granted seven days' leave of absence from July 17, 1911, under paragraph 210, Service Regulations.

Fahey, E. W., A. A. surgeon, granted twenty-one days' leave of absence from July 29, 1911.

Robinson, H. D., A. A. surgeon, granted seven days' leave of absence from July 20, 1911.

Stevenson, J. W., A. A. surgeon, granted sixteen days' leave of absence from July 24, 1911, with pay, and forty-five days, without pay, from Aug. 11, 1911.

Stuart, A. F., A. A. surgeon, granted thirty days' leave of absence from July 25, 1911.

Tappan, J. W., A. A. surgeon, granted twenty days' leave of absence from Aug. 1, 1911.

Townsend, F., A. A. surgeon, granted fourteen days' leave of absence from July 25, 1911.

Wilson, J. G., A. A. surgeon, granted fourteen days' leave of absence from Aug. 5, 1911.

Gahn, H., pharmacist, granted four days' leave of absence from July 24, 1911.

La Grange, J. V., pharmacist, granted thirty days' leave of absence from Aug. 14, 1911.

Spangler, L. C., pharmacist, granted two and one-half days' leave of absence from July 27, 1911

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

A Newspaper Editor on Medical Ethics

The growing interest of newspapers in medical matters is but one of the many indications of the increasing sociological importance of the medical profession and its work. In previous years the press has been wont to regard questions of medical ethics and professional procedure as matters which concerned physicians alone and which were of no special interest to newspapers or their readers. The bearing of professional ethics and conduct on society and the public has become apparent and is causing the more advanced and far-sighted newspaper men of the country to give increasing attention to such questions. Particularly significant in this respect is a recent editorial in the Dallas (Texas) *Morning News* which devotes a full column to a discussion of the report of the committee appointed by the Medical Society of Erie County, N. Y., on division of fees. The comments of the editor are so pertinent and clear-sighted as to entitle them to reproduction in full.

> The Medical Society of Erie County, N. Y., of which county Buffalo is the chief city, appointed a committee a few months ago to investigate a charge that surgeons were in the habit of dividing their fees with physicians who brought cases to them. The committee, in its report, sustained the charge; that is, it found that the practice was not only wide-spread in that city, but that it was steadily increasing. It volunteered the further statement, based on inquiries that it had made, that this practice of secret and illicit partnership between surgeons and physicians was more or less general all over the country. Of course the Erie County Medical Association put itself on record as being sternly against this practice, as medical associations would everywhere, since perhaps in every community in the country the reputable largely outnumber the disreputable doctors. It pointed out that, aside from all considerations of professional ethics, the evil of this practice, from the standpoint of the public, is that since the least capable surgeons are the ones who will be most liberal in dividing fees with those physicians who bring them cases, it must result in promoting butchery at the expense of surgery. Another consequence must be, of course, to increase the number of unnecessary surgical operations. One naturally puts large faith in the sincerity of his physician; it is a help the patient gives him in his effort to cure, and when a physician gives advice that, on the face of it, is so unselfish, since he resigns his patient to another, the patient is doubly persuaded that the operation is necessary, even if there be no need of it whatever.
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> The committee of the Erie County Medical Association made several recommendations as to methods of suppressing this practice. We shall concern ourselves with only one of them, the one which, though slowest in its working, is fundamental and must be the surest. It recommended, if we may express it so, that the doctor mills be made to grind slower. It is hardly, however, an original suggestion, for there has long been a pretty general recognition of the fact that the output of doctors, like the output of lawyers, is annually vastly larger than there is any need of. Some think that it is twice as great as it ought to be. Both professions are everywhere overcrowded. It might be thought that that is the misfortune of those professions only, and that the public has no concern in it; but a moment's reflection will convince any one that this evil of dividing fees, like most if not all other evils that have crept into both these professions, is due fundamentally to the increasing difficulty of making a living in them. Where it is a desperate struggle to earn a bare and precarious existence, human nature succumbs easily to the temptation to stoop to practices that are repugnant even to the sentiments of those who are guilty of them. If there is a large and increasing number of unscrupulous physicians and a larger and more rapidly increasing number of conscienceless lawyers, the fundamental and chief cause of it is that there are more doctors and lawyers than society has any legitimate need of.
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> If the evil is to be checked at its source, the medical and legal schools must prescribe a longer and more difficult climb for those who aspire to a place in these professions, and the test of proficiency now imposed on those who ask license to practice must be made considerably more rigorous. Than that of medicine there is, of course, no profession that men have a deeper concern in, and unless it is that of journalism, there is none that exercises a greater power for good and evil over society than the legal profession. Surely we have ample reason to require very severe tests of those who are ambitious to exercise the power of these professions. The requirements vary widely in the several states and colleges. The motto of some colleges seems to be "Quickness and Dispatch," and some of them have almost reached the point of making you a doctor or a lawyer "while you wait." Youths seem to be taken in to-day as raw, crude material and sent forth to-morrow as finished product with a "God help you" from the faculty, whereas the larger part of the invocation ought to be made in behalf of society. Perhaps it would be well everywhere to exact a higher degree of academic proficiency as a prerequisite to professional study, and then, of course, a more thorough mastery of the professional studies.

The criticisms of the *News* are well taken. It is perfectly true that the essential factor in the present situation is the existence of too many medical schools and the production each year of too many physicians, or at least of too many half-trained physicians. This fundamental fact has been recognized for years, as the work of the Council on Medical Education will show. The original object for which the Association was organized was the elevation of the standard of medical education and, ultimately, the elevation of the profession thereby. The Association has always labored with this end in view and, during the last seven years, through its Council on Medical Education, has been working definitely and effectively for this purpose.

The *News*, however, overlooks or at least fails to mention the important fact that, no matter how vigorous or intelligent may be the efforts of the medical profession to suppress inefficient medical schools or to prevent uneducated and unqualified men from entering the practice of medicine, its labors will be wholly in vain without the support and hearty cooperation of the public. The regulation of medical colleges and the restriction of the practice of medicine to those who are fit are, ultimately, problems which the public must solve, since they depend entirely on the enactment and enforcement of suitable laws in the various states. But how is the public to be benefited if, in spite of the efforts of the Association and the profession, irresponsible and incompetent persons are allowed to organize and conduct medical schools under the laws of the states without any restriction, or with merely nominal restrictions which are practically ineffective? Yet this is possible in many states to-day. How will the public be benefited if, whenever the Association and the profession succeed in raising the standard for admission to the practice of medicine, cults, sects and unscientific pretenders with practically no knowledge of disease are, under the laws of the states, granted an equal right to practice medicine, on requirements and qualifications far below those required of medical men? How will the public be protected, even if stringent laws for the regulation of the practice of medicine are rigidly enforced, if at the same time osteopaths, chiropractics, neuropaths, vitapaths and all the other herds of "isms" are recognized by law and are given the right to treat the sick, on complying with qualifications of their own making? Yet this is what is occurring in many states. No sooner is a standard for admission to the practice of medicine established than its provisions are at once assailed by a multitude who desire the privileges of physicians, without acquiring the necessary training and knowledge. And when the medical profession protests against such nullification of medical practice acts and insists that there should be but a single standard for admission to the practice of medicine it is denounced as a "medical trust" and as endeavoring to restrict the right to practice medicine to its own members. The qualifications for a license to treat the sick are established by the state and not by physicians. What can we think of a state that recognizes two standards for the same privilege? Yet there is no more justification for the state recognizing two or more standards for physicians than there would be for its recognizing two or more standards for admission to the bar

The division of fees on the part of some physicians (fortunately they are few), the introduction of commercialism into the medical profession and the use of unworthy methods to secure practice are, as the *News* truly says, but incidental phenomena resulting from the admission into the medical profession of unfit and poorly trained men. The duty of restricting the practice of medicine to those who are properly trained and qualified is a duty of the public and not of the medical profession alone. It is essentially a sociological and not a professional question. With the rapid development of modern sanitary methods, it is becoming a most important social problem and one which it is the duty of every citizen, and especially of every newspaper editor, to investigate impartially. If the public can be made to realize its duty and interests, the solution of the question will be greatly advanced. As a means to this end, criticism and discussion in the daily press are of the utmost importance and are highly welcome.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: Capitol Building, Des Moines. September 19-21. Sec., Dr. Guilford H. Sumner.

MISSOURI: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

NEW YORK: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Montana April Report

Dr. William C. Riddell, secretary of the Montana State Board of Medical Examiners, reports the written and oral examination held at Helena, April 4-6, 1911. The number of subjects examined in was 10; total number of questions asked, 50; percentage required to pass, 75. The total number of candidates examined was 28, of whom 20 passed and 8 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1905)	80.7
Northwestern University Medical School	(1908)	76.9
Chicago College of Med. and Surgery..(1908) 75;	(1911)	79.3
Rush Medical College	(1904)	75
Medical College of Indiana	(1896)	75
University of Iowa, College of Medicine	(1910)	75.5
College of Physicians and Surgeons, Baltimore	(1910)	76.6
Baltimore Medical College	(1907)	76.8
Hamline University (1901) 76.7; (1903) 77.8; (1904) 75;	(1908)	76.5.
St. Louis University	(1908)	84.2
Univ. of Mich., Dept. of Med. and Surg..(1904) 75.6;	(1909)	78.3
Creighton Medical College	(1907)	79
Jefferson Medical College	(1910)	81.3
University of Nashville	(1906)	75
Marquette University, Milwaukee	(1896)	75

FAILED

College	Year Grad.	Per Cent.
Bennett Medical College	(1907)	56.8
Baltimore University	(1900)	59.4
Michigan College of Medicine and Surgery	(1901)	63.4
University of Minnesota, College of Medicine	(1903)	68.6
Barnes University	(1910)	67.8
Marion-Sims Beaumont College of Medicine	(1903)	59
Ohio Medical University	(1902)	47.6
Memphis Hospital Medical College	(1910)	69.9

Florida May Report

Dr. J. D. Fernandez, secretary of the Regular Board of Medical Examiners of the State of Florida, reports the written examination held at Tallahassee, May 8-9, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 51, of whom 46 passed and 5 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Birmingham Medical College	(1909)	92
University of Alabama	(1910)	88
Yale University	(1898)	81
Atlanta School of Medicine (1910) 82, 87;	(1911)	80, 80, 83, 85, 90
Medical College of Georgia	(1911)	80, 88
Atlanta College of Physicians and Surgeons (1906) 84; (1909) 77; (1910) 75;	(1911)	87.
Chicago College of Medicine and Surgery	(1911)	87
Indiana Medical College	(1908)	75
Kentucky University	(1902)	76
Kentucky School of Medicine..(1889) 75;	(1897)	87
Tulane University of Louisiana	(1903)	80
Baltimore Medical College	(1906)	84
University of Maryland..(1890) 79;	(1910)	75, 88
College of Physicians and Surgeons, Boston	(1910)	88
Creighton Medical College	(1906)	82
Columbia Univ., Coll. of Phys. and Surg	(1906)	89
Albany Medical College	(1900)	89
New York Med. Coll. and Hospital for Women	(1895)	91
Leonard School of Medicine	(1907)	84
Medical College of South Carolina	(1909)	75
Meharry Medical College	(1911)	86, 90
University of Nashville..(1909) 81;	(1911)	75, 90
Memphis Hospital Medical College..(1886) 81;	(1893)	87
Tennessee Medical College	(1895)	75
Vanderbilt University	(1910)	81, 82
University of Havana, Cuba..(1897) 80;	(1907)	75
University of Athens, Greece	(1906)	75

FAILED

College	Year Grad.	Per Cent.
Medical College of South Carolina	(1910)	58
University of West Tennessee	(1911)	59.7, 62.1
University of the South	(1906)	57.7
University of Tennessee	(1909)	60.1

Kentucky May Report

Dr. J. N. McCormack, secretary of the Kentucky State Board of Health, reports the written examination held at Louisville, May 31 to June 2, 1911. The number of subjects examined in was 10, percentage required to pass, 70, and not less than 60 in any one branch. The total number of candidates examined was 96, of whom 69 passed and 27 failed, including 1 osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College	(1908)	70
University of Louisville (1910) 82;	(1911)	70, 73, 73, 73, 74, 74, 74, 74, 75, 75, 75, 76, 76, 77, 78, 78, 78, 79, 79, 79, 80, 80, 80, 80, 81, 81, 81, 82, 82, 82, 82, 82, 82, 82, 82, 83, 83, 83, 83, 83, 84, 84, 84, 85, 85, 85, 85, 86, 86, 86, 86, 86, 87, 87, 87, 87, 87, 88, 88, 88, 90.
Ohio Miami Medical College	(1911)	81, 86
Eclectic Medical College, Cincinnati	(1911)	80, 85
Vanderbilt University	(1911)	82
Meharry Medical College	(1909)	84

FAILED

College	Year Grad.	Per Cent.
Kentucky University	(1905)	66
University of Louisville (1910) 46, 46, 65, 67, 68, 69;	(1911)	45, 49, 51, 61, 61, 62, 63, 64, 66, 68, 69, 71.*
Louisville and Hospital Medical College	(1908)	52, 66
Louisville National Medical College	(1910)	58
Meharry Medical College..(1909) 63; (1910) 71;*	(1911)	43
Old Practitioner†		36

* Fell below 60 in one or more branches.
† No college or year of graduation given.

Minnesota June Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, June 20, 1911. The number of subjects examined in was 11; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 28, of whom 27 passed and 1 failed. Sixteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1909)	86, 87
College of Physicians and Surgeons, Chicago	(1911)	76
Rush Medical College	(1910)	86
Hamline University (1907) 82; (1910) 85;	(1911)	83, 83, 84.5, 86.4, 87.
University of Minnesota, College of Medicine	(1911)	81, 82.6, 83, 83, 84, 84, 84.5, 86, 86, 86, 87, 88, 88, 89, 89.
Jefferson Medical College	(1909)	80

FAILED

College	Year Grad.	Per Cent.
Laval University, Quebec	(1910)	*77

* Fell below 75 in one or more branches.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1911)	Illinois
Rush Medical College	(2, 1897)	Iowa
State Univ. of Iowa, Coll. of Med. (1907) (1908)	(1909)	Iowa
Johns Hopkins University	(1905)	N. Dakota
St. Louis College of Physicians and Surgeons	(1908)	Wisconsin
St. Louis University	(1910)	Illinois
Creighton Medical College	(1910)	Nebraska
University of Pennsylvania. (1905) New Jersey;	(1907)	Maryland
Jefferson Medical College	(1902)	Michigan
Marquette University, Milwaukee....(1910)	(2, 1911)	Wisconsin

Book Notices

Criminal Man According to the Classification of Cesare Lombroso. Briefly Summarized by His Daughter, Gina Lombroso Ferrero. With an Introduction by Cesare Lombroso. Cloth. Price, $2. Pp. 322, with 39 illustrations. New York: G. P. Putnam's Sons, 1911.

In this popular volume, one of the Science Series, Lombroso's daughter has summarized her father's work excellently. By temperament and training she is well adapted for such a task, having from early youth been associated with her father in the collaboration of his epoch-making studies on the criminal and his treatment. In the introduction to this book—Lombroso's last literary work—he gives the reader glimpses of the several important steps and incidents which led to his special studies in a comparatively new field. Very early in his career, while a young army surgeon, with much leisure to pursue special work, it occurred to him that in order to study insanity, it was necessary to study the patient, not the disease. He therefore began the use of clinical methods in the study of skulls; he applied measurements and weights, the esthesiometer and the craniometer. Still later he applied similar methods to the study of the criminal, primarily with a view to differentiate the criminal from the lunatic. But he soon stumbled on the idea that the criminal was not so much different from the insane, and he entirely discarded the studies of crime in the abstract and betook himself to direct analytical studies of the criminal compared with normal individuals and the insane.

Lombroso himself attempts to retrace some of the steps which led him to make important deductions. He relates that while at work on his problem, it fell to his lot to make the post-mortem examination of a celebrated criminal, the brigand Vitella, who was carefully examined by him during life. This Italian brigand possessed such extraordinary agility that he had been known to scale steep mountain heights, bearing a sheep on his shoulders. During the examination of this criminal's skull, Lombroso discovered in the middle of the occipital bone—the usual location for an elevation or spine—a depression, which he named the median occipital fossa, a finding analogous with that observed in the inferior animals, especially the rodents. This depression in the skull corresponded with the hypertrophy of the vermis, known in birds as the middle cerebellum.

This was a revelation to Lombroso and it immediately suggested to him the problem of the nature of the criminal—an atavistic being who reproduces in his person the ferocious instincts of primitive humanity and the inferior animals. Thus, says he, were explained anatomically the enormous jaws, high cheek bones, prominent superciliary arches, solitary lines in the palms, extreme size in the orbits, handle-shaped or sessile ears found in criminals, savages and apes, insensibility to pain, extremely acute sight, tattooing, excessive idleness, love of orgies and the irresistible craving for evil for its own sake, the desire not only to extinguish life in the victim, but to mutilate the corpse, tear its flesh and drink its blood. The final key, says Lombroso, was given him by the case of Misdea, a young soldier of about 21, unintelligent, but not vicious. Although subject to epileptic fits, he had served for some years in the army when suddenly, for some trivial cause, he attacked and killed eight of his superior officers and comrades. Having accomplished this horrible deed, he fell into a deep slumber, lasting twelve hours, and on awakening appeared to have no recollection of what had happened. This soldier, while representing the most ferocious type of animal, manifested in addition all the phenomena of epilepsy, which appeared to be hereditary in all the members of his family. It flashed across his mind that many criminal characteristics not attributable to atavism, such as facial asymmetry, cerebral sclerosis, impulsiveness, instantaneousness, the periodicity of criminal acts, the desire of evil for evil's sake, were morbid characteristics common to epilepsy, mingled with others due to atavism.

After retracing the steps that lead to his own achievements in the discovery of the congenital epileptoid criminal, Lombroso does not fail to acknowledge the credit due Enrico Ferri and others, who differed from him in that they maintained that Lombroso's type constitutes only a small number of the entire criminal class, and that the greater number of crimes were committed by the occasional criminal and the criminal by passion. Thus, through the epoch-making studies and the advocacy of numerous reforms by Lombroso, the criminal has received humane consideration, and other workers have still further extended the scope of these early studies, so that the edifice of criminal anthropology, circumscribed at first, has extended its boundaries, embracing the special labors on homicide, political crime, crimes connected with the banking world, crimes by women, etc.

The perusal of this book throws a flood of light on the work of the modern school of criminology, of which Lombroso was the founder and most ardent expounder. We know of no more interesting and instructive summer reading for the physician than this well-written and handy volume affords.

General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Volume I, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 405. Chicago: The Year Book Publishers.

The greater portion of this volume of the Year-Book Series is taken up with a review of the literature of tuberculosis and the other acute infections of the lungs, pleura and bronchial tubes, and affections of the heart and blood-circulatory system. Most of the remainder is devoted to the physiology and pathology of the ductless glands, and to certain metabolic diseases, as diabetes, gout, obesity and to nephritis. The section on tuberculosis is comprehensive, covering the pulmonary affection in almost every aspect; it indicates that opinion is crystalizing on certain facts regarding the nature and treatment of this disease, one of them being that the infection is general, with its most destructive local manifestation in the lungs; another that sanatorium treatment is the best. In the section on the circulatory system the anatomy and physiology of the heart and vessels, diagnostic methods, and blood-pressure and its significance are well and interestingly covered. Other sections on immunity, vaccine therapy and on poliomyelitis, giving the status of those subjects during the year, complete a very interesting volume.

Spirochetes. A Review of Recent Work with Some Original Observations. By W. Cecil Bosanquet, M.A., M.D., Fellow of the Royal College of Physicians, London. Paper. Price, $2.50 net. Pp. 152, with 90 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This little book is the outcome of a study by the author of the literature dealing with spirochetes. In the first part an effort is made to establish the features peculiar to the genus and in the second part the separate species that have been described are considered briefly. There is a rather useful bibliography appended. The illustrations are numerous, usually fairly well executed, but there are some poor ones. The following statement (p. 15) needs revision: "It is also asserted that whereas bacteriolysins are thermostable (not destroyed by heat), the corresponding substances which act as spirilla (spirochetes) are thermolabile, thus resembling the hemolysins." It is generally accepted that bacteriolysins and hemolysins are quite similar in constitution and behavior with respect to heat and other influences. The book should prove useful as a guide to the literature on the spirochetes.

A Radiographic Atlas of the Pathologic Changes of Bones and Joints. By Amédée Granger, M.D., Lecturer on Radiology and Electro-physics, New Orleans Polyclinic. Cloth. Price, $6. Pp. 207, with illustrations. New York: A. L. Chatterton Co.

This is a collection of seventy-six half-tone plates from skiagraphs of the bones and joints, with explanatory text. The plates are good, and each one is accompanied by a concise instructive description. The volume will prove useful, for reference and comparison, in the interpretation of skiagraphs of these parts, and is worthy of a place in the library of any one undertaking such work.

Précis d'Electrothérapie et de Radiothérapie Oculaires. Par le Dr. A. Leprince (de Bourges). Paper. Price, 3 fr. 50. Pp. 316, with 33 illustrations: Jules Rousset, 12 Rue Monsieur-le-Prince, 1911.

This monograph is the latest and one of the best works on the subject. It opens with a description of most of the appliances required in the manufacture and employment of an important diagnostic and therapeutic agent. While these instruments are mostly of foreign make, yet they have their American counterparts, so that the reader may easily obtain as good as, and in many instances, a better supply at home. Not only are the faradic, galvanic, static and high-frequency currents described and discussed, but phototherapy and the various kinds of radiotherapy receive extended attention. In the second portion of the work, methods of examining receive due consideration. Finally, in the third division of the work, the use of electricity as a purely therapeutic agent in the treatment of ocular affections is discussed. The text is fairly well illustrated and further elucidated by clinical histories and a description of cases in the practice of the author.

Medicolegal

Licenses Revokable for Pretended Olive-Oil Treatment of Gall-Stones—Allopaths, Etc., as Witnesses Against Different Schools—Unprofessional and Dishonorable Conduct

(Berry vs. State (Tex.), 135 S. W. R. 631)

The Court of Civil Appeals of Texas affirms a judgment revoking the license of the appellant Berry, defendant in the court below, to practice medicine in the state of Texas. It was alleged that he had advertised as a physician and specialist, and especially as being skilled in the treatment and cure of cancers and gall-stones; that he had treated a certain woman for gall-stones, promising to remove them for $49; that he gave medicine composed principally, if not entirely. of olive oil; that she took the medicine, believing that it would cure her, and after taking the same passed from her stomach and intestines a large number of balls, of a green color, from ⅓ to ⅜ of an inch in diameter, which were examined by the defendant and pronounced gall-stones by him, whereas the balls were not gall-stones, as the defendant well knew. It was further alleged that the medicine was given with the knowledge and intent that it would form balls, which after passage could be used for the purpose of deceiving the patient. Other instances of such deception were pleaded, and it was alleged that the defendant knew that his representations were false, that they "were grossly unprofessional and dishonorable and of a character likely to deceive and defraud the public." The court thinks that the facts justified the jury in finding that the defendant was guilty of unprofessional and dishonorable conduct such as was likely to and did deceive and defraud the public.

A point was sought to be made of the fact that the law of 1907, under which this suit was prosecuted, does not define what constitutes "other grossly unprofessional and dishonorable conduct of a character likely to deceive and defraud the public." But in Morse vs. State Board of Medical Examiners, 122 S. W. R. 446, the court said that, "unless it be permissible to use language as general as that involved in the statute under consideration, legislation in many instances could not be so framed as to accomplish all that was desired and afford full protection to the public, because of the impossibility of enumerating in detail every separate and distinct act intended to be prohibited." That language was used in regard to the identical part of the statute attacked by the defendant, and the court adopts it as sound and conclusive, however much it may conflict with the decisions of other states. Human ingenuity could not frame a law that would answer the demands of the decision in the case of Matthews vs. Murphy (Ky.) 63 S. W. R. 785, 54 L. R. A. 415, for it would require that every conceivable unprofessional act should be set out and defined before a license could be revoked for any such act.

The question in this case was whether the defendant had perpetrated a fraud on certain patients by giving them certain medicines that would produce certain substances which he represented to be gall-stones and which were not gall-stones at all, and that such representations were fraudulently made, with the intent to deceive the parties to whom he gave the medicine, and thereby obtain money from them. It did not take the wisdom and lore of an "allopath," the knowledge of a homeopath, the philosophy of an eclectic, or the erudition of an osteopath to fit a man to testify to the chemical elements composing the balls, called by the defendant gall-stones; but any chemist of any school of medicine could testify as to their composition. Any one of any school of medicine, or no school, who had the knowledge, could testify that, if a large quantity of olive oil is given and an alkali is also given, a saponaceous mass will be formed in the stomach and intestines. Any one who had obtained the knowledge could testify to the sizes of the cystic duct and common duct and to the ordinary size of gall-stones, and that an ordinary gall-stone could not pass from the gall-bladder through the duct into the stomach or duodenum. No school or system of medicine can change the human anatomy, but it must perforce be the same in all of them, and "allopaths" could testify to questions of anatomy for or against a member of any other school.

It was useless to discuss the question of the competency of a physician of any one school to testify against a physician of another school as to the mode of treatment of disease, because the testimony failed to show different treatment for gall-stones in different schools, and because the defendant showed that he belonged to no one school but was a member of three or more, and was the graduate of several "allopathic" institutions. He was too much of an "allopath" himself to object to "allopathic" testimony, and the court was left in the dark as to whether he gave "allopathic" or eclectic treatment. But, from the amount of oil and other preparations given the patients, the court is justified, perhaps, in presuming that it was not homeopathic treatment. The defendant did not pretend that the olive oil and tartaric acid treatment was taught by the eclectic or any special school, but that it was recognized and accepted in all schools. The "allopathic" physicians were properly allowed to deny the "soft impeachment."

The defendant testified that he knew that the common duct leading from the gall-bladder was too small to accommodate gall-stones of much size; that very little, if any, olive oil taken into the stomach could possibly get into the gall-bladder; that a gall-stone, if dissolved at all in olive oil, must be soaked in it, and the oil must be heated. His testimony alone was sufficient to justify a jury in finding that his treatment was a fraud and that he knew it, and also knew that the material passed by his patients, which he pronounced gall-stones, were not gall-stones.

The statute of 1907 enumerates three causes for which a license may be denied or revoked, but they are separate and independent of each other, and the court is of the opinion that each subdivision of the section is sufficient in itself to justify a judgment of revocation, if supported by facts.

The terms "unprofessional" or "dishonorable" conduct used in the law of 1907 are qualified and modified by the language "of a character likely to deceive or defraud the public," to distinguish them from acts that are unprofessional or dishonorable under the code of ethics prescribed by the honorable profession of medicine that would not, directly at least, react to the disadvantage of the public, such as not advertising, of not entering into a consultation with an attending physician without his consent, and other acts that go to form and constitute the code of the honorable and upright practitioner of medicine. The law leaves to the medical profession the enforcement of its rules of ethics, and, however conducive they may be to creating and preserving the high standard of one of the most important and honored professions in the world. takes no cognizance of them, and does not seek to enforce them. except in so far as their infraction may infringe on the rights and welfare of the public. But when the unprofessional conduct of the member of the medical profession is of such a character as to deceive or defraud the public, then the law denounces such conduct, and strips the offender of the means which make it possible to impose on the credulous and unwary. Such unprofessional conduct would necessarily be closely allied to crime, because it is defrauding the public, and yet it was never intended to confine such conduct to the kind or class of offense that is denounced by the Criminal Code of Texas. That is provided for in a different subdivision of the statute from the one under which this case was prosecuted. The defendant was charged with dishonorable and unprofessional conduct which was calculated to deceive or defraud the public, and such conduct might not necessarily be a crime against the laws of Texas. The gist of the charge in this case was dishonorable conduct calculated to deceive or defraud the public, and the court very properly confined the attention of the jury to that charge. The case of Morse vs. Medical Examiners does not hold that when such a charge as this is made, proof of a felony or other crime must be made, but merely states that the unprofessional conduct must be similar in nature to a crime, as is any attempt to deceive or defraud the public. It is similar and close akin to swindling, but all the essentials of swindling need not be proved in order to justify a verdict of dishonorable or unprofessional conduct.

Society Proceedings

COMING MEETINGS

Colorado State Medical Society, Steamboat Springs, Aug. 15-17.
American Electro-Therapeutic Association, Philadelphia, Sept. 6-7.
Medical Society of the Missouri Valley, Omaha, Neb., Sept. 7-8.
Washington State Medical Association, Spokane, Sept. 5-7.

MEDICAL SOCIETY OF NORTH CAROLINA

Fifty-Eighth Annual Meeting, held at Charlotte, N. C., June 20-22, 1911

Under the Presidency of Dr. C. M. Van Poole, Salisbury

The Pediatric Aspect of Tuberculosis

Dr. Paul H. Ringer, Asheville, N. C.: The child of to-day is the consumptive of to-morrow, and hence prophylaxis is the key-note of the situation. Etiologically the best authorities favor the inhalation route of infection, despite the assertions of von Behring and others to the contrary. The connection between tuberculosis and the acute infectious diseases of childhood would seem to rest on the catarrhal inflammation of the mucous membranes occurring in the latter, this inflammation when affecting the membranes of the upper respiratory tract paving the way for infections by inhalation. Symptoms of tuberculosis in the child and infant are notoriously inconstant. This applies more to the pulmonary type of tuberculosis than to the infection of other portions of the body. Physical signs are atypical, râles and partial consolidation, so suspicious in the adult, often clearing up rapidly and completely, while sporadic signs in unusual portions of the chest may determine serious trouble.

Modes of treatment are more sociologic and philanthropic than distinctly medical. The following plans have been attempted with success: 1. Sending children of infected families away to the country for a few weeks or months. Life wholly in the open. Fed bountifully and all occupations are out-of-doors. Thus children in the hazy "pretuberculous" stage, or those mildly infected, are restored to health. 2. Children remaining at home are given interest in garden plots and cultivate the same—keeps them in the open. 3. Day camps; extra nourishment. 4. Open-air school.

Treatment depends on two factors: 1. Fresh air and good food; drugs seldom, if ever. 2. Cooperation on the part of the various educational elements of society, medical, sociologic, philanthropic.

Mortuary Statistics in North Carolina for 1910

Dr. Thomas M. Jordan, Raleigh: There died in 1910 from preventable diseases alone, in North Carolina, 6,500 persons; from whooping-cough, 230; measles, 200; diphtheria, 265; small-pox, 5; typhoid, 1,110; tuberculosis, 4,690. The medical profession should demand of the state measures to prevent tuberculosis like other communicable diseases. It is twenty times as destructive to life as measles, whooping-cough or diphtheria, and nine hundred and forty times as death-producing as small-pox. In a public health way, doctors are acting as to tuberculosis exactly as they did when they regarded tuberculosis as incurable and non-communicable.

DISCUSSION

Dr. C. A. Julian, Thomasville: Physicians should be required to report privately all cases of tuberculosis to their superior health officers, and these officers should be required to furnish such patients with health instructions and make them carry out the instructions in detail. Every case of tuberculosis should be cared for by the state, where the families are unable to care for their own patients. I do not believe in placarding the homes of such patients, because that gives the public a false feeling of fear. Where proper care is had in these homes, and if a private report has been made on these cases, and the law is followed to the letter, and the doctor and the patient do their duty, the patient is not a menace and does not require a card sticking up outside his door advertising the fact that he has tuberculosis.

Treatment of Intestinal Tuberculosis

Dr. Samuel G. Gant, New York: The therapeutic measures employed by me in the treatment of bowel tuberculosis are as follows: (1) Measures for improving the general health. (2) Symptomatic treatment using codein, guaiacol or creosote to allay irritable coughing, opium and belladonna to control pain, cramps and diarrhea and, when necessary, combining them with an antiseptic or astringent. (3) Irrigations of ichthyol, balsam of Peru, boric acid or krameria and soda ½ per cent., alternated daily with high injections of olive oil and bismuth to soothe the bowel. (4) Topical applications of silver nitrate 8 per cent., balsam of Peru or ichthyol, 20 per cent. made directly to the ulcers tri-weekly through the proctoscope or sigmoidoscope. (5) Surgical treatment including appendicostomy and cecostomy by means of which a way is provided for through and through irrigation; exclusion for the purpose of preventing the feces from passing over the affected segment and resection where the diseased intestine is removed, which offers the best permanent results.

The Ileocecal Fold and Chronic Appendicitis

Dr. J. Shelton Horsley, Richmond, Va.: Operations for chronic appendicitis, while practically free from mortality, do not always relieve morbidity. The essential cause of unrelieved pain is the fact that the condition which produced the pain was not corrected. Either the diagnosis was not accurate and such diseases as stone in the kidney, rheumatism, spinal trouble, ulcer of the duodenum or stomach or Lane's kink were not excluded or else the local condition about the appendix was not properly interpreted. The ileocecal fold may be shortened by inflammation and consequently produce a pulling or a kinking of the terminal ileum or it may be so constricted by a ligature on the mesentery of the appendix as to cause a greater pulling by the ileocecal fold than existed before the operation. This fold is inserted in the terminal ileum and the ileocecal junction. If well developed it may cover as much as the last 3 inches of the ileum and passes downward into the border opposite the mesenteric attachment. It passes down and blends with the mesentery of the appendix and sometimes is inserted into the appendix itself. Consequently, a ligature in the mesentery of the appendix will produce a marked pulling on the ileum when the ileocecal fold is well developed. I remove the ileocecal fold, if at all well developed, in every operation for chronic appendicitis. I cut this fold close to its insertion into the ileum and dissect it down to where it reaches the mesentery of the appendix, at which point it is ligated. Since adopting this procedure there have been fewer complaints of postoperative pain from patients operated on for chronic appendicitis.

Acute Pancreatitis: Report of a Case

Dr. R. L. Gibbon, Charlotte: A man, aged 46, had enjoyed excellent health, with the exception of occasional mild attacks of indigestion. In the last six or seven months he had suffered acute colicky pains in the abdomen, usually at night, lasting a few hours, and coming on at intervals of ten days or two weeks. For a long time his general health had not seemed to suffer, except for the last few weeks, when he began to lose some flesh. The attacks bore little, if any, relation to food taken. Last attack began the night of February 17. Pain was more violent than usual. Abdominal wall was rigid. Temperature, 99½ F. Some vomiting, but not marked. No jaundice. Pain was referred to the epigastric region just below the ensiform and to the left side of the abdomen. Examination of appendix and gall-bladder, negative. Two days later patient's condition unimproved. Blood-count at this time showed hemoglobin, 70 per cent.; red cells, 4,000,000; white cells, 15,600; no nucleated reds; no malaria. Kidney tests, negative. Patient had slept very little since beginning of attack. Facial expression, bad. Tender spots on left side of abdomen.

On February 22, abdomen was opened through right rectus muscle, with a view of being accessible to either gall-bladder, stomach or pancreas. On entering the cavity there were abundant signs of pancreatitis. Adhesions to anterior abdominal wall on left side, and to the body and tail of pancreas. Omentum and fat around bowels, especially in vicinity of pancreas, showed whitish patches of fat necrosis. Pancreas was greatly enlarged, tail extending far over to the left, but contrary to usual rule, head of pancreas was not noticeably swollen, which probably accounts for the absence of jaundice. Gall-bladder appeared normal and no stones could be felt. Patient showing indications of collapse, capsule of the pancreas was torn through at one point and drainage tube inserted, abdomen being closed through at one point and drainage tube inserted, abdomen being closed with through and through silkworm gut. For the same reason, and because no gross pathologic condition was found, the gall-bladder was not drained. For several days after operation but little hope of recovery for patient was entertained. Pulse was weak, color bad, and respiration difficult. After a few days there was considerable discharge of a thick, chocolate-colored pus. Drain was kept open as long as possible. Patient made a gradual recovery, and at the present time is attending to his duties, although he has not entirely regained his flesh and strength.

Enemata in Surgical Cases

Dr. R. L. Payne, Norfolk, Va.: It is a mistake to believe a nutritive equilibrium can be maintained by enemata, and patients suffering from stomach and other troubles requiring operation should not have operation delayed while nutritive enemata are given to build them up. Not more than 300 calories can be absorbed in the twenty-four hours from the rectum, or less than one-sixth the amount necessary to maintain life. The only thing certain of absorption from the lower bowel is water, and the study of cases of starvation show that life is almost indefinitely prolonged if water is supplied freely. This is so not only because water makes up so large a percentage of body tissue but especially because no elimination of the poisonous waste of the tissues can go on without a supply of water. It follows that a patient whose life would be sustained for many days by the caloric resultant from the burning of his own tissues, will die quickly when deprived of water, because of auto-intoxication from retention of his own waste products. It is a serious question, are not albuminoids in the large bowel liable to be broken up by putrefactive bacteria into ptomaines that may become serious sources of danger to the patient? In my own practice, when the stomach will not retain food, I depend almost entirely on normal salt solution or 5 per cent solution of glucose, as glucose requires no digestion but passes directly into the liver to be transformed into glycogen and is abundant in heat-giving power. There are conditions of the kidney in which too much sodium chlorid can be given and in these cases plain water may be substituted. Always remember when the need is urgent, one must not risk irritating the rectum by giving so-called nutritive enemata, but depend on water. All enemas to be retained, must be given in the Trendelenburg posture and this is accomplished by raising the foot of the bed.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Tennessee State Medical Association, Nashville

July

1 Pellagra. B. G. Tucker, Nashville.
2 *Pellagra, With Report of a Case. E. H. Jones, Murfreesboro.
3 *Practical Laboratory Work for General Practitioner. N. Evans, Nashville.
4 Calculus of Kidney. E. D. Newell, Chattanooga.
5 *Remarkable Case of Catatonia. J. W. Stevens, Nashville.
6 Ophthalmia Neonatorum. E. C. Kane, Memphis.

2 and 3. Abstracted in The Journal, May 6, 1911, pp. 1354 and 1355.

5. **Catatonia.**—The patient, male, aged 23, had shown some erratic behavior for several months, culminating a few days before Stevens saw him in a frank psychosis. He lay in bed with eyes tightly closed and was so utterly irresponsive to every effort to arouse him, to induce him to speak, to move or to open his eyes, that his family were much alarmed and feared that he was suffering from some severe brain lesion. For several days previous he had expressed delusions to the effect that he was the Christ, and that he would live always. For a few days subsequent to admission to the sanatorium he would take food and would talk a little. Soon, however, he ceased to do either, and during the past eleven months he has not spoken a word save on three or four occasions, and has less than half a dozen times taken any food spontaneously. At the few times when he has been induced to speak, he has indicated that he fully understands all that is said to him. His refusal of food resulted in resorting to tube-feeding, which has been done regularly twice daily for the past eleven months. For a short time after admission he abandoned his first state of inertia, and would walk about the house and grounds. This, however, soon gave place to inactivity, so that he would sit motionless for hours. The cataleptic state now presented, with classical *cerea flexibilities*. With eyes tightly closed and lips so closely compressed that they extended forward like a snout, he remained mute and totally inactive, and would maintain indefinitely any posture in which his body or limbs might be placed, regardless of how awkward, uncomfortable or cramped this might be.

About a month after admission this gave place to that condition which has continued to the present, viz., a rigid teneseness of every muscle in the body under his voluntary control. To stand him up was like ending up a log, and to stand him on his head was rather easier than to stand him on his feet. This was continued unmitigated for seven months. About Jan. 1, 1911, it began to be noticed that the patient rolled in bed occasionally, turning from side to side, never turning over on his face, but rolling squarely on his side each time as far as possible without precipitating himself forward. This, from an occasional thing, quickly increased in frequency of occurrence, until by the middle of the month it reached the point where he rhythmically turned back and forth twelve or fifteen times a minute, and for many hours each day. From this point the frequency, or rapidity of the turns increased, as did the number of hours in which he daily engaged in it, until the fastigium was reached on February 9, when by careful estimate, during sixteen and one-half hours he rolled from one side to the other 48,256 times. For a period of six hours he turned 17,648 times, or an average of 49 times a minute. Repeated comparisons during the remainder of the sixteen and one-half hours indicated the rate of turning to be the same. Not unremarkable was the fact that the rhythm of the turning scarcely varied at all. During the latter part of February and through March and April his average was something like 15,000 turns, or approximately 3 miles of rolling daily. Since May 10 he had rolled much less. About this time he was put out on the porch for the sake of fresh air. Thinking that he was there unobserved, he would frequently remain still for an hour, relaxed and looking about naturally. The moment, however, he realized that he was being watched, he instantly closed his eyes, stiffened himself, and resumed rolling.

Southern California Practitioner, Los Angeles

July

7 Belladonna Treatment for Drug and Alcohol Addiction. R. Moore, Los Angeles.
8 Changing Type of General Paralysis. C. L. Allen.
9 Surgery of the Palate. T. W. Brophy, Chicago.
10 Stereoscopic Roentgenography. A. Soiland, Los Angeles.
11 History of Medicine From Hippocrates to Galen. R. L. Cunningham, Los Angeles.

Journal of Infectious Diseases, Chicago

July

12 *New Stain for Bacterial Capsules With Special Reference to Pneumococci. E. C. Rosenow, Chicago.
13 *Problem of Transmission in Typhus. R. M. Wilder, Chicago.

12. **Stain for Bacterial Capsules.**—After much experimentation the following method has been devised by Rosenow: Make a thin smear on a perfectly clean slide or cover-glass. If the exudate, such as sputum, is too thick, add enough distilled water so that the material can be spread evenly by means of a piece of fine tissue or cigarette paper. In case of cultures (blood-agar, serum-glucose-agar or Loeffler's blood-serum being preferable) remove a small amount of the growth from the surface of the medium and at once mix thoroughly with a loopful of serum on the slide and spread by means of tissue paper, or better still, make a rather dense suspension in a few drops of distilled water, and then mix an equal quantity of this suspension with serum. As the smear becomes nearly dry, cover for 10 to 20 seconds with a 5 to 10 per cent. aqueous solution of tannic acid; wash in water and blot; stain with carbol (saturated alcoholic solution gentian violet [Grübler] 1 pt., 5 per cent. phenol in water, 4 pts.) or anilin-gentian-violet one-half to one minute, heat over flame but do not boil; wash in water again; Gram's iodin solution for one-half to one minute; decolorize in alcohol (95 per cent.); stain for from two to ten seconds, depending on the thickness of smears, with saturated alcoholic (60 per cent.) solution of Grübler's eosin; wash in water and blot; finally, clear in xyxol and mount in balsam, or examine directly. (If the organism like *B. mucosus* is Gram-negative it may be stained with Loeffler's or aqueous methylene blue.) In case of sputum in which the cocci are imbedded in a more or less tenacious mucus, the capsules, at times, are not rendered stainable by the above method. In that case Rosenow says it is well to fix and stain simultaneously with the 2 per cent. aqueous tannic acid, 4 parts, and saturated solution of gentian violet, 1 part. This modification often gives beautiful results. The cocci, however, decolorize easily and the tannic-acid-gentian-violet may be followed by carbol-gentian-violet and then the usual procedure. Ordinary carbol fuchsin diluted 5 to 10 times, aqueous eosin (50 per cent. sat. sol.) may also be used to stain the capsule although the saturated alcoholic (60 per cent.) eosin has given the best results. Decolorization after the modified Gram procedure of tannic-acid-fixed smears is more rapid than in the case of heat-fixed smears, which should be borne in mind.

13. **Transmission in Typhus.**—That typhus is an insect-borne disease, and that it is contagious only in so far as infected vermin are transmitted from host to host by contact and is not contagious under conditions in which vermin are excluded, appears from Wilder's experimental studies and investigations. He says that three insects should be regarded with suspicion as possible conveyors of the infection. These are the flea, the bedbug and the louse. The epidemiology of typhus indicates the possibility that neither fleas nor bedbugs ordinarily play any great rôle in transmission. The body louse (*Pediculus vestimenti*) stands incriminated, first, by the experimental results of the author and others, and again by the epidemiology of the disease. The louse theory is in every way consistent with the etiology of Mexican typhus so far as this is understood and explains several important phases of the epidemiology which were formerly obscure. Chief among these are, (a) the geographic limitation of typhus to the central tableland of Mexico, (b) the seasonal variation of the disease, and the effect of temperature and rain on the epidemics in Mexico City. It is very important that prophylactic sanitary measures directed against typhus fever should take into primary consideration the body louse.

Archives of Pediatrics, New York

July

14 *Scarlet Fever. Its Specific Microorganism. A. E. Vipond, Montreal.
15 Prevention of Contagious Diseases in Infancy, With Special Reference to Whooping-Cough and Measles. F. P. Webster, Portland, Me.
16 Contagious Diseases, Modern Treatment. A. J. Bell, Cincinnati.
17 Casuistry of Chylous Ascites and Chylocele in Sucklings and Infants. D. M. Cowie, Ann Arbor, Mich.

14. Also published in *Canadian Medical Association Journal*, July; see abstract No. 105 in this issue of The Journal.

Annals of Surgery, Philadelphia

July

18 *Control of Bleeding in Operations for Brain Tumors. H. Cushing, Baltimore.
19 Subluxation of the Atlas. L. W. Ely, Denver, Colo.
20 *Treatment of Aneurysm of the Abdominal Aorta by Partial Occlusion of the Aorta with the Metallic Band. W. D. Gatch, Baltimore.
21 Negative Tension Drainage in the Treatment of Empyema. E. M. Von Eberts, Montreal.
22 *Carcinoma Mastitoides. E. A. Schumann, Philadelphia.
23 Epigastric Hernia. L. W. Hotchkiss, New York.
24 Pathology and Symptomatology of Cholelithiasis. A. J. Walton, London, Eng.
25 Some Modifications of Technic in the Surgery of the Gall-Bladder and Bile-Ducts. J. E. Summers, Omaha, Neb.
26 Mesenteric Cysts. G. C. Ney and A. L. Wilkinson, Baltimore.

18. **Hemostasis in Brain Operations.**—One of the chief objects of concern in intracranial surgery should be the avoidance of any unnecessary loss of blood, for at best, in many cases of brain tumor associated with venous stasis, bleeding is likely to be so excessive as to necessitate postponement of the final steps of the procedure until a second or even a third session. The common methods of blood-stilling by sponge, clamp and ligature are largely inapplicable to intracranial surgery, particularly in the presence of bleeding from the nervous tissues themselves, and any device which serves as an aid to hemostasis in these difficult operations will bring a larger number of them to a safe termination at a single sitting, with less loss of blood and less damage to the brain itself. In addition to the more familiar tourniquet for the scalp, and wax for diploetic and emissary bleeding, suggestions are offered by Cushing as to the use of gauze pledgets, dry sterile cotton, fragments of raw muscles and other tissues, as well as sections of organizing blood-clots for superficial meningeal bleeding, and silver "clips" for inaccessible individual points either in dura or brain.

20. **Occlusion of Aorta with Metal Band.**—From observations made in two cases Gatch concludes that the presence of the large waxy casts in the urine in both was due to the diminished blood-supply to the kidneys, brought about by the constriction of the aorta; in the second case this constriction was just above the renal arteries, but in the other, first of the thoracic aorta, and then of the abdominal aorta below the origin of the inferior mesenteric artery. The necropsy findings in the second case, in which the right renal vein was enormously distended, lend some support to this supposition. In this case the constant presence of the casts in the urine, even after the restoration of the normal blood-supply to the organs below the band, is attributed to the obstruction to the vessels of the right kidney. This kidney at necropsy showed marked degenerative changes. Gatch found that the pain of an abdominal aneurysm may be greatly lessened and its growth checked by the application of a partially occluding metallic band to the aorta, proximal to the aneurysm. When the aneurysm is saccular and gives origin to no important vessels a cure is possible by this means.

22. **Carcinoma Mastitoides.**—Morphologically carcinoma mastitoides does not differ from certain forms of carcinoma simplex; the marked difference which does exist is due entirely to the interaction of the carcinoma and the profound inflammatory reaction produced by it. It follows, then, in Schumann's opinion, that this excessive reaction of these special cancer cells on the surrounding tissues, a reaction sufficiently marked to engender a general, diffuse, round-cell infiltrate and connective-tissue hyperplasia so profound as to frequently eventuate in breakdown and abscess formation, must be based

either on some peculiar toxin formed by the cells themselves, or on a localized loss of resistance to tumor invasion, existent in the breast itself. Inasmuch as these growths are almost always found in mammæ either in early lactation or the last weeks of pregnancy, when the glands are functionally at the height of their activity, it would seem that this condition is the determining factor. The exact process can only be described conclusively when more complete knowledge of the chemistry, notably the toxin-forming power of carcinoma, is attained. It seems a logical deduction, however, to Schumann, that when the essential elements of the mammary gland are in full activity, fulfilling their excessive and occasional function, the secretion of milk, that they must be exceedingly vulnerable to the action of any foreign toxin, as a result of which action pronounced inflammatory response is a direct sequence. Diagnosis, as has been said, presents the greatest difficulty, and the only scientific procedure is to excise a small portion of the tissue for microscopic examination in all cases of supposed acute mastitis that do not yield to treatment which should ordinarily effect a prompt reduction of the inflammation. He adds one case to eleven already recorded in the literature by various observers.

United States Naval Medical Bulletin, Washington, D. C.

July

27 Tropical Diseases in Their Relation to the Eye. E. M. Shipp, U. S. Navy.
28 Intravenous Administration of Salvarsan. G. B. Trible and H. A. Garrison, U. S. Navy.
29 Mental Examination of Fifty Recruits Who Became Insane Soon After Enlistment. H. Butts, U. S. Navy.
30 Diagnosis and Treatment of Hernia in the Navy. B. F. Jenness, U. S. Navy.
31 Davainea Madagascariensis in the Philippines. P. E. Garrison, U. S. Navy.
32 Interpretation of Negative and Weakly Positive Reactions in Noguchi's Complement Fixation Test. M. E. Higgins, U. S. Navy.
33 An Improved Roentgen-Ray Apparatus. H. A. Harris, U. S. Navy.
34 Fracture of Mandible with Improved Method of Adjustment. W. A. Angwin, U. S. Navy.
35 Gunshot Wound of the Elbow. R. Spear, U. S. Navy.
36 Clinical Symptoms Appearing Immediately After Antityphoid Inoculation. J. R. Phelps and G. F. Clark, U. S. Navy.
37 Posterior Gastro-Enterostomy Three Years After Anterior Gastro-Enterostomy. A. M. Fauntleroy, U. S. Navy.
38 Pontine Hemorrhage Resulting From a Blow in Boxing. H. C. Curl, U. S. Navy.
39 Fracture of the Zygoma. R. B. Williams, U. S. Navy.
40 Death From Unruptured Thoracic Aneurysm. E. P. Huff, U. S. Navy.
41 Aplastic Pernicious Anemia Associated with Anchylostomiasis. E. R. Stitt, U. S. Navy.
42 Balantidium Coli Infection Associated with Amebic Dysentery. G. B. Trible, U. S. Navy.
43 Return of Syphilitic Symptoms After Administration of Salvarsan. C. F. Sterne, U. S. Navy.
44 A Case of Syphilis Which Possibly Demonstrates the Efficacy of Prophylaxis Against Venereal Disease. E. H. H. Old, U. S. Navy.
45 Cerebral Syphilis in a Native of Guam. W. M. Kerr, U. S. Navy.
46 A Case of Autoserotherapy. E. O. J. Eytinge and L. W. McGuire, U. S. Navy.
47 Hemoglobinuric Fever. D. G. Sutton, U. S. Navy.
48 Shock Caused by Lightning Stroke. W. S. Hoen, U. S. Navy.
49 An Unusual Cause of a Burn. F. M. Munson, U. S. Navy.
50 Traumatic Extrusion of Testicle. J. A. B. Sinclair, U. S. Navy.

Journal of Biological Chemistry, Baltimore

July

51 Sulphur Linkages in Proteins. T. B. Johnson, New Haven, Conn.
52 Thoamides: The Formation of Thiopolypeptid Derivatives by the Action of Hydrogen Sulphid on Aminoacetonitril. T. B. Johnson and G. Burnham, New Haven, Conn.
53 Digestibility of White of Egg as Influenced by the Temperature at Which It Is Coagulated. P. Frank, New Orleans.
54 *Amino-Acids in the Mature Human Placenta. A. H. Koelker and J. M. Slemons, Baltimore.
55 A Biochemical Study of Proteus Vulgaris Hauser. C. A. Herter and C. T. Broeck, New York.

54. **Amino-Acids in the Placenta.**—The authors examined eighty-three placentæ. They found that approximately one-half of the fresh placenta is blood. The dried placental material is about 7 per cent. of the gross weight of the organ. The hydrolytic products represent at least 31 per cent. of the organic matter. Placental tissue, free of ash and moisture, contains 14.9 per cent. of nitrogen. The nitrogen in the isolated products represents 5.6 per cent. of the weight of the material used for hydrolysis.

Ophthalmic Record, Chicago

July

56 Eye Findings in Hereditary Syphilis. E. Stieren, Pittsburg, Pa.
57 New Method of Operating for Cataract and Artificial Pupil. J. G. Huizinga, Grand Rapids, Mich.
58 Case of Endogenous Panophthalmitis Due to B. Coli. F. Bentley, Seattle, Wash.

Bulletin of the Johns Hopkins Hospital, Baltimore

July

59 *Changes in the Circulation in Aortic Insufficiency. W. G. MacCallum, New York.
60 *Clinical Use of Scarlet Red and Its Component Amidoazotoluol, in Stimulating the Epitheliation of Granulating Surfaces. J. S. Davis, Baltimore.
61 Limitations in Interpreting Thyroid Histology. D. Marine and C. H. Lenhart, Cleveland.
62 *Pneumococcus Peritonitis. Report of a Case. H. B. Stone, Baltimore.
63 An Anomalous Duct Belonging to the Urinary Tract. P. G. Woolley and H. A. Brown, Cincinnati.
64 *Acute Cholecystitis with Large Amounts of Calcium Soaps in the Gall-Bladder. J. W. Churchman, Baltimore.

59. **Changes in Circulation in Aortic Insufficiency.**—By means of a special arrangement MacCallum was able to estimate the work of the ventricle and to study the influence of various factors on it. He found that the tearing of an aortic valve producing an aortic insufficiency causes the heart to perform an extraordinary amount of work, part of which is devoted to the maintenance of nearly a normal rate of flow in the vessels, while the remainder is expended on the forcing out of a quantity of blood which each time regurgitates through the torn valve. This extensive and violent excursion of the ventricle, together with the effect of the regurgitation, produces a very great pulse-pressure with low diastolic pressure and the low tension of the arterial wall allows a great systolic fling which occupies a relatively large part of the height of the pulse curve and thus causes the dicrotic notch to occupy a low position, which is another characteristic of the collapsing pulse. The malnutrition of the heart muscle which follows the severer insufficiencies, may be enough to cause the rapid dilatation of the heart and the death of the animal. In such cases the results are quite different from those in which the heart maintains its activities.

60. Also published in the *Annals of Surgery*, May, 1911, and abstracted in The Journal, June 3, 1911, p. 1684.

62. **Pneumococcus Peritonitis.** — Pneumococcus peritonitis, Stone says, occurs more often in children than in adults, and more often in female than male children. There are two forms: the encapsulated, which exhibits a first period of invasion, a second period of localized abscess formation, and a third of spontaneous rupture of the abscess; and the diffuse form of general peritonitis rapidly fatal unless treated surgically. The symptoms of onset in both forms, varying only in intensity, are abdominal pain, vomiting, fever and diarrhea. Rigidity is not characteristic. The treatment is surgical intervention as soon as possible. The prognosis of the diffuse form is very bad; of the localized form, fairly good. The pus is characteristic, and often sufficient for diagnosis from its macroscopic appearance alone.

64. **Acute Cholecystitis.**—There was nothing unusual about the clinical features of Churchman's case. The patient presented the typical picture of an acute cholecystitis. She had never had typhoid. The illness began two days before admission with chills, fever and a general aching. Delirium appeared that night and the next day there was abdominal pain, at first general, then localized in the right side and radiating to the right shoulder. Nausea and vomiting were present, but there was no jaundice. The physical signs were those of acute cholecystitis. The gall-bladder was not palpable. The liver was slightly enlarged. At the operation straw-colored fluid was found in the peritoneal cavity, cultures from which remained sterile. The appendix was normal, but the gall-bladder was distended and much inflamed. After isolating it with gauze, it was aspirated, but instead of the pus which was expected a fluid, unlike anything previously seen in the gall-bladder, appeared in the barrel of the syringe. It was for a moment uncertain whether what had been supposed to be gall-bladder might not prove to be a cystic growth of the liver. On opening it, however, a large number of bile-stained stones were found and removed. There was neither bile nor

pus in the gall-bladder. The cystic duct was completely blocked by stones. The contents of the distended gall-bladder consisted entirely of a material like that which had been aspirated. The gall-bladder was drained in the usual manner. Convalescence was without event. Three small stones were found in the tube at the first dressing. The discharge from the biliary fistula was at first brownish, later purulent, then thin and mucoid, but it never contained bile. The wound healed to a pin-point opening, through which the limpid mucoid material, characteristic of hydrops, continued to drain.

The sinus persisted, causing the patient almost no inconvenience, but discharging at intervals. After a year had elapsed, she returned to have it closed. At this operation, the gall-bladder contained much clear mucoid fluid (from which no organism could be grown) and a few faceted, pigmented stones. The distended cystic duct contained many gall-stones and communicated with the gall-bladder by an opening so small that the stones could only with great difficulty be delivered into it. The common and hepatic ducts contained no stones. The usual drainage was carried out. Bile appeared in the sinus on the seventh day and soon became profuse. The wound closed promptly and has remained healed. An agar slant was inoculated with some of the material and the *B. typhosus* grew out in pure culture. The patient's Widal reaction was taken and found positive. A chemical analysis of this material showed it to consist largely of soaps of the calcium salts. Some free fatty acids were also present, but no bile pigments.

Archives of Ophthalmology, New York

July

65 Unusual Case of Ectropion of the Uvea and Extensive Defect of Iris. J. Dunn, Richmond.
66 Bilateral Marginal Thinning and Keratectasia With Perforation on One Side. M. H. Schntz, Chicago.
67 Improved Illumination for the Zeiss Binocular Corneal Microscope—Used in the Study of Episcleral Vessels and Their Circulation. W. H. Luedde, St. Louis, Mo.
68 Sympathetic Ophthalmia, First Appearing Four Days After Removal of the Exciting Eye. C. B. Welton, Peoria, Ill.
69 Indications for Operation in Heterophoria and Squint. A. Duane, New York City.
70 Effect of Atoxylon on Eye. Igersheimer, Halle-A.-S.
71 Operative Treatment of Glaucoma by Iridotasis. J. Borthen, Bergen.

Iowa Medical Journal, Des Moines

July

72 *Some Unusual Complications of Typhoid. C. P. Howard, Iowa City.
73 Pathogenesis of Impaired Vision. P. R. Wood, Marshalltown.
74 Observations in Eight Years of Osteopathy. W. A. Rush, Omaha.
75 Pregnant Uterus Didelphys. A. E. Acher, Fort Dodge.
76 Acute Dilatation of the Stomach. C. Burnside, Des Moines.
77 Clinical Briefs in Neurology. F. A. Ely, Des Moines.
78 Standard of Nursing. L. Bristol, Ann Arbor, Mich.

72. **Complications of Typhoid.**—The cases cited by Howard are: (1) Hemorrhagic typhoid, with hematoma of the left rectus abdominis; (2) typhoid with thrombosis of the iliac vein, septic infarct of the lung and pyo-pneumo-thorax; (3) typhoid with thrombosis of the left iliac and femoral arteries and femoral vein, and gangrene of the left leg; (4) typhoid with thrombosis of the aorta and both iliac and femoral arteries, symmetrical gangrene of the legs; (5) typhoid with intestinal hemorrhage, cutaneous hemorrhage and meningitis; and (6) typhoid with acute nephritis, multiple abscesses of the kidney and intestinal hemorrhage.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

July

79 Charles Bell and His Studies in Neurology. H. M. Thomas.
80 Statistical Summary of Cases in Department of Neurology, Vanderbilt Clinic, for Ten Years, 1900 to 1909. S. E. Jelliffe and A. A. Brill.

American Journal of Medical Sciences, Philadelphia

July

81 *Postoperative and Postanesthetic Neurasthenias and Psychoses. J. K. Mitchell, Philadelphia.
82 *Nitrogen Metabolism in Three Cases of Duodenal Alimentation. M. Einhorn and J. Rosenbloom, New York City.
83 *Dilatation Test for Chronic Appendicitis. W. A. Bastedo, New York City.
84 Acquired Diverticula of Sigmoid, With Report of Six Cases. A. D. Dunn, Omaha, Neb., and P. G. Woolley, Cincinnati.
85 Perforating Ulcer of Duodenum: Death From Pulmonary Thrombus. G. T. Vaughan, Washington, D. C.
86 *Purpura Hemorrhagica, Report of Atypical Case. A. C. Matthews and H. P. Carpenter, Poughkeepsie, N. Y.
87 Neoplasms Within the Skull: Early Diagnosis and Treatment. T. A. Williams, Washington, D. C.
88 Reflections on Some Criticisms of Psychoanalytic Method of Treatment. E. Jones, Toronto.
89 Aplastic Anemia, With Report of Case. R. C. Larrabee, Boston.
90 *Granuloma Pyogenicum (Botryomucosis Hominis of the French). R. L. Sutton, Kansas City, Mo.
91 *Generalized Eruptions of Unusual Type, Caused by Absorption From a Belladonna Plaster and From the Ocular Instillation of Atropin. F. C. Knowles, Philadelphia.
92 *Investigations Concerning Value of Microscopic Examination of the Blood for Bacteria. G. A. Fried, Bedford Hills, N. Y., and A. Sophian, New York City.
93 *Digestion in Fever. J. B. Nichols, Washington, D. C.
94 Hemorrhages in Pulmonary Tuberculosis. C. M. Montgomery, Chestnut Hill, Pa.
95 Mountain Sickness. A. Strauch, Chicago.

81. **Postoperative and Postanesthetic Neurasthenias and Psychoses.**—There is not and there cannot well be any reliable evidence as to the frequency with which neurasthenias or other forms of mental disturbance follow operations, since the operating surgeon often knows nothing of their occurrence, many of them not making their appearance until weeks or even months after surgical and anatomic recovery is complete. The surgeon's records, therefore, only show such acute troubles as passing deliriums, temporary confusion, or aberration, such as sometimes appear directly after operations, and which may with probability be referred rather to the anesthetic or to the physical shock than to the operative procedure; some examples of this type are recorded in the accompanying list. Mitchell has made examination of some hundreds of case histories, taken with few exceptions during eight or ten years past. Certain definite forms of neurasthenia and psychasthenia have been omitted from consideration altogether, as those of sexual origin, a few in which it seemed possible that beginning paresis or dementia præcox was at the root of the symptoms, several in which the history was too vague and those in which the patient for any reason was not long enough under observation for the certain establishment of the diagnosis.

Three hundred and forty-four histories remained after these exclusions. These were reviewed, with the aim of discovering how many of them could fairly and reasonably be classed as postoperative or postanesthetic troubles. Total patients examined, 344: women, 220 (or 64 per cent.); men, 124 (or 36 per cent.). Instances of neurasthenic or mental disorders following operation or anesthesia, thirty-one (or 9 per cent., of the total patients examined); women, twenty-nine (or 94 per cent. of the postoperative cases); men, two (or 6 per cent. of the postoperative cases). The operations in these cases varied widely, from the most trifling surgical intervention, such as ocular tenotomy, straightening of the nasal septum or dilatation of the cervix uteri, up to total hysterectomy and ovariotomy. The worst and most persistent examples of nervous disorder have not by any means always followed the most serious operations. No doubt, says Mitchell, as in other neurasthenic conditions, a certain constitutional or temperamental predisposition is required as a precedent, and one cannot make a rule excluding this as one of the causes, as one would in judging of purely traumatic neuroses; but Mitchell tried to exclude from the list those in which there were marked and distinct causes other than operative in addition to the neurasthenic predisposition. Mitchell says that should the question of surgical treatment of a neurasthenic person arise, much more than the ordinary care must be exercised in deciding on operation. Wise practice will choose any other route than a surgical one, however roundabout it may make the journey. The only sufficient reason for an operation in a neurasthenic is that the procedure is one which would be absolutely demanded were the patient in perfect nervous health. The physician and the consulting surgeon must never be deceived into undertaking an operation for the relief of neurasthenic symptoms, unless these symptoms would imperatively require surgical measures in a person not nervous. An operation may relieve neurasthenic symptoms; it will not cure the patient, and there is a good chance that a few months will see her worse than ever, having gained nothing but a new experience, and very likely an exchange of old symptoms for new ones. One should, he says, think twice before advising an operation on a neurasthenic, and having thought twice it will often prove best to think a third time, and then not operate. Above all, the operation should never be recommended with the idea or even the hope that if successful it will cure the neurasthenic. The neurasthenia may be no worse after than before; but most assuredly it will very seldom be cured.

82. **Nitrogen Metabolism in Duodenal Alimentation.**—In the three cases of duodenal alimentation studied by Einhorn and Rosenbloom the absorption of the nitrogen of the food took place to a normal extent. Nitrogenous catabolism, as measured by the quantities of urea and ammonia that were excreted, was normal in degree. All of the patients had a positive nitrogen balance throughout the duodenal feeding periods.

83. **Dilatation Test for Chronic Appendicitis.**—To make this test a colon tube is passed 11 or 12 inches into the rectum and air injected by means of an atomizer bulb. If, as the colon distends, pain and tenderness to finger-point pressure become apparent at McBurney's point, there is appendicitis. Bastedo has compared the test in a number of instances with the Rovsing test and finds this much the more certain; but at times, after moderate dilatation with air, the Rovsing method of forcing the air back into the cecum may be used with advantage. The indication for the test is a suspected chronic or latent appendicitis, or any persistent digestive or abdominal disturbance, in which no cause can be found for the trouble. Six cases reported by Bastedo are said to illustrate the positive findings of the dilatation test. In the use of the test during the last four years he has had no case in which the test was positive and the operation findings negative. But in two out of all of his cases, the negative finding of the test was followed within six months by a typical attack of appendicitis, and the test was, therefore, presumably at fault. With very few exceptions, therefore, the test has proved accurate, and Bastedo believes that it may well serve as a guide to the necessity for operation, particularly in the three classes of cases mentioned, viz., suspected chronic appendicitis, persistent gastro-intestinal or abdominal disturbance of unknown cause, and appendicitis versus ovarian or tubal inflammation.

86. **Purpura Hemorrhagica.**—The interesting and unusual circumstance connected with this case is the fact that there were no evidences of any integumentary lesions until the constitutional symptoms had practically run their course and had almost caused a fatal termination.

90. **Granuloma Pyogenicum.**—Sutton regards it as being very probable that granuloma pyogenicum is the result of a staphylococcic infection of the upper corium, and that the involvement of the superficial structures is not directly concerned in its production. The irritation set up by the bacteria and their products gives rise to excessive cell proliferation, and the resulting granulation tissue is forced upward through the opening in the epidermis through which infection of the deeper tissues originally took place.

91. **Belladonna Poisoning.**—Knowles reviews a number of cases to show that more or less generalized eruptions not only occur from the internal administration of belladonna or its alkaloid, atropin, but also from absorption through the skin of local applications of the same. The skin does not have to be broken or denuded of epidermis for absorption to take place; the symptoms of poisoning, however, develop much sooner if such is the case. The great majority of the cases exhibit an erythematous or scarlatinal type of eruption, which is more frequently found on the face and the upper portion of the body, but in a fair number of cases the outbreak is generalized. Gangrenous, purpuric and eczematous eruptions have been reported. The author describes a unique, or at least a very unusual, type of outbreak. Although in a great many instances severe symptoms of poisoning are present, the eruption may be unaccompanied by other manifestations of drug absorption. Mydriasis is a quite constant phenomenon; in a few cases, however, the pupils were only slightly enlarged, entirely normal, or unilaterally dilated. The prognosis is favorable; only one death occurred in this large series of cases. Belladonna or atropin may produce a local eruption from the local irritant effect.

92. **Examination of the Blood for Bacteria.**—It is stated by Fried and Sophian that bacteria can be found microscopically in the blood of a large majority (97 per cent.) of cases in which their presence has been demonstrated by blood-culture. In a number of the cases (12 in 132, about 9 per cent.) bacteria were demonstrated in the blood, by them, which had been found sterile by means of blood-cultures taken according to the methods now in vogue in the laboratory. Microscopic examination of the blood with all the methods that have so far been used was not of service in cases in which the presence of Gram-negative organisms was suspected.

93. **Digestion in Fever.**—The average reduction of digestion during fever was found by Nichols to range not over 5 to 10 per cent. This falling off is so small as for practical purposes to be almost negligible; indeed, the digestion of animal and mixed food in fever is quite as good as that of vegetable food in health. The belief in a great impairment of digestion in fever, Nichols says, is an idea based on vague impressions and dogmatic assumptions that has come down to us from the dark ages of medicine. The reduction actually shown by exact observations is so small as to dispel any fear, in general, of fever patients being unable to digest and absorb an adequate amount of the nutriment offered them, or to necessitate, on that account, any diminution of the diet.

Virginia Medical Semi-Monthly, Richmond

July 21

96 The Mosquito and Pellagra. C. Thorington, Montgomery, Ala.
97 Anesthesia in Rectal Surgery. L. Eliot, Washington, D. C.
98 Some Mastoid Experiences. C. M. Miller, Richmond, Va.
99 Experiences with Grave Cases of Typhoid Acetonuria. J. H. Hiden, Pangoteague, Va.
100 Prophylaxis of Typhoid. D. O. Foley, Mt. Jackson.
101 Unusual Effects of Potassium Bromid and Passion Flower. S. Harnsberger, Catlett, Va.
102 Case of Mastoid Operation Under Local Anesthesia. J. A. White, Richmond.

Canadian Medical Association Journal, Toronto

July

103 *Origin and Development of the Canadian Medical Association. G. E. Armstrong, Montreal.
104 *Present Status of Surgery in Canada. A. Primrose, Toronto.
105 *Scarlet Fever. A. E. Vipond, Montreal.

103 and 104. Abstracted in The Journal, July 15, 1911, p. 244.

105. **Scarlet Fever.**—Having come to the conclusion that the specific organism of scarlet fever would probably be found in the lmyph-nodes of the body, Vipond confined his work entirely to the glandular system. April 14, 1911, he obtained from the body of a child, 4 years of age (who died of scarlet fever), a number of enlarged axillary and inguinal lymph-nodes, from which he obtained the lymph. This lymph, under strict antiseptic conditions was inoculated into a slant of agar, blood-serum and broth. Within a few hours, a mixed growth developed on the different media, part of which proved to be staphylococcus aureus; and part, a raised white growth, which on examination proved to be bacilli. This bacillus, when isolated, proved to be of rapid growth, and grew steadily on different media, including dextrose-agar, glycerin-agar, blood-agar, plain-agar, blood-serum and broth. On dextrose-agar a well-developed growth was observed within twenty-four hours. From five cases a pure culture was obtained, two from inguinal nodes, one from the axillary nodes, and two from anterior, cervical nodes. Two were post-mortem cases. Having obtained the bacillus which he regards as the specific organism of scarlet fever, Vipond decided to inject a broth culture into a monkey, with the hope that the animal would develop scarlet fever. In this he was not disappointed. The bacilli have been inoculated into five monkeys and two rabbits. Typical scarlet fever has developed in all, including rash, enlarged lymph-nodes and desquamation. No suppuration in any one instance took place at the point of inoculation. Streptococci would likely have had this effect. The same bacilli have been recovered from the lymph-nodes in each instance, and further, the typical growth has developed on the different media. Vipond also succeeded in producing typical scarlet fever in a monkey and in a rabbit by direct contagion from monkeys and rabbits suffering from that disease and recovered the same bacillus from the inguinal nodes of these.

Medical Fortnightly, St. Louis

July 25

106 Indications for Nephrectomy. E. O. Smith, Cincinnati.
107 Treatment of Puerperal Sepsis With Reference to Antistreptococcus Serum. C. A. Boice, Washington, Ia.
108 Mental Strain. D. L. Field, Jeffersonville, Ind.
109 In the Twilight. C. E. Warren, North Easton, Mass.

Journal of American Public Health Association, Columbus, O.

June

110 Present Organization and Work for the Protection of Public Health in Canada. F. Montizambert, Ottawa, Ont.
111 Canadian Commission of Conservation and Public Health. C. A. Hodgetts, Ottawa, Ont.
112 *Organization of the Sanitary Service in the Federal District, Territories, Seaports and Principal Frontier Cities of the Mexican Republic. E. Licega, Mexico City, Mex.
113 *Studies on Self-Purification of Streams. G. F. Ruediger, Grand Forks, North Dakota.
114 *Resistance of Small-Pox Vaccine to the Coal Tar Disinfectants. C. T. McClintock and N. S. Ferry, Detroit, Mich.
115 *Quarantine or Isolation in Scarlet Fever, Which? F. G. Curtis, Newton, Mass.
116 Tuberculosis in Immigrants. P. H. Bryce, Ottawa, Canada.
117 Venereal Disease and Its Influence. J. H. Cunningham, Boston.
118 Ophthalmia Neonatorum: Progress in Prevention. H. C. Greene.

112. Abstracted in The Journal, Sept. 24, 1910, p. 1137.

113. Abstracted in The Journal, Sept. 17, 1910, p. 1043.

114. **Resistance of Small-Pox Vaccine.**—It appears from the investigations made by the authors that the large majority of the coal tar disinfectants (phenol, cresols and the like) do not destroy the virulence of vaccine virus in ½ per cent. solutions at five hours' exposure, while with this strength and length of time it is probable that these disinfectants would destroy all non-spore-bearing bacteria.

115. **Quarantine or Isolation in Scarlet Fever.**—From our present knowledge it appears that scarlet fever is a disease that is transmitted by contact and not by fomites; that the scales of desquamation play very little, if any part, in the transmission of contagion, the chief danger lying in the buccal, nasal and aural secretions; and that the release of each case should be decided on its merits. Curtis advises that in all communicable diseases, it is better to remove each patient to a hospital, but should this be impossible, it is better to isolate the patient and allow the other members of the family to continue their regular vocations, educational and otherwise, as long as the isolation is maintained to the satisfaction of the board of health.

Vermont Medical Monthly, Burlington

July 15

119 Salvarsan in Treatment of Syphilis. C. B. Keenan, Montreal.
120 Hysteria. F. W. Sears, Syracuse, N. Y.
121 History of Syphilis. C. S. Scofield, Richmond.

Archives of Internal Medicine, Chicago

July

122 *Meningococcus Endocarditis, With Septicemia. R. L. Cecil and W. B. Soper, New York City.
123 *Physiologic Investigation of the Treatment in Hemoptysis. C. J. Wiggers, Ann Arbor, Mich.
124 Postanesthetic Glycosuria. P. B. Hawk, Urbana, Ill.
125 Postanesthetic Glycosuria of Surgical Patients. J. M. Swan, Watkins, N. Y.
126 Malignant Tumors of the Adrenal. B. F. Davis, Chicago.
127 *Hemochromatosis. T. P. Sprunt, Baltimore.

122. **Meningococcus Endocarditis with Septicemia.**—The cases of meningococcus endocarditis studied by Cecil and Soper have brought out the following interesting facts: 1. The meningococcus, in spite of its affinity for the meninges, may at times become lodged on the endocardium, with the production of an acute vegetative endocarditis. In this respect it resembles most of the other pathogenic bacteria, which, while showing a predilection for some particular organ or tissue, may occasionally produce serious lesions in other parts of the body. 2. The symptoms and pathologic anatomy of meningococcus endocarditis correspond to those which characterize malignant endocarditis of streptococcus or pneumococcus origin. 3. Meningococcus endocarditis may or may not be associated with cerebrospinal meningitis. 4. The portal of entry for the organism in meningococcus endocarditis is probably the upper respiratory tract. It is particularly interesting to note that the avenue of infection is the same as that generally accepted as the portal of entry for streptococcus endocarditis on the one hand, and for meningococcus meningitis on the other. 5. The occurrence of primary meningococcus endocarditis with meningococcus septicemia furnishes evidence in favor of a hematogenous mode of infection in epidemic cerebrospinal meningitis.

123. **Treatment in Hemoptysis.**—Early in the course of hemoptysis, when the breathing has not altered except for an occasional cough, Wiggers says, one is dealing practically with a normal subject, and the object of paramount importance is to promptly reduce the bleeding by such drugs as lower the pressure within the pulmonary circuit. Investigation by Wiggers shows (1) that this cannot be accomplished by vasomotor drugs, such as nitroglycerin or nitrites, and (2) that cardiac depressants, such as chloroform and pituitary extracts, must be resorted to. If hemorrhage has continued until the heart is very rapid and the respirations accelerated, deep and forcible, it is an indication (1) that the heart and blood-vessels no longer react in a typical manner to certain drugs, and (2) that the anemia of the cerebral centers is being felt. During this stage it is important that the blood-supply of the brain be not reduced by the drugs which check hemoptysis. Hence, the drug that combines an ability to elevate systemic arterial pressure and simultaneously to lower that in the pulmonary circuit is the ideal physiologic agent to employ during this stage. In the entire gamut of drugs investigated, pituitary extract is the only one that possesses this fortunate combination of actions.

127. **Hemochromatosis.**—Three cases are reported by Sprunt. The first case is one of simple hemochromatosis with the complication of tuberculous peritonitis forming a prominent part of the clinical picture. The other two cases are quite typical of the more frequently described form usually designated as bronzed diabetes. In all three cases there were the associated signs of asthenia, enlargement of the liver, and skin pigmentation which served to make the diagnosis clear in the two cases in which diabetes was present. In one case without diabetes, the diagnosis was made more difficult by the presence of the tuberculous peritonitis, but in this case, too, the association of the signs mentioned was considered very suggestive of hemochromatosis. The onset in the first case was rather insidious. It was more abrupt in the other two, the first symptoms being those of diabetes. The duration of the disease in each case after the appearance of the first symptoms was twelve, ten and five months, respectively. In all the cases there was an increase in those pigments present in less degree physiologically. There was a striking accumulation of fine yellow pigment granules in the tubules of the testes and epididymes and in the vas deferens and seminal vesicles in the third case. In each case there was an increase in the connective tissue of the liver, pancreas, lymph-nodes and spleen. In addition, this occurred to a slight extent in the heart muscle in one case and in the prostate and testicles in another. One case suggested a slow deposition of pigment for a comparatively long time, while the picture in the third case gave one the impression of a rapid continuous process.

Woman's Medical Journal, Cincinnati

July

128 Prevention of Infant Mortality. S. H. Scott, Des Moines, Ia
129 Surgical Progress. K. Harpel, Boone, Ia.
130 Relation of Nasal and Ocular Hygiene to Neurasthenia. I. M. Scott, Waterloo, Ia.
131 Infection and Its Prophylaxis. G. F. Jerger, Waterloo, Ia.
132 Microscope and Its Place in Modern Diagnosis. P. B. Hoeve, Des Moines, Ia.
133 Medical Practice in the Orient. J. G. Ghrist, Ames, Ia.
134 Internal Medicine. J. M. Donahue, Burlington, Ia.
135 Eugenics. P. Townsend-Hanson, Marshalltown, Ia.

Boston Medical and Surgical Journal

July 20

136 *Present Position and Value of Exploratory or Operative Diagnosis. M. H. Richardson, Boston.
137 A Few Thoughts and Suggestions Based on Twenty-Five Years' Experience With Tuberculosis. V. Y. Bowditch, Boston.
138 *Mobilization of Stiffened Joints. R. B. Osgood, Boston.
139 Clinical Tests for Apraxia and Their Value in Diagnosis of Brain Disease. I. H. Coriat, Boston.
140 *Soluble Silver Oxid, Its Use in Medicine. T. W. Schaefer, Kansas City, Mo.

136. **Exploratory or Operative Diagnosis.**—Richardson emphasizes that exploratory diagnosis should be restricted in its application to those cases in which certainty of diagnosis is essential to relief, and in which, from lack of surgical remedy, error means disaster or death.

138. **Mobilization of Stiffened Joints.**—The results obtained in three cases reported by Osgood seem to show the usefulness of Baer's membrane in preventing union after complete bony ankylosis.

140. **Soluble Silver Oxid.**—Silver hydroxid is prepared when an alcoholic solution of potassium hydroxid (caustic potash) is added to an alcoholic solution of silver nitrate at a low temperature, about 40 C. Silver oxid is soluble in much distilled water. Schaefer adds silver oxid to pure distilled water, shaking the mixture frequently and thoroughly, after letting it stand for some time, and then percolating it through a wad of asbestos in a percolator. About 1 gm. of silver oxid is soluble in 3 liters of distilled water, forming a perfectly transparent and quite stable solution of silver hydroxid. This solution of silver hydroxid has a strongly metallic taste, and is, like thallium hydroxid, strongly alkaline, and precipitates from many metallic salts the oxids and hydroxids of the respective metals, and decomposes easily a solution of sodium chlorid with the formation of sodium hydroxid (caustic soda) and insoluble silver chlorid. One advantage over the ordinary salts of silver, like that of the nitrate, for instance, Schaefer says, is that this preparation of soluble silver does not contain an acid to form a salt. This form of a silver preparation is suggested to those who have faith in the therapeutic efficacy of silver in its various combinations.

Medical Record, New York

July 22

141 Constant Occurrence of Mixed Infections. W. H. Thomson, New York City.
142 Treatment of Diabetes. H. Stern, New York City.
143 Nervous Disorders and the Neurologist in Relation to the Profession and Pnblic. T. A. Williams, Washington, D. C.
144 *Cardiospasm in Infants. W. G. Morgan, Washington, D. C.
145 Surgical Indications in Lesions of the Large Intestine. R. S. Fowler, Brooklyn.
146 Effect of Salvarsan on Syphilitic and Metasyphilitic Affections of the Eye and on Apparently Healthy Eyes of Syphilitics. M. Rosenbaum, New York City.

144. Abstracted in The Journal, May 27, 1911, p. 1607.

Lancet-Clinic, Cincinnati

July 22

147 Extraction of Cataract in Capsule. C. King, Cincinnati.
148 Thirteen Cases of Cataract Extracted in Capsule. V. Ray, Cincinnati.
149 Parinaud's Conjunctivitis. R. Sattler, Cincinnati.

New York Medical Journal

July 22

150 The New York Academy of Medicine. C. L. Wheeler, New York.
151 Laboratory Findings in Neurological Manifestations. D. M. Kaplan, New York.
152 Fracture of Antero-External Portion of Lower Condyle of Tibia, Complicating Pott's Fracture. M. Leale, New York.
153 Some Medical Gossip Pertaining to the Last Illness of Queen Anne of England. C. G. Cumston, Boston.
154 Early Diagnosis of Cancer of the Breast. A. E. Isaacs, New York.
155 Papnlar Eruptions of the Buccal Mucous Membrane. H. K. Gaskill, Philadelphia.
156 Etiology, Prophylaxis and Treatment of Postanesthetic Vomiting. J. Halperin, New York.
157 Operation for Progressive Spinal Deformities in the New York Medical Journal for May 27, 1911. W. G. Elmer, Philadelphia.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 8

1 *Necessary Influence of Medical Profession in Home, School and State. C. Dukes.
2 *Mechanical Control of Pneumothorax During Operations on Chest. H. M. Davies.
3 Treatment of Tuberculosis by Radioactive Iodin and Menthol. L. Robinson.
4 *Cesarean Section: Report of Ten Cases. C. E. Purslow.
5 *Treatment of Excessive Vomiting of Pregnancy. J. H. Martin.
6 Treatment of Aortic Aneurysms. A. Abrams.
7 *Hypertrophied Papillæ of Morgagni Causing Rectal Symptoms. A. C. Magarey.

July 15

8 *Three Cases of Cardiac Failure Without Evident Dilatation of the Heart. T. S. Wilson.
9 Obliterative Endo-Aneurysmorrhaphy for Popliteal Aneurysm. A. E. Barker.
10 *Anthrax Treated by Sclavo's Serum. W. M. Fergusson.
11 *Intramuscular and Intravenous Injections of Antimony in Trypanosomiasis. C. N. B. Camac.
12 Treatment of Serum Sickness in Diphtheria. J. R. Keith.
13 Absorption of Iron. D. G. M. Munro.
14 *Treatment of Pulmonary Tuberculosis with Phenol Injections. H. Vallow.
15 *Fifty Cases of Trachoma Treated with Carbon Dioxid Snow. G. M. Harston.
16 *Administration of Diphtheria Antitoxin by the Mouth. G. I. Cumberlege.
17 Intrathyroid Hemorrhage Followed by Acute Dyspnea and Death. S. G. Champion and C. B. M. Aldridge.
18 Discrimination of Color. F. W. Edridge-Green.
19 Amyl Nitrite in Menorrhagia in Virgins. F. Hare.

1. **Necessary Influence of Medical Profession in Home, School and State.**—In considering the welfare of youth, Dukes says the physical conditions which are necessary for mental effort, and the modes of securing or thwarting those conditions, have not hitherto received sufficient recognition. The medical and hygienic inquiry insisted on for all children in all classes of schools is related, not merely to the promotion of a sound intellectual state, the easier acquisition of knowledge, the clearer perception of its application, and the gradual appreciation of method, in place of mechanical and unvaried rules, but also bears a definite relation to the moral development of character. So that the medical examination is a valuable asset in the hands of the educator, which should be utilized from the beginning of school life. Dukes would have the medical examiner in possession of the medical history of the previous health of the child, together with all the important items of the family history. For, although the child may be sound, yet he may be vulnerable in some special way from family predisposition or previous illness, and require protective measures. There is one method, and one method only, Dukes says, that would remove many of the unreasonable disabilities in school life—the possession by the educator of a reasonable knowledge of the elements of physiology and hygiene. But, if the teaching of hygiene in schools is to prove serviceable, it must be carried into practice in the daily life at school.

2. **Mechanical Control of Pneumothorax.**—The main features of Davies' hyperatmospheric machine are an air chamber working on the principles of a gasholder and fed from compressed air and oxygen cylinders; the air in this chamber is at a greater pressure than that required in the bronchial tubes, but after it leaves the chamber passes through a governor and the pressure is there regulated to the required amount; it then passes through Alcock's chloroform box, then through a heating chamber, and so into the trachea by an intubation tube. The expired air leaves the trachea again by the exit pipe of the intubation tube and enters the expiratory chamber, where the pressure is again regulated by a weight valve.

4. **Cesarean Section.**—All the mothers recovered in the ten cases in which Purslow operated. The children were all born alive, with one exception. In this case the patient had been in labor many hours, and forceps had been tried unsuccessfully. The child was known to be dead, as the cord was prolapsed and pulseless, and the reason that Cesarean section was done rather than craniotomy was that the head was high above the pelvic brim and the uterus in a state of violent tetanic contraction, which appeared to presage rupture; on examining the uterus after the removal of the child, an extensive effusion of blood under the peritoneum on its right lateral aspect seemed to show that rupture was already taking place, and hysterectomy was performed. Of the children born alive, two died in hospital, one on the day of its birth, and the other, which was probably premature, on the twenty-third day from diarrhea and vomiting. Of the women operated on, five were in labor at the time of operation, and of these, in two cases the membranes were ruptured; the other five were not in labor.

5. **Excessive Vomiting of Pregnancy.**—The efficacy of drugging in hyperemesis gravidarum is doubted by Martin. He prefers dieting because of the good results obtained in sixteen

cases. Briefly, his mode of procedure consists of gastric lavage, dieting and elimination. For several days the patients were put on peptonized milk and milk and soda, and were thereafter given light diet. No hard-and-fast rule was laid down as to the day of treatment on which the patient was advanced to a light or full diet; each case was considered separately and dieted accordingly. The patients were not allowed up until they had been on light diet for two days. A powder containing 1 grain of mercury-with-chalk powder and 3 of sodium bicarbonate was given thrice daily. For chronic constipation, in conjunction with the above powder, Martin found magnesium sulphate in hot water, every second morning the best aperient. If a satisfactory motion was not obtained, then a soap and water enema was given. The septic condition of the mouth (which was present in every case) was treated with a mouth wash of phenol solution 1 in 80, used frequently and always immediately before and immediately after food. The patients were encouraged to drink copiously of milk and soda, weak tea and imperial drink. This treatment was quite successful in the sixteen cases, the average duration of residence in the hospital being seventeen days. One patient was treated in hospital for about ten days with the text-book drugs without improvement. Martin is of the opinion that in hyperemesis gravidarum, as in eclampsia, prophylactic treatment is of prime importance, and recommends the following as the important points: 1. Bowels to be moved at least once per diem. 2. Prevention of oral sepsis. 3. Good plain well-cooked food, daintily served at regular hours. 4. Kidneys and skin to be kept active. 5. Gentle exercise in the open air daily if the weather is at all suitable, and a good supply of fresh air night and day.

7. Hypertrophied Papillæ of Morgagni Causing Rectal Symptoms.—The papillæ of Morgagni are situated at the anorectal junction, and though absent in the majority, are yet present in a considerable proportion of individuals. The symptoms attributed by Martin to these hypertrophied papillæ are irritation, pain, sensation of mass in the rectum. He has found cauterization to be the simplest, quickest and most effective method of destroying the papillæ.

8. Cardiac Failure.—The first case cited by Wilson showed heart weakness with diminution in the size of the cardiac area from damage to the heart muscle from the toxins or microorganisms of acute rheumatism. In this case the left ventricle was rather weaker than the right, and the latter showed a slight amount of the adolescent type of dilatation and a pulmonary artery murmur. The second case was one of the muscular failure of the heart, without evident dilatation, due to malnutrition presumably from atheroma of the coronary arteries. In this case the left ventricle was more affected than the right. The third case was exceptionally interesting owing to the limitation of fatty degeneration to the right ventricle as well as from the absence of physical signs of cardiac failure, except those associated with a relative emptiness of the heart and great vessels, and the weakness of the cardiac sounds, especially those heard over the right ventricle.

10. Sclavo's Serum in Anthrax.—The chief points of interest about Fergusson's case are: 1. The apparently long incubation period, ten days, if counted from the date that the patient got the blood of an anthrax-infected animal over his hand. 2. The rapid amelioration of the symptoms after the injection of the serum. Recovery without excision of the pustule. In most cases of recovery after treatment by Sclavo's serum the patients have been treated by excision as well.

11. Antimony in Trypanosomiasis.—The preparation used by Camac was metallic antimony in an oily medium. Ten minims, representing ½ grain, of the precipitated metallic antimony were injected into the muscles of the left buttock. Within an hour the patient experienced great local discomfort, which increased till the whole buttock was greatly swollen, painful and tender to such a degree that the least pressure of his body on the bed, where he was compelled to remain, caused him to call out with pain. Even with such cause removed the pain was so intense that morphin had to be used frequently. This condition, accompanied with sleeplessness, lasted for ten days, when the swelling, pain and tenderness gradually subsided, and within fourteen days from the date of injection the patient was able to walk about, and two days later all inconvenience had disappeared. When the area of swelling had lost the tenderness sufficiently to allow of palpation, it was found to be tense, hard, and fairly sharply defined to a circular area of about 18 to 20 cm. in diameter. There was no necrosis. For intravenous injection, the preparation used was antimony sodio tartrate. One-sixth of a grain in normal saline was injected into a vein of the arm. From Nov. 10, 1909, to Feb. 1, 1910, thirteen injections were given with intervals of about four days; on one occasion there was an interval of sixteen days, on another there was an interval of eight days. The thirteenth injection was received at about 11 a. m., Feb. 1, 1910.

About twenty minutes after leaving the laboratory, while on his way home the patient was suddenly seized with nausea and great weakness. He managed to reach his home unaided. Before Camac could reach him he had had a chill and violent abdominal pain. When Camac saw him he was greatly prostrated, complained of intense headache, and had a temperature of 103.6 F. This lasted five or six hours, when it subsided to normal. The blood was negative for trypanosomes. The urine showed great excess of indican, otherwise it was normal. For twelve days the weakness and abdominal distress continued, and on the thirteenth day from the former paroxysm he had, for six hours, a similar but somewhat less severe attack. Trypanosomes were not found at the time of this second fever, and have been absent on all subsequent examinations. Blood and spinal fluid inoculations into monkeys, rats and mice have been attended by negative results. From Oct. 9, 1909, to Jan. 31, 1910, the patient took daily by the mouth 1½ to 2 grains of antimony lithium tartrate, in 3 pints of water, in addition to the intravenous injections.

14. Phenol Injections in Pulmonary Tuberculosis.—Vallow injects 0.1 to 0.2 c.c. of a 1 per cent. solution of pure phenol in sterilized water once each week between the shoulders. He believes that early cases treated by this method give the best results.

15. Carbon-Dioxid Snow in Trachoma.—In forty of the fifty cases Harston effected a cure in from five to eighteen applications of carbon-dioxid snow. Three patients did not return and seven are still under treatment. At the first application the snow is applied to each part for fifteen seconds; later, when the patient is accustomed to the treatment, for as long as twenty, twenty-five and thirty seconds. The pain caused passes off at the end of two minutes, and is infinitesimal compared to the pain caused by bluestone, silver nitrate and such like caustics. The disease is considerably shortened in its course, and the resulting scarring is considerably less than when other caustics have been used.

16. Administration of Diphtheria Antitoxin by Mouth.—The points which Cumberlege believes to be in favor of oral administration of diphtheria antitoxin are as follows: Results are obtained within a few hours after being given, a far smaller dose is required (Cumberlege has never given more than 4,000 units at a time; a dose of 2,000 units, followed up, if necessary, by a further dose, is the usual amount given). By giving it in this way, it is possible to give continued dosage by making a mixture and ordering it to be given every two or four hours as the case may be. Another point in its favor is that no patient treated by him by mouth has shown signs of serum sickness, whereas either a rash or joint pains, or both, has nearly always occurred after the few injections given.

Lancet, London

July 15

20 Clinical Study of Cardio-Vascular Degeneration. J. M. Bruce.
21 Treatment of Tuberculosis and Hemoptysis by Artificial Pneumothorax. C. Lillingston.
22 Four Cases of Tuberculosis in Which Artificial Pneumothorax Was Induced. L. Colebrook.
23 Case of Artificial Pneumothorax. S. V. Pearson and A. de W. Snowden and C. Lillingston.
24 Case of Torsion of the Pedicle of a Uterine Fibroid. C. A. Morton.
25 Case of Acute Inflammation of Thyroid. C. W. Bonney.

Journal of Tropical Medicine and Hygiene, London

July 1

26 Estivo-Autumnal Parasite. H. M. James.
27 *Etiology of Blackwater Fever. G. J. Pirie.
28 Development of Trypanosoma Gambiense in Glossina Palpalis. Sir D. Bruce.

27. **Etiology of Blackwater Fever.**—The interesting points in the four cases cited by Pirie were: (1) The finding in each case of subtertian rings in the peripheral blood of the patients, before the onset of the hemoglobinuria. (2) In each case quinin was taken or given in order to treat the malaria, also before the hemoglobinuria when a small dose of quinin (2¼ gr.) was given. (3) The typical malarial temperature chart of Case 4 during the continuance of the hemoglobinuria. There were no malarial parasites at this time in this patient's peripheral blood, but it looks almost certain that sporulation was taking place in some of the internal organs. In all these cases no malarial parasites, though carefully looked for, were found after the onset of the hemoglobinuria. Each of these patients had the appearance of having been well saturated with malarial poisoning. The first and third case had not taken quinin, or had taken it very irregularly. Number two had not used his mosquito net and had most probably (though he said the contrary) taken his quinin irregularly. Case 4 had taken 5 grains of quinin daily. All of these patients developed blackwater fever more or less severely. It appears to Pirie to be more than a mere coincidence, that in each of these cases the onset of the hemoglobinuria should have followed the attempt to treat an attack of malarial subtertian fever with quinin. He thinks that only those persons whose resistance to the hemolytic action of the malaria parasite has been reduced by the continuous sporulation of the parasite in their systems are susceptible, and that in those persons a dose of quinin may be the actual exciting cause. This condition of susceptibility is induced by neglect of, or irregularity in, the taking of the daily dose of 5 grains of quinin. In cases in which one has been assured that 5 grains of quinin have been taken regularly every day, Pirie suggests that it may be that certain types of constitution are so peculiarly susceptible to malarial infection that the 5 grains of quinin daily is not sufficient to prevent the continuous sporulation of the parasite in the system, though that dose may be sufficient to make the patient take to bed. These persons get anemic and debilitated, and gradually develop that unstable condition of the red blood-corpuscles that may ultimately end in an attack of blackwater fever.

Glasgow Medical Journal

July

29 Injury of the Spinal Cord Due to Rupture of Intervertebral Disk During Muscular Effort. G. S. Middleton and J. H. Teacher.
30 Tuberculosis Treated by Intravenous Injection of Ethereal Solution of Iodoform. T. W. Dewar.
31 Case of Acute Pulmonary Edema. A. W. Harrington and J. L. Cochrane.
32 Case in Which Broadbent's Sign Was Present Though No Pericardial Adhesions Existed. A. R. Paterson.

Journal of Obstetrics and Gynecology of British Empire, London

June

33 Nine Pubiotomies Performed in Rotunda Hospital During Mastership of Dr. Hastings Tweedy. J. R. Freeland.
34 *New Method of Performing Colporrhaphy. W. B. Bell.

34. **Colporrhapy.**—In Bell's method, after an oval-shaped area (about 1½ or more inches broad in the widest part) of vaginal wall has been removed, the underlying bladder is entirely separated from the remaining anterior vaginal wall. All bleeding points are then carefully tied. Mattress sutures of 40-day chromic catgut are everted. The sutures, when tied, cause large, raw under-surfaces of vaginal wall to be brought into contact, and form a ridge running the whole length of the anterior vaginal wall. Bell cautions that the mattress sutures should not be tied too tightly, nor should the anterior vaginal wall be stretched too much when the operation is completed. If it be found after suturing that the everted edges project more than ½ inch they may be trimmed down. Finally, a running overhand stitch of fine catgut may be used to unite the free margins and to prevent the exposure of a raw edge. The appearance, some months after operation, of the ridge, which widens slightly, resembles that of a normal anterior column.

Journal of Laryngology, Rhinology and Otology, London

July

35 Ocular Symptoms Produced by Nasal Disease. H. H. B. Cunningham.
36 Etiology and Operative Cure of Collapse of the Alæ Nasi. M. Halle.

Annales de l'Institut Pasteur, Paris

June, XXV, No. 6, pp. 433-496

37 *Experimental Research on Cholera. J. Choukevitch.
38 *Vaccination Against Cholera and Typhoid. E. Metchnikoff, Besredka and H. Vincent.
39 Sleeping Sickness and Its Mental Symptoms. (Démence trypanosomiasique et démence paralytique.) G. Martin.
40 Virulence of the Human Pneumococcus for the Mouse. (Etudes sur le pneumocoque.) C. Truche, A. Cramer and L. Cotoni.
41 Influence of Phenol on the Virus of Rabies. W. Sawtschenco.

37. **Experimental Research on Cholera.**—Choukevitch reports experiments on rabbits which failed to show that vaccination had any protecting influence against cholera by the intestinal route. His research further gave negative results in regard to the nitrites as an essential factor in development of cholera, and also in regard to the anticholera cocci of Nitsch.

38. **Prophylaxis of Cholera.**—Metchnikoff thinks that the present methods of vaccination against cholera are bound to fail as intoxication from the cholera toxins in the intestines cannot be neutralized by the methods effectual in infections. He reviews the total field of anticholera vaccination to date, saying that the statistics of the vaccination against cholera on a large scale at St. Petersburg and in India are misleading, as the vaccinators were careful to vaccinate only those least liable to contract the disease, skipping the young, the elderly and those with chronic disease and, according to directions, vaccinating only the healthy "so as not to discredit the method," and the records are defective of the vaccinated who contracted cholera. He insists that the results of experiments on animals should be given greater credit in applying the conclusions to man, and that the constant failure of Choukevitch's experimental anticholera vaccination and of Metchnikoff's attempts to immunize chimpanzees against typhoid fever should be given due weight. He relates that he has recently had a personal experience which has convinced him anew that hygienic measures are reliable as the safest and most certain means of warding off typhoid and cholera. His manservant, who prepared his breakfast and resided in the house and was the husband of the maid-servant, contracted typhoid fever. As Metchnikoff had never had typhoid he considered the question of being vaccinated but concluded to rely on hygienic measures alone. No food was served except articles that had been cooked, and an alcohol lamp or gas stove and a dish of boiling water ensured the sterility of the cup and plate and of the knife, fork and spoon. By these simple means the people in the house were protected against typhoid, no further case developing, and he is convinced that similar measures will prove equally effectual against all intestinal diseases. At St. Petersburg, he adds, boiling the drinking water protected people against cholera. Vaccination against intestinal disease should be reserved for exceptional conditions, as for forced marches in time of war. When vaccination is done it should be with scientific care to record the observations and make them resemble as much as possible exact scientific experiments. This chapter of human vaccinations, he says, is far from its definite conclusion, and experience is proving more and more the efficacy of careful and intelligent hygienic prophylaxis.

Vincent presents arguments against Metchnikoff's conclusions in regard to antityphoid vaccination, declaring that chimpanzees are so frail in a northern climate that their nonresistance may be ascribed to other causes, it being so difficult to keep monkeys alive in captivity at Paris. The results of the recent antityphoid vaccinations in America, he adds, are proving the efficacy of this method of prophylaxis which even Metchnikoff admits has a sound theoretic basis.

Archives des Maladies du Cœur, etc., Paris

July, IV, No. 7, pp. 417-480

42 *Bradycardia in Course of Nephritis. D. Danielopolu.

43 Improved Methods for Determination of Arterial Pressure in Man. H. v. Recklinghausen.

44 Leukocyte-Count in Prognosis of Tuberculosis. (Valeur prognostique des rapports leucocytaires dans la tuberculose humaine.) R. Dupérié.

42. **Bradycardia in Nephritis.**—Danielopolu reports two cases of this kind. The first patient was a woman of 28 with acute nephritis coming on in the midst of good health; the pulse grew progressively slower, from 72 to 44, evidently the result of irritation of the regulating system of the heart, there being no auriculo-ventricular dissociation. The second patient had chronic nephritis and the bradycardia was likewise apparently of nervous origin in this case.

Bulletin de l'Académie de Médecine, Paris

June 27, LXXV, No. 26, pp. 684-732

45 Resonance in the Sound and Diseased Lung. (Nouvelle étude sur les résonances tympaniques non cavitaires du poumon malade et du poumon sain.) H. de Brun.

46 *Inflammatory Tuberculosis of the Glands with an Internal Secretion. (Tuberculose inflammatoire des glandes vasculaires sanguines.) A. Poncet and R. Leriche.

46. **Inflammatory Tuberculosis of the Glands with an Internal Secretion.**—Poncet comments on the striking fact that the viscera most often affected by inflammatory tuberculosis are most rarely the seat of the specific lesions of tuberculosis. This applies especially to the glands with an internal secretion; he describes conditions in each in turn, affirming that the conditions which are generally regarded as predisposing to tuberculosis are in reality the results of long established tuberculosis. The hypophysis, the adrenals, the ovaries, the thyroid—morbid changes in any of these from inflammation due to the tubercle bacilli may entail far-reaching consequences, but the prevailing conception to date has always put the cart before the horse, as it were, and he argues to prove that inflammation from tuberculosis in these glands is responsible for the insufficiency or excessive functioning which is manifested in so many different clinical syndromes. Insufficiency of the pancreas from a latent inflammatory tuberculous process, affecting the most vulnerable parts of the gland, that is, the islands of Langerhans, explains the shocking prevalence of tuberculosis among diabetics, recent statistics showing that fully 43 per cent. of all diabetics die of tuberculosis. It has been assumed that the lungs were rendered particularly non-resistant by the fact of the existing diabetes, but Poncet is convinced that the pulmonary phthisis is merely the terminal phase; the visceral tuberculosis is of long standing, and during years it has been insidiously at work engendering the disturbances and, by them, the nutritional disorder which others assume was merely preparing the soil for tuberculosis later. Obesity, infantilism, morbid sexual phenomena, etc., are all liable to be the manifestations of a loss of balance between the glands with an internal secretion or of direct injury of these glands from the effect of the unsuspected latent tuberculosis.

Obstétrique, Paris

June, IV, No. 6, pp. 593-680

47 The Corpus Luteum and Its Internal Secretion. (Le corps jaune.) J. L. Chirié. Commenced in No. 5.

48 *Depression of the Skull in New-Born Infant Corrected by Corkscrew. (Cas d'enfoncement du crâne reduit par le tire-fond chez un nouveau-né.) E. Hauch.

48. **Obstetric Indentation of the Skull.**—In the case described there was an extensive depression of the frontal bone resulting from the application of forceps by a student. A little corkscrew, such as comes with certain makes of cologne, was sterilized and after the skin had been painted with tincture of iodin, the corkscrew was inserted into the bone with some little difficulty, but as soon as the tip had been introduced a single turn of the corkscrew was enough to give it a firm hold and the bone was thus readily drawn up into place. Hauch adds that shaving the skin and an incision are not necessary for the new-born. The dura separates readily from the bone and the procedure seems simple and harmless unless one of the rare blood-vessels in the dura should happen to be pierced, and this is easily avoided.

Presse Médicale, Paris

July 1, XIX, No. 52, pp. 545-560

49 Technic for Extension with Oblique Fractures. (L'embrochage des os dans les fractures du membre inférieur. Description d'un appareil réalisant la réduction et la contention des fractures obliques de jambe.) M. O. Lambret.

50 Operative and Peg Treatment of Fractures. (Maintien de la réduction d'une fracture. Résultats après 5 ans.) F. Jayle. (Technique d'Arbuthnot Lane.) P. Wiart.

Revue de Chirurgie, Paris

June, XXXI, No. 6, pp. 649-900

51 *Electric Burns of the Skull. (Brulures du crâne et nécroses des os du crâne par électrocution.) E. Quénu.

52 Pathogenesis of Painful Valgus Flat-Foot. (Sur la pathogénie du pied plat valgus douloureux.) R. Leriche.

51. **Electric Burns of the Skull.**—Quénu discusses the subject in general, especially the management of such cases as advocated by different writers, and then reports a case from his own practice in which he removed the sequestrum without waiting for it to be thrown off spontaneously; he is convinced that this method offers superior advantages. He cut away at once the burned soft parts and found the bone below white, dry and free from vessels, but without signs of injury. Six months later the young man returned with suppuration around the edge of the wound, but no signs of irritation of the meninges. The patch of bone was then excised; the dura below was the seat of pronounced external pachymeningitis. A flap of scalp tissue was drawn over the gap left by excision of the bone, and reexamination a year later showed that there had been regeneration of bone over part of the defect, as could easily be felt by palpation through the hair. Quénu's only regret was that he had not excised the sequestrum earlier. The principles for treatment are the same as for scalping accidents. The eschar is aseptic, to start with.

Revue de Médecine, Paris

June, XXXI, No. 6, pp. 433-512

53 *"Catching Cold" by the Tuberculous. (Les rhumes chez les tuberculeux.) C. Sabourin.

54 *Bard's Classification of Cases of Tuberculosis. R. Buruand.

55 *Spleen Treatment of Tuberculosis. (L'opothérapie splénique. Traitement spécifique de la tuberculose.) Bayle.

56 Intonation and Memory. (Note relative à la chanson du langage.) J. Lépine.

57 *Exophthalmic Goiter in Men. A. Pic and S. Bonnamour.

53. **When the Tuberculous "Catch Cold."**—Sabourin classifies in a number of groups the "false colds" of the tuberculous, that is, symptoms from sudden congestion from any cause, and which the patients ascribe to casually catching cold. In one case, for instance, a young man with Hanot's cirrhosis of the liver had profuse purulent expectoration each time as the initial symptom of recurring exacerbation of the liver trouble, while at other times a mild apical tuberculous process gave scarcely any signs of its presence. When the tuberculous actually have caught cold, the flora of the upper air passages appear in the sputum to such an extent that this is an unfavorable time for examining for tubercle bacilli. The effect of the "cold" on the tuberculous process varies, Sabourin declares, according to the care the patient takes of himself. An ordinary "cold" is an infectious catarrh following chilling of the skin, and the tuberculous who take care to harden their skin seldom take "cold," and when they do, they take rational care of themselves while it lasts. In these conditions the "cold" is generally mild and leaves no relics after it has passed off, not aggravating the pre-existing lesions. But a neglected cold in the tuberculous who are not taking good hygienic care of themselves is liable to stimulate the tubercle bacilli to renewed activity, or complications are set up by the infectious catarrh.

54. **Classification of Cases of Tuberculosis.**—Burnand discusses Bard's classification of tuberculosis, comparing it with his extensive clinical experience. Bard recognizes four forms: the parenchymatous, interstitial, bronchial and post-pleuritic, each with from two to four or more subdivisions. The parenchymatous form may be abortive or progressive, the latter including the caseous and fibrous and transition forms. Burnand expatiates in particular on the differentiation of an incipient progressive tuberculosis from the abortive form. The signs of abortive tuberculosis are exclusively local and mani-

festly mild. The lesion has already passed its prime and is declining when discovered, but at the same time it is better to tend a few cases of "still-born tuberculosis" rather than to let one incipient progressive case escape treatment. A young man had a slight hemoptysis in the midst of apparent health; there was no expectoration, fever, cough or loss of weight and none developed later, but a very slight tendency to dulness over the right apex was discovered and expiration was a trifle prolonged. There was also a history of congestion at the right apex in childhood and a pleurisy. The diagnosis of abortive tuberculosis was confirmed by the persisting good health to date. In a second case, similar in other respects, there was a loss of nearly 4½ pounds, an old catarrhal hawking each morning became a dry cough with a slight hemoptysis a month later, accompanied by a very slight rise in temperature. This case is classed as incipient progressive tuberculosis, as also a third typical case in which the patient had lost slightly in weight, with a briefly transient subfebrile temperature at one time. Although the local signs were insignificant, these slight general symptoms gave the alarm, confirmed by the rapidly progressive course of the disease. Burnand's article is not completed in this number.

55. **Spleen Organotherapy in Tuberculosis.**—Bayle has obtained such good results in this line that he does not hesitate to regard spleen tissue or extract as a specific method of treatment for tuberculosis. He gives 100 gm. of raw pork spleen tissue daily for three weeks and recommences again each time after an interval of two weeks. It is readily taken in soup or preserves, he says, or extracts of the spleen may be used. He commenced this treatment about 1903, and now has a record of 150 patients with pulmonary tuberculosis and twenty-two with bone or joint tuberculosis, all given a systematic course of spleen organotherapy, with a complete cure in 75 per cent. of the patients, only four not showing marked benefit under it. Joly has also cured 93 per cent. of his ninety patients. All the local processes heal under this treatment ten times faster, Bayle says, than is the case under any other methods of treatment. It is readily applied and causes no febrile reaction and no by-effects. He explains its specific action by assuming some hitherto unknown function of the spleen—possibly a colloid-producing function.

57. **Exophthalmic Goiter in Men.**—Pic and Bonnamour report two cases in male adults. In 563 cases of exophthalmic goiter which they found on record, 109 of the patients were men, less than 20 per cent., but all authors seem to agree that the affection generally has a stormier onset and runs a more serious course in men than in women, so that active measures should be instituted from the start, including prompt surgical aid if the medical prove inadequate.

Archiv für klinische Chirurgie, Berlin

XCV, No. 1, pp. 1-244. Last indexed May 6, p. 1365

58 *Krönlein's Operation for Retrobulbar Tumor. E. Bircher.
59 Two Unusual Cases of Ileus. E. Bircher.
60 Fibrin in Formation of Callus. S. Bergel and C. Pochhammer.
61 *Aseptic Suture of the Intestines. (Eine neue Modification der aseptischen Darmnaht.) M. I. Rostowzew.
62 Treatment of Fistula in the Penis. (Zur Behandlung der lippenförmigen Fisteln des männlichen Gliedes.) N. Wolkowitsch.
63 *Access to Otogenic Extradural Abscess. (Freilegung der vorderen Theile der mittleren Schädelgrube zur Erreichung ausgedehnter otogener Extraduralabscesse.) E. Ruttin.
64 Trypsin Treatment of Surgical Tuberculosis. W. Bätzner.
65 Fistula from Patent Thyroglossal Duct. (Fall von Fistula colli mediana hervorgegangen aus einem in ganzer Länge offen gebliebenen Ductus thyreoglossus.) H. Matti.
66 Case of Multilocular Cystic Retroperitoneal Tumor. E. G. Oser.
67 Displacement of the Vaginal Process and Resulting Superficial Inguinal Hernia. K. Büdinger.
68 *Postoperative Gastro-Intestinal Hemorrhages. (Magen-Darmblutungen nach Operationen.) J. R. v. Winiwarter.
69 Intravenous Ether Anesthesia. H. Kümmell.
70 General Ether Anesthesia by the Rectum. (Die Rectalnarkose mit Aetherlösungen.) K. Arnd.
71 Sterilization of the Skin. (Die Desinfection der Hände und des Operationsfeldes.) H. Küttner.
72 Regularity of Incubation Period in Infection of the Peritoneum. (Gesetzmässigkeit der Incubationszeit bei der peritonealen Infection mit nicht vorher im Körper angezüchtetem Keimmaterial.) P. L. Friedrich.

58. **Krönlein's Operation for Retrobulbar Tumor.**—Bircher adds another successful case to the 117 cases on record (up to 1905) in which this operation has been done. He urges its wider adoption, as it is comparatively simple and easy and not disfiguring.

61. **Modified Aseptic Suture of the Intestines.**—Rostowzew has slightly modified his clamp which permits suture of the clamped tissues, and shows the method of its use in thirteen illustrations.

63. **Exposure of the Middle Cranial Fossa.**—Ruttin gives an illustrated description of his simple method of access to an extensive extradural abscess originating in the middle ear. He also reports five cases in which this technic was applied with a successful outcome in three. The other patients succumbed to other complications. Even pus in the cerebrospinal fluid on lumbar puncture does not contra-indicate the operation, he declares.

68. **Postoperative Gastro-Intestinal Hemorrhages.**—Winiwarter's experience has demonstrated that hemorrhage is liable to occur in the gastro-intestinal tract from retrograde embolism or paralysis of the vessels from toxins in the blood after major operations anywhere on the body. These hemorrhages generally occur during the first three days after the operation. The changes in the stomach responsible for them rapidly heal and should not be regarded as an ulcer or precursor of an ulcer. The prognosis is grave when the hemorrhages are associated with severe general infection, as he shows by thirty cases from his experience. In treatment he recommends washing out the stomach with a silver nitrate solution. The article issues from von Eiselsberg's clinic at Vienna, this surgeon having been the first to call attention to the frequency of gastro-intestinal hemorrhage after laparotomies. Busse compiled ninety-six cases from the literature up to 1905; the thirty cases Winiwarter reviews all occurred in the clinic in the last five years. The necropsy findings confirmed the frequent causal importance of local injury in the stomach or duodenum from obstruction of veins by retrograde embolism from detached thrombi from ligated veins in the omentum or mesentery or thrombosis spreading directly from them. In rare cases injury of the central nervous system was responsible, but more frequent was a toxic paralysis of the vessels. The anesthetic, the vomiting and a general predisposition were also evident factors.

Berliner klinische Wochenschrift

July 3, XLVIII, No. 27, pp. 1213-1264

73 *Oatmeal in Diabetes. (Ueber Haferkuren bei Diabetes mellitus.) A. Magnus-Levy.
74 *Splenectomy for Idiopathic Enlargement of the Spleen. (Fall von idiopathischer Milzschwellung mit Splenektomie.) H. Senator and F. Krause.
75 *The Blood Findings in Roentgenologists. N. v. Jagic, G. Schwarz and L. v. Siebenrock.
76 Underfeeding and Growth of the New-Born. (Unterernährung und Langenwachstum beim neugeborenen Kinde.) W. Birk.
77 Spontaneous Evacuation of Teratoma by Way of the Rectum. F. Honigmann.
78 Principles of Vaccine Therapy. H. Reiter.
79 Infant Welfare from Standpoint of Campaign Against Tuberculosis. J. Landsberger.

73. **Oatmeal in Diabetes.**—Magnus-Levy's experience has demonstrated, he asserts, that the advantages of oatmeal in the diet of diabetics are mostly on the negative side; that is, by the absence of meat. At the same time he admits that the oatmeal starch has certain special features different from those of the other cereals, particularly evident in its behavior in the intestines. He reiterates von Noorden's caution that a course of oatmeal should always be preceded by a few days of dieting, less than 50 gm. of bread being allowed in this preliminary period. Another point is that the oatmeal diet must not be kept up for weeks at a time. Three or four days are enough, then a vegetable day, and then, after a pause of a few days, the oatmeal is resumed again as before. The details of one such case are tabulated, showing how after five oatmeal courses (250 gm. oatmeal porridge) the patient acquired tolerance under these measures and was able to eat 50 gm. of bread without glycosuria, while before this on a strict diet, he eliminated from 50 to 70 gm. of sugar and large amounts of acetone. The oatmeal is not required for cases other than the severest and moderately severe. The method to be done properly and well requires daily deter-

mination of the proportion of sugar in the urine. Certain diabetics may do equally well with rye or wheat meal instead of oatmeal. He adds that no satisfactory theory to explain the beneficial action of the cereals in diabetes has yet been presented beyond those suggested here.

74. **Idiopathic Enlargement of the Spleen.**—This is practically the last communication from the late Professor Senator. The case described resembled Banti's disease in some respects, but the absence of ascites and of the typical blood changes seemed to exclude this disease. The patient was a man of 40, and very little benefit followed splenectomy, but the persisting disturbances seem to be more in the nature of neurasthenia. Nothing organic can be found to explain them, and it is possible that his business, publishing books, may be too strenuous for him.

75. **Blood Findings in Roentgenologists.**—A Vienna specialist in *x*-ray work and another at Munich both succumbed not long ago to lymphatic leukemia, and Schwarz found the changes in the blood characteristic of this disease in a chemist long engaged in the production of radium. He also cites a fatal case in an American roentologist. This prevalence of lymphatic leukemia among roentologists was confirmed by examination of ten other, apparently healthy, roentologists. In all, the blood findings indicated some injury of the "granulocyte" system in the bone marrow or circulating blood. This is paralleled by an increase in the lymphoid elements—possibly a compensating process, but more likely the result of irritation from the action of the *x*-rays. These changes in the blood were more severe the more extensive and prolonged the work with the *x*-rays.

Deutsche medizinische Wochenschrift, Berlin

July 6, XXXVII, No. 27, pp. 1249-1296

80 The Spleen Is in Charge of the Metabolism of Iron. (Die Funktion der Milz.) L. Asher.
81 Reciprocal Relations Between Lung and Thorax with Emphysema. W. A. Freund.
82 *Enuresis and Myelodysplasia. (Enuresis nocturna und Myelodysplasie.) G. Peritz.
83 *Causal Treatment of Glycosuria and Diabetes. C. Funck.
84 Alleged Improvement in Technic for Wassermann Reaction. (Ueber die praktische Verwertbarkeit des von v. Wassermann kontrollierten Luesextraktes.) H. Stern.
85 Tincture of Soap in Sterilization of the Hands. (Alkohol und Seifenspiritus in der Händedesinfektion.) P. Sick.
86 Prophylaxis of Tuberculosis. O. Moszeik.

82. **Enuresis as a Manifestation of Myelodysplasia.**—Fuchs explains enuresis in certain cases as the result of an occult spina bifida, which in turn is due to defective development of the spinal cord, a myelodysplasia as he calls it. Peritz has examined twenty guardsmen with enuresis and two other adults and twenty children, and the Roentgen findings all confirm this assumption of defective development of the spinal cord and spine as an important factor in the enuresis. He found the myelodysplasia pronounced in 68.2 per cent. of the adults and in 35 per cent. of the children. Syndactylia was also frequent among these individuals and disturbances in the thermic sense. Instead of the normal small triangle of the sacral hiatus the opening is wide and extends high up with or without bone crossbars. The dehiscence shows up well in the radiograph. Defective development of the lower part of the spinal cord explains the success of Cathelin's epidural injections in treatment in certain cases of enuresis. The fluid distends the cicatricial tissue and crossbars and releases the nerves from the pressure of the abnormal bands, etc., and they resume normal functioning. The individual then regains volitional control of the bladder sphincter. The effect is purely mechanical, but it is almost certain to cure the enuresis in the cases of this category. The aim in treatment of enuresis should be to discover the actual cause of the condition; and if myelodysplasia is suspected, to remedy conditions in this or some similar way.

83. **Causal Treatment of Diabetes.**—Funck set himself to the task of discovering some cooperating factor besides the anomaly in the utilization of sugar as responsible for the causation of diabetes, and he states that gastro-intestinal disturbances were found unexpectedly prominent when the cases were studied from this dual causal standpoint. Instead of devoting all the energies to curing the disturbance in the metabolism of carbohydrates, he has obtained surpassing results by attacking the cause which he suspected of being responsible for the disturbance in the metabolism, as he explains in detail. He insists that the disturbance may be in the fixation as well as in the oxidation of the carbohydrates, and that unsuspected chronic gastritis or gastrogenous enteritis may be the primal factor of the disturbance, or at least responsible for exacerbations. In the severest case reported, the patient in incipient coma, he introduced a fine sound into the duodenum and flushed the intestines, sending through in thirty-eight hours 9 liters of a physiologic salt solution, at the rate of a drop a second, utilizing in this way the enormous area of mucous membrane surface in the intestine. No food was allowed but milk for four days, and after that mostly rice and milk, with hydrochloric acid as the only drug. The patient was soon free from sugar and attends to a very responsible business. Milk and rice are the main reliance in diet in this and the other cases cited.

Medizinische Klinik, Berlin

July 2, VII, No. 27, pp. 1031-1068

87 *Diabetes Mellitus. O. Minkowski.
88 *Tuberculosis of Female Genital Organs. O. v. Franqué.
89 *Hemorrhage in the Spleen. (Ueber Milzapoplexien.) L. Bleibtreu.
90 Clinical Importance of Intermittent Obstruction of Nose. (Die klinische Bedeutung der intermittierenden Nasenstenose für Atmung und Blutkreislauf.) H. Rothholz.
91 Origin and Treatment of Chronic Constipation. S. Landsberg.
92 *Hints for Thiersch Skin Flap Transplantation. (Thierschsche Hautverpflanzung.) E. Schepelmann.
93 Irritation from Denatured Alcohol Used in Sterilization of the Hands. W. N. Clemm.
94 Technic for Clinical Experiments. (Ueber einige Bedingungen des klinischen Experimentes.) M. Katzenstein.

87. **Diabetes.**—Minkowski discusses the latest conceptions in regard to the cause of the overloading of the organism with sugar, and in which organs is located the anomaly responsible for the disturbances. The reaction to the hitherto prevailing over-strict deprivation of carbohydrates is swinging to the other extreme, he fears, but he does not hesitate to admit that he has derived unmistakable benefit from a course of oatmeal diet in certain cases. In several recent experiences, patients with impending or already installed coma seemed to have been dragged from the jaws of death by the oatmeal cure. But, he continues, it is adapted only for a small group of diabetics, and the benefit derived is not permanent. He thinks the benefit from the oatmeal lies partly in the restriction of protein; the fat also should be reduced as much as possible in combating the acidosis. Restriction of protein not only does away with this source of sugar production, but it also reduces the metabolism as a whole. Naunyn, he adds, has especially emphasized the advantages of reducing the amount of the total metabolic processes as a distinct gain in many cases of diabetes. It is therefore wise to reduce the amount of muscular exercise in severe cases of diabetes. In the mild forms there is less danger of doing harm with a very strict course of dieting, while the aim is not merely to tide the patient along, but to cure or at least to increase the tolerance for sugar permanently.

88. **Tuberculosis of the Female Genitalia.**—Franqué is convinced that the frequent primary invasion of the Fallopian tubes in genital tuberculosis can be explained only by infection from the vagina in the majority of cases. It has been his experience that nodules could be palpated in the pouch of Douglas with other than tuberculous affections, and he cites some cases in which adenomatous proliferations spread from the uterus to the floor of the pelvis and to the rectum. The tuberculin reaction he also found frequently misleading with tuberculosis of the female genitalia, being negative and especially without any focal reaction in some cases which proved to be typical tuberculosis, while in others there was a positive reaction when the course of the cases and operations failed to reveal the least tuberculous lesions in the genitalia. In one case in this latter group the trouble proved to be a hematoma in each ovary in a virgin; in another there were multiple myomas in the uterus with inflammation around the uterus and a hematoma in one ovary. He inquires whether others have obtained positive tuberculin reactions with old encapsulated hematomas and hematoceles. In another case

there was effusion in the abdominal cavity and signs of tuberculosis in the lungs, suggesting tuberculous ascites, and the pregnancy was artificially interrupted on this account, as the tuberculin reaction had been positive, but the course of the case revealed a gall-stone trouble with no further signs of tuberculosis. Each time, however, the uterus reacted to the three tuberculin injections with hemorrhage, but no trace of tuberculosis could be found in the uterus adnexa after their removal nor in the scrapings of the uterus. In another case the test injection of tuberculin caused such serious peritonitic symptoms with ileus and collapse that the patient's life was in danger. This case warns of the necessity for care in applying the tuberculin test when there are reasons for assuming the existence of adhesions between the intestines. Schlimpert and Zöppritz have also recently called attention anew to the unreliability of the tuberculin test in affections of the female genital organs. Franqué operates on principle whenever convinced of the tuberculous nature of a tumor in the uterus adnexa, if it seems to be the only or the predominant manifestation of the disease. He thus operated in thirty-seven cases over five years ago, including nineteen with genital and eighteen with peritoneal tuberculosis, and all the patients made a smooth recovery and were much benefited with a single exception. This patient had the rectum injured during the operation, as it was closely adherent to the seriously diseased ovary, but the woman's fistula has since healed and she is now married. In three cases there was suppuration in the scar, fourteen and fifteen months later after apparently smooth primary healing, but the lesion soon healed. He regards a tuberculous process in the genital organs as a very serious lesion if left unmolested. In one case after an apparent cure under medical measures only, the process perforated into the rectum. When the uterine mucosa becomes involved the process may be regarded as "open," and the patient thus becomes a source of danger for others, to say nothing of the danger for herself of mixed infection from the intestines. He cites three new cases to show that genital tuberculosis displays scarcely any tendency to spontaneous cure; a concomitant tuberculous peritonitis healed completely, while the genital lesions persisted unmodified or gradually progressing.

89. **Hemorrhage in the Spleen.**—In the first case the patient, a physician of 37, had verrucous endocarditis, but it revealed no signs of its presence until embolic obstruction occurred in the spleen, the infarct leading to hemorrhage and rupture. In the second case a young man, a hemophilic with pulmonary tuberculosis, succumbed with the same symptoms, indicating hemorrhage in the spleen, rupturing the organ.

92. **Improved Technic for Thiersch Flaps.**—Schepelmann extols the advantages of tincture of iodin for sterilization of the skin before taking the flaps. Only the upper layer of the epithelium was thrown off in consequence, even when the tincture had been applied three times. Another simplification of the technic which he advocates is the use of ethyl chlorid local anesthesia, and a special knife which automatically regulates the thickness of the slice. The freezing does not seem to impair the vitality of the flaps. The frozen flap keeps smooth and flat, so that there is no trouble from its crumpling as it is transplanted. Superheated air has been doing good service in the after-treatment of the transplanted flaps.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

XXXII, Supplementary Number, pp. 1-62

95 Vaginal Operations for Extra-Uterine Pregnancy; 107 Cases. (Die vaginale Köliotomie bei ektopischer Schwangerschaft.) W. L. Jacobsohn.
96 Vaginal Operations for Uterine Tumors. (Der vaginale Weg in der operativen Behandlung der Uterusgeschwülste.) R. Kiparsky.
97 Vaginal Ovariotomies During Pregnancy; Twelve Cases. A. Korobkoff.
98 Vaginal Operations for Disease of Uterine Adnexa; 390 Cases. (Zur Frage der Behandlung der Adnexerkrankungen mittelst Coeliotomia vaginalis.) A. Markowsky.
99 Conservative Treatment by Vaginal Celiotomy. W. Preobrajenski.
100 Appendectomy Accompanying Vaginal Celiotomy; Five Cases. J. de Soboleff.
101 Vaginal Celiotomy with Uterine Cancer Accompanying Pregnancy; Seven Cases. J. Werboff.
102 Illumination of Interior of Puerperal Uterus. (Beleuchtung der Höhle des puerperalen Uterus.) A. Sitzinsky.
103 *Reasons Why Results Are Better with Vaginal Than Abdominal Celiotomies. (Wodurch werden die besseren Erfolge bei den vaginalen Koeliotomien im Vergleich mit denjenigen bei den abdominalen bedingt?) D. v. Ott.

103. **The Vaginal Method in Gynecology.**—All the articles in this supplementary number of the *Monatsschrift* are from the institute for obstetrics and gynecology in charge of Prof. von Ott at St. Petersburg. He is an ardent champion of the vaginal route for operations within the pelvis, and his communication is accompanied by numerous illustrations showing his special technic for illumination of the interior of the pelvis through the vagina and also for direct inspection of the bladder and rectum. (Some of the illustrations are the same as those reproduced in THE JOURNAL, Aug. 23, 1902, p. 458.) His experience with the 1,137 cases summarized in these various articles and those of his assistants confirm, he thinks, the numerous advantages of the vaginal over the abdominal route wherever it is practicable. Soboleff reports his experiences with appendectomy by way of the vagina secondary to a gynecologic operation, having found the illumination through the colpotomy wound ample for the purpose.

Münchener medizinische Wochenschrift

July 4, LVIII, No. 27, pp. 1433-1488

104 *Course of Wheat Flour Diet in Diabetes Mellitus. (Beitrag zur Theorie der Verwendung der Kohlehydrate in der Therapie der Zuckerkrankheit.) L. Blum.
105 *Determination of Epinephrin in the Blood. (Ueber Adrenalinbestimmung im Blute.) J. M. O'Connor.
106 *Specificity of Antianaphylaxis. M. Calvary.
107 *Fixation of Mobilized Scoliosis and Kyphosis. (Fixierung der mobilisierten Skoliose und des runden Rückens.) J. Fränkel.
108 *Phosphaturia. F. Schlagintweit.
109 Improved Staining Technic for Leukocytes. (Eine einfache Färbung der Leukozyten in der Zählkammer mit Differenzierung der einzelnen Zellarten.) W. Schüffner.
110 Improved Differential Romanowsky Staining Technic for Blood Smear Preparations. (Romanowskyfärbung von Blutausstrichpräparaten mittelst der Farblösung von Jenner.) O. L. E. de Raadt.
111 Bone Cysts. (Kasuistischer Beitrag zur Kenntnis der Knochenzysten.) Brade.
112 Technic for Intravenous Injection. (Zur Methodik der Venenpunktion und der intravenösen Injektionen.) E. Sachs.
113 Dosage of Roentgen Rays. Bucky and R. Kienböck.

104. **Carbohydrates in Diabetes.**—Blum gives a number of tables and further arguments to recapitulate and supplement those he has recently published elsewhere. (One of his articles was summarized in these columns August 5.) He is docent at Strasburg, and the work issues from the medical clinic in charge of Moritz, the scene of much pioneer research on the nutritional diseases. He reiterates anew that the aim in treatment is to put an end to the glycosuria, and that nothing is able to do this in such a simple, rapid and harmless way as restriction to oatmeal or wheat flour. But there can be no hard-and-fast rule for this; the amount of the carbohydrate allowed must vary with the severity of the disease.

105. **Determination of Epinephrin in the Blood.**—A number of physiologic experiments and tests are related by O'Connor to determine the presence of epinephrin in the blood. His research seems to indicate that blood serum contains not only epinephrin, but some other substances with similar properties. He found that the action of serum was greater on the rabbit uterus than the action of an epinephrin solution of the same concentration of epinephrin. This difference is suggested still more forcibly by the fact that the pure solution of epineprin has an inhibiting action on the intestine, while serum from the carotid, containing the same proportion of epinephrin, has a stimulating action on the bowel.

106. **Specificity of Antianaphylaxis.**—Calvary's experiments seem to indicate that an alien serum has the same action as a homologous serum in respect to production of anaphylaxis and protection against it, but that there is a great quantitative difference between them, sixty times as much of the former as of the latter being required to accomplish the same results. The conditions are similar to those with precipitation and agglutination; the response is a group response, and it occurs with special intensity exclusively with the homologous allergy-producing substance.

107. **Fixation of Mobilized Scoliosis and Kyphosis.**—Fränkel reports excellent results from treatment of curvature of the spine by a plaster bed holding the spine in extremely exaggerated over-correction, such as is obtained by the creeping

exercises which Klapp has found of such service in treatment of scoliosis. (His method of thus transforming children with deformed and weak backs into "back athletes" was described in The Journal, Feb. 24, 1906, page 625.) The creeping is the ordinary four-footed gait exaggerated to twist the spine from side to side in as wide sweeps as possible. Overcorrection by a plaster bed supplements the effects of the creeping exercises and renders the benefit permanent. In fitting the bed the aim is to utilize all the points where it is possible to obtain support, the head, shoulder, arms, pelvis and thighs all helping to maintain the over-correction. Especially important is it to fasten the swinging arm and swinging thigh as in the creeping exercise. Only by utilizing all the leverage points possible are the best results attainable. The plaster sheet is applied with the patient lying sprawled out on the table as in an exaggerated correcting creeping exercise, the head, chest and pelvis resting on supports to facilitate the application of the plaster, the arms extended and grasping supports at a certain distance above the table. The plaster bed for a patient with right convex dorsal scoliosis is shown in Figure 1, and for a left convex lumbar scoliosis in Figure 2. The combination of effectual and prophylactic functional treatment with a plaster bed constructed on the same principles is giving extremely gratifying results at the university clinic in Berlin in charge of Bier, where the method is being applied on a large scale. Fränkel is Bier's assistant.

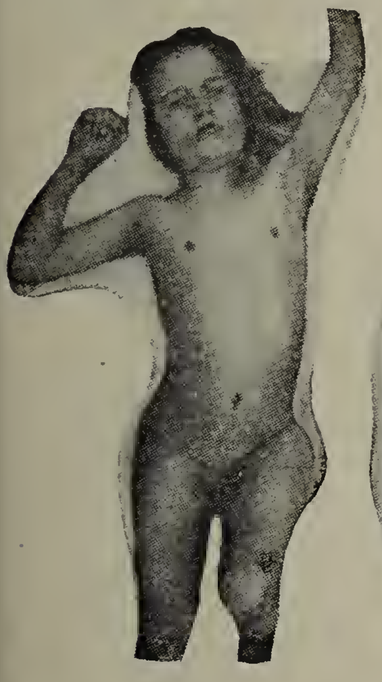
Fig. 1

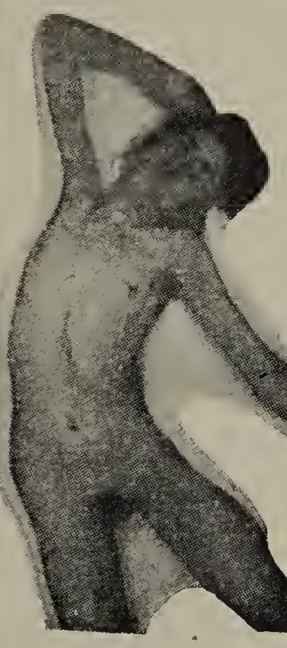
Fig. 2

108. **Phosphaturia.**—Schlagintweit discusses five types of phosphaturia, and remarks that both soft and hard alkaline concrements may be present for a long time without causing disturbances. He has had from 280 to 300 patients with phosphaturia, and has operated in nineteen or twenty of the cases. All his observation and research has but confirmed him in the opinion that phosphaturia is essentially a secretory disturbance in the kidneys of nervous character. The irritation causing the nervous disturbance may be at some other point of the urinary apparatus and act by reflex influences, or it may be due to a solitary functional anomaly in the kidney cells. That is to say, he regards phosphaturia as a local neurotic affection, and its frequent connection with neurasthenia, hypochondria, abdominal atony, mental strain and mania testifies further to this relationship. Boursier has reported a case of intense phosphaturia in a clergyman which subsided after correction of phimosis. Among the other evidences presented to sustain this view is the prompt elimination of large amounts of phosphates when the ureter catheter is introduced into a sound kidney pelvis, while the urine from the other kidney contains little, if any, phosphates, showing the influence on the secretory apparatus of the reflex stimulus from introduction of the catheter. If the urine is very alkaline and contains much phosphates, the indigo-carmin test may prove misleading, as the urine is liable to be colorless; addition of a little acid to the urine, however, counteracts the influence of the alkalies and brings out the blue tint at once. He warns, further, that a simple alimentary or neurotic phosphaturia may lead to ammoniacal cystitis or pyelitis. Treatment of the phosphaturia and its consequences must be both neurologic and gastro-intestinal. If no lesion can be found in the urinary tract, Schlagintweit gives hydrochloric acid internally and forbids all irritating and alkaline food and drinks. If he finds leukocytes in the urine, he alternates the hydrochloric acid with disinfectants for the urinary tract. If the phosphaturia still persists, he consults with a gastro-intestinal specialist or neurologist or both, bearing in mind that too much specialist neurologic and urologic intervention may breed serious neurasthenia. With a phosphaturic sexual neurasthenic the slightest heedless word or unnecessary instrumental meddling may avenge itself with grave consequences. The serious outcome possible with phosphaturia is instructively shown by his case of a well-to-do merchant of 39; phosphaturia developed after a gonorrheal abscess in the prostate, and for seven years he passed occasional phosphate calculi and had kidney colics, always on the left side. The pains were so severe he became addicted to morphin; then followed a period of four years free from concrements. Then the left kidney was removed, but the whole drama started anew on the right side, with increasing morphin and cocain addiction. Each puncture hole suppurated so that some abscess had to be opened nearly every day, and scarcely any part of the body was free from them until he succumbed. Phosphaturia is thus shown to be a subject interesting alike the practitioner, the internist, the stomach specialist, neurologist and surgeon.

Virchows Archiv, Berlin

June, CCIV, No. 3, pp. 321-474

114 Experimental Research on Myeloid Metaplasia. A. Werzberg. Commenced in No. 2.
115 Peculiar Malignant Hyperplasia of the Liver. (Regenerationshyperplasie?) T. Tschistowitsch.
116 Pathology of Musculature and Elastic Tissue in the Bladder. (Entstehung der sogen. echten Divertikel der Harnblase, insbes. des Blasengrundes, nebst Beiträgen zur Lehre von der Pathologie der Muskulatur und elastischen Gewebe in der Harnblase.) S. Sugimura.
117 Relations Between Malformation of the Kidneys and of the Genital Organs. (Missbildungen der Nieren und der Geschlechtsorgane.) P. Guizzetti and F. Pariset.
118 Splenic Anemia and Infectious Granuloma. E. A. Oppenheim.
119 Deformity of Arm. (Fall einer sonderbaren angeborenen Missbildung der oberen Extremität.) A. Krokiewicz.
120 Production of Tumor Chains and Bridges with Transplantable Mouse Cancers. (Ueber die Erzeugung von Tumorketten, Kugeltumoren und Tumorbrücken beim Arbeiten mit dem transplantablen Mäusekarzinom.) H. Stahr.
121 Finer Structure of Tuberculous Giant Cells. (Tuberkulöse Riesenzellen.) T. Wakabayashi.
122 Melanosis in Calves. (Die Melanose der Kälber: Beitrag zum Krebsproblem.) A. Jaeger.
123 Vital Metachromatic Staining with Sulphurhodamin. N. Andrew.
124 Nodular Syphilitic Leptomeningitis and Syphilitic Arteriitis. H. Beltzke.
125 Syphilitic Aortic Insufficiency. K. Koch.

Wiener klinische Wochenschrift, Vienna

July 6, XXIV, No. 27, pp. 963-1002

126 Portal of Entry for Tuberculosis. (Ueber den gegenwärtigen Stand der Eintrittspfortenfrage bei der Tuberkulose.) J. Bartel.
127 Frequency and Diagnosis of Tuberculosis of Uterus Adnexa. O. Bondy.

Zentralblatt für Chirurgie, Leipsic

July 8, XXXVIII, No. 27, pp. 921-952

128 *Transient Blindness After Injection of Novocain-Suprarenin Into the Orbit. W. Jassenetzky-Woino.
129 Treatment of Typical Fracture of the Radius. M. Friedmann.

128. **Transient Blindness After Injection of Anesthetic into the Orbit.**—Woino reports a case similar to the one recently published by Kredel. He injected a 0.5 per cent. solution of novocain-suprarenin, according to Braun's technic, into both orbits in operating for a bilateral frontal empyema. The local anesthesia had been preceded by the scopolamin-morphin "twilight sleep." The solution evidently caused an inflammatory effusion in the orbit, mechanically disturbing the circulation in the optic nerve and leading to transient blindness, with congestion in the lids and some temperature. The symptoms soon subsided entirely so that vision was normal by the third day. The complete restitution excludes the assumption of a neuritis.

Zentralblatt für Gynäkologie, Leipsic

July 8, XXXV, No. 27, pp. 953-1000

130 Extraperitoneal Cesarean Section. (Für den extraperitonealen Kaiserschnitt.) O. Küstner.
131 Technic of Cesarean Section. E. Opitz.
132 Roentotherapy in Gyniatry. (Zur gynäkologischen Röntgenbestrahlung.) Albers-Schönberg.
133 Adjustable Knife in Shape of Shepherd's Crook for Decapitation. (Das Hakenmesser, ein neuartiges Dekapitationsinstrument.) R. Franz and J. Braun.
134 Hypnosis. (Meine Schlussbemerkungen zum Thema "Hypnose.") A. Rieck.
135 Self-Holding Speculum with Receptacle and Strainer for Curetted Scraps. (Hintere Platte mit "Fangsieb.") Weissbart.

Policlinico, Rome

July 2, XVIII, No. 27, pp. 841-872

136 Diagnosis of Pulmonary Tuberculosis. F. Fornara.
137 Pseudo-Appendicitis in Course of Pneumonia. (Crisi pseudo-appendicitiche nel decorso delle polmoniti. Influenza del simpatico.) G. Carcaterra.

Ugeskrift for Læger, Copenhagen

June 15, LXXIII, No. 24, pp. 871-902

138 *Trachomatous Urethritis and Conjunctivitis from Modified Gonococci? (Fremkaldes den trakomatøse Konjunktivitis af muterede Gonokokker? Existerer en trakomatøs Uretritis?) C. F. Heerfordt.

June 22, No. 25, pp. 903-934

139 Solutions of Pepsin Lose Strength with Age. (Undersøgelser over saltsure Pepsinopløsningers Svækkelse ved Henstand.) P. Liebmann and L. Johannessen.
140 Experiences with "Albumin Milk." (Om Aeggehvidemælk.) O. Lendrop.

June 29, No. 26, pp. 935-974

141 *Survival and Causes of Death with Cancer of the Digestive Organs. (Levetid og Dødsaarsager ved Cancer i Fordøjelsesorganerne.) C. Otto.

July 6, No. 27, pp. 975-1006

142 Differential Diagnosis Between Gastric Cancer and Simple Chronic Gastritis with Achylia. S. Kemp. Concluded in No. 28.

138. **Trachomatous Urethritis?**—Heerfordt asks whether trachomatous conjunctivitis can be caused by modified gonococci and whether there is such a thing as a trachomatous urethritis, referring to Prowazek's "cell inclusions," and discussing the literature and findings on the subject, especially Hertzog's assumption that the cell inclusions are merely modified gonococci. Heerfordt thinks that the evidence to date sustains this view.

141. **Cancer in the Digestive Tract.**—Otto analyzes the findings during life and at necropsy in 196 cases of cancer in the digestive organs, studying especially the length of the period after the first symptoms were noted before the individuals applied for medical aid; also the survival and the causes of death. The tabulated details show that persons very seldom die from the cancer as cancer, but they succumb to perforation or hemorrhage or functional disturbance from compression. In fifty-four of the cases the first symptom had been trouble from stenosis or motor insufficiency in the stomach or intestine; in eight others perforation occurred without warning. Jaundice was the first symptom in a case of cancer of the duodenum, in two in the pancreas and four in the gall-bladder; in fifty-four the first symptoms had suggested chronic gastritis, including eight cases of cancer of the pancreas and three of the esophagus; pains in the lumbar region had been the first symptom in five cases, the cancer being in the pancreas in all this group. There was evidently a longer or shorter period of latent development before the onset of symptoms. One table shows the conditions in regard to metastasis, glandular enlargement and extent of the cancerous involvement as compared with the number of days or months or years that had elapsed after the first symptoms had attracted attention. This interval had been from one to four years in two cases of cancer of the esophagus without metastasis, and in three with involvement of the regional glands, in four cases of cancer of the pylorus with involvement of glands, and in two in the intestines without metastasis. The cancer had not been diagnosed in fifteen of the total 196 cases, but in four of this group the intercurrent fatal disease had probably masked the symptoms. In thirty-three cases extensive malignant disease was found at necropsy within two months after the first symptoms. Of the total 196, 121 of the patients died within the first six months and the date is not known for nine others. These early fatal cases included thirty of cancer in the esophagus, eighteen at the pylorus, seven at the cardia and twenty-five in the body of the stomach. The length of the latent phase is determined mostly by the width of the organ involved—the narrower the lumen the sooner symptoms develop. Consequently, cancer in the stomach and large intestine may have a long latent period, while cancer at points easily obstructed, as at the pylorus, soon makes its presence felt. The early fatal outcome with cancer of the pancreas is due to the mechanical functional disturbances in the region. The chief aim for further study of cancer is, therefore, he says, the first period of latency before the malignant disease has reached the stage of obstruction and compression.

Books Received

EPIDEMIC DROPSY IN CALCUTTA. Being the First Report of an Enquiry Carried Out by Major E. D. W. Greig, M.D., D.Sc., I.M.S., Under the Direction of the Director, Central Research Institute, Kasauli. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. No. 45. Issued under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 2 shillings. Pp. 46. Calcutta: Superintendent Government Printing, India, 1911.

LEHRBUCH DER THERAPIE INNERER KRANKHEITEN FÜR AERZTE UND STUDIERENDE. Volume I. Allgemeine Therapie innerer Krankheiten. By various authors. Herausgegeben von Dr. Paul Krause, Professor und Direktor der Medizinischen Universitäts-Poliklinik in Bonn und Dr. Carl Garre, Professor und Direktor der chirurgischen Universitäts-Klinik in Bonn. Paper. Price, 11.50 marks. Pp. 758, with 345 illustrations. Vienna: Gustav Fischer, 1911.

EVOLUTION. By Patrick Geddes, Professor of Botany, St. Andrew's University, and J. Arthur Thomson, Regius Professor of Natural History, Aberdeen University. Joint authors of "The Evolution of Sex." Cloth. Price, 75 cents net. Pp. 256. New York: Henry Holt & Co., 1911.

PRACTICAL MEDICAL CHEMISTRY FOR PHYSICIANS AND STUDENTS. By Charles Platt, A.C., M.D., Ph.D., and William A. Pearson, Ph.C., Ph.D., Analytical and Consulting Chemist. Sixth Edition. Cloth. Price, $2.50 net. Pp. 254. Philadelphia: John Jos. McVey, 1229 Arch Street, 1911.

PANCREATITIS AGUDA HEMORRAGICA. Tesis Presentada para Optar al Grado de Doctor en Medicina. Por Pedro I. Elizalde, Ex-externo e interno del Hospital San Roque. Universidad Nacional De Buenos Aires. Facultad De Ciencias Medicas. Buenos Aires: De E. Spinelli, 1911.

A MANUAL OF SURGERY. For Students and Physicians. By Francis T. Stewart, M.D., Professor of Clinical Surgery, Jefferson Medical College. Second Edition. Cloth. Price, $4 net. Pp. 682, with 553 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

THE ANIMAL WORLD. By F. W. Gamble, F.R.S., Professor of Zoology in the University of Birmingham. With introduction by Sir Oliver Lodge, F.R.S. Cloth. Price, 75 cents net. Pp. 252, with 36 illustrations. New York: Henry Holt & Co., 1911.

VERZEICHNIS DER VORLESUNGEN AN DER HOCHSCHULE ZURICH IM WINTERSEMESTER, 1911-12. Oct. 17 to March 3, 1912. Paper. Pp. 35.

New Patents

New Patents of Interest to Physicans

982462	Electric incubator and nursery. Adolf Beckstrom, Lewiston, Mont.
982232	Medical applicator. John A. Bartholomew, Chicago.
982289	Adjustable invalid cot. Royal R. Miller, Pueblo, Colo.
982552	X-ray tube. Harry F. Waite, New York, N. Y.
982554	Matrix ear file. Gustav E. Wallin, Kansas City, Mo.
983223	Sleeping bag. Ezra H. Fitch, Montclair, N. J.
982807	Invalid lifting apparatus. Jesse Fravel, Dayton, Ohio.
982996	Wire spring stem pessary. George E. Rowell, San Bernardino, Cal.
982997	Ambulance. Irone H. Russell, Washington, D. C.
982903	Atomizer. John S. Thurman, St. Louis.
983806	Oxygen generator. Richard C. Bradley, Shreveport, La.
983547	Anatomical skeleton. Charles E. Fleck, Orange, N. J.
983360	X-ray frame. Amedee Granger, New Orleans.
983368	Skull cutter. Frank Holt, Chicago.
983721	Ankle brace. Charles H. Irish, Zion City, Ill.
983657	Electromagnetic vibrator. Chester H. Thordarson, Chicago.
13199	(Reissue.) Apparatus for killing bacteria in liquids. Joseph Willmann, Skelton, Conn.
984179	Artificial hand. Leonard Aydt, Seattle, Wash.
983871	Syringe. Joseph J. Brin, Chicago.
984374	Combined bed and stretcher. Edward J. Jardin, Brooklyn.
984003	Clinical thermometer case. Joseph C. Jenkins, Lititz, Pa.
984148	Syringe. Joseph F. Milligan, Cheyenne, Wyo.
984106	Antiseptic composition. Ernest D. Reed, Dublin, Ind.
984030	Gas liquefying apparatus for demonstration purposes. Wilhelm P. Schneider, Hamburg, Germany.
984037	Syringe. John H. Sheets, New York.
41155	Soda dispensing fountain. David E. J. Noonan, St. Louis

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THE FUNDAMENTAL PRINCIPLES OF PEDIATRICS *

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NEW YORK

Pediatrics, at present, may be divided into two parts; first, that relating to the treatment of disease and perversion of function; second, that concerned with the production of well-developed physique in children. More attention is usually paid to the first than to the second of these branches.

If its scope were broadened, pediatrics might be defined as that branch of science which concerns itself with the animal aspect of the production of human beings. This science could then be divided into two parts; first, that devoted to the production of the highest development of the human being as an animal; second, that concerned with the management of the growing human animal when malformed, or with perverted functions, or subjected to mechanical injury, or attacked by parasitic microorganisms, or poisoned. It is evident then, that the pediatrist should be versed in general biology, bacteriology, protozoology, chemistry and physics.

While the public is not yet fully educated to the advantages of consulting a pediatrist before children are sick, it would be to the advantage of children, of parents, and of the community at large if every child during its most active period of growth were supervised by a well-equipped pediatrist, meaning by this, one who has had a broad training in general science as well as in a special department of medicine. If a physician undertakes to look after the development of a child, he should thoroughly understand the broad principles of human development and of animal life in general; it is not enough simply to be able to follow the ideas of some prominent teacher or authority.

It would prove an advantage to all physicians if the fundamental principles of the management of infants could be firmly established and thus taken out of the field of discussion. In order to attain this result, it is essential that the teachings concerning the chemistry of feeding be in accord with the general science of chemistry, that the problems of infancy falling in the province of physics be recognized as such, and that the teachings concerning animal life and development be true to those principles which have been found to apply to life in all its forms.

While medical men stand well in the forefront when it comes to the relations of human beings and animals to bacteria and protozoa, it must be confessed that they often lag behind in respect to the general care, nutrition and development of the human being in relation to his environment. The physician may broaden out to advantage at the points where science at large touches these problems.

The life-cycle of human beings, like that of all forms of animal life, may be sharply divided into two periods: first, that in which all of the food is derived from the mother's body in specialized forms; second, that in which none of the food is obtained from the mother's body but a wide variety of forms is taken. It is during the period in which the mother secretes the specialized forms of food that the tissues are produced and become differentiated into organs. When the organs of nutrition are developed, such forms of food are no longer needed and the infant has become a living machine that is able from food to build the future adult. This living machine is operated on much the same principle as a mechanical engine. It takes in fats, sugars and starches, and, by combining them with air procured through the lungs, obtains a supply of energy. This energy, when expended, appears in the form of heat which must be removed as fast as it is liberated, and it is accordingly found that all animals are provided with two cooling systems. For ordinary conditions, radiation of heat into the surrounding air is sufficient, but when the temperature of the air is nearly as high as that of the body, or higher, radiation fails to cool sufficiently, and heat is removed by being changed into latent heat through the evaporation of perspiration.

An infant taking 36 ounces of breast milk daily receives food yielding about 792 calories, or enough heat to raise the temperature of a 14-pound baby 113 C. In other words, this food will liberate enough heat to raise the temperature of the infant above the boiling-point of water. It may easily be appreciated, then, how important is the proper working of the infant's cooling system; yet how few realize that infants and all animals have cooling systems, and that the life habits of many animals are largely controlled by them! Some animals of enormous strength, such as the lion and cat tribe, are incapable of prolonged effort because they cannot get rid of the heat liberated as fast as it is produced.

A large part of the sickness among infants in hot weather may be due to ineffective cooling of the living animal motor. Imagine an infant on a hot day lying in a crib surrounded by curtains. Air movement is stopped, and the atmosphere around the infant becomes so saturated with water vapor from the evaporated perspiration that no more can evaporate, with the result that the infant's cooling system breaks down and vomiting and diarrhea may ensue. Boiling water, and vapor from it, have the same temperature, 212 F., yet the vapor has absorbed almost one thousand degrees of heat and rendered it latent or insensible. As long as the air is not

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* President's Address before the American Pediatric Society at Mohonk Lake, N. Y., May 31, 1911.

saturated with vapor, or is nearly saturated, but in motion, this change from sensible to insensible heat takes place and it is perfectly feasible to be cool and comfortable in air whose temperature is above 100 F., provided this air is dry or in motion and thus capable of vaporizing perspiration. In fact, one can be kept quite cool by a current of hot dry air if a wet cloth is kept next to the skin.

When an infant has been subjected to conditions such as render it unable to liberate its heat properly, the treatment that has proved most successful is to stop all food temporarily, thereby reducing heat production; to give the infant baths to remove heat; to keep it quiet to prevent the expenditure of energy which liberates heat; and to send it to the country where the air is cool or dry or in motion; then, unless there is very acute poisoning, recovery usually takes place.

No doubt bacteria play a large part in the summer sickness of infants, but as they are present in food at all seasons, it is evident that the heat gives them an advantage over the infant which they do not possess in cooler weather, or when conditions are favorable for the infant to rid itself of the heat. Restoring the infant to normal action causes the bacteria to lose their effect.

In hot weather food cannot be needed for its caloric or heating effect; it is required rather for its energy content, and the teaching should be in accordance with this fact. Feeding for energy is, to a large extent, a branch of physics; in the management of summer cases a knowledge of the principles of physics would thus often be of greater value than acquaintance with many of the drugs so often employed. The protein and mineral matter are for building materials and repair, and chemical composition is here the controlling factor, as far as potential value is concerned. It is, however, entirely out of place to value protein by its energy or caloric contents. What would be thought of an architect who determined the suitability of timber for a building by the amount of heat it would produce if burned? The feeding of energy and of building materials must be done with a distinct idea of the purposes they are to serve.

The emphasis on the necessity of plenty of fresh air should not be looked on as a hobby. The animal motor operates by a combination of oxygen in the air and the fats and carbohydrates of the food, and one is useless without the other. Insufficient air means incomplete combustion, and the products of incomplete combustion clog up the animal motor. Air is thus as essential as food.

In managing the nutrition of the infant much can be learned from general biology. In all forms of animal life the mother supplies specialized forms of food to the young until their digestive organs are developed, and no method of feeding that ignores this fact can be of the highest value. Many years ago I called attention to the fact that the protein of all milks has a developmental as well as a nutritive function. An artificial food for infants should contain the building elements and energy foods in about the same quantities as those in mother's milk if the best development is to result. Attention should likewise be paid to see that the food behaves in the stomach like mother's milk, but it will not do to compare foods by their chemical analyses alone, as it has long been known that two foods of the same chemical composition might not be interchangeable in nutritive value, and there are factors involved in feeding that chemical analysis cannot explain. The reason for this may be found in some of the later work in chemistry, as exemplified in the following illustrations: It is a curious fact that two clays, having the same chemical composition, may have entirely different physical properties, and that clay near the mouth of a river will have different properties from the same substance further up the stream, the two clays being derived from the same parent rock and having similar compositions. Acheson reasoned that this difference might be due to the fact that the clay down stream had come into contact with washings from organic matter, and by adding vegetable infusions to the upstream clay he was able to increase its plasticity and make it act like the clay down stream. Here is a practical illustration of what profound changes the most insignificant additions to a substance may produce. Bodies that are insoluble in water may be rendered soluble if certain foreign substances are present in the most minute quantities. Duncan gives the following illustration:

> The mere presence of a trace of a foreign body may make an insoluble body soluble. The following puzzling fact is known to but few: chromic chlorid is a curious substance that exists in two forms, soluble and insoluble. The insoluble violet crystals may be left under water for days unaffected . . . but drop into the test-tube a trace of chromous chlorid, even 0.000025 of a gram, and the violet crystals hasten to bury themselves in the water; the temperature rises and the indigo-blue liquid results. This is an example of what is called physical catalysis, for the chemical properties of the chromic chlorid are the same after as before; it has simply passed into solution. Turning now to chemical catalysis, we are confused by the number of examples, for, owing to the recent ferment of investigation, it would take a dictionary to chronicle them.

Remarkable results have been obtained in industrial chemistry by the use of such catalysts. Substances which have been obtained indirectly by the aid of plants can now be made artificially. Heretofore, when the necessary ingredients to form desired substances were brought together, they would not combine. There was something in the plants, however, that would cause such combinations to take place. Indigo has been obtained from the indigo plant, but it was found that the mere presence of a trace of copper or mercury would make the ingredients combine in the laboratory, and now it is made artificially. Platinum black is used to cause the ingredients of formaldehyd to combine, and other substances will cause metallic gold, silver, platinum and graphite to go into aqueous solution called colloidal solution.

How many factors in feeding may be influenced by such apparent trifles remain to be discovered, but that numbers of the vital processes are thus controlled is beyond doubt. Hunt makes the following statement:

> Diet has a marked effect on the resistance of animals to certain poisons; the resistance of some animals may be increased forty-fold by changes in diet. Certain diets, notably dextrose, oatmeal, liver, and kidney, greatly increase the resistance of mice to acetonitrile; their effect is similar in this respect to the administration of thyroid; the effect of an oatmeal diet in increasing the resistance of certain animals to acetonitrile is probably due, in part, to a specific effect of the diet on the thyroid gland; this is an illustration of how an internal secretion may be modified in a definite manner by diet. . . . The experiments show that foods such as enter largely into the daily diet of man have most pronounced effects on the resistance of animals to several poisons; they produce changes in metabolism which are not readily detectable by methods ordinarily used in metabolism studies. The ease and rapidity with which certain changes in function

are caused by diet are in striking contrast with the essentially negative results obtained by the chemical analyses of animals fed on different diets.

According to Alexander:

> Bald chemical analyses cannot express the digestibility and availability of a food any more than it can express or explain the action of the digestive juices or, in fact, any other physiologic process. In all these processes can be traced the influence of the colloidal substances, present in the body, whose effects are quite out of proportion to their small mass. As soon as we approach the chemistry of the living organism, we are confronted with problems of colloid chemistry, and there is no doubt but that a correct understanding and application of its principles will throw much light on many other obscure problems in biology, physiology and medicine.

These foreign bodies, whose mere presence causes such profound changes, are called catalysts and a peculiar property which they possess is that, at times, they lose their efficiency. When this occurs, they are said to be poisoned. After a time they may recover their power to produce the changes they formerly caused.

The question as to what this has to do with the practical management of infants may here be raised. McCullom conducted some experiments to see how simple in form the food elements could remain and still be combined in the animal body, it long having been believed that animals could not live for any length of time and develop on the pure food elements. Pure fat, sugar, starch, ash-free protein and the ash of milk were used, filter-paper being employed to give bulk. For a time there was gain, then a standstill and finally a loss. By adding successively such flavoring agents as cinnamon, celery, vanilla, caramelized sugar, distillate from strong cheese and salt, it was found that the loss could be prevented. Leaving the fat out of the food temporarily or changing its form, or altering the sugar content of the food, was found to improve the utilization of the food. "In one instance toward the end of the experiment, bacon fat, freshly rendered and filtered through paper, induced hearty consumption when every other means failed." His conclusions were as follows:

> Without palatability the ration may possess all the necessary food ingredients and yet fail to nourish an animal properly. The failure of previous efforts to maintain animals on a mixture of relatively pure, proximate constituents of our foodstuffs was due to lack of palatability of such mixtures. When sufficient care is given to changing the character and flavor of the food supplied in such simple mixtures, it is possible to induce an appreciable amount of growth.

Here is an illustration of the action of catalysts in practical feeding. One worked well until it became poisoned or lost its efficiency. A change in the form or flavor of the food brought another catalyst into action, and it in turn lost its efficacy. The beneficial effect of variety of diet has long been known, but the scientific basis on which it rested has not been suspected hitherto. We often get the same good effect by changing the flavor of the infant's food or by altering the form of the food elements, especially the carbohydrates.

Such facts as these could never have been explained by practical infant-feeding, or rather, the principles could not have been evolved; and this shows the advantage of being familiar with general science and applying principles worked out elsewhere to the management of infants.

That a profound change in the function of the human digestive organs may be brought about by changing the character of the food has been shown by Yakawa, who fed young men who had been vegetarians all their lives a diet composed largely of beef, milk, eggs and rice. The fats, and particularly the protein, were not well assimilated. There was loss of appetite, lassitude and constipation. Such a result is at variance with the belief held generally that animal protein is better digested than vegetable protein. But this case is an illustration of the biologic principle that all living things tend to adapt themselves to their food and environment. Those who have been trained to digest animal protein develop digestive organs well fitted for this purpose and digest it better than they do vegetable protein, and vice versa.

It has been said that one principle is worth many facts, for it covers them all. If the few main principles in pediatrics could be grasped, a large number of facts might be forgotten to advantage. Pediatrics cannot take the position it deserves, until those who practice it recognize that their work is to help infants adapt themselves to their food and environment, and this calls for at least an elementary knowledge of general biology, bacteriology, protozoology, chemistry and physics. We must broaden our scientific outlook.

Medicine has always advanced more rapidly as an art than as a science, partly because it has not been sufficiently rooted in the principles and methods of general science. The extreme growth and differentiation of specialism has here acted both as cause and effect. Ingenious and successful technic, rather than the more laborious and widely applicable study of underlying principles, has often satisfied. The specialties themselves have been accepted without much appreciation of their relative values. Those of fundamental importance are grouped with others having only local forms that minister to comfort and utility, but not often directly to life itself. It is thus right to make a distinction between a major and a minor specialty. Of the former, pediatrics should take the highest place, as it deals with the first and formative period of life, and consequently renders the most lasting service to the race. It is time that a new account of stock be taken of the various branches of medicine and that they be lined up with a truer perspective as to relative importance. Thus will the dignity and importance of pediatrics be made clear to the profession and the public. It offers to-day the most promising field for advanced work in scientific and experimental medicine. Fully to occupy this field, its followers must apply the general and broad methods of science at large to the solution of its problems.

One of the deepest sayings of Sir Francis Bacon was: "The end of philosophy is the intuition of unity." Let us apply this broad truth to science. The end and object of all science is the recognition of unity.

Primitive Man and Disinfection.—Man has an instinctive repugnance to all noxious odors, and from the earliest time has sought to mask their presence by the use of aromatic substances, says Dreyfus (*Jour. Am. Pub. Health Assn.*). The use of perfumes is probably a relic of the effort of primitive man to counteract this evil. Many religious ceremonies, such as the burning of incense, have also the same origin, and embalming as practiced by the Egyptians is a good example of successful attempts to arrest putrefaction in very early ages. Sulphur has been employed from the earliest times, and Homer describes its use in religious ceremonies. In the time of Hippocrates, sulphur was regarded as an antidote against the plague. Ovid makes mention of the fact that sulphur was employed by the shepherds of his time for bleaching fleeces and for purifying their wool from contagious diseases. During the plague of Athens, Acron, according to Plutarch, stayed the spread of the epidemic by lighting fires in the middle of the public places and in the streets where deaths had occurred; and the lighting of fires during times of plague has been customary until quite recent times.

NEW MECHANICAL DEVICES FOR CLOSING WOUNDS *

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Comparing the work in various clinics, it is found that some men suture wounds rapidly. Most men require a large percentage of the total time for final closure, and nearly all take longer for this step than they themselves realize or would believe unless they have been timed by the watch.

In a series of observations made for me on my own work and that of other surgeons, the time was found to be so unevenly divided that the internal operative work often was briefer than the elaborate wound closure. Thus the neat and rapid interior work was robbed of its chief value to the patient by prolonging the total operation and anesthesia.

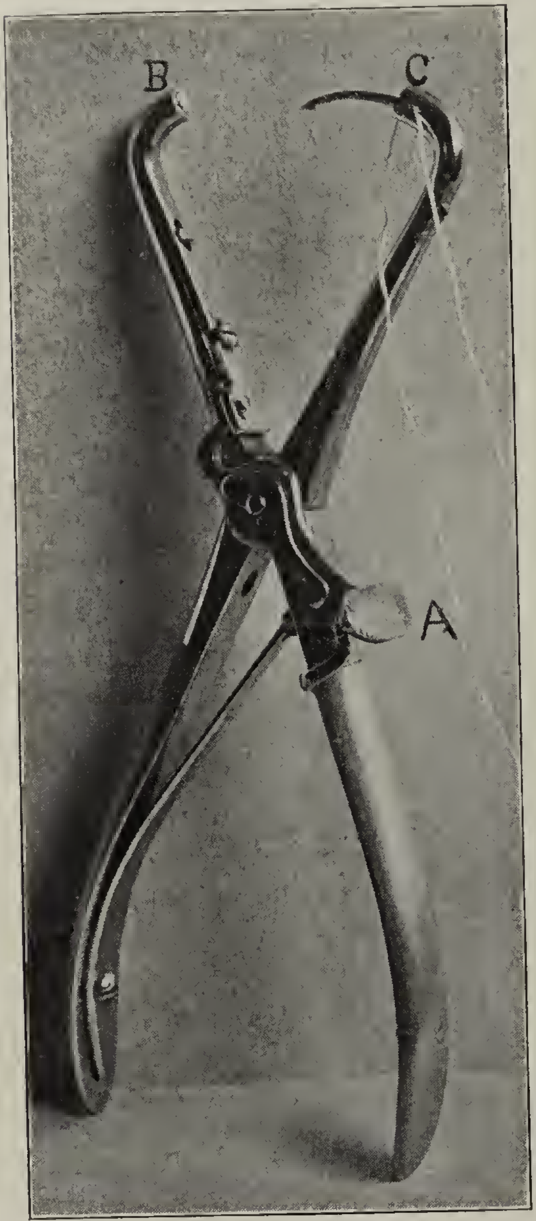

Fig. 1.—First position. Ready to insert stitch. On closing handle needle passes flaps and is seized automatically by opposite blade carrying thread through tissue. On pressing catch A needle is released at B and returns to C, ready for next stitch.

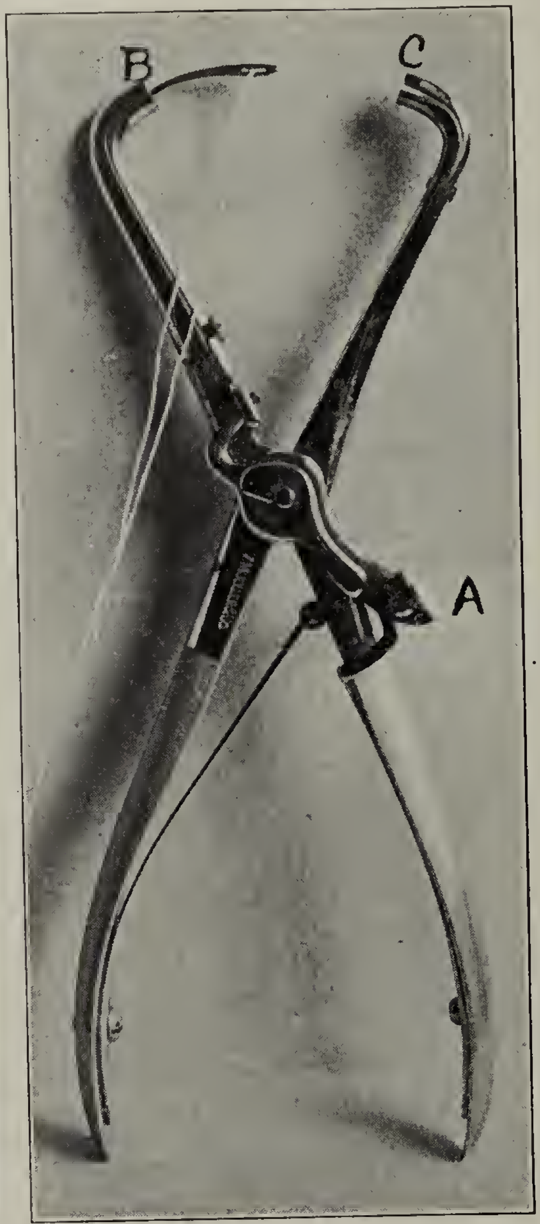

Fig. 2.—Second position. Needle seized automatically by its point at B and pulled through tissue by closing and opening handle. On pressing thumb catch A needle returns to first position, C.

Methods for hastening wound closure may be good or bad in proportion to their safety and nicety of adjustment, but they must not involve any sacrifice of the improved modern principles of anatomical restoration of layers whether in the extremities or the trunk.

On the other hand, if with equal security and asepsis wounds may be brought together in a briefer time or with more smoothness and less trauma, a new factor of safety will be added tending to the welfare of the patient.

Thus the use of Michel skin clips will shorten the time of a herniotomy or an appendectomy about five minutes. In spite of the fact that a few men can do the whole operation in that time, more men take fifteen minutes or longer, and some excellent operators would be surprised to be told that they take ten to twenty minutes by the watch for their careful wound closure. This is admirable from an anatomical standpoint. It is characteristic of some very conscientious workers and gives beautiful healing, but it is wrong to ignore the injurious effect of prolonging anesthesia even in simple cases.

On the other hand, in the very swiftest closure I have seen, as in the abdominal wall in laparotomies done with spectacular swiftness, I have been led to suspect that the suture work on the layers may have been slighted to gain speed. This may be unjust, since most of the very rapid work is done by men of enormous experience, but it is an inherent fault of hand suturing that it must be somewhat slow or else somewhat imperfect. Long practice with the needle gives speed, but only up to a certain point. To get beyond this point we must adopt new devices.

Reminding you again of the skin clips—five or six of them will close a three or four-inch opening in a quarter or half a minute. If we could only use them for all the layers, sixty seconds would be ample for a deliberate layer-by-layer closure of the abdominal wall. To make this possible, I have devised clips of absorbable metal for buried suture and for suturing blood-vessels, as described later in this paper. Before alluding to this, I wish to call attention to the possibility of sewing wounds by a machine.

For a number of years I have tried to perfect a sewing machine for wounds constructed with platen, fixed needle and bobbin or shuttle. In spite of the fact that several small hand and toy machines are made small enough to handle easily, none of them seems capable of being brought into cavities or depths of wounds or can be easily sterilized. These machines place only mattress stitches, whether one or two threads are used. They could not easily be adapted to overhand glover or interrupted stitching. After considerable discussion and study of the problem with the manufacturers of various machines, I became satisfied that we could never design a shuttle machine that would be anything but clumsy, heavy and inefficient, and therefore, dangerous about a wound.

It is different with forceps. With them we are familiar and know that we can place them in all sorts of deep and superficial locations even more readily than the hands or fingers. If forceps could be made automatically to insert stitches carrying threads by merely opening and closing their blades, we should combine some of the speed and accuracy of machine-sewing and the nicety and safety of hand-sewing.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

After some years of experimenting and disappointment, I have turned to forceps and needle as a *sine qua non* for surgical work, and have constructed several forms of forceps which will actually sew the skin and deep layers more smoothly and rapidly than by hand. Of course they are equally adapted for placing deep ligatures, single or multiple.

The object of these instruments is to gain speed, and, incidentally, regularity of spacing and of tension in the approximated edges. We must admit that this is as likely to be a drawback as an advantage. No machine can have the delicacy and tactile sense of the human fingers; but how much time can we afford to sacrifice for careful suturing by the fingers? Certainly in fine closure like the Lembert stitch in the hollow viscera it is invaluable. In external work, in which the fingers are little used, but mostly needle forceps, a machine sewed wound may well be neater and more delicately adjusted than one sewn by hand in equal time.

Classes of stitches better placed by machine than by the fingers or needle forceps are:

1. "Deep "suture ligatures," single or multiple, around vascular pedicles, as the mesentery meso-appendix, broad ligament, hernial sac, etc. In the depths of a wound or cavity with the sewing forceps one does not have to see the needle point. The forceps automatically and infallibly grasps it and draws it through. It is a particularly rapid method of cross-suturing a wide pedicle of any sort.
2. Straight lines of suture, in which accuracy of spacing, rather than accuracy of fitting, is desirable. Such wounds are abdominal incisions, both muscle-splitting and in the middle line. These are rarely closed now by single rows of deep stitches, but almost universally by anatomical restoration of the concentric layers from within outward. The suturing machine does this with a speed and accuracy far greater than the hand or needle-holder.

NEW FORMS AND NEW APPLICATIONS OF METAL CLIPS

The clips ("agraffes") used by Michel for the closure of the skin in mastoid and other operations interested me from the first. They seem to mark a new departure in methods of wound closure, and to open possibilities in several new directions.

When they were offered to the profession, I began to use them somewhat experimentally and with misgivings. Unlike most new appliances (especially mechanical devices) they proved a much more valuable device than even the inventor had claimed. From using them in a limited class of incisions, I learned to put them on almost every operative incision, either alone or in combination with some deeper stitches. I have, therefore, used many thousand of them in lieu of needle and thread closure for the skin. Experience with this method of approximation has resulted in an increasing appreciation of their value on the part of my patients, my assistants and myself.

It is true that my earliest experience was only with mastoid operations, but I learned almost accidentally that they were so neat, quick and painless in practical use, that they almost superseded other methods of skin closure in my work. I find that a number of American and European operators have made the same discovery, no doubt independently. While in some clinics they are not seen at all, a number of well-known clinics (as that of von Eiselsberg) employ them almost as a routine.

The advantages noted for the clips in our clinic have been:

1. Speed of application.
2. Asepsis.
3. Rapid healing.
4. Absence of pain.
5. Absence of scars.
6. Ridge-shaped or folded-up suture line.
7. No perforation of skin.

The only disadvantages I can imagine are:

1. Lack of strength.
2. Want of flexibility, causing pressure, irritation or ulceration.

These advantages and disadvantages may be considered in detail:

1. *Speed.* — Observations taken by my assistants showed from five to twenty minutes by various operators in closing ordinary operative incisions. In some instances this was as much as one-third or one-half of the time of operation. Several operators had methods of great nicety in skin-closure, but probably were not aware of the added time taken. The average time of closing (the skin only) by Michel's clips was fifty seconds for short incisions, such as hernia and appendix wounds.

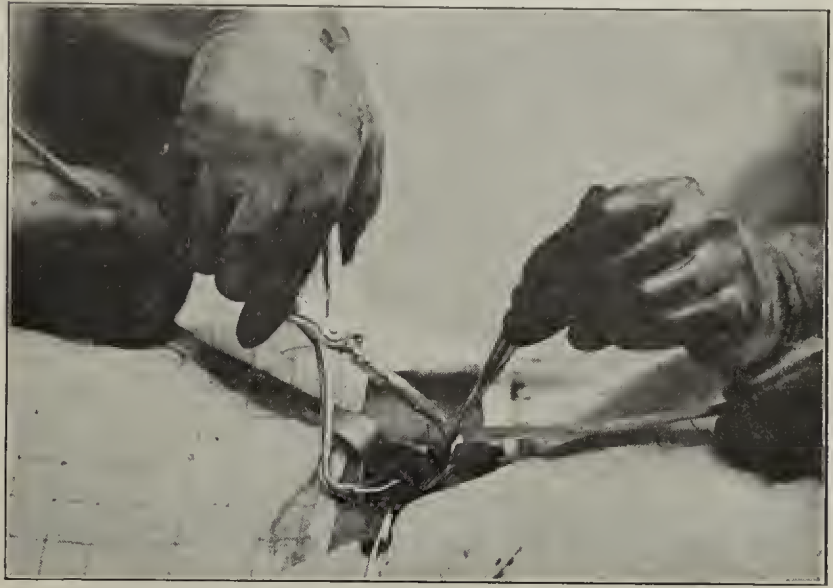

Fig. 3.—Closing abdominal wound (peritoneal layer).

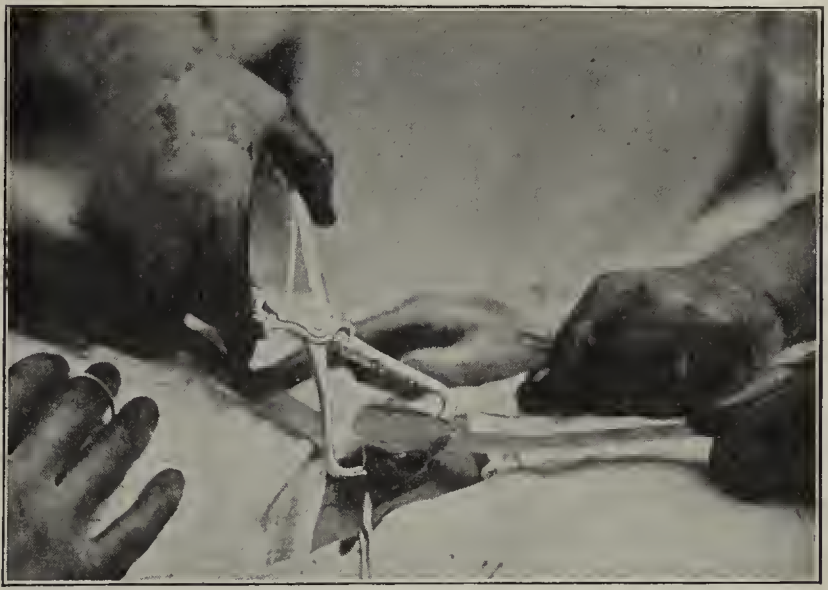

Fig. 4.—Closing abdominal wound (internal oblique layer).

2. *Asepsis.*—The occasional stitch abscesses due to buried catgut, to silkworm, silk, linen or horsehair, point to the fact that all methods which penetrate the ducts and follicles of the skin are subject to infection. This risk, it is true, is slight and is much minimized by our best modern technic, but is not wholly absent, because the deep layers of the skin are now known to be beyond the reach of our sterilizing agents, even of iodin. It is probable that our so-called aseptic wounds are examples rather of relatively light infections overcome by the tissues.

The clips, on the other hand, do not pass through the skin. Even should sepsis exist under their points, it finds no line of access as in the case of tissue traversed by a needle and thread. No method can be conceived more certain to vaccinate the deep layers with matter from the skin follicles than the puncture of a needle and the subsequent wiping of the tissues from without inward by the tight-fitting thread. It may be that the use of a double-needled thread, both needles being passed from without inward, would lessen this risk. As we always insert the figure-of-eight skin-fascia suture with two needles, this may explain a certain immunity we have had with it.

3. *Rapid Healing.*—The clips are removed early. Alternate ones in three days and the remainder in five days.

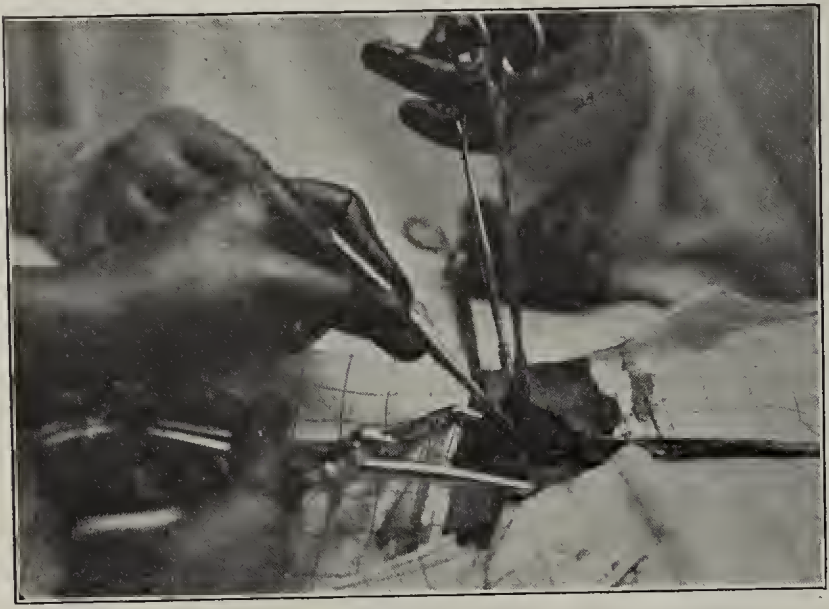

Fig. 5.—Closing abdominal wound (external oblique layer).

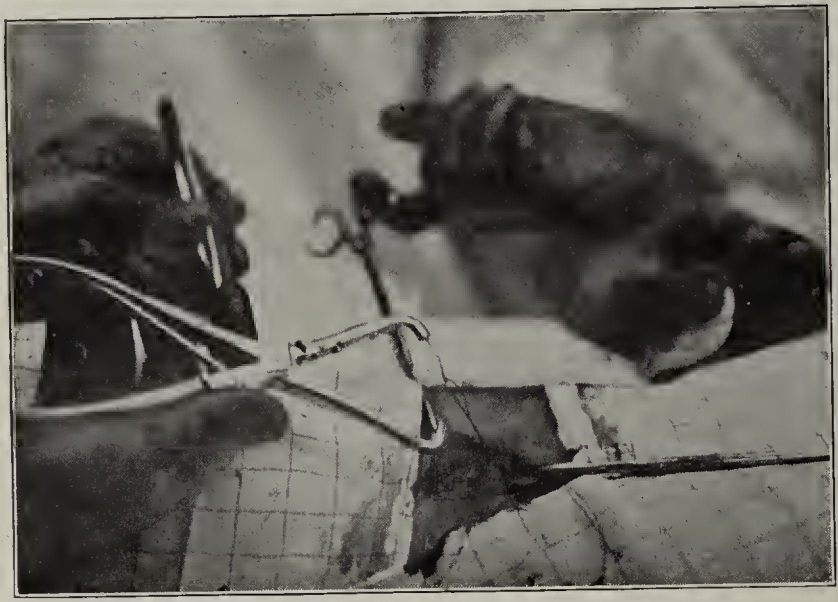

Fig. 6.—Closing abdominal wound (external oblique layer—finished suture).

4. *Absence of Pain.*—This is very noticeable. In goiter cases, hernia, laparotomies, etc., patients uniformly complain less than with sutures. The splint-like action and the absence of punctured wounds explains this. Without exception assistants and dressers report easy convalescence in these wounds.

5. *Absence of Scars.*—Early removal leaves no permanent marks. The clips, if left on too long, will, however, leave punctate scars like deep stitches.

6. *Ridge-Shaped or Fold-up Suture Line.*—This is a mechanical property of the clips and insures deep approximation, almost like that of two rows of stitches.

We turn now to the possible disadvantages above noticed.

1. *Lack of Strength.*—This may be a real limitation, but a desirable one, rather than an obstacle to the use of clips. They certainly lack strength in wounds under great tension, as in certain extensive breast amputations, in which approximation is difficult. They hold the skin and fat only, not the deeper fascia, but even with these obvious limitations they may well be combined with deep or buried retention sutures of any form. I sometimes have made the statement that the inability to hold skin under great tension was a virtue if it led us to avoid dangerous traction by suitable devices.

2. *Want of Flexibility.*—Metal clips are not flexible after once being applied, and hold the pinched-up skin rigidly. This will cause ulceration about as soon as a deep tense silk silkworm or wire stitch will; that is, in from eight to twenty days, but when clips are removed in five days, ulceration is never seen. No case of sloughing from pressure ever occurred in my use of them. I have always observed that a semi-rigid suture will cut less than a soft one. The splint action of a wire or silkworm gut is quite valuable, and this is one of the merits of metal clips.

In using Michel's clips I soon found great variations in the density and thickness of the skin of different parts of the body, which I had never noticed in using stitches. The skin of the epigastric region is at least twice as dense and thick as that of the appendix and hernia region. The imported clips are of just the right length to grasp the skin of the groin, neck, or that of the limbs, but not strong enough or long enough to hold well that of the epigastrium or hairy scalp; therefore, I have had made longer ones for these locations and smaller ones which I sometimes use for fine skin edges. I also found that in some cases quicker and more accurate application could be made by holding the larger clamps between the thumb and forefinger instead of with the Michel forceps.

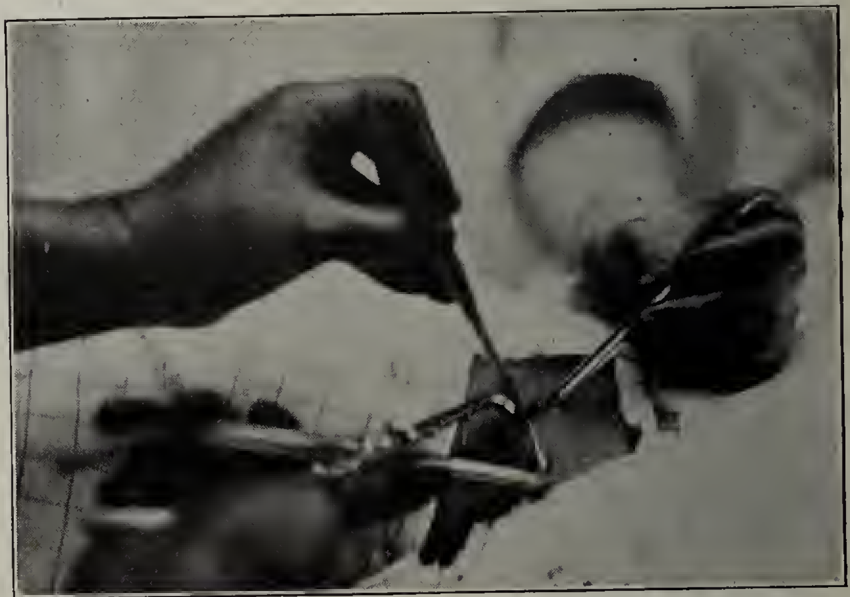

Fig. 7.—Closing abdominal wound (skin suture). One thread and needle used for the four stitch lines without knotting between.

Figures 8 to 11 show forms of thumb-clips which give quite as smooth and nice a cuticular junction as the Michel clip and are considerably stronger. One of the crescentic clips does the work of two of the smaller kind, so that a couple of them will close an ordinary 4 to 6 cm. incision; i. e., one requiring four small clips. It will be noted that the skin junction is held at twice as many points as the deep part, so that the line is ridge-shaped and held as if by a few deep and superficial stay stitches.

CLIPS USED IN HOLLOW VISCERA

The new feature which I wish to bring before you is the use of clips in intestinal work. In all locations permitting them to drop off into the alimentary canal they are safe and speedy of application. This precludes their use except in the inner suture of an anastomosis. They can be used on the mucous side, but not for the peritoneal, nor in place of the Lembert suture. These limitations do not prevent them from being of considerable utility in various ways about the intestine.

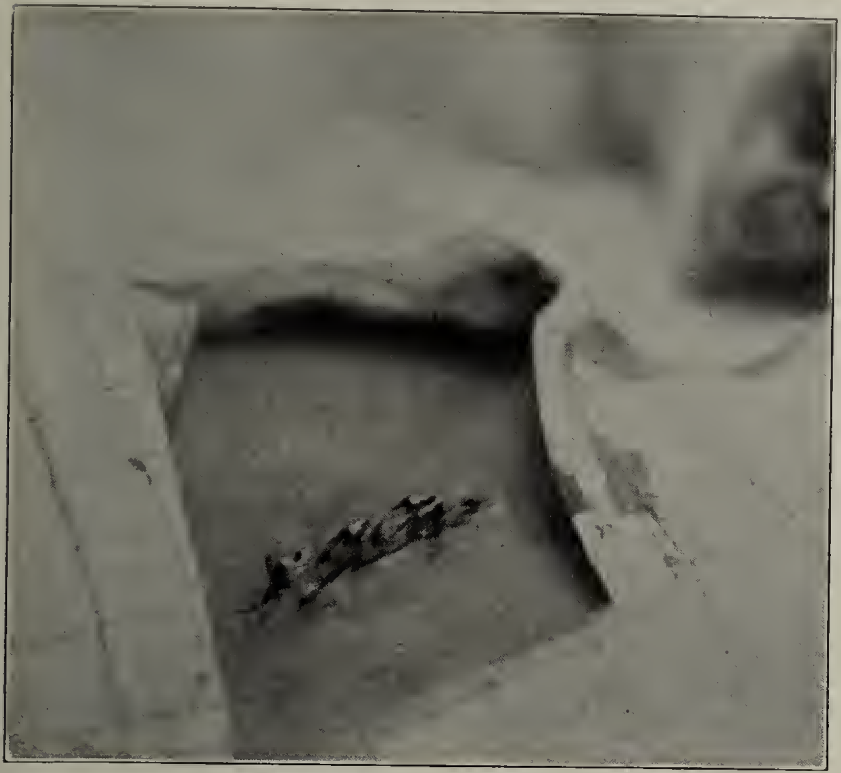

Fig. 8.—Author's wide clips, after type of Michel clip or "agraffes."

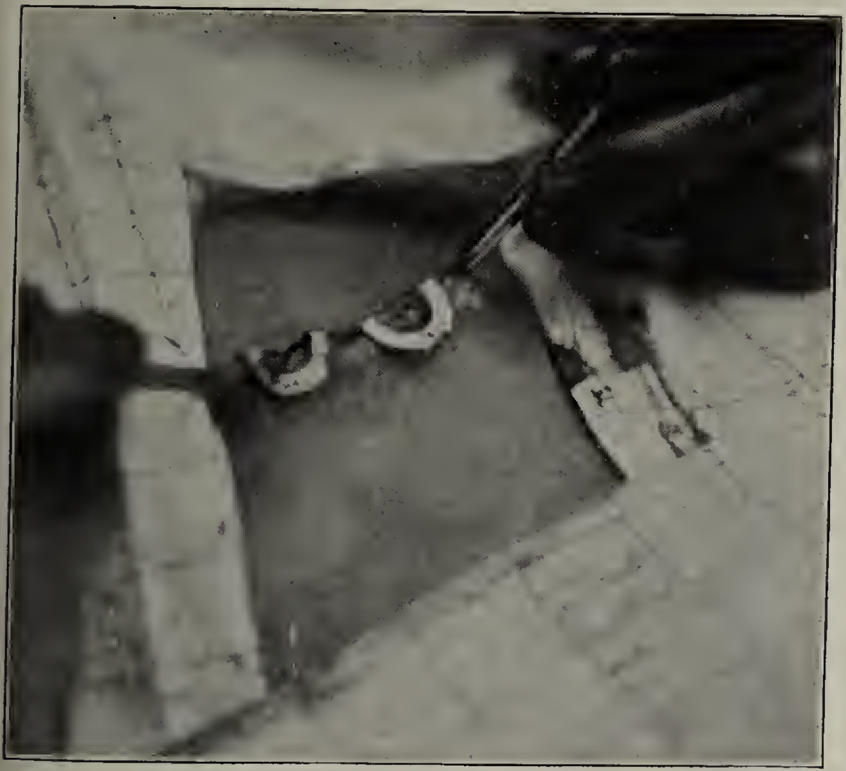

Fig. 9.—Author's horseshoe or double clips. Can be applied by thumb and forefinger or by forceps.

When an open gastric or intestinal approximation is made, the inner or deep suture is usually of strong silk or linen.

In doing such work I often put a clip on each end to mark out the inner or deep stitch-line. This seems to render the rest of the suture work easy and quick.

In the illustrations such use of the clips may be observed.

CLIPS USED FOR HEMOSTASIS

Finally, I must add that as a substitute for artery forceps and ligatures, I find the small clips of great value. Their action is clamp-like and they check oozing promptly, either interstitial or from large branches. I have found this of great value in the abdomen, throat and brain, as it does away with numerous dangling forceps. The objection to leaving small staple-like foreign bodies in wounds and cavities is slight in comparison with their advantages. No objection at all exists in cavities like the intestine, rectum, or vagina, where, as in hysterectomy, they are far easier of application than forceps or ligatures.

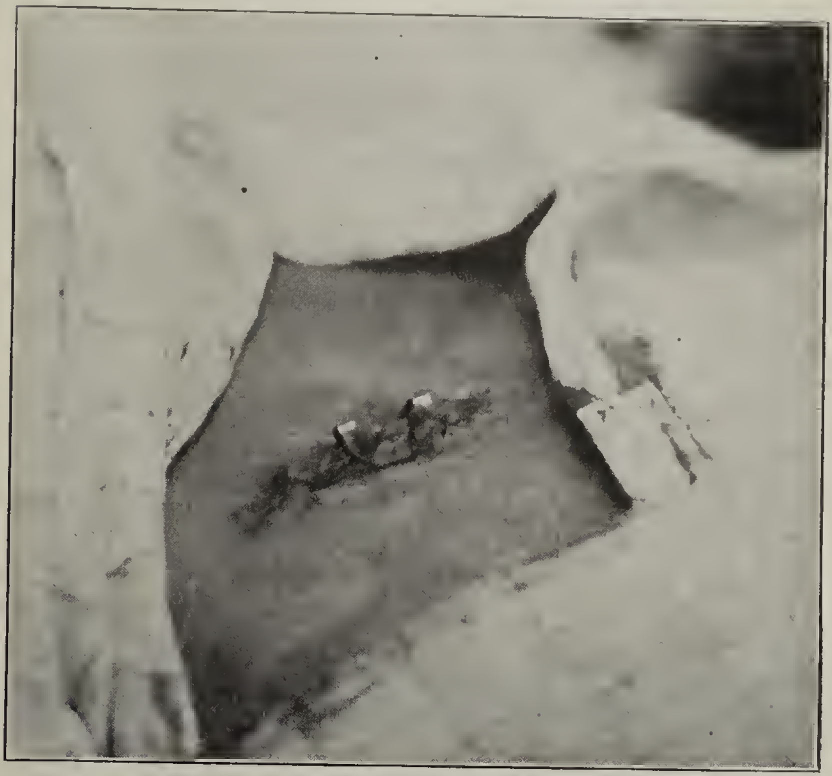

Fig. 10.—Author's horseshoe clip. One drawback to this form is a tendency to slip or ride too high from edge of wound.

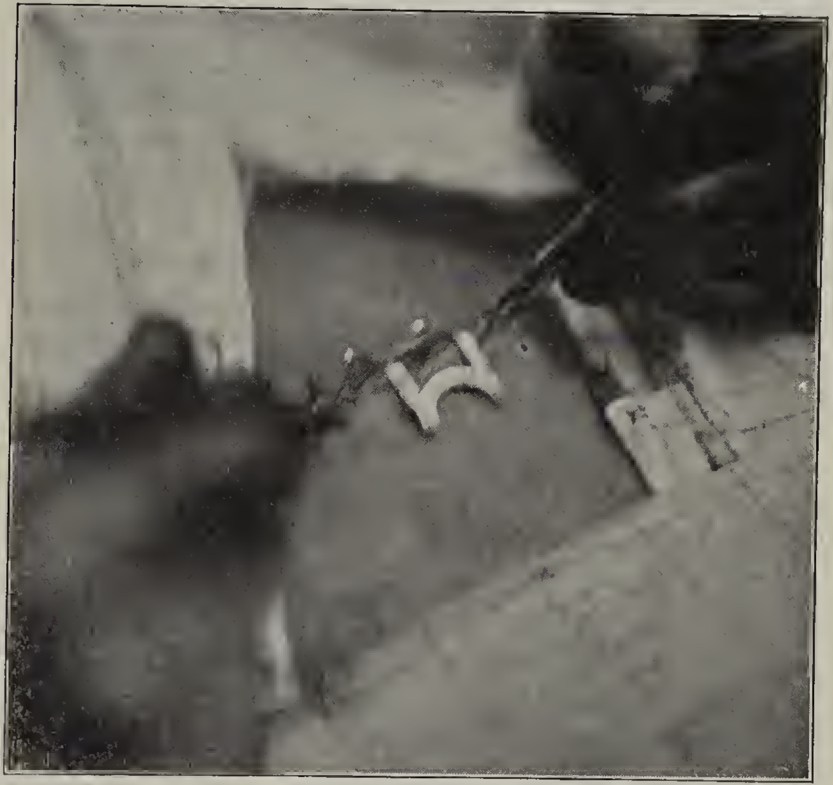

Fig. 11.—Author's double square clip. Has fine teeth, 1 mm. long, at tips to bite into cuticle.

The metal used for outside work is German silver. Copper, brass and block-tin do not, in my work, give the right degree of softness combined with firmness after bending. They must have no elastic tendency to spring open after clamping into place.

To secure absorption of the little metal staples after placing deep in wounds, I tried aluminum, zinc and magnesium. The latter is ideal in being quickly absorbed, but is so brittle that it breaks instead of "clinching" or crimping together when clips and staples are made of it. I am now using an alloy of these metals, which is tougher and promises well for rapid absorption.

I shall report on this material when I have had a longer series of operations under its use. With a good absorbable metal clip the deeper layers of a wound can be closed and buried, giving all the speed of external clip closure and supplanting the thread and needle at all stages.

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GONORRHEAL OSTEOPERIOSTITIS OF THE LONG BONES *

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Although gonorrheal osteoperiostitis of the epiphyses, and especially of the small bones of the hands and feet, is not very uncommon, this is far from being true of osteoperiostitis of the diaphyses of the long bones; in fact, no mention is made of this condition in the usual text-books and systems of surgery, and its existence has even been disputed. In the following case, which I shall describe in some detail, the femoral diaphysis was very extensively involved.

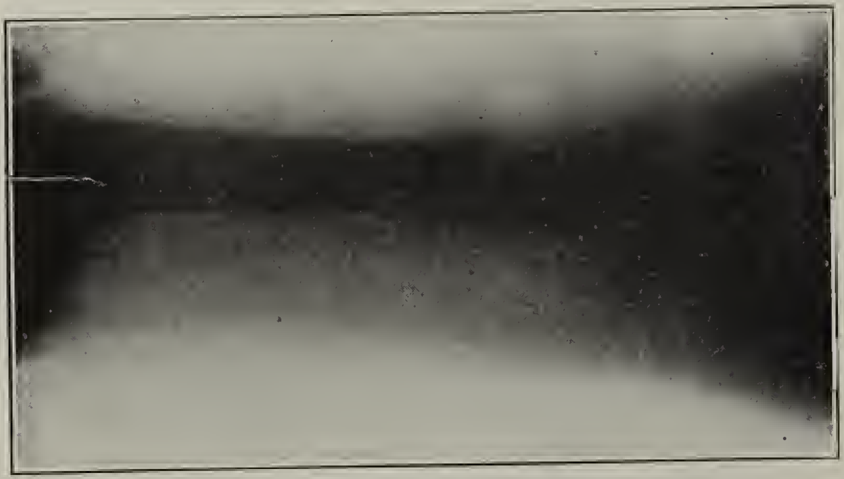

Fig. 1.—Definite deposits of new bone about femur, seventeen days after operation.

Patient.—J. M., aged 24, was admitted to the Johns Hopkins Hospital, January 2, 1907, complaining of an abscess on the left thigh.

History.—The family history and previous personal history were unimportant. There was no history of gonorrhea before present attack. The present illness began two weeks ago with swelling in the left thigh, which became painful, hot and hard. There was no history of injury. On account of inability to use the leg, the patient remained in bed for a week previous to admission. His appetite was lost, bowels became constipated and he had night sweats. He did not know that he had any fever. He dated the illness from a gonorrheal infection of four weeks' duration, the discharge continuing until one week before examination. A bubo developed on the left side but disappeared without discharging.

Examination.—Patient was a healthy-looking boy, in good general condition. Temperature was 103.6 F., pulse good volume and tension, 90 to the minute. Leukocytes 12,400. Examination of heart, lungs and abdomen negative. The patient had an acute urethritis up to one week before examination when the discharge ceased; he had a purulent balanitis, gonococci being found in pus about the glans penis. The glands of the groin were slightly enlarged, not tender. Prostate rather tender. Over the anterior and outer aspects of the middle third of the left femur there was a tender indurated area 10 by 14 cm. in diameter, apparently an abscess beneath the quadriceps muscles. The surface temperature was elevated but the skin was not reddened. The hip and knee seemed to be in nowise involved.

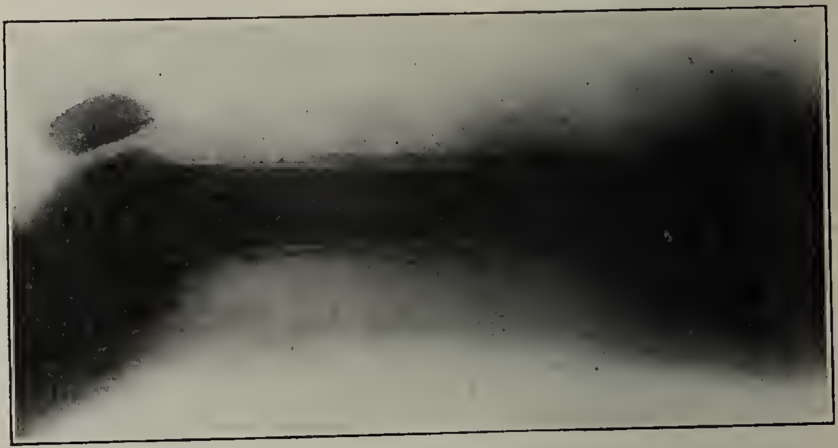

Fig. 2.—Thick envelope of new bone about femur, thirty-seven days after operation.

Operation.—Jan. 2, 1907, an incision 14 cm. in length was made over the swelling on the anterior and outer aspect of the thigh. The muscles were separated and the swelling found to be due to a small collection of fluid beneath the periosteum, the fluid being turbid but not actually purulent. A pure culture of the gonococcus was grown from this fluid by Dr. Rufus Cole, now of the Rockefeller Hospital, New York. The periosteum was very thick, edematous and lined by a velvety granulation tissue. It had been stripped away from the bone over a considerable area by the collection of fluid beneath it. The exposed bone was slightly roughened by deposits of new bone. The marrow cavity was not opened. The wound was irrigated with mercury bichlorid and packed with iodoform gauze.

Pathologic Examination.—Sections of the thickened periosteum were examined by Dr. W. G. MacCallum, who made the following note: "The section shows some new-formed bone embedded in a great deal of very vascular granulation tissue. Outside of this there is muscle, the individual fibers of which are separated by the same vascular granulation tissue. The interstices of this tissue contain much fibrin, and there are very abundant wandering cells which are as a rule not polymorphonuclear leukocytes, but mononuclear cells of various sorts, many of them with long branching protoplasmic bodies. The new bone is in the form of anastomosing laminæ, only partly calcified and thickly surrounded by osteoblasts. About these masses, and in the meshes, there is a vascular granulation tissue filled with cells indistinguishable from the osteoblasts and in places continuous with them, otherwise the tissue resembles that seen in any other granulation formation.

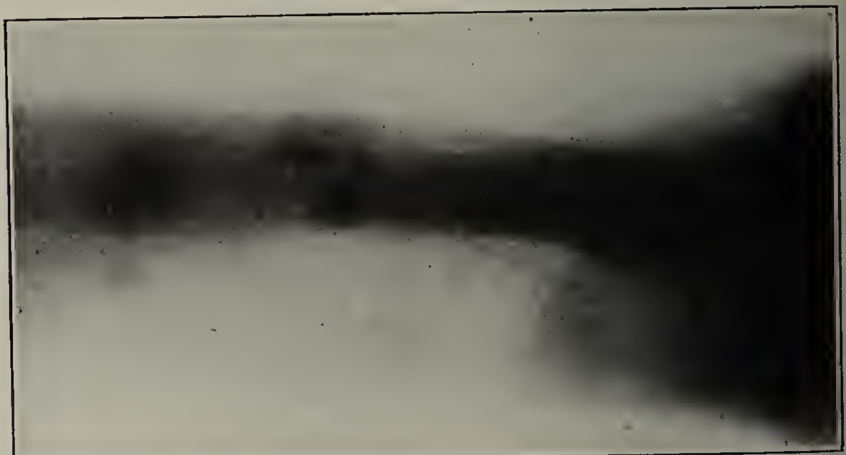

Fig. 3.—Great thickening of femur, eight months after operation.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

No definite organisms can be seen in the specimen stained with methylene blue."

Course.—Jan. 19, 1907: General condition of patient is not very satisfactory. He looks rather pale. Temperature ranges between normal and 102. Pulse is of small volume, rather low tension, ranging around 100 to the minute. The heart sounds are clear. The wound was dressed to-day. There was a small amount of purulent discharge. The whole left thigh is considerably swollen and there seems to be a distinct thickening of the femur, beginning a short distance below the greater trochanter and extending almost to the condyles. The whole extent seems somewhat tender but the most tender points are on the outer side of leg, 6 to 8 cm. below the upper border of the trochanter and on the inner side, a short distance above the knee. Movements of hip and knee are free and painless. A skiagraph (Fig. 1) was taken and this shows definite deposits of new bone about the femur.

Jan. 27, 1907: Condition of patient is much improved. He eats well and sleeps much better than formerly. For the last few days he has complained of no pain. Temperature seems to be subsiding gradually. The highest point in last three preceding days was 100.6 at 8 p. m. yesterday. The wound was dressed to-day. There was a small amount of purulent discharge. The wound cavity still extends 10 to 12 cm. along the bone, which is exposed throughout this extent. The thigh is less swollen but the bone seems thicker than ever. Tenderness has all disappeared. Movements of hip and knee are perfectly free and painless.

Feb. 10, 1907: Patient is now feeling very well and wants to walk. Temperature is about normal. Wound is clean, granulating well. There is still a considerable area of exposed bone in the bottom of the wound. Movements of hip and knee are perfect and painless. There is a marked thickening of the femur. Skiagraph taken a few days ago (Fig. 2) shows a thick envelope of new bone about the shaft of the femur, extending from a short distance below the trochanter, almost to the condyles. No pain or tenderness is anywhere present. On palpation the femur seems to be about 9 cm. in diameter. Circumference of left thigh at its middle is 37 cm., right thigh 32 cm.

Feb. 20, 1907: Patient has been walking for several days. The leg has given him no pain. Temperature has not been elevated. The left femur is still greatly thickened. The wound is entirely healed. The patient is discharged from hospital.

He was seen again on Aug. 31, 1907, when his general condition was found to be good. Examination of the leg, however, revealed a great thickening of the femur. There was still a small sinus near the middle of the old scar. *X*-ray was taken (Fig. 3) and showed an enormous thickening of the entire femur.

After this the patient was lost sight of and has not been seen since. It would be interesting to know whether there was any infection of the marrow cavity, and if so, whether it was sufficient to so impair the blood-supply of the cortex as to cause sequestration. I am inclined to believe that there has been no sequestration of the femur in this case.

According to Hirtz,[1] Fournier, in his remarkable study appearing in 1869, first established definitely the clinical existence of periosteal manifestations of gonorrhea. He distinguished periostitis and periostosis, the former being simple inflammatory deposits in the periosteum, the latter being tumors resulting from infiltrations between the bone and periosteum. He insisted on the much greater frequency of periostitis, which produces slight circumscribed, ephemeral swellings, most frequently found on the tibia just above the insertion of the sartorius, on the lower extremity of the humerus, on the upper end of the fibula, on the greater trochanter of the femur, on the posterior surface of the os magnum and on the extremities of the metacarpal and metatarsal bones. The only symptoms are a more or less acute pain in a circumscribed area with perhaps a little edema and redness of the overlying skin. Liable to recurrence at each reinfection, they can at times proceed to the chronic stage and produce a periostosis, which is flat, fixed, hard and adherent to the bone, usually small in extent, but capable of a considerable development.

Fournier and most other authors who, following him, have studied the subject, have emphasized the purely periosteal origin of the lesion, its epiphyseal location and its frequent association with the deforming variety of gonorrheal arthritis.

Achard and Hirtz have, however, in recent years called attention to the fact that the deforming variety is not the only form of gonorrheal rheumatism which is accompanied by lesions involving the bones; moreover, they insist that the diaphysis as well as the epiphysis may be involved and that the bone itself as well as the periosteum plays a part in the process. Achard observed a young woman, who, following a non-deforming gonorrheal arthritis of the left knee, had a marked general thickening of the left femur, which he considered to be undoubtedly due to a hyperostosis. The case of Hirtz was that of a young girl, aged 19 years, who, in the third month of gonorrheal rheumatism, presented a marked swelling of the lower two-thirds of the right femur. The swelling was very indolent, developed insidiously and was discovered accidentally. The bone seemed double its normal thickness and the consistency of the tumor was such as to suggest an hyperostosis, even though the skiagraph showed the part played by the bone itself to be comparatively slight. As to the gonorrheal nature of the condition, he thought there was no doubt, coming on, as it did, in the course of a bad gonorrheal rheumatism, while the arthritis of the right knee still persisted and a vaginal discharge was present; moreover, there was no evidence of syphilis, hereditary or acquired.

While admitting that the inflammation may extend from a gonorrheal joint along the adjoining long bones to a greater or less extent, Durand and Nicolas[2] are doubtful regarding the actual involvement of the periosteum and bone, and are inclined to think that the thickening, which we make out in these cases, is due to an inflammatory infiltration of the tissues outside of the periosteum.

They assert that, inasmuch as they can find no account of an operation or autopsy performed on the bone, the exact nature of such cases is not known, but, granted that a periostitis or periostosis does exist, they think the process cannot be compared to that of an osteomyelitis, since there is no suppuration or sequestration.

According to them, there are no osteoperiostitic changes, but an inflammatory induration which is in the neighborhood of the bone without really altering its elements and in no case would anything seem to show the existence of an osseous lesion. In the absence of anatomic demonstration it would seem to them that neither the clinical nor radiographic signs can be considered convincing. On clinical examination they find simply a deep swelling or tumor, usually limited to the vicinity of the joint, but able to extend more or less along the diaphysis; there exists, however, no sign which permits them to say definitely that the bone or periosteum is involved; moreover, they state that no *x*-ray has shown indisputably the presence of any alteration in the bony substance.

In support of this view, they report a case of acute gonorrhea with suppurative gonorrheal arthritis of the right knee, in which there was great edema of the right leg and thigh, most marked near the knee. Later on, examination showed a hard thickening above and below the knee, which the authors considered to be due to an infiltration of the soft parts and not to a periosteal thickening, as the skiagraph showed no bony changes, and the induration and thickening gradually disappeared.

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[1] Hirtz, E.: Ostéopériostose hypertrophiante blennorrhagique de la diaphyse fémorale, Presse méd., 1900, ii, 407

[2] Durand and Nicolas: Sur l'ostéopériostose hypertrophiante blenorrhagique des grandes os des membres, Lyon méd., 1907, cix, p. 693.

My case and others in the literature, however, show that the gonococcus can produce marked changes in the bone and periosteum. I cannot speak authoritatively regarding the exact nature of the thickening and induration about the long bones in the neighborhood of gonorrheal joints, but I am inclined to think that in the majority of these cases, the bone and periosteum are not involved, while in some there is probably a definite osteoperiostitis.

We are all familiar with the cases of exostosis of the os calcis of gonorrheal origin, described by Jacquet,[3] on the posterior surface of the bone beneath the tendo Achillis, and by Baer,[4] Durthe and others, on the plantar surface of the bone at the origin of the flexor brevis digitorum. Four of the five cases operated on by Baer were examined bacteriologically and in three of these gonococci were demonstrated. It seems to us that these are clearly cases of gonorrheal osteoperiostitis.

Cases of supposed gonorrheal osteoperiostitis of other bones have been observed by Claisse and Ozenne.

Claisse[5] reports the case of a girl, aged 19, with gonorrhea, in whom a persistent pain, increased by sudden movement or pressure, appeared about the costal cartilages, soon followed by the development of a series of nodosities in this region, suggesting a gonorrheal rosary. The gonorrheal origin of the lesions was not definitely demonstrated by bacteriological examination.

Ozenne[6] describes the case of a man, aged 25, who had a definite gonorrhea, which was apparently cured. Shortly afterward, apparently without traumatism, a pain appeared in the lower portion of the right leg and a swelling was found on the anterior and internal aspect of the leg, three finger-breadths above the ankle. The skin over the swelling was slightly reddened and the surface temperature elevated. Over the lower end of the tibia the swelling was well defined, hard, flat and immovable. Although gonococci were not demonstrated by incision, Ozenne considered this to be a case of gonorrheal periostitis with tenosynovitis of the extensor tendons of the foot. The swelling disappeared gradually without treatment other than a compression bandage.

Gonorrheal osteomyelitis is a very rare condition, though theoretically it is hard to understand why it is not as frequent a complication of gonorrhea as arthritis. I have been able to find only two definite cases in the literature.

Ullman,[7] in 1900, reported the case of a man, 27 years old, who in the third week of a second attack of gonorrhea had a chill which was soon followed by pain in both elbows. The lower end of the left humerus became greatly swollen and tender, and the skin over it reddened. A diagnosis of acute osteomyelitis was made and at the operation a considerable amount of pus was found in the marrow cavity. Gonococci, unmixed with other organisms, were demonstrated in the pus. Ullman thinks that if we took a careful history, as regards gonorrhea, in cases of osteomyelitis and tried to grow the gonococcus on the proper medium, we would find more of such cases to be gonorrheal in origin.

Heymann[8] has reported the case of a man, aged 40, who had had several attacks of gonorrhea, the last attack being about a year before admission. When seen by Heymann in September, 1908, he had had a cold for fourteen days, and during this time micturition had been painful. On examination he looked sick and feverish, and there was a slight urethral discharge, though gonococci were not surely demonstrated. The prostate was swollen and tender. On pressure the swelling of the prostate largely subsided, but the patient soon had chills and fever, which indicated, according to Heymann, that the emptying of the prostatic abscess had forced some organisms into the general circulation. After ten days the fever disappeared, but four days later the patient complained of pain at the lower end of the left tibia, and a tender, swollen area was found in this region. Conservative treatment failing to give relief, operation was performed. The periosteum was found to be stripped away from the bone and there was a small collection of pus beneath it. Pus was found in the marrow cavity and gonococci demonstrated in it.

Cupler's[9] patient, a young man with acute gonorrheal urethritis, developed an arthritis of the left shoulder. The joint was aspirated and 20 c.c. of fluid, containing gonococci, was removed. Failing to relieve the pain, the joint was opened the following day, a few cubic centimeters of fluid being found in the joint. There was a cavity in the head of the bone containing necrotic material, and smears made from the contents of the cavity showed the presence of gonococci. In this case, however, it cannot be said whether the bone or joint infection was primary, and I am inclined to believe that the bone involvement was secondary to that of the joint, as erosions of the bone are not infrequent in gonorrheal arthritis.

As I said at the outset, the literature concerning gonorrheal bone lesions is very meager, and, inasmuch as my case is the only one I have been able to find in which the *x*-ray has shown a marked thickening of the diaphysis, as the result of a gonorrheal infection, I have felt justified in putting it on record.

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[3] Jacquet: Ann. de dermat. et syph., 1892, p. 681.

[4] Baer: Gonorrheal Exostosis of the Os Calcis, Surg., Gynec. and Obst., 1906, ii, 168.

[5] Claisse: Ostéopathies blenorrhagique, Bull. Soc. méd. d. hôp. de Paris, 1897, xiv, 1261.

[6] Ozenne: Note sur un cas de périostite de la face interne du tibia et de synovite tendineuse des extenseurs du pied d'origine blenorrhagique, Bull. Soc. franç de dermat. et syph., Paris, 1895, vii, 82.

[7] Ullman: Osteomyelitis gonorrhoica, Wien. med. Presse, 1900, xli, 2225

[8] Heymann: Osteomyelitis gonorrhoica, Ztschr. f. Urol., 1909, iii, 720.

[9] Cupler: Note on Gonorrheal Osteomyelitis, Ann. Surg., 1907, xlv, 121.

The Spirit of Research.—The investigator, says Professor Cannon in *Science*, is first of all one who thinks as much of what we are ignorant of, as he does of what has already been made clear. His chief interest is in the territory which has not yet been traversed. Indeed, he is to be classed with explorers and pioneers. For such men the complacent contemplation of things accomplished is intolerable—they chafe under the routine of established ways and find the satisfactions of life in adventures beyond the frontiers. Harvey, among the first of modern discoverers, expressed the spirit of research when he wrote: "It were disgraceful, with this most spacious and admirable realm of Nature before us, and where the reward ever exceeds the promise, did we take the report of others on trust, and go on coining crude problems out of these, and on them hanging knotty and captious and petty disputations. Nature is herself to be addressed; the paths she shows us are to be boldly trodden; for thus and whilst we consult our proper senses, from inferior advancing to superior levels, shall we penetrate at length into the heart of her mystery.

AIMS IN MEDICINE *

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William Paul Crillon Barton was graduated from Princeton College in the class of 1805. It was the custom at that time for each member of the class to assume the name of some celebrated personage; young Barton adopted that of Count Paul Crillon, and the initials " P. C." were retained by him through life.

He took his degree in medicine at the University of Pennsylvania, where he studied under the direction of his uncle, Dr. Benjamin Smith Barton, graduating in the class of 1808. His thesis on "Nitrous Oxid" was considered a classic for many years.

After an internship in the Pennsylvania Hospital, he was appointed a surgeon in the Navy in 1809. In July, 1811, just 100 years ago, the Secretary of the Navy, Mr. Paul Hamilton, directed Surgeon Barton to outline a plan of organization for the Medical Department, to be presented to Congress for approval. It may be justly said that Barton was the father of the Medical Department of the Navy.

Professor Holland, in his admirable history of the Jefferson Medical College of Philadelphia from 1825 to 1908, states that, in the summer of 1826 Dr. William P. C. Barton was appointed to a new chair of materia medica, and we find later on, when the Bureau of Medicine and Surgery was created in the Navy Department, the same William P. C. Barton occupying the office of Chief of Bureau, in reality the first Surgeon-General of the Navy.

Surgeon Barton published an account of the outlining of his plan for the organization of the Medical Department of the Navy, and modestly said that his schemes were thrown together with such order and system as was permitted by the limited time he had to devote to the subject under the pressure of professional duties on shipboard. He stated that the report containing his plans was certainly less perfectly digested and more carelessly treated than the importance of the subject demanded, because it was written during a tempestuous voyage from Norfolk to New York in the sloop-of-war *Hornet*, with the ever-to-be lamented Captain Lawrence, under the disadvantages, too, of seasickness and acute mental affliction from the recent loss of a friend.

In a foot-note he speaks of his friend Lawrence in the following terms:

> At the mention of the name of a man, dear to every American, and whose patriotism and valor are deeply registered in our memories, I hope I shall be excused in giving way to an impulse of feeling by declaring that, in sickness and in sorrow, I found in this magnanimous hero a comforter who administered the sweetest solace with even feminine tenderness; such were the superior virtues of a man who was gigantic and valorous in war.

Surgeon Barton was a prolific writer, devoting much attention to botany in connection with materia medica.

The dedication of his treatise on the internal administration of government and naval hospitals is as follows:

> To the Flag Officers, Captains and Surgeons in the Navy of the United States:
>
> A NAVY—rendered glorious by the brilliancy of its achievements and which has added luster to the nation, given dignity and importance to its character abroad:
>
> A NAVY—to the seamen of which, by their prowess and their victories, the skilful, the valorous, and the hitherto unconquered naval sons of Britain are forced to yield the palm of superiority:
>
> A NAVY—thus eminently distinguished even in infancy, and which has conquered its way to public favor and estimation: This attempt to promote its interests is most respectfully dedicated by the author.

In his concluding remarks in this treatise, Dr. Barton has to say the following:

> In the foregoing pages I have been necessarily led into the exposition of many and palpable abuses in the Medical Department of the Navy. There are not a few persons with whose interests such an exposition will very much interfere; from them, therefore, I expect no thanks; on the contrary, I look for caviling and censure at their hands. I am, however, prepared to meet it.
>
> My independence in expressing my sentiments on points of duty while in the Navy procured for me not a few enemies; but while I regret this consequence of a line of conduct that thrice the inconvenience could not have made me forego, I have the consoling assurance of having acquitted myself in the way of duty to the entire satisfaction of officers with whom I have served, whose regard and good opinion were of moment in my estimation.
>
> Both my feelings and my fortune have suffered by the determination I made when I first entered the service, from the execution of which I never in a single instance swerved, to pursue that line of conduct that I deemed consistent with the faithful performance of my duty and my trust, however such conduct might clash with the private or public interests of others, or differ from the customary proceedings of persons similarly situated with myself.

Such were the sentiments of the man who had most to do with formulating the plan of organization of the Medical Department of the Navy and whose name appears in that brilliant and courageous group of original professors who have made possible the great institution of learning from which you graduate to-day.

Your present faculty is built of precisely the same timber, and in seeking the personification of the highest aims and ideals in medicine I heartily commend their characteristics to your most careful study. I am proud to bring to your notice the close intertwining of the roots of origin that have since grown into the two great medical organizations—Jefferson Medical College and the Medical Department of the Navy.

Since 1842, when Dr. Barton became Surgeon-General, your alma mater has given us no less than 100 medical officers, and among them are names that have helped to make naval history in the past and are adding further laurels to medicine in the Naval Service to-day. I am proud to tell you that the last commission signed by the President is now in possession of a graduate of Jefferson and a former intern of your hospital.

Is it at all surprising that the mere mention of the name of your great institution of learning should awaken sentiments of affection, esteem and respect in the Navy? I can assure you that the great honor and privilege your board of trustees has conferred on the Medical Corps in inviting its ranking officer to address you on this occasion, has in nowise lessened this warm spirit of fraternalism.

As you go forth to-day after four years of association in lecture rooms, laboratories, hospitals and elsewhere, each inspired with a resolution to solve the problems that lie before him in accordance with the high standards in which you have been so thoroughly drilled, the conviction will be brought home to you that these problems have taken on a new and very personal form calling for the development of a resourcefulness and an individual effort that had not been exacted before. Your bearing and conduct in meeting these new responsibilities, even at the outset of your careers and in every hour of every day thereafter, will determine largely the measure of success that will be accorded you in the future.

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* Valedictory address delivered before the graduating class of Jefferson Medical College, June 5, 1911.

You have chosen the grandest profession of them all, without exception, one demanding courage of the highest order, sacrifices without end, a profession little appreciated and less materially rewarded for what it has accomplished than any of the others.

It is well for you at this time to endeavor to develop proper aims and adopt high ideals to guide you in your every-day life, so that the impulse to act squarely and properly to yourselves, your patients and your community will be involuntary and unhesitating.

It has been well said that he is best educated who has the largest and most manageable series of orderly and useful habits in the storehouse of his brain and other nerve-centers. These habits include and cover what are ordinarily understood to be facts as well as reasoning and action. That brain is best equipped which, on the greatest number and variety of occasions in life, acts in a fairly automatic manner in the best way for the usefulness and happiness of the individual. Such a personality not only has the highest order of education, but also has the largest development of character in its broadest sense.

In his essay on two kinds of conscience, Norman Bridge has given us much food for thought and a guiding hand in the selection of high aims in medicine in its relations to individuals and its activities in the community.

He defines conscience as that governing principle, that guide of action, which gives a standard of conduct and judgment to every man. Conscience is largely a matter of education; to some degree it is inborn and, therefore, instinctive; applied to things, beliefs and principles, it is substantially all acquired. In order better to understand the many phases of human conduct, Bridge has described two kinds of conscience; one he has called the personal, or individual, conscience, the other the company, class or collective conscience.

The individual standard is perhaps the higher. It is this conscience that impels man to do what he alone believes to be right. It is the conscience of solitude and tranquillity—of man communing with himself.

The collective, or group, conscience is the standard of the community, and is an altogether different standard from the personal one. The two are often in conflict, although often completely in accord. The feelings and emotions of this standard are in general the ever-present emotions of mankind. All must act outwardly, at least, with slight variations, for the benefit of the race. The collective or group conscience is the executive or official conscience.

It is the personal or individual conscience that tends to impel the soldier, when first under fire, to flee. The group conscience, which has been developed by training and discipline, holds him in ranks with his fellow combatants.

The personal, or individual, conscience has had much to do with the great advances, the epoch-making stands taken by individuals. For instance, Ambroise Paré, the great French surgeon, was ridiculed and called an impostor when he advocated the ligature for arresting hemorrhage, to replace such barbarisms as the routine use of boiling oil and the actual cautery. John Hunter was accused of wasting his time in studying with painstaking care the growth of a deer's horn, but it was this study which led to a knowledge of collateral circulation and emboldened him to ligate the main vessel in aneurism. Harvey spent eight long years of investigation and research before he published his views of the circulation of the blood, which led to his being discredited, and it was fully a quarter of a century before this established scientific truth became generally recognized.

The difficulties of Jenner were even greater than those of Harvey, and, judging from certain well-meaning but misguided efforts that are being made strenuously to-day, not all are yet convinced of the efficacy of vaccination against small-pox. The pendulum has swung the other way, and the tendency now is hysterically to grasp the latest thought or idea, claiming vastly more for it than its originator proposed, only to meet with disappointment and discredit where both are unnecessary.

It is the group conscience, on the other hand, which rules the mob. A normal development of the two kinds of conscience to meet the vicissitudes of various situations leads to the most satisfactory results. In caring for an individual ill, the dictates of the personal conscience should be yielded to; when the welfare of a community is at stake, the promptings of the collective conscience should govern. In a military establishment the individual, or personal, conscience and its promptings are subordinated to the dictates of the group conscience, and this is justified by the objects and aims of such an establishment.

Surgeon Barton's activities and reforms were impelled by a pronounced development of the individual conscience and their beneficent effects are felt to this day.

The internal dissensions and difficulties with which Jefferson College was beset in its early days, as recorded by Professor Holland, resulted from too much personal conscience, and a neglect of the collective standard. With the establishment of a normal balance between the two began a progress almost unparalleled for brilliancy.

Let us see how the cultivation of these two kinds of conscience, in their proper proportions and relations, will guide us to a wise selection of our aims in medicine. The proper development of the personal conscience will make impossible commercialism, the dividing of fees, and other growing abominations of the day. The welfare of the patient will be our immediate consideration; his personality will receive the close study it merits, and we shall not be treating disease, as such, with the possible future applause of the medical society, or the allurements of a statistical report, before us. We shall not be wholly engrossed with the laboratory findings or the pathologic report.

Our diagnoses will not be made in the laboratory and in the *x*-ray room. The internist will not be found temporizing and unduly postponing the summoning of the surgeon with the misleading notion that he is practicing conservatism. Often bold, timely operative procedures are of the highest type of conservatism, in that they may not only save life and safeguard organs that would otherwise have become involved, but they may lead to a restoration of function with a minimum of after-effects that delay would have made quite impossible.

The cultivation of that conscience that comes of a man communing with himself will lead us faithfully to train every sense with which God has blessed us, to develop manual dexterity, a touch of gentleness with strength and precision that will be recognized at once by our patients. Sight, hearing, smell and taste should not be neglected. Bandaging to-day is almost a lost art; the study of the mechanics of internal medicine and surgery has not received the attention its importance merits. How often do we find the narrowing of an outlet, a sluggish muscular wall or an inconsequent deformity of the foot, for instance, inducing conditions of such gravity that the slight and often perfectly remediable mechanical defect is quite lost sight of!

The enormous importance of the laboratory and its brilliant achievements in medicine are fully appreciated, and due credit is accorded the courageous minds that have evolved and demonstrated theories and facts that stand out as the milestones of real progress in the advance of medicine toward the goal of exact science.

Among the unfortunate consequences of this great advance is the dwarfing of the purely clinical side of medicine. The impulse to turn to the laboratory for the diagnosis, and afterward to try to fit the laboratory findings to the individual before us, is undoubtedly the tendency of the day. We should center on our patients at the bedside the closest kind of study, and let there be, *if necessary,* a tentative diagnosis, turning to the laboratory, afterward, for a confirmation, or a refinement of our conclusions. On the other hand, if we are not well trained clinically we should be quite at a loss if we found ourselves, perchance, beyond the comforting reach of the Roentgen-ray apparatus, and the diagnostic and therapeutic laboratory.

What bearing has the development of the so-called crowd or collective conscience on our aims in medicine? Let us see. With the growth of this standard the appalling record of 600,000 lives sacrificed annually in this country to preventable diseases would soon dwindle into comparative insignificance; there would be undoubtedly to-day a department of health with a representation in the cabinet, and the proper institution of sanitary administrative methods would yield in our civil communities the brilliant results that have followed these methods where the medical officers of the Army and Navy have been permitted to carry them out, hampered possibly only by insufficient funds, or the military features of the situation.

It is more than probable that this crowd conscience will be developed, as it should be, only when its importance to the masses is brought home to them on a dollars-and-cents basis. The lack of the so-called executive or collective conscience in these United States is not only amazing—it is appalling. The fact that this great country has no exhibit at the International Exposition of Hygiene, in Dresden, now in session, is perhaps not fitting for me to comment on.

You hear young men say that medicine is overcrowded and that so much has been accomplished that there is little left to be done. Should there be no further discoveries, or advances, in medicine and surgery from now on, and we were permitted to make use intelligently of the facts now in hand, the achievements of preventive medicine, administrative sanitation and bold surgical conservatism would startle the world.

The crimes of commission that find their way to our criminal courts sink into insignificance when compared with the grave crimes of omission and their far-reaching, direful consequences which we, in hardened indifference, take as a matter of course. Here is an almost untouched field. Results can come only, however, from an awakening of the crowd conscience through education, team work and convincing demonstration.

An example of the beneficent effects of the collective conscience is seen in the boards of trustees, guilds, societies and organizations that make possible our great hospitals and educational institutions. These splendid citizens often contribute liberally in a financial way and bring to bear their business training and administrative ability, to say nothing of time and painstaking labor, in this field of work. They should share with us the honors that may come to us, for they have made possible what measure of success may be ours.

President Taft showed thorough appreciation of this most excellent type of citizen when he eulogized recently the man who contributed to the revolutionary cause, without hope of reimbursement, $650,000—an enormous fortune for those days. Such as he made the success of our arms possible, and great sacrifices of this sort merit recognition along with the actual achievements of war. Those who by their sagacious activities awaken and keep alive intelligent patriotism, thus making possible an approach to preparedness when the horizon is not darkened by war-clouds, should be classed with the great leaders of peace times. The pseudo-patriotism and hysterical outbreaks that often come with the declaration of war are out of time and out of tune, and while ostensibly well meaning, are of little account.

The activities of physicians in civil life are almost entirely along humanitarian lines, while in the Army and Navy humanitarian considerations are of secondary importance, military duties being paramount. To understand properly the necessity for this subordination of the humanitarian aims of medicine, it will be well to outline some of the unusual features of the fighting establishments, and the Navy will serve admirably for the purpose.

The Navy is manned, equipped, organized and maintained to fight. The fleet is the Navy. The development of the highest type of fighting efficiency in the fleet should be the aim of all concerned. This problem is decidedly more intricate and difficult than is generally realized, both inside and outside the service. The battles of the future will no longer be the battles of brawn; they will be the battles of brains and they will be won by the combatant showing the highest development along this line. Science has taken a hand, and in the front rank we find specialized medicine, chemistry, mathematics, mechanics, physics and many scientific offshoots so harnessed, adapted and molded as to make possible a grade of military efficiency that was scarcely dreamt of a decade ago. Consider for a moment what the development of electricity has accomplished; what chemistry has contributed in the way of powder alone; what oil as fuel will do!

Each new activity brings to bear on the personnel new influences often seriously damaging to efficiency. It is of the greatest military importance that the medical department should not only familiarize itself with these scientific specialties and be prepared to repair the damage to the personnel from their employment in the fleet, but what is still more important, it must prevent and actually is averting this damage.

Side by side stand the lieutenant and the surgeon; the one by drilling and discipline striving to attain a high grade of efficiency, the other, who has selected at the recruiting station the physical type best fitted to meet the peculiar requirements, watches intently for effects that are likely to impair efficiency. For example, recently, on an endurance run, thirty odd men, utterly prostrated, were carried out of the fire room of a ship.

What was the cause of this serious breakdown in the personnel? Was it due to excessive heat, to contaminated air, to improper food or water? Or was it due to the assignment to duty in the fire room of a type physically unsuited to the arduous exactions of that station? These are the questions that would naturally come to the mind of an alert medical officer, and it is along these lines that the Bureau of Medicine and Surgery is bettering conditions.

The activities of the medical department are by no means confined to the personnel. The plans of new ships are always referred to the Surgeon-General before they are finally approved by the Navy Department. It is his duty to give them careful study, recommending such changes as in his opinion will keep the physical make-up of the personnel at the highest pitch, and at the same time will in no way impair the fighting possibilities of the ship. These recommendations are not in any sense prompted by humanitarian considerations; they are made solely to promote and maintain military efficiency.

What is the character of the personnel with which we have to deal? Let us consider two types of officers, the two whose duties and responsibilities are more closely allied than any of the others—line officers and medical officers.

The line is recruited from all over the country, from practically every grade of society, who, after passing rigid professional and physical examinations, begin a four years' technical course at the Naval Academy with an additional two years spent at sea, before they are finally commissioned. During the four years at Annapolis, the highest aims of their profession are instilled into them, such as discipline, honorable dealing, manliness, physical and moral courage, a proper conception of duty and its responsibilities, loyalty and patriotism and a willingness unhesitatingly to make that greatest of all sacrifices for their country's sake should occasion demand it. This splendid spirit was highly developed in that superb soldier, the late Captain Capron of the Army, who, on hearing that his son, a Rough Rider, had been wounded during the battle of San Juan Hill, in which both had been engaged, sought him out to find him lying dead at the roadside. Brushing back the hair from his brow, he scanned the features, strong even in death, and said, patting him affectionately on the head, "Well done, old fellow."

The development of this splendid spirit is by no means confined to the line; it underlies and guides the activities of the entire commissioned and enlisted personnel of the Navy.

The Medical Corps is the only branch of the service which may select its own personnel. Not only must a candidate be a graduate in medicine, but he is required to have served in a great civil hospital and present a diploma as a guarantee of the character of this service, before he is eligible to examination for a commission as assistant surgeon. An examining board then passes on his physical and professional qualifications, and if he meets the requirements, he is commissioned and enters the Naval Medical School, where he is taught the military features of his duties and is given special training to fit him for the great responsibilities of his new career. He is required to pass still another examination on the completion of this course, when he is assigned to the fleet for duty.

To have the right to wear the uniform of the United States Navy to-day is one of the greatest honors that can come to any of us, and that uniform which bears the insignia of the Medical Corps, with all it implies, is without a peer in the service. It is hoped that you will carefully consider these facts in choosing your life work in medicine.

And what of the enlisted personnel? With the passage of masts, spars, sails and wooden ships went much of the romance of the sea, and along with the rest that faithful, resourceful type, the old-time sailorman. He is but a memory to-day, having been replaced by the alert young seaman-mechanic. The pace, with its complicated responsibilities, became too fast for the old fellows, and they have dropped out of the race completely.

In the Atlantic Fleet on its round-the-world cruise the average age of the enlisted personnel was about twenty-one years, on hearing which some humorist remarked that the Navy was manned by boys.

In order better to understand this new-type seaman-mechanic, let us look into a turret and see him actually at work. There are innumerable other situations in the complex make-up of a battleship that might be selected, still the turret will perhaps serve our purpose as well as any.

Side by side within this armored citadel lie the breeches of two monster 14-inch guns. The guns with their crews are separated by an incomplete partition or bulkhead, thereby stimulating a spirit of rivalry between the two gun-crews. There we see the turret officer, the turret captain, the gun-pointers and the crews. Gold lace has given way to dungarees; the cap alone distinguishes the commissioned officer—the men are nude to the waist. Each man is at his station, forming an unbroken chain from the gun to the magazine below with its tons of powder and shell.

The range of these guns is some 14 miles; the projectile, propelled by the burning of 350 pounds of powder, weighs ¾ of a ton, costing about $500 for a single discharge. The monster blast is likely to destroy all unprotected ear-drums within a given zone, at the same time liberating gases poisonous in the extreme, so much so that, in one ship in which artificial ventilation was maintained during battle, several men were found unconscious in a single compartment into which the blowers had driven these noxious fumes.

From the fighting top comes a message to the central station in the bowels of the ship; a calculation is hastily made and directions are sent out to the turrets. The guns are trained accordingly; the gun-pointer picks up the enemy with his telescopic sight; the cross-wires are on him, the order to fire rings out, the gun is discharged and mathematically there should be a hit. We have, however, a personal element to take into consideration.

The picture is inspiring. The perfect team-work, the silence, the earnestness of great purpose written on each face strikes even the casual observer. The hazards of the situation are fully appreciated by all, yet the very dangers tempt those of the proper make-up for a fighting organization to seek these assignments. By constant drilling, mutual dependence, and perfected discipline the chances of mishap become very small; yet one weak link in the chain may instantly hurl all into eternity and perhaps destroy the ship.

What part does the medical officer play in all this? It is his duty to weed out the physical weaklings, or build them up, to safeguard these picked men from disease, to eliminate those whose nervous make-ups unfit them for this kind of duty; in other words, he has before him not only a study of the gross physical features of the personnel, but their psychologic characteristics as well. Let us center on the gun-pointer. If this man is of a high-strung nervous type, or has "too much" education, it has been found that, when the cross-wires of his telescopic sight are on the target, his alert mind is centered on the possibilities of the ignition of 350 pounds of powder at his side, and the chance for a hit has slipped by. His personal conscience has failed to be subordinated to his crowd conscience as it should be in this situation. It has been found that the use of telescopic sights at drills has in many instances seriously impaired the vision of these men. This break in the chain is of serious moment and is receiving the careful study its importance merits. The constructors may give us stability, the engineers high speed, the ordnance officers effective rifles and the commanders maneuver with consummate skill, still if the gun-pointers cannot see straight we are not going to have hits and the outcome of battle might hinge on this defect.

It is believed that the next naval battle between powers of the first class will last less than thirty minutes. By that time either the one or the other combatant will probably be annihilated or the supply of ammunition exhausted. The wounds of naval warfare are peculiarly destructive—lacerating tissues, splintering bones, killing outright—and are attended with profound shock; practically all are infected from the start. What are the aims of the medical department during battle? They should be military absolutely; humanitarian activities, although greatly to be desired, have no place in this situation, might even lead to additional casualties and possibly the failure of our arms.

At the close of battle the activities of the medical department at once become humanitarian, and our efforts are often exerted, not only in behalf of our own wounded, but in behalf of those of the enemy as well.

At this point the heretofore diverging paths of civil and military medicine are reunited on humanitarian grounds under the beneficent influences of the red cross. Our military efforts may lead to broad humanitarian results in making victory more decisive, thus entailing fewer casualties, and, further, the war itself may have been waged by reason of inhumanities which would cease with the success of our arms. The humane treatment of prisoner-patients of war by medical officers, before and after hostilities have ceased, is a potent factor in reestablishing friendly relations afterward.

Concentration in the past on the purely military features of the fleet has led to a one-sided development with a neglect of the humanities of naval warfare that would have made possible a breakdown in the medical department, the most appalling in history.

I have devised a plan which will, with the establishment of the Naval Medical Reserve Corps, efficiently attend to all our humanitarian responsibilities, and which bids fair to revolutionize this feature of naval warfare, giving to the wounded the highest type of surgical care from the firing-line until they are finally disposed of, and this they surely merit; it is in this field of work that I shall one day turn to you, my respected colleagues, for support.

In addition to the complex responsibilities of naval medicine, outlined, I fear, at too great length already, are the duties that go with service in the field which are precisely the same as those of the Army, except that they are naturally not quite so extensive. There has been no war in recent times, however, in which the navies of the world have not taken part in operations on shore.

The proper equipment and execution of these multifarious activities have led to the establishment of great supply depots, hospital and supply ships and the like; there are over 2,000 individuals serving in and under the medical department of the Navy to-day.

A word in conclusion as to what is done along humanitarian lines. Each ship has its sick-bay which may be likened to an army post hospital, and there are some fifty odd ships in commission.

The hospital ship *Solace,* equipped with 200 beds, with facilities equaling those of your metropolitan hospitals and carrying a number of skilled specialists, is serving with the Atlantic Fleet. There are nineteen general hospitals in commission, some of them among the largest and best equipped in the country, with six more building, constituting one of the largest hospital organizations in the world. We attend as well the large body of civil employees at navy yards and stations and the inhabitants of our island and outlying possessions. In this humanitarian field of work our aims and activities are precisely the same as those of civil practitioners, with the added interest of service in Alaska, Japan and the tropics.

From what has been said it is plain to be seen that in the Navy certainly the personal conscience must be subordinated to the collective conscience, and humanitarian aims give way to the military, up to a given point, at least. The medico-military duties referred to necessitate a profound study of all activities connected with naval warfare, in order to implant in the service, intelligently and effectively, what scientific medicine, in all its ramifications, has to offer to enhance military efficiency. It gives me great pleasure to express my unqualified appreciation and gratitude to the many skilled specialists in civil life, and, particularly, to the Faculty of Jefferson Medical College, for the painstaking, patriotic assistance they have unfailingly given us in our efforts to accomplish this great work.

If a single individual within hearing of my voice, or elsewhere, is helped in the choice of his aims and ideals in medicine, or in any other calling—if he is aided in any measure to the development of such a proportion between his individual conscience and his collective conscience as to lead to personal success and broadened public service in the community in which he resides, I shall feel fully recompensed for the effort that has been made.

SOME TENDENCIES IN MEDICAL EDUCATION IN THE UNITED STATES *

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THE PASSING OF THE INFERIOR MEDICAL SCHOOLS

If you compare medical education in the United States twenty years ago with what it is to-day, you cannot help but be impressed with the remarkable change which has taken place. The period has witnessed a reform which is noteworthy in history. During the past decade, especially, there has been a steady decrease in the number of inferior medical schools and an elevation of standards in the better schools. The country has passed rapidly from a stage in which the proprietary medical school was dominant to one in which all, or nearly all, of the better medical schools are the medical departments of universities.

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* Based on remarks made at the convocation exercises at McGill University, Montreal, June 5, 1911.

* Owing to the lack of space this paper has been reduced nearly half. The unabridged article is printed in pamphlet form and will be sent by the author, or by THE JOURNAL, on receipt of a stamped directed envelope.

It was not easy to bring such a change about. Every reform entails hardships; attempts at betterment invariably excite some animosity and antagonism. It says much for the spirit of the men in the medical profession and in the faculties of the medical schools that the majority of them have kept in mind the welfare of the profession, of medical education and of human service, and have been so ready to sacrifice their private interests when such self-denial was demanded.

[The author then discusses: (1) The reduction in the number of medical schools; (2) the increased requirements for admission; (3) the elevation of standards in teaching.]

The success of the better schools, the enthusiasm of the students trained in them, the opportunities which have opened up for these students after graduation, the scientific investigations leading to publication which have been carried on; all have contributed to spur other medical schools in different parts of the country to emulate the examples set.

There have been two main difficulties: (1) the financial one of equipping the expensive laboratories of anatomy, physiology and pathology and paying the staff sufficient amounts to permit them to devote their whole time and energies to the work; and (2) the absence of endowed hospitals under the control of medical schools or universities, into the wards, dispensaries, and laboratories of which students could be taken actually to participate in the routine work of diagnosis and treatment.

[Dr. Barker then describes the agencies which have been influential in securing the reforms, emphasizing especially the work of the Council on Medical Education and that of the Carnegie Foundation for the Advancement of Teaching recorded in the report of Mr. Abraham Flexner.]

The Council has performed its work almost wholly through the cultivation of medical opinion; it simply gives publicity to the information which it collects. It has no power whatever to dictate to medical schools or to set standards either for the schools or for the state examining boards, but it has so deliberately and successfully, through the currency given to the results of its inquiries, worked on the collective medical mind in the United States, that a moral pressure, irresistible in its coercive force, has come to be exerted. A school, for example, which is heralded in the over 50,000 copies of The Journal of the American Medical Association as one which turns out graduates of whom more than 20 per cent. fail at the state licensing examinations, or another, which, after personal and unbiased inspection by members of the Council, is classified as a "rejected" school, has a sealed fate.

The Council has been none the less successful for having avoided utopian attempts; it has been satisfied with a gradual, though steady, stride toward attainable ideals. It recognizes the manifold difficulties of the pedagogic situation, is aware of the necessity of taking time, of educating those concerned and, especially, of the indispensableness of endowment from the state, or from private funds if desired reforms are to be instituted. . . .

Through the various influences above mentioned inferior medical schools are rapidly being weeded out and the schools left are steadily being improved. The nation has set itself resolutely to the task of reconstruction and it will not rest satisfied until its medical schools have reached a degree of efficiency and attained to a power of public service which will bear favorable comparison with similar institutions anywhere in the world.

POSITION OF AND SOME TENDENCIES IN THE NON-CLINICAL DEPARTMENTS

On examination of the non-clinical departments of the better medical schools in the United States it will be seen that a definite policy has been established; the principles of this policy must sooner or later be observed by every medical school which hopes that its conduct may be held in good repute.

THE POLICY ESTABLISHED

The essentials of the policy include: (1) commodious laboratories equipped with all modern appliances for teaching and investigation in anatomy, physiology, pharmacology, biochemistry and pathology, (2) "full-time" professors with, for the more part, "full-time" assistants, trained or undergoing thorough training in these fundamental disciplines, men who are enthusiastic teachers and have a zest for, and success in, prosecuting original inquiries, and (3) an annual budget at the disposition of the staff adequate for improvement of equipments, for supplies and expenses and for the services of janitors, clerks and mechanical assistants. These departments are, therefore, not only places in which well-organized courses of instruction for medical students are offered; they are also centers in which knowledge is seethingly advanced.

Under this policy the non-clinical departments are flourishing. Glance through "American Men of Science" and make lists of those who have been led to cultivate these fields and have been notably successful in the work. You find an imposing array. Look over the journals, most recently founded, devoted to the different subjects and the proceedings of the scientific societies and you will be gratified to find how speedily and notably knowledge has been and is being increased.

The best American work is receiving adequate foreign recognition, and while but few European students have thus far been attracted to American non-clinical laboratories for work, the stream of students which formerly flowed in the other direction has to a large extent ceased.

DANGERS THREATENING THE NON-CLINICAL DEPARTMENTS

The non-clinical chairs in the medical schools may be to a certain extent, however, in danger. The possibility of evil has arisen not at all through hostile intention, but rather through certain conditions, partly external, partly internal, which may place them in a trying situation. Of these conditions I shall refer now only to three, viz., (1) the rise of institutions devoted solely to research, (2) the rapid formation of medical faculties in state universities, and (3) the pecuniary penalty attaching to chairs on a "university basis."

[In the full address these three conditions are discussed at some length. While the advantages of the institutes for research are emphasized, it is intimated that these institutions should be integral parts of universities and that the latter have made a serious mistake in losing the research institutes through failure to recognize the necessity of separate provision for the functions of teaching and research.

The author also explains why the demand for professors in the non-clinical departments has been greater than the adequate supply.]

. . . Thus, through the exit at the top of many of the best and through the entrance at the bottom of too many immature and partially trained, the high standards thus far maintained for the non-clinical chairs, run some risk of depreciation. At present, positions, such as they are, can be obtained too easily; the period of training is so shortened, as to make the attainment of a high grade of scholarship difficult. There is the dangererous possibility, too, of promoting to full professorships men of mediocre talent, who, in a longer and more exacting discipline, would find their academic level, or would actually be weeded out in a competition in which the prizes were larger and the number more extended of intellectually superior contestants.

[The financial status of the professor is next analyzed and the insufficiency of existing salaries pointed out.]

The occupants of non-clinical chairs, like those of the chairs in the arts departments, have little means of supplementing their salaries by outside work. Some of them do executive work which yields small additional emoluments; some write text-books which, if successful, bring in a modest amount of royalties; now and then a professor receives extra pay as a member of a federal, state or municipal commission of experts. There is no income, or very little, from consultation practice, for anatomists, physiologists and pathologists have but rarely had the clinical training necessary to make them expert diagnosticians and therapeutists; moreover a code of ethics has gradually developed which goes far to prevent such professors from engaging in the practice of medicine, except possibly a limited consultation work, even when their experience has been such as to make them equal to it. The feeling prevails that such outside work, so different from that of his regular activities, lessens a professor's opportunities for scholarly study by its encroachment on his time and energies and detracts from the dignity, simplicity and high-mindedness of the teacher's calling. . . .

That some great teachers and investigators are attracted to the non-clinical chairs despite the small material rewards and the heavy financial and social penalties pertaining to the positions, has been fully demonstrated; that some will continue so to be attracted we can be sure. Men who inordinately love gain and material advancement are not likely to work toward professorships; it is perhaps well that the professorial class is recruited elsewhere. The power of disinterested scientific creation and the passion for truth and research are seldom cerebrally compatible with the money-getting gift, the capacity to devote one's self to, and to keep the mind concentrated on, financial gain. The life of a professor is necessarily simple and frugal; his wife can make no pretense to the absurd and vulgar extravagance that Irving Batcheller facetiously and satirically describes as "keeping up with Lizzie." The career of a professor is often, however, one of profound influence and of steady happiness, of high honor and well-deserved respect, and these are rewards not likely to be regarded lightly among the more idealistic of our youth.

Still, it must frankly and anxiously be admitted that there are elements in the financial status of non-clinical professors which make us stand in pause when we think intently on the situation. No matter how keen the love of teaching, how hearty the satisfaction in solving scientific problems, a strong man can scarcely be expected to devote himself to a life of instruction and research when the remuneration is inadequate to the real needs of himself and his family during his period of activity, and to provision for his old age.

It is highly desirable that the compensation of professors should be a little above rather than below the line of comfort for the locality in which they live. It should be large enough to furnish the necessaries and conveniences of life, without superfluity, and should not be so small as to prevent a man from saving each year a part of his receipts, even though a smaller fraction of them than Bacon recommends. The struggle to live, financial worries, inability to educate the children of the family, too great personal hardship, and the social penalties of too small an income are sure more or less to inhibit a man in his work. . . .

Society ought not financially so to penalize the professorial class that the occupancy of chairs by the stronger personalities will be limited to bachelors, to childless men, to men enriched through the accidents of inheritance or marriage, or to married men who consent to doom their wives and children to the mitigated happiness which poverty affords.

Men of some sort there will naturally be who will seek salaried positions, no matter how low the salary, and, fortunately, the love of teaching, of study, and investigation will always secure a certain number of gifted men whose passion will make them work at the thing they like under any conditions. But if the fiscal arrangements of professorships were to be made in such a way that they attracted chiefly mediocre persons to whom a salaried position spells security, the higher interests of scholarship would suffer. Attention need scarcely be directed to the progressive declension of our public schools through precisely this enforced withdrawal of their abler men.

The interest in, and joy of, work, the desire of public service, the anxiety to do something well, the longing for the good opinion of one's colleagues, the obtaining of leisure to devote one's self to the finer interests of life—these must always be the great motives which lead men to become university professors. The material rewards are not, however, wholly insignificant. They certainly exert some influence. . . . In salaried establishments, it is not always possible to avoid the defects of "institutionalism"—bureaucratic officialdom, the tyrannies of a mandarinate, and oligarchic indolence; those interested in the organization of asylums for the insane have repeatedly lamented this fact.

[The author makes various suggestions for improving the financial status of professors.]

The education of public opinion to greater social recognition of the professorial class might help; it progresses rather slowly in a country in which "success' is largely, as yet, measured by income; those who have not learned how to get money and to keep it are too often, by the unthinking, indiscriminately classified, not quite, perhaps, as pariahs, cut off socially from hope, but still as futile persons, too innocent for "achievement" in a land of opportunities!

An especially pressing factor during recent years has been the gradual rise in the cost of living without any proportionate increase in the salaries of university professors. The average price of commodities has increased by 33 per cent. to 50 per cent., but the professor who was paid $2,000 or $5,000 before this rise took place is still compelled to live on the same amount. . . .

The whole situation should certainly be canvassed carefully and the means discovered for enhancing in various ways the social and pecuniary rewards of professors in the non-clinical branches of our medical schools.

POSITION OF AND TENDENCIES IN THE CLINICAL DEPARTMENTS

The policies followed in the clinical departments of the better university schools are far from uniform. There is, as yet, no unanimity of opinion as to the best way to improve these departments. All are agreed as to certain fundamental points: the desirability (1) of more thorough practical teaching and (2) of an increase in scientific productivity. How best to move toward the practical realization of these ideals is a question.

A STATE OF FLUX

The clinical departments of the medical schools of the United States are on the eve, it would seem, of important reforms. To bring them about, radical changes may be necessary. Faculties will, doubtless, be led to experiment in various ways; only after trials through a considerable period shall we be able to decide on the arrangements and organization suitable for general adoption in the better schools. A state of flux, already evident in the clinical departments, is, therefore, likely to continue and to become even more pronounced during the next decade.

In medicine, which is, and must always be, the department of primacy in a medical school, and also in surgery the tendency to fill chairs by attracting able men from a distance has finally begun. It was formerly impossible on account of the absence of school-controlled hospitals. The medical faculties were compelled to accept as their clinical professors men who, developing locally, were the physicians to municipal or to privately endowed hospitals. In no other way could "clinical material" for the instruction of students be obtained. Now that universities are beginning to have their own hospitals, or to enter into arrangements with other hospitals through which their professors are assured directing places on the hospital staff, professors may be called from a distance, or be selected from the local profession, on account of their skill in diagnosis and therapy, their ability as teachers and their power as original investigators.

THE PRINCIPAL CLINICAL CHAIRS AND THE SPECIALTIES

The three principal clinical chairs in a medical school must always be those of medicine, surgery and obstetrics. A general training in each of these branches is absolutely essential in the education of every medical student.

In the specialties, there is time, in the brief period of the clinical curriculum, to teach the student only the most salient methods of diagnosis and treatment, those suited to the needs of the general practitioner.

[The proper relation of the specialties to the principal clinics is somewhat fully discussed. The importance of adequate special clinics for the postgraduate work is emphasized.]

THE HOSPITALS OF THE MEDICAL SCHOOLS AND THEIR MANAGEMENT

The most pressing need in the clinical departments of the medical schools of the United States, at present, is that of school-controlled hospitals in which the students may actively participate in the work of diagnosis and treatment and, under skilled direction, be held responsible therefor. In the hospitals, the conditions should permit of an adequate organization for the three great functions of a university clinic—practice, teaching, and research. These hospitals should be large enough to supply sufficient clinical material in internal medicine, surgery, obstetrics and in the principal specialties. The organization should ensure a large degree of departmental autonomy while providing for proper correlation of the activities of all the clinics.

It is only here and there in the United States that one finds belonging to a medical school (1) a hospital of sufficient size, equipped with teaching and working quarters, with wards situated in immediate contact with commodious clinical laboratories, (2) an organization according to which the professors of the clinical departments of the medical faculty are also the principal physicians and surgeons on the hospital staff, the whole control of the individual departments being in the hands of the respective professors. Until medical faculties obtain by endowment or agreement facilities of this sort, the clinical sciences must remain backward in their development.

[In the complete text the hospital situation is analyzed, the difficulties now existing pointed out, and measures for improvement advised.]

DEPARTMENTS OF INTERNAL MEDICINE

The functions of each of the clinical departments are manifold and complex. Let me refer to some of the activities of the branch about which I know most; namely, internal medicine. If one attempt to resolve the functional complexity of that branch into its component aspects one can distinguish, at once, at least four principal parts:

1. The practice of medicine in the public and private wards and in the out-patient department and the laboratories thereto pertaining, by which I mean the actual diagnosis and treatment of disease in the patients who enter the clinic.

2. The teaching in the wards, in the dispensaries and in the laboratories of (a) undergraduate medical students; (b) assistants and associates; (c) physicians taking postgraduate courses in the department.

3. The prosecution, by professors, assistants and postgraduate students, of original inquiries in internal medicine, the search for new methods of diagnosing and treating disease, the attempt to advance our knowledge of the subject beyond its present boundaries.

4. The administrative duties, including the admission, transfer and discharge of patients, interviews and correspondence with physicians who bring patients, and with the relatives and friends of the sick, the relations of the clinic to housekeeping and nursing, the maintenance of records and statistics, the arrangements for publications, the superintendence of budgets and expenditures, the making of appointments and promotions, the attendance on departmental and inter-departmental conferences, the formulation of curricula, the organization, equipment and running of the several clinical laboratories, the library, and the museum, the integration of departmental activities, the development of an *esprit de corps*, etc.

THE PRACTICE OF MEDICINE IN THE CLINIC

Turning now to a little closer examination of the work of the medical clinic of a modern school and hospital it will be found that the practice of medicine in the clinic itself is, separately considered, no small task. In order that the teachers and investigators in the clinic may be sure of getting what they need, or prefer, in their work, a large number of cases from which to select must be admitted to the hospital. The larger the clinical material available the better. The time may come when, in addition to the general reception wards of the stationary clinic, there will be special wards to which may be transferred the cases most suitable for teaching, on the one hand, and for investigation on the other. The larger reservoir for the reception of the cases previous to selection will always be necessary, for in the first place, until a patient has been fairly well studied, one cannot be sure how valuable he may be for illustration in teaching or for the suggestion of problems for original scientific investigation; in the second place, every great hospital must, on humanitarian grounds, take i many cases which, at the time, may be of relatively little educational or scientific interest.

A large department for out-patients, a so-called "policlinic" or "ambulatorium," is also necessary for three reasons; first, on humanitarian grounds, to provide treatment for the poor who, though not well, are not so sick as to require admission to the wards of the hospital; again, as a feeder to the stationary clinic, to which can be sent the sicker patients, those exemplifying unusually well the pathological states under consideration at the time in the educational work in the wards, and those presenting obscure conditions, necessitating for diagnosis more elaborate studies than are feasible in the policlinic; and finally, for teaching purposes in the policlinic itself, for here material of a special kind becomes available for the teaching of students, including not only slightly ill patients suitable for the practical courses in physical diagnosis and other propedeutic studies, but also precisely the types of minor ailments which the young physician is most likely to meet when he starts out in practice.

[Dr. Barker describes in more detail the method by which the policlinic can be utilized for teaching, and also refers to the vexed problem of private wards in connection with university hospitals.]

The responsibilities of diagnosis and treatment of this vast collection of clinical material, public and private, stationary and ambulatory, are a grave burden which the clinical staff must bear. The mere technical procedures of the thorough examinations made and of the therapeutic measures carried out involve a large expenditure of time and energy. Students, house-officers, and senior assistants may well bear the brunt of this work, but, in addition, an associate professor, or in the larger institutions, preferably a full professor, may well devote the major part of his time and energies to it, leaving most of the teaching and experimental investigation to others. The philanthropic work of the hospital, as well as the reputation of the institution among physicians and among the laity, depends on the thoroughness and courtesy with which this work is done. Moreover, the teaching and investigative functions of the clinic can be properly developed by those who are devoted especially to them only after this fundamental function of diagnosis and treatment has been fully provided for.

[Here the author calls attention to the great differences in the functions of men who work in clinics and those who work wholly in laboratories.]

The application of the principles of "scientific management" to the details of the work in the clinic promises improvements. If every element in the work of the clinic, from out-patient department to private ward, were subjected to searching inquiry, much waste of time, waste of energy and waste of material could be eliminated. At present there is little uniformity in the technic of clinical examinations and the personal element enters far too greatly. It is highly desirable that experts shall decide on the one best method to use in each instance, that these best methods shall be adopted as standards, the efficiency of all the workers being gradually brought up to these standards by careful instruction, and the organization made such that the plans will be self-perpetuating. This task is far easier to talk about than to accomplish, but it should be undertaken.[1] Modern commerce is developing systems of efficiency beside which the management of clinics cuts a sorry figure. We need a "commercialization of medicine" in the good sense and must see to it that the term "medicalization of business" is not coined as a byword of reproach!

THE TEACHING OF INTERNAL MEDICINE

In the performance of the second great function of a medical clinic, that of teaching in the wards, in the dispensaries and in the clinical laboratories, a fairly large staff, a well-thought-out plan and the devotion of much time and energy are essential. The amount of teaching in a department of internal medicine is, and should be, greater than in any other department of a medical school. It makes up a large proportion of all the work of the third and fourth years, and from now on is likely to include also a part of that of the second year of the undergraduate course.

Since the graded medical course was inaugurated by Northwestern University many years ago, American clinicians have gradually arranged a sequence of studies in the medical clinic which permits of a methodical advance in the instruction. The student from the beginning of his clinical studies is made regularly and purposefully to climb a ladder which connects the fundamental training of the non-clinical departments with the professional occupation which he is to take up after graduation. Instead of the didactic and merely demonstrative teaching which formerly prevailed, a thorough practical training in clinical work is now required. After a general introduction to clinical methods and aims at the end of his second year, the student is, in his third year, instructed in the principles and art of physical diagnosis (inspection, palpation, percussion and auscultation), and he is taught, in the systematic practical course given in the clinical laboratory, how to make examinations of the sputum, urine, stomach contents, feces, blood and the various body fluids. In the third year, too, he learns the method of taking clinical histories and of keeping protocols, hears a certain number of general didactic lectures, attends amphitheater clinics which stimulate his interest, studies a good text-book, and is tested as to his progress by carefully conducted recitations. In the latter part of the third year he may profitably engage in the actual history-taking, physical examination and therapy of ambulatory patients in the policlinic.

Important as this propedeutic work is, it is overshadowed in benefits conferred by the medical work of the fourth year, when the undergraduate student is required actually to do an important part of the work in the stationary clinic. Here, as a clinical clerk, he has a certain number of beds assigned to him and is permitted to regard the patients occupying them as his patients, for whose study and care he is personally, in large degree, responsible.

[In the following section, which is here omitted for lack of space, the importance of teaching by the method of clinical-clerkships, introduced into this country by Dr. Osler, is entered on.]

Students and staff thus work together in the medical clinic as a harmonious group. The cases under examination are compared with similar cases in the literature. The spirit of thorough investigation is cultivated; each worker is encouraged to ask himself how the particular cases immediately in his care can be more completely analyzed and what problems they present suggestive of experimental or statistical inquiry. The treatment instituted can be carefully observed, for the work is concentrated, the students practically living in the medical wards for several months at a time; any results attributable to therapy can be observed and recorded. If a patient gets well the students are urged to follow up his subsequent history; if he dies they attend the autopsy in the pathologic laboratory and compare the anatomic findings with the clinical inferences which have been drawn during life.

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[1] Taylor, F. W.: Scientific Management, N. Y. 1911; Gantt, H. L.: System, February, 1911; Cooke, M. L.: Bulletin of Carnegie Foundation, 1910.

In all this medical work, in both the third and the fourth years, it is essential that the students be divided into small groups and that each group be directly supervised by some member of the clinical staff. The immediate hourly supervision will, of necessity, devolve on the younger men on the staff, but a heavy burden also falls on the senior members of the department who must, themselves, keep in intimate touch with the students and junior staff—controlling, criticizing, reviewing, suggesting, encouraging. At least one full professor and two associate professors, whose function shall be predominantly teaching, are needed to plan and to conduct this work; in larger clinics it would be of advantage to have two full professors assigned to this function. In some of the schools, the teaching professors will also be the authors and revisers of text-books of medical practice.

[Continuing the description of the teaching in the clinic, the article deals with (1) the instruction given to the junior men on the staff, and (2) postgraduate courses in internal medicine.]

DISCOVERY IN INTERNAL MEDICINE

The third great function of the clinic of internal medicine is that of original investigation. It is a fortunate feature of clinical work, one doubtless that has had much to do with that steady progress in knowledge which throughout time the clinics have made, that even the routine work in a clinic is largely work of research. Each new patient is a problem for investigation; the clinician applies the methods he has learned and tries to solve it. The essentially inquisitive nature of the everyday work of the clinician has to be personally known to be fully appreciated. In addition to the ordinary routine of clinical work, physicians are constantly trying out new methods of examination and treatment that have been devised and recommended; this work, carefully done, the observation being accurately recorded and analyzed, affords material for statistical inquiry, the results of which are often of high importance to the profession. When a new method of determining clinically the size of the heart has been proposed, or an early diagnostic test for typhoid fever or for syphilis or for carcinoma of the stomach suggested, long experiential proving in the clinics must decide as to its value before it is accepted for general routine. A great clinic, scientifically controlled, can thus continually advance knowledge and help on the practical work of the profession.

It is, naturally, not the function of the clinic to do work in abstract anatomy, physiology or pathology. The aim and purpose of the clinic is on the contrary to continue the applications already made, and to make new applications, of the facts of anatomy, physiology, pathology, chemistry, etc., to the solution of problems in diagnosis and therapy suggested by patients who come to the clinic for help. Unless clinical men fully realize this point, unless they have a full consciousness of precisely what the clinic is for, they may be led astray by those who feel that "applied science" is very different from "science."[2] Clinicians are sure, now and again, to make certain contributions to pure physiology or pathology when trying to solve their own problems in diagnosis and therapy. They will be glad when their work so contributes, but this should not be the main aim and purpose of that work; as soon as a man in the clinic finds it to be so, it is time that he left the clinic and transplanted himself to a laboratory of physiology or pathology. Clinicians must jealously guard opinion in this matter; otherwise their sciences cannot progress.

[A section omitted here emphasizes the significance of an atmosphere of original research for students and staff.]

In the United States, the emphasis has been laid rather on the teaching of students; clinical research has been, until recently, less cultivated. This may explain the higher state of clinical science in Germany, on the one hand, and the better physicians trained by the good schools in the United States on the other. Germany ought to reorganize its clinical teaching so as to make better doctors[3]; in the United States we should set about increasing the scientific productivity of the clinics. . . .

In order that clinical research may make more rapid advance, and the sciences of diagnosis and therapy be furthered, the experimental method should be more extensively employed. Owing to the peculiar conditions which have prevailed in the clinics up to now, only a few men, either in Germany or the United States, have had the time, interest, training and independent income which have permitted them to do extensive original work by experimental methods in laboratories directly attached to the clinics. Recently, however, more of this work has been done. It has been very welcome, and the time has come when it would seem desirable to make this kind of research more systematic and purposeful, less casual and accidental.

[Dr. Barker lays stress on the establishment, in addition to teaching and diagnostic laboratories of several special research laboratories in the medical clinic (biochemical, serologic, physiologic and psychopathologic), directed by well-paid scientific men.]

It would be short-sighted of internal medicine to neglect these powerful engines of exploration and enrichment. The other departments of applied science have set us the example. Technology has demonstrated the efficacy of paid research work for the promotion of the industrial arts (metallurgy, brewing, electrical engineering, sugar refining, food preservation, the manufacture of arms and ammunition, etc.). It would be a distinct advantage if at least one liberally endowed full professorship were provided in the clinic of internal medicine, in which a man of original ideas, thoroughly trained in methods of research, could, undistracted by administrative work, by private or hospital practice, or by undergraduate teaching, devote his whole time and energies to it. A mind full of heuristic hypotheses, a curiosity which compels the accurate testing of them, a body inured to intense and confining work, the privilege of continuous, uninterrupted application to laboratory studies, a guarantee of financial independence, liberal support in the form of equipment, facilities for experimentation, assistants and mechanical aids, and the entire sympathy and cooperation of those who attend to the major part of the practice and the teaching of undergraduates in the clinic would be necessary to make the venture fruitful. Assume the existence of such conditions in our departments of internal medicine, and find for the research professorships men of the type of Louis Pasteur, Robert Koch, Paul Ehrlich, or Simon Flexner —what dare we not expect in the way of extension of diagnostic recognitions and of means of cure?

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[2] A mathematician sometimes feels that his work is more scientific than the work of the chemist or physicist; the latter, in turn, is too prone to regard the biologist or physiologist as an unfortunate worker in applied science, and to speak with some contempt of the efforts with complex and mixed substances made by the biologic chemist, or the immunologist; the physiologist and the pathologist again only too often fail to attribute scientific value to the efforts at application of the facts of their subjects made by clinicians. There will always be, I fear, this misunderstanding o the applied sciences by the sciences basal to them.

[3] An effort in this direction, recently made in Germany, may be seen in the "hospital year" now required at the end of the medica course there. It appears to correspond to our hospital internship made compulsory.

And what an opportunity such an arrangement would offer for postgraduate study! A few advanced scholars, desiring to widen the science of internal medicine, could cooperate with such a research-professor in the "master work-shop," and, according to their ability, experience the wonderful joy of creative work. One who has once been permitted so to participate will never forget it. Many regard this last and highest phase of personal education as the acme of their inner experience.[4]

Despite the unfavorable conditions now existing in the clinical departments, strong men have been attracted to them. All things considered, patients are being very well cared for, good physicians are being trained, a very fair amount of original work has been produced. The bibliographic output, including text-books, handbooks and publications of original research, compares favorably with that of any one of the laboratory subjects. As to foreign recognition, it has been fully as great for the clinical chairs, if not greater, than for the non-clinical departments. Many foreign clinicians have visited American clinics and most of the foreign students who have come to this country to work have entered clinical rather than non-clinical departments. Several clinical text-books have been and are being translated into other languages.

THE MOVEMENTS TOWARD REFORM

The tedium of this long description of the functions of a medical clinic would scarcely be justifiable were it not for my desire clearly to establish a fact of importance, namely, the growth of the functions of the clinic to a size and complexity no longer compatible with the form of its present organization.

Hitherto there has been only one professor at the head of a clinical branch, and he has been supposed to engage in, care for and control all these varying activities and, in addition, to make the major part of his income in practice outside the hospital, only a few institutions, thus far, having been able to pay salaries which would defray even a portion of the cost of the clinician's living. Surely the superhuman has been expected!

We have now briefly to consider how the clinics can best be organized to meet modern requirements, and I shall again refer chiefly to the medical clinic, assuming that a plan which will suit its exigencies may, with certain modifications, be applicable to the other clinics.

[Methods of reorganization and reform, based on a functional division of labor, are next suggested.]

Those who devote themselves chiefly to the care of patients in the clinic need not be men who do a great deal of teaching and investigation. Those who are mainly responsible for the teaching in the undergraduate school should not be burdened with the care of too many patients and would of necessity have to limit the time given to investigation. Those, in turn, who give their time and energies almost wholly to research should be protected, as far as possible, from the teaching of undergraduate medicine and from the care of practice and administration.

Here, then, we have in mind a clean-cut conception of an ideal of organization toward which we may strive. What is now a single professorship could be replaced by a cooperative committee of professors in charge of a large and differential staff.

[The section omitted here deals with the "headship" of the department and the cooperation of the staff.]

In an address delivered some years ago, entitled "Medicine and the Universities,"[5] I made some suggestions regarding the clinical branches; even then, though I was engaged entirely in laboratory work, it seemed to me that the clinics were under-manned and that the work in them was insufficiently differentiated. In that address it was intimated that the time might come when, in the clinical branches, we should have at least two kinds of professors: (1) Professors on a so-called "university basis," paid salaries large enough to enable them to devote their whole time and energy to teaching or investigation, without engaging in private practice; and (2) professors who give a part of their time to the care of patients in the hospital, to teaching or to investigation, and who, though paid smaller salaries, obtain their income chiefly from the fees of private patients, preferably from consultative or operative work. The ideas there set forth, in the main, still hold good, though it is doubtful if they can be applied in precisely the manner I then suggested. Though the clinic then seemed complex, I know, to-day, even more of its intricacies and difficulties, and the problem looks less simple in solution at close range than it did at a distance.

Were a new medical school to be started, with liberal endowment, it would be an interesting experiment to try an organization in which a functional division of labor, such as I have outlined, is provided for and in which some of the professors, especially those devoting themselves almost entirely to research, will be paid sufficient salaries to permit them to escape from practice.

It has hitherto been taken for granted that the professor of medicine in the medical school will engage in medical practice and that the professor of surgery will have his private patients, each reaping the financial rewards attending on such work. The prominence of such men and their unusual training and opportunities have made them, as a rule, much-sought consultants rather than general practitioners, though many of them naturally began with general private practice in their respective branches, and, as their work grew, limited it, later, to consultative or operative practice. Only rarely have the occupants of clinical chairs been paid living salaries.

[An omitted paragraph comments on the public demands made on clinical professors and the question of the substitution of salaried public medical service for private enterprise.]

In our reorganized medical schools it does not seem to me probable that it will be desirable soon, if ever, to have all the men of the faculty composed of non-practitioners. It would seem distinctly advantageous to have at least some of the teachers of undergraduates and some of the men who care for the patients in the hospital also engaged in private practice, at least in consultative or in operative work.

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[4] Cf. Ostwald, W.: Die Umschau, January, 1911.

[5] American Medicine, Phila., 1904.

In all attempts at reconstruction our efforts should, at first, be tentative. It would be a mistake to start with any cut-and-finished garment that we should ask the medical schools immediately to don. Though having the essentials of our ideals in mind, the proper method of attaining to them and the proper expedients would have to be slowly established. At an early stage of reform, anything like extreme measures should be sedulously avoided. In making profound changes the process of transition must not be flatly ignored. The ideal clinic can scarcely be attained by proclamation. The obstacles in the way of progress must be carefully measured and we must keep in mind the cardinal fact that "all true development and progress are out of and because of what has gone before."

It is among the inconveniences attending all important reforms that the disciple overstates the teacher, exaggerates some features of his doctrine and is oblivious to, or insufficiently appreciative of, others. There is always danger of confusing novelty with originality and alteration with progress. Because we desire research is no reason for doing away with teaching and practice in the clinic. Nor would, in my opinion, the limitation of every professor in a university to the material rewards of an insufficiently salaried position prove a panacea or a magic "open sesame" to the medical millennium.

Some enthusiasts urge the summary dismissal of the clinical professors now active and the substitution of non-practicing men. Even if this were advantageous for all the chairs, as some erroneously think, it would be difficult to apply such an organization abruptly in the schools already established. Men who now occupy the clinical chairs and who have of necessity ordered their lives for the double function of professorships, on the one hand, and of consultative or operative work, on the other, have become so involved in obligations that they could not suddenly change to a salaried basis without great hardship to themselves and their families, and loud complaints from the public.

[The cost of living of the clinical professor is the topic of an omitted section.]

Hitherto there have been no endowed clinical professorships and should they be established, men would have to be trained especially for them. For this reason alone, the change could not be promptly brought about; and besides, any extreme and harsh measure like compulsory expropriation of the chairs might do damage inasmuch as anything that makes the tenure of university professorships insecure injures the universities.

It must be kept definitely in mind that the majority of the present incumbents of clinical chairs hold them in good faith; that they do their best in the conditions that now exist; that they, as much as any group, desire to see the clinical subjects advanced, to have the patients better cared for, to improve the teaching, and to augment the scientific output. The rightfulness of the kind of work the clinical men are doing has always been taken for granted. It may be a mistake for our medical schools to continue to have all clinical professorships as they have been; it may become educationally advantageous radically to alter the vast tradition of relationships in which clinical teachers now live. If so, the change can doubtless be brought about in an orderly and reasonable manner, and no ingratitude should be shown to those who up to now have tried to hold the torch aloft under unfavorable conditions. Above all, all honest, earnest, hard-working men should be protected from the zeal and overstatements of headlong advocates who insinuate the absence of ideals among clinical men, or talk of graft, rascality, commercialism and the exploitation of the clinical chairs for private profit.

The reconstruction in the clinical departments, when it is undertaken, ought, therefore, to be a sane and gradual process, a process of careful readjustment to changing conditions, going only as fast as men can be suitably trained and academic opinion correspondingly educated. Carried on in such a way, the reforms will be welcomed and hastened by every progressive, right-thinking clinician. Our better physicians and surgeons are broad-minded men; they are by no means devoid of the quality of self-abnegation nor of the spirit of public service; on the contrary, they are entirely capable of assuming their fair share of renunciations when conditions demand them, and of making personal sacrifices for the general good. Convince such men of the evil which exists and they will be no antagonists to the forces of reform, but, on the contrary, willing leaders of those who try to root the evil out.

After provision has been made for school-controlled hospitals, in which students may live and work, we must find places for the different kinds of clinical men —practitioners, teachers, investigators. There is room for all three types, and all three kinds of work are desirable and honorable. We have a homely saw to the effect that square pegs should not be put into round holes, an adage which finds its more polished equivalent in the Greek "Character is Fate." In every branch in a medical school students should come into contact with the stimulating investigator who is ever pushing forward the boundaries of knowledge; he should learn the main facts that have already been discovered from a teacher who knows how to collect them and to transmit them to others, and he should have the opportunity of watching the example of practitioners who come into contact with all sorts of patients and all sorts of doctors, who are acquainted with the great variety of clinical puzzles which are presented to the consultant for solution and who learn the virtues and defects of the men now engaged in medical practice in different parts of the country.

After giving these matters much consideration, there is one suggestion that I should like to offer as an immediate means of magnifying the scientific productivity of our clinics and of training men for leadership in them. Provide endowment for the maintenance, in each clinic, of a group of young scientists of proved ability and capacity for development, and relieve these men of most of the routine work of teaching and the care of patients, that they may have leisure for investigative work in the wards and clinical laboratories. A suggested scale of remuneration for such men might be an initial salary of $800 or $1,000 per year and living in the hospital, with a yearly increase of $200 or more for the next ten years. These men, so kept at work during their most productive years—usually between the ages of 25 and 45—would rapidly increase the scientific output of the clinics, and would speedily form a group of scientific men in the clinical branches from among whom, later on, professors in medical schools and investigators in research institutes could satisfactorily be chosen. Appointed to professorships, men so selected would not need to be hedged about by too great restrictions; their training in scientific methods and ideals would have been such that they could not quickly be spoiled. There should then be no attempt to interfere with the full play of their

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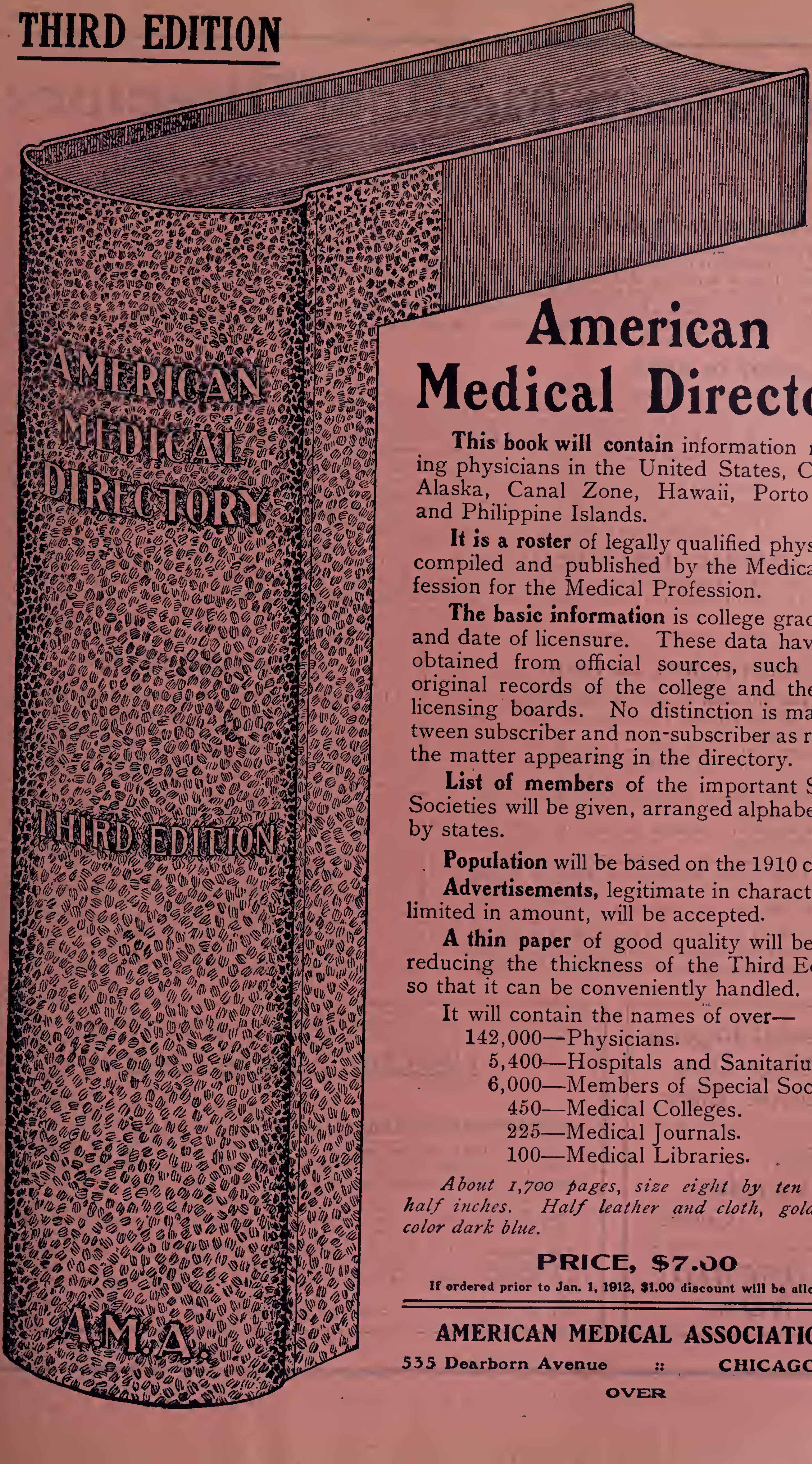

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individualities; their positions should be made as unhampered as possible; they would of themselves chip away "the spendthrift liberties that waste liberty," and devotedly give their time and energies to the advancement of the subjects they represented. Their appointments as professors might automatically cease at the end of a given term of years, or when a certain age limit had been reached.

This occasion does not, of course, permit of any full discussion of the points I have raised. Perhaps I have said enough to call some of the interests to mind and to assure you that the men connected with the medical schools in the United States, like those in Canada, are doing all they can to elevate standards and to improve conditions in that noblest of all professions—medicine.

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ANATOMIC CONDITIONS BEARING ON THE RELATION BETWEEN DISEASES OF THE EYE AND DISEASES OF ACCESSORY SINUSES *

WILLIAM E. SAUER, M.D.
ST. LOUIS

The eye and the nasal accessory sinuses are intimately related; in fact, the bony walls of the orbit are formed chiefly by the walls of the sinuses. The upper wall is formed largely by the floor of the frontal sinus, while the inner wall is formed principally by the lateral wall of the ethmoid cells, and the floor of the orbit by the roof of the maxillary sinus.

The bony walls are very thin, varying from 1 to 12 mm. in thickness. Aside from being at times of tissue-paper thinness, they may be defective; that is, they may have dehiscences. These dehiscences allow the mucous membrane of the sinuses to come in direct contact with the orbital tissues or the optic nerve. The dehiscences may be due to senile atrophy or to formative anomalies. Zuckerkandel reports fourteen and Onodi eighteen cases of congenital dehiscences of the paper plate of the ethmoid. These openings varied from 4 to 28 mm. in the sagittal and from 4 to 8 mm. in the vertical diameter. Merlin reports one case in which a dehiscence of the paper plate of the ethmoid connected the ethmoid cells with the orbit, frontal, and sphenoid sinuses. Onodi also observed three cases in which the frontal sinus communicated directly with the ethmoid cells and orbital cavity. Zuckerkandel reports four cases in which dehiscences of the sphenoid sinuses were connected by congenital dehiscences of the lateral wall of the ethmoid sinus; all four cases showed dehiscences of the orbital wall of the sphenoid.

In addition to those already mentioned, dehiscences of the frontal sinus occur frequently in the form of mall openings, which are in part circular and part ineal. These little openings, Helly designates as "ven-nlocher." Kuhnt has shown that two of these small vessel openings, one of which is just at the inner orbital ngle, and the other just behind the incisura orbitalis, re the usual routes for the passage of infectious material from the frontal sinus to the orbital cavity; nother point of predilection in cases in which the rontal sinuses are large is at the junction of the middle nd lateral portion of the orbital plate of the frontal. Onodi lays special stress on a defect which occurs in the ethmoid canal. The canal extends from the anterior ethmoidal foramen on the wall of an orbital cell or frontal sinus, to the anterior cerebral fossa. In this canal lie the anterior ethmoidal artery vein and nerve. He has shown that this canal at times consists only of a groove or semi-canal, with its vessels and nerves covered only by the mucous membrane of the sinus or orbital cell, bringing the mucous membrane in direct contact with the orbital tissues at one end and the dura mater at the other. Since a diseased process in the frontal sinus can easily extend by direct continuity of tissue to the orbit or dura, the importance of this canal at once becomes apparent.

Merlin and Zuckerkandel also report having observed dehiscences in the inferior orbital wall, thus bringing the periorbita and periosteum of the maxillary sinus in direct contact. The dehiscences in the paper plate of the ethmoid explain the occurrence of orbital emphysema, which results from sneezing or violently "blowing the nose" in otherwise normal individuals.

If these dehiscences are present when there is an existing suppuration, very little resistance is offered in preventing an extension into the orbit, as the periosteum of the sinus walls, as well as that of the orbital cavity, is not only very thin, but very poorly nourished.

The relation of the venous circulation of the sinuses to that of the orbit is most important. The anterior facial vein has its origin in the angular vein and anastomosis with the nasofrontal vein. The superior ophthalmic vein, commencing anteriorly in this nasofrontal vein, enters the orbit and passes outward above the optic nerve through the orbital fissure into the cavernous sinus. During its course through the orbit it receives, according to Birsch-Hirschfeld: (1) a vein from the lacrimal gland, (2) a vein from the frontal sinus, (3) a vein from the antrum of Highmore, (4) a communication from the inferior ophthalmic, (5) a communicating vein with the vein that anastomosis the angular with the cavernous sinus, (6) anterior and posterior ethmoidal veins, (7) muscle veins, (8) lacrimal vein, (9) central vein of the retina.

Through the ethmoidal veins and the nasofrontal vein, and the above mentioned branches of the superior ophthalmic, which communicate with the veins of the frontal and maxillary sinus, a thrombophlebitis may readily extend from the sinuses to the orbit or dura. Kuhnt reports three cases of embolism of the central vein of the retina from maxillary sinus empyema. According to Onodi, the venous plexus of the maxillary sinus bears a relation to a branch which bores its way through the sphenoid sinus wall. The veins of the sphenoid sinus may stand in direct relation to the ophthalmic plexus and cavernous sinus.

The arterial connection between the orbit and the sinuses is of much less importance. The posterior ethmoid is a branch of the ophthalmic and ramifies in the ethmoid cells. The anterior ethmoidal, also a branch, in its passage through the ethmoidal canal or semi canal, as before mentioned, may in connection with its vein, be of considerable importance as a route of infection from the frontal sinus to the orbit.

There seems to be very little exact knowledge regarding the lymphatics of the orbit. The presence of lymphatic vessels in the orbit is questioned by some. Birsch-Hirschfeld was able to demonstrate the presence of lymphatic spaces with well defined endothelial linings, in the adipose tissue, between the muscles, in the lacrimal gland, in the region of the optic nerve and in the periosteum. The larger spaces were in the neighborhood of

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* Read in the Section on Laryngology, Otology and Rhinology of ie American Medical Association, at the Sixty-Second Annual Seson, held at Los Angeles, June, 1911.

the larger vessels. He was, however, unable to demonstrate the direction of the lymph flow. Regarding the relation of the lymphatics of the orbit to the lymphatics of the nose, Birsch-Hirschfeld quotes Herman, who states that the lymphatics of the nose, with those of the face and the nasolacrimal duct, are in communication with those of the orbit. The post-mortem findings in the cases reported by Pagensteker and Hajek, in which meningitis resulted from frontal and ethmoidal suppurations, no bone involvement was found, from which these authors concluded that the infection may have traveled by way of the lymphatics. It, therefore, seems probable that the orbit could likewise become infected through the lymphatic channels in connection with diseases of the nose and accessory sinuses.

The sphenoid cavity does not, as a rule, come in relation with the orbit, but its thin and often defective walls may be in relation above with the optic chiasm, sinus intercavernosi, the optic nerves, and laterally on each side with the cavernous sinuses, the communicating vein between the superior and inferior ophthalmic veins, and at times the central vein of the retina.

The proximity of the optic nerve to the sphenoid sinus and posterior ethmoid cells has been carefully worked out by a number of authors, viz., Berger, Tyrman, Hajek, Killian, Avellis, Onodi, Loeb and others. Their anatomic studies have shown that there are a great many variations in the relation between the sphenoid, the posterior ethmoid cells, orbit and optic nerve. Onodi was the first to show that the last posterior ethmoid cell is at times in relation to the optic nerve. Up to that time the contiguity to the sphenoid sinus alone was mentioned. Berger and Tyrman first called attention to the fact that the sphenoid sinus is not always in relation to the optic nerve. The bone between the sinus and the nerve may reach a thickness of 12 mm. This explains why in an extensive disease of the sinus, the nerve may not be involved. In Onodi's studies of the various relations existing between the sphenoid and posterior ethmoid and the optic nerve, he found, among others, the following of importance: the left posterior ethmoid cell may constitute the medial wall of the right optic canal. The right posterior ethmoid may constitute the inferior wall of the optic canal on both sides, and the wall of the entire optic sulcus. The left sphenoid sinus may constitute the inferior wall of the right optic canal. The right sphenoid sinus may border medially only on the left optic nerve. The left sphenoid sinus may constitute the inferior wall of the right optic canal and the wall of the right third and middle third of the optic sulcus. The left sphenoid sinus may constitute the inferior and medial wall of the optic canal on both sides and the wall of the entire optic sulcus. The left sphenoid sinus may also constitute the inferior and medial wall of the left optic canal and the inferior wall of the right optic canal, also the wall of the entire optic sulcus.

Onodi has further shown that when the posterior ethmoid cell is in relation with the optic nerve, the bony wall between them is usually very thin. He also illustrates two cases in his atlas which are highly instructive. In one the optic canal comes through a posterior ethmoid cell for a distance of 12 mm. In the other, the optic canal lies free in the sphenoid for a distance of 10 mm. The intimate relation of the optic nerve and the ethmoid and sphenoid sinuses not only shows the great liability to blindness in diseased conditions of these cavities, but also the danger of wounding the nerve in operative procedures in these cavities. Loeb lays stress on the position of the opening of the sphenoid cavity. He points out that the higher the opening of the sphenoid, the closer the stagnant pus comes in contact with the nerve, therefore the increased likelihood of nerve involvement. He has shown that in some instances the opening of the sphenoid cavity is on a level with, or even above the optic nerve.

The anterior ethmoid cells are not, as a rule, in relation to the optic nerve, but may be when they are large enough to replace a posterior ethmoid cell.

The frontal sinus may be in relation with the optic nerve, in those cases where the cavity representing the ethmoid merges with the frontal and the wall of their common cavity constitutes the medial wall of the optic canal, as occurred in a case described by Onodi.

These various relations which the optic nerve may bear to the nasal accessory sinuses explains the occurrence of involvement of the nerve on both sides in diseases of the sinus on one side, or even involvement of the nerve on the opposite side.

The fifth cranial nerve in its passage along the outer wall of the sphenoid sinus may be involved in sphenoid disease. Thus Posey and Ellinger have reported corneal affections as a result of the fifth nerve involvement, due to sphenoid disease. The sixth nerve, in its passage through a groove in the sphenoid, is often separated from the sphenoid sinus by a very thin wall. This nerve supplies the external rectus. A paralysis of the muscle is frequently concomitant with an acute rhinitis. Holmes maintains that the paresis cannot be explained, except as a result of disease of the sphenoid.

EYE COMPLICATIONS ARISING FROM DISEASES OF THE NASAL ACCESSORY SINUSES *

ALBERT H. ANDREWS, M.D.
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In presenting the subject of eye complications resulting from diseases of the nasal accessory cavities, there is much that has been said so often that it seems unnecessary to repeat it. It will be my purpose briefly to call attention to a few points which are generally recognized, and to emphasize certain obscure relations in the hope that we may be encouraged to make more careful observations and draw more accurate conclusions.

The relation between purulent accessory sinus disease and orbital cellulitis has long been recognized. As in mastoid disease we may have extensions from the mastoid through the bony walls by necrosis of bone, by the venous channels, by the lymphatics, and apparently by migration of the infection from one part to another contiguous part, so in purulent disease of the nasal cavities we may have extension to the orbit by any of the processes mentioned. Orbital cellulitis is characterized by pain, swelling, usually proptosis, redness and elevation of temperature. The symptoms vary according to the location and virulency of the infection. A cellulitis may subside without abscess formation, or an abscess may form near the orbital wall, and break into and drain through the accessory cavity from which the infection came. In the severer types there is severe pain, enormous swelling, chemosis of the conjunctiva, and sometimes cerebral symptoms such as headache, drowsiness, vomiting and disturbances of the pulse and respiration.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The sight is impaired by displacement of the eye-ball and by stretching of the optic nerve. It may be lost entirely by involvement of the optic nerve. Detachment of the retina and panophthalmitis are occasional results.

The additional causes of orbital cellulitis, as given by Fuchs, are injuries, erysipelas, metastases in pyemia, typhus, scarlet fever, small-pox and purulent meningitis. Of all the causes, accessory sinus disease is undoubtedly the most common. The difficulty in getting at the cause of this trouble, as of many other lesions about the eye, is that those who see most of these cases are not able to correctly diagnose obscure nasal conditions. The diagnosis of orbital cellulitis is usually easy, but to determine whether of nasal origin or whether due to something else is sometimes difficult even for those accustomed to nose work. Transillumination of the frontal and maxillary sinuses, while not giving positive information, is of value. Inspection of the nasal chambers after shrinking the soft parts with cocain and some suprarenal product will frequently show discharge coming from or lying in the neighborhood of the ostia. The probe should be used, and in doubtful cases the diagnosis can be cleared up by direct exploration of the cavities.

TREATMENT

The subject of treatment naturally falls under four heads:

1. Preventive treatment by attention to pre-existing nasal conditions.
2. Nasal treatment during the attack.
3. Palliative treatment.
4. Surgical treatment.

The first two divisions—the preventive and the nasal treatment during the attack—apply to all diseases of the eye of nasal origin, but the discussion of them does not properly belong to this paper. The palliative treatment consists of anodynes when necessary, hot applications to the eye and general treatment such as is applicable to all acute inflammatory conditions. The detection of pus in the orbit is a positive indication for incision, but without fluctuation it is proper to make one or more deep incisions into the orbit whenever the swelling or the proptosis seems to have reached the danger-point. The pressure is thus relieved and the abscess can sometimes be found and drained when the external indications of pus are lacking. The position and direction of the eye-ball may help to locate the abscess. An abscess in the upper part crowds the globe forward and downward. Induration in the upper part of the orbit is likely to direct the eye downward, while an abscess, by pressure on the superior rectus muscle, may direct the eye upward. The same rule applies to abscess in other parts of the orbit.

Diseases of the lacrimal apparatus may result from extension of pathogenic microorganisms from the nasal cavity or from closure of the nasolacrimal duct by swelling of the soft tissue in the inferior meatus. The percentage of cases of lacrimal disease of nasal origin has been variously estimated, some believing that fully 50 per cent. are due to pathologic conditions in the nose. Others do not consider the nose as a possible etiologic factor. It is impossible to determine accurately the percentage since the patients are usually not seen until the conditions are well developed and then the pathology found about the nasal opening of the lacrimal duct may be the result rather than the cause of lacrimal disease. It seems sufficient for the purpose of this paper to say that in all cases of dacryocystitis, lacrimal abscess and epiphora, the nose, especially the accessory cavities, as a possible cause should be thoroughly investigated.

Diseases of the conjunctival sac and cornea of nasal origin may be due to invasion of microorganisms coming up through the lacrimal apparatus. Gradle believed the percentage of these cases to be very large. The reflex relationship existing between the conjunctiva and the nose can be easily demonstrated by irritating the tissues about the front end of the middle turbinate with a little cotton on an applicator. The conjunctiva becomes injected and in most cases lacrimation is increased. The same change is frequently seen after mechanical irritation of the accessory cavities although it is not so easy to demonstrate experimentally. In one of my patients, while the right sphenoid sinus was being explored, the conjunctiva of the right eye became congested, the redness, with some impairment of vision, lasting several days. It disappeared, however, without treatment, but occurred again several times after nasal manipulation. The etiologic relation existing between a conjunctival disturbance in a given case and disease of an accessory cavity is not easy to demonstrate positively. There is always the possibility of two or more simultaneous disturbances with different and independent causes, but from the way in which some of the conjunctival diseases clear up after treatment of an associated nasal accessory sinus disease the etiologic relation can be fairly assumed.

Muscular imbalance is believed by some to be very largely of nasal origin. Considering the thinness of the wall between the attachment of the rectus muscles and the sphenoid cavity and ethmoid cells, it does not require any great stretch of imagination to believe that disease of these cavities may impair the function of the muscles. The result of treatment of accessory sinus disease in the presence of muscular imbalance further goes to show that there is an intimate relation between the two conditions.

The muscular defect most commonly due to ethmoid disease is esophoria for distant vision with exophoria for close vision. The inflammation about the insertion of the internal rectus at the optic foramen seems to produce some contraction of the muscle thus drawing the eye nasalward from its normal position for distant vision, while the contractility is impaired, thus preventing the eye from turning inward sufficiently for normal, easy, binocular vision for close objects. It seems not improbable that the cases of headache caused by use of the eyes for close work, which have not been relieved by glasses and have been relieved by treatment of diseased ethmoid cells, are really cases of muscular asthenopia.

The pathologic relation between the accessory cavities and intra-ocular disease is not well understood. That such a relation exists is even doubted by some. The cases of iritis, choroiditis and retinitis associated with suppurative disease of the cavities are too frequent for the relation to be considered merely coincidental. I have seen some cases of recurring iritis giving a rheumatic history in which I found accessory sinus disease. It is a question not yet settled in my mind whether the iritis was of rheumatic origin or whether the iritis and the rheumatism may not have both been due to infection from the nasal cavities.

There are a number of ways in which disease in the nasal cavities may affect the intra-ocular structures: (1) through the venous channels; (2) through the arterial supply; (3) through the sensory and motor nerve-supply; (4) through the sympathetic nerves; (5) probably by general absorption of infectious material. Which has been the method in any given case I have not been able to determine; nor have I been able to find in the literature theories advanced which seemed to satisfactorily fit my cases.

In closing let me say that while we have not always been able to point out the channel of infection or the method by which the nasal cavity disease influenced the eye, still ophthalmology owes an enormous debt of gratitude to rhinology, and one of my deep regrets—and in this I know that I voice the sentiments of a multitude—is that in my eye work I have not more thoroughly investigated intranasal conditions.

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OPERATIVE TREATMENT OF SUPPURATIVE SINUS DISEASES PRODUCING ORBITAL COMPLICATIONS *

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In 1899 I read a paper before this Association on the accessory sinuses in relation to diseases of the eye. This was probably the first paper on this intricate subject at a joint meeting between the rhinologists and ophthalmologists in America. This subject did not seem to excite much interest on the part of the ophthalmologists at the time; indeed, it is only within the last five or six years that both ophthalmologists and rhinologists have awakened to the fact that the diseases of the accessory sinuses have a most important relation to the orbit and its contents. It is only by a cordial cooperation on the part of ophthalmologists and rhinologists that we are able to arrive at a correct appreciation of the effects of diseased sinuses on the eye, in order that the proper surgical procedures can be adopted to relieve this organ of the many obscure symptoms produced by inflammation in the cavities surrounding the orbit.

In discussing the surgical treatment of diseases of the accessory sinuses producing orbital complications, it is necessary to appreciate thoroughly the intimate relations which these sinuses bear to the walls of the orbit. With so close an anatomic relation between these cavities, it is not difficult to understand why the contents of the orbit should so often be affected by pathologic conditions arising in the sinuses, either from pressure on the walls common to both cavities, from an involvement of the walls in the pathologic process, or by the carrying of septic material through the intercommunication of the veins of the nasal and accessory sinuses with those of the orbital cavity. The sinuses most frequently causing orbital complications are the frontal, ethmoidal and sphenoidal. Disease of the maxillary sinus very rarely acts as a causative factor in the disturbances of the eye, and the disease most frequently met with is the suppurative inflammation.

Among the orbital complications which we are frequently confronted with when the sinuses are abscessed, may be mentioned neuralgia referred to the eye and the supra-orbital nerve; secondary changes in the orbit brought about by mechanical pressure resulting in a change of form in the orbit, in a displacement of the eye-ball with a disturbance of its mobility and function, and in an interference with the flow of the tears; disturbances in the function of the eye, such as dilatation of the pupil and congestion of the papilla, and surcharging of the retinal vessels; narrowing of the field of vision, especially for colors, scotomata, and in severer cases, amblyopia or amaurosis; changes in refraction, abscess of the orbit, lacrimation, exophthalmos, strabismus, mechanical diplopia, mechanical edema with stretching of the upper lid, and retrobulbar neuritis. These symptoms depend on the cavities involved, and the character and intensity of the inflammation existing in them.

After taking into consideration the subjective and objective symptoms, and subjecting the patient to both an ophthalmoscopic and an x-ray examination, we are generally able to establish a diagnosis and to determine which cavity or cavities are to be operated on.

INTRANASAL METHODS

The operative treatment may be divided into the intranasal and the external or more radical method. The intranasal method is applicable especially to diseases of the ethmoid cells, and sphenoid cavity. It consists, first, in removing all obstructions, such as polypi and obstructing spurs, and the complete removal of the middle turbinate. This should be done by means of curved scissors or the Luc forceps, under cocain anesthesia. Unless the case is urgent it is better to pack the nasal cavity with gauze until all danger of hemorrhage has passed, which is generally two or three days. We are now in a position to determine the extent of the diseased area in the ethmoid cells. The ethmoid cells are now opened with a rectangular knife similar to one devised by Hajek, and removed by means of a sharp curet or a conchotome. In many cases, if the disease is not too extensive, we are able to remove the affected area, and in this way relieve the pressure on the eye. Ballenger advises the removal of the ethmoid cells and the middle turbinal *en masse,* by means of a knife which he has devised for this purpose. I personally have had no experience with this operation, but he speaks enthusiastically of his method, and, if it is in skilful hands, I can appreciate the great advantages he claims for it.

The sphenoidal sinus can in many cases be approached through the same route after the removal of the middle turbinate, which exposes the anterior wall of the sinus and often brings into view its ostium. A probe passed through this opening is sufficient often times to reveal a diseased condition of the sinus. This opening is rarely large enough to pass an instrument of any size into it; but by means of a small curet it can be enlarged sufficiently to admit a conchotome bent at various angles. Biting upward and downward, nearly the whole of the anterior wall can be removed in a normal sinus. I have in this way opened a large number of abscesses of the sphenoidal sinus and relieved severe pressure on the posterior part of the eye. The tendency, however, is for the opening, no matter how large, to be closed over by a membranous formation requiring frequent removal. Curetting this cavity should be very cautiously done, owing to the danger of injury to the optic nerve or internal carotid artery.

Owing to the irregularities in the sphenoidal sinus, it is not always possible to relieve abscesses in this cavity by the intranasal method. In several instances I have found this cavity to extend outwardly and at the same time dip toward the pterygoid process, and in a preparation which I showed at a meeting of the American Laryngological Association several years ago, it was found to extend some distance down into the internal wing of the pterygoid process. In these cases I have been able to relieve abscesses of the sphenoidal sinus producing eye symptoms, by combining the endonasal method with the antral route. The maxillary sinus is opened through the canine fossa, and then with a gonge and sharp curet the sphenoidal cavity can be entered at its most dependent part, and free drainage established. The frontal sinus can in some instances be opened by the endonasal route after the removal of the middle turbinate and the anterior ethmoidal cells. With a curet, an opening sufficiently large to admit the passage of a cannula can be reamed out, and the cavity washed out daily with a saturated solution of boric acid. If the case is not of long standing this method is sometimes effective. Ingals has practiced this method of late, and uses an electric burr, through which a probe is passed into the sinus as a guide; in his hands, it has been successful. This method, however, is unsatisfactory and dangerous, and can be applicable only to those cases of short duration, in which the cavity is small and not filled with granulation tissue.

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EXTERNAL OR RADICAL METHODS

If the intranasal methods fail to relieve the diseased process, then the more radical procedure must be resorted to and the cavity opened from the outside. Within recent years there has been a very marked change in the external operation on the sinuses. In the beginning of my work on these cavities I practiced the Ogston-Luc method, or some modification of it, of opening the frontal sinus exclusively; but owing to several recurrences requiring secondary operations, I abandoned this method and left the frontal wound open and allowed the cavity to fill with granulation tissue. This was a slow and very tedious procedure, but as far as the cure of the frontal sinus disease is concerned, it has been most satisfactory; no recurrences have occurred in any of my patients treated in this way.

From the cosmetic side the results are excellent; in the majority of the cases there has not been the slightest deformity resulting. As far as the cure of the frontal sinus disease is concerned, this method is satisfactory, but it failed to give relief in cases complicated by disease of the ethmoid cells presenting orbital complications, especially in those cases in which the diseased process was located in the anterior and posterior ethmoidal cells and sphenoidal sinus.

Owing to the uncertainty of the above methods in completely relieving all the diseased conditions in the frontal, ethmoidal and sphenoidal sinuses, it is best to adopt the more radical operation proposed by Killian, which in the case of the frontal sinus, has for its purpose a complete removal of all the diseased process, and an obliteration of the cavity, and in the ethmoidal labyrinth a complete removal of all the ethmoidal cells as far back as the sphenoid. The anterior or external route for removal of the ethmoid cells is by far the most radical and satisfactory method we have of reaching suppurative conditions of this bone.

TECHNIC OF THE ANTERIOR OPERATION FOR REMOVAL OF THE ETHMOID CELLS

In this operation, the middle turbinate having been previously removed under cocain, the nasal chamber is packed with cotton plugs as advised by Killian in his operation. The incision is then made, commencing at the inner end of the eyebrow and is carried down along the outer edge and to the full extent of the nasal bone. The periosteum is now incised down to the bone, then stripped from the outer half of the nasal bone and from the whole of the nasal process of the superior maxilla.

The next step in the operation is lifting the lacrimal sac from its bed and detaching the periosteum from the inner wall of the orbit. Great care has to be exercised so as not to tear the sac and cause future trouble. Then with a sharp chisel the outer half of the nasal bone and the whole of the nasal process of the superior maxilla are removed down to the level of the lacrimal groove. This exposes the lacrimal bone and the anterior half of the os planum, which can be opened by means of a small chisel and removed with small bone forceps. This exposes the anterior ethmoidal labyrinth, when with bone forceps, we can with ease, working from before backward, remove completely the whole of the ethmoidal cells, back to the sphenoidal sinus. The plugs are now removed from the nose and the edges of the wound are carefully brought together and sutured, some preferring fine wire; but I believe better cosmetic results are obtained if interrupted sutures of very fine silk are used. The incision is protected with either a collodion and iodoform dressing, or, preferably, silver foil, and the eye is bandaged. If there should be any intranasal bleeding, the nose can be packed with small strips of iodoform gauze, which can be removed within twenty-four hours. I have not found this necessary, however.

OGSTON-LUC AND KILLIAN METHODS

I have already mentioned the various external operations for the relief of chronic suppuration in the frontal sinus, viz., the method known as the Ogston-Luc and its modifications, and also the method of opening the sinus and removing a whole or part of its anterior wall and treating the cavity as an open wound. The cavity is gently packed with iodoform gauze, which is removed every second or third day. Granulations form and slowly fill the sinus. Care should be taken not to irrigate the wound, as the granulations are weakened thereby and do not grow rapidly. From four to six weeks is required to fill a fairly large cavity by this method, and in my experience it is fairly satisfactory, as far as a cure is concerned.

I have had no depressions of the anterior wall in my cases, such as is spoken of by some operators. This method is useful only in those cases not complicated with ethmoidal and sphenoidal disease.

The operation best suited for a permanent cure of a suppurative frontal sinusitis, with or without eye complications, and with or without ethmoidal and sphenoidal involvement, is the one known as the radical operation by Killian. This operation has for its purpose a complete removal of all diseased conditions of the frontal, ethmoidal and sphenoidal cavities, the most satisfactory method that we have at our command for the relief of these very serious conditions. In the Killian operation the whole of the anterior wall and the floor of the frontal sinus, which is the stumbling-block in the old methods, are removed.

This operation is a formidable one and fraught with danger, not only to the patient's life, but on account of possible serious injury to the eye and its appendages, and therefore, in order not to bring it into disrepute, it should be undertaken only by those surgically qualified. While this operation may be familiar to most, if not all of you, still a description of it may not be out of place here.

TECHNIC OF KILLIAN OPERATION

The turbinate having been removed at a previous sitting, the patient is anesthetized and placed in a semirecumbent position, at an angle of about forty-five degrees. The nose is then packed with cotton plugs, from four to five being required, according to its capacity. An incision is then made through the whole length of the eyebrow commencing at the external angle. At the inner end, the incision is carried down along the nasal bone to its lower end. Before making the incision through the skin, Killian advises small cross-cuts to be made in order to facilitate an accurate coaptation of the edges of the wound when it is closed. The incision is then carried through the periosteum over the supraorbital ridge and nasal bone, leaving the periosteum over the internal angular process where the bridge is to be made intact. The skin and periosteal tissue are now elevated and forcibly retracted from the frontal bone, and with a V-shaped chisel a furrow is cut through the anterior wall of the sinus, parallel with and about a quarter of an inch above the orbital ridge; an opening sufficiently large to admit of a De Vilbiss bone forceps is made, and with this instrument and various-shaped rongeurs, the whole of the anterior wall above the line of the incision can be removed flush with the frontal bone. The sinus is now completely exposed and all diseased tissue including the mucous lining of the cavity and all septa are removed.

The second stage of this operation corresponds to that described as the external method for opening the ethmoid cells. The periosteum is stripped from the outer half of the nasal bone and the nasal process of the superior maxilla. Then with a specially constructed curved elevator, the lacrimal sac is separated from its bed and the periosteum is detached from the inner wall of the orbit and the anterior two thirds of the os planum. The elevator is then turned upwards, detaching the periosteum from the roof of the orbit. Great care has to be observed not to detach the pulley from its attachment. This can be prevented by having an assistant hold his finger over and a little to the inner side of the supraorbital notch. Gradually, the periosteum is detached from the roof of the orbit as far as its outer angle. Then the outer half of the nasal bone and the nasal process of the superior maxilla are removed by means of a chisel as far as the lower end of the nasal bone, with a V-shaped chisel, and a line is made from the top of the nasal bone upward and outward to the rim of the orbit. This line runs diagonally through the internal angular process of the frontal bone, the upper part of which becomes part of the bridge; the lower part is removed by means of a rongeur. The lacrimal sac and the globe of the eye are retracted outward. Then with bone forceps the lacrimal bone and the os planum are removed, and working from before backward, we can remove the whole of the ethmoidal cells, and the anterior and part of the inferior wall of the sphenoidal sinus. Between the opening made in the frontal wall and the ethmoidal opening, there is a bridge of bone left which is an important factor in reducing the deformity so apt to result. The next step is to remove the roof of the orbit, which can be done with the bone forceps working from below upward, and then standing at the head of the patient and working from above downward, the whole of the floor of the sinus can be removed as far as its outer angle with a chisel. Great care has to be exercised in not detaching the trochlea, otherwise a very uncomfortable complication in the shape of obstinate diplopia results; while this symptom occasionally occurs from slight disturbance of the trochlea, it frequently passes off within a few weeks. Thus far it has happened to me only once, and was very transient in character. A perforated rubber drainage tube or gauze wick is now placed in the floor of the sinus, and brought down through the nose. This drain is allowed to remain from twenty-four to forty-eight hours, when it is removed.

The edges of the periosteum are sutured with catgut, and the external wound closed, great care being exercised to bring the cross-cuts together. The wound is closed either by a subcutaneous suture or numerous interrupted sutures of fine silk. In this latter way I believe we get a finer coaptation of the parts. The wound is then sealed with either silver foil or a 10 per cent. solution of iodoform and collodion. Killian, further to complete the obliteration of the frontal sinus, firmly presses the anterior wall against the posterior. This, however, leaves quite a depression which he afterward corrects by an injection of paraffin. To obviate this depression resulting from the complete removal of the anterior wall of the frontal sinus, Mosher has made a valuable modification of this operation by leaving quite an overhang of the anterior wall of the sinus. A sufficient opening is left so that all diseased conditions and bony septa within the sinus can be removed. I have followed his practice in a number of my more recent operations, and can testify to the greatly improved results over those in the original operation as proposed by Killian.

As has been already stated, the sphenoidal sinus can be opened and completely exenterated in the radical operation on the ethmoid, but it occasionally happens that in certain cases of sphenoidal disease, the sinus dips downward and extends considerably beyond the posterior ethmoidal cells in an outward direction. In these cases I have found certain eye symptoms, such as pain and photophobia, to continue even after the complete opening of the sphenoid in radical ethmoid operation. I have found it necessary in several cases to open the maxillary sinus and remove the diseased bone at the junction of the internal angle of the maxillary and sphenoidal sinuses. Generally speaking, by combining the external route with that through the maxillary sinus, the most obstinate sphenoidal disease can be eradicated.

In conclusion, I would state that in all sinus diseases accompanied by serious eye symptoms, I would give the patient the benefit of the doubt according to the sinus or sinuses involved, and would endeavor to relieve the condition by the endonasal method; but failing in this, I would advise one of the more radical methods as above described. We are more certain of removing all the diseased conditions in the one or more sinuses that may be involved, and the period of convalescence is much shorter than in the older methods, and the danger of relapse is greatly reduced.

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ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SAUER, ANDREWS AND BRYAN

Dr. C. F. Welty, San Francisco: One case I have had illustrates the point regarding the open dressing of acute cases. My attention was called to that method by a paper written by a New York man, and I followed the advice he gave and had so much deformity that I was sued for malpractice and the suit is still pending. I advised my patient before the operation that such might be the result. We must protect ourselves as well as take care of our patients. Another case I wish to report is an eye case. The patient presented with the eye swollen almost shut. On examination I found polypoid hypertrophy of the middle turbinate and on removing that I found the whole mass of the ethmoid cells full of polypi or material of a polypoid nature. The swelling disappeared. In the course of a month the eye was shut again. I then did a Kilian operation. That is the case I spoke of this morning in which the patient was well within three weeks. Her frontal sinus was so full of polypi that when the mucous membrane was incised they bulged through. I don't think, however, there is such close association between the eye and the nose as we were led to believe a few years ago. Many men were then reporting indefinite eye symptoms that they attributed to possible nasal conditions. I do not do eye work, but I have not had occasion in my nasal work to call in eye men.

DR. P. SCHOONMAKER, New York: In the postgraduate hospital we frequently have the eye disturbances Dr. Bryan speaks about. Possibly the preceding speaker has not looked for them. In performing the Kilian operation we often get deformity. And in this connection it is important to remember that with the partial operation there is just as complete drainage as when the entire overhang is removed and there is far less deformity.

DR. GEORGE J. LUND, Los Angeles: During the past year I have had two cases that have bothered me considerably and one especially I would like to refer to. A young lady came to me with pain referred to the nasal region, with rapid loss of vision of the left eye, almost complete within a couple of weeks. Examination of the nasal fossæ revealed absolutely no evidence of nasal disease. I was never able to find any pus present. Ophthalmoscopic examination revealed a choked disk and typical optic neuritis. At that time a friend of mine told me of a similar case and of a procedure he used in that case to help in the diagnosis. He saturated a pledget of cotton with argyrol and placed it under the middle turbinate for twenty minutes. I did this and found a deposit of pus showing on the black substance. The patient was advised to have an operation, but refused and passed out of my care. I heard that she never recovered the use of the eye. I believe she had ethmoid disease and that an operation would have saved her eye. In another case, diagnosticated in the same way as ethmoid trouble, operation was followed by improvement in the vision. That little item in regard to diagnosis has been published and it seems to me very useful. As to the relation between eye and nasal diseases I have been the more impressed with that the longer I have practiced.

DR. F. P. EMERSON, Boston: One class of cases is very frequent, in which there is a history of frequent change of glasses with every irritation of the nose. Often there is in these cases a chronic rhinitis, with every exacerbation of which the ocular symptoms appear. The diagnosis of reflexes in the nose in connection with the eyes requires considerable experience. Every year we find additional foci in connection with these reflexes. There may be only a slight pressure of one turbinate on another or some occlusion of a sinus opening. This blocking may not be accompanied by pus. The last speaker's suggestion is useful. Often the discharge of a little secretion is followed by considerable relief to the patient. It has been my experience that if the anterior sphenoid wall is broken down with the curet considerable reaction occurs and the opening may close up. I have not had so much trouble since I have been biting this out clean and enlarging the opening as far as it seems to go. These operations also solve partially the question of how radical the operation shall be. Our eye cases are certainly some of the worst of our cases of sinus involvement. Often they do not come to us until far advanced and the entire floor of the frontal sinus is necrosed. Then nothing but a radical operation will do any good. We are getting to classify these cases better and to recognize better the cases that require radical operative procedures. I think the eye men are appreciating more and more the relation of the nasal cavities to the eye, and more of these cases are being referred to us. Certainly this symposium will be important in an educational way.

DR. A. L. KELSEY, Los Angeles: Dr. Bryan spoke of protection of the trochlear sling in the Kilian operation. I would like to know if he has ever seen any permanent disturbance of ocular equilibrium caused by stripping the trochlear sling from its attachment. It was my privilege some years ago to see and examine a number of cases in which operation had been done previously, one case some three weeks and others of longer duration, and in none was there any permanent lack of equilibrium of the muscles.

DR. A. H. ANDREWS, Chicago: We have a great many reflex eye symptoms in which we find no definite pathologic condition in the eye. We are more likely to find these in connection with the non-purulent diseases of the accessory cavities, those in which the cavity is filled with serous or mucoserous fluid. The inflammatory conditions of the eyes are more likely to be associated with purulent conditions in the cavities. Dr. Welty says he believes these cases are not so common as he formerly thought and it has been some time since he has referred a case of this sort to an ophthalmologist. If these patients find symptoms on the part of the eye they go to the ophthalmologist themselves. The fact that Dr. Welty has not seen these cases does not indicate that they do not exist. Dr. Lund speaks of introducing a pledget of cotton saturated with argyrol under the middle turbinal. I want to give a word of caution in this regard. If you introduce a pledget of cotton saturated with argyrol or anything else, or even dry cotton, under the turbinal, you will soon find mucus on it, and you must differentiate between mucus and pus or mucopurulent discharge. Dr. Emerson speaks of the frequent change of glasses. There are two explanations of that. One is that no glass relieves the patient and he continues to seek relief by frequent change of glasses. The other is that there is an actual change of refraction in these cases. A writer in the *Journal of Ophthalmology* speaks of scleritis associated with purulent disease of the nose, in which there is an actual change in refraction, due to actual change in the shape of the eye. In Dr. Bryan's paper he speaks of using care in curetting the sphenoid. It is always hazardous curetting the upper and outer part of the sphenoid sinus; never the lower and median wall. I would urge more thorough routine examination of these patients. I suggested some years ago the routine exploration of the sphenoid in all suspicious cases and stated that it could be done in the majority of cases without preliminary surgery, without removing the middle turbinate. With a special bend of the probe, we can get into the sphenoid and with a cannula it can be aspirated or blown out with air and its condition determined.

DR. J. H. BRYAN, Washington, D. C.: The last speaker has made a partial reply to Dr. Welty. I think if he will send his patients to an ophthalmologist he will find many cases in which he has overlooked the eye complications. I submit my patients to the ophthalmologist for a thorough examination. I have in this way found some of the most extraordinary cases, I believe, on record, varying from refractive disturbances to scotomata and paralysis of muscles and I think when the entire record is published it will open the eyes of the ophthalmologists as to the serious effects of the diseases of the accessory sinuses. As to detaching the trochlear from the ridge I have had only one case of diplopia lasting a few weeks. It can, I believe, be avoided largely by having an assistant hold his finger over the attachment. But the diplopia passes away without any serious permanent results.

The Spirit of Scientific Inquiry.—Scientific activity implies, of course, thorough disinterestedness. The investigator asks no favors and renders none. Any intimation that he act as a retainer or special pleader, any hint or suggestion that he restrict his explorations within certain limits, lest he injure cherished traditions, is a step toward the confinement of the free spirit of intellectual inquiry. Rather than surrender that freedom of inquiry or the right of untrammeled announcement of fresh discoveries, men of science have in the past submitted to tortures and painful death, and you may be sure that, if need be, they will be ready to sacrifice themselves again. So exalted is the regard in which the man of science holds the ideal to which his life is devoted that he would find in these words of Fichte his solemn pledge: "To this I am called, to bear witness to the truth. My life, my fortunes, are of little moment; the results of my life are of infinite moment. I am a priest of truth; I am in her pay; I have bound myself to do all things, to venture all things, to suffer all things for her. If I should be persecuted and hated for her sake, if I should even meet death in her service, what wonderful thing is it I shall have done—what but that which I clearly ought to?" —Cannon in *Science*.

GANGRENE OF FINGER CAUSED BY 5 PER CENT. PHENOL OINTMENT

O. F. SCHUSSLER, M.D., and M. A. STERN, M.D.
SOUTH ST. PAUL, MINN.

R. P., an ignorant Hungarian, received a slight scratch on the anterior surface of the second metacarpal (right) about April 17, 1911. He went home and applied a 5 per cent. phenol salve on a closed dressing, according to instructions given him by the druggist who sold the salve. April 24, he reported at my office with finger gangrenous from the distal end of the proximal phalanx to the root of the nail. The gangrene was dry and the finger was completely mummified and as hard as a stone. Moist hot dressings of weak liquor cresolis compositus were applied and by May 1 sloughs were separating. May 20 tendons and periosteum of phalanx had disappeared and May 26 finger was amputated one inch below metacarpophalangeal joint. The bone was soft and mushy and soft tissues devitalized. Recovery was uneventful.

Therapeutics

RINGWORM: TINEA TRICHOPHYTINA

To two very different diseases the name "tinea" has been given: one is tinea favosa, which is caused by the *Achorion schönleinii;* the other is tinea trichophytina, which is caused by the vegetable parasitic fungus trichophyton. It is the latter to which the present remarks will be limited.

The effects of this fungus are usually divided into three subdivisions, according to the particular part of the body affected. When that part of the face on which the beard grows is affected, it is distinguished as tinea barbæ, or ringworm of the beard, or barber's itch. When the hair of the scalp is affected, it is known as tinea tonsurans, or ringworm of the scalp. When other parts of the body are affected it is known as tinea circinata, or ringworm of the body. These three varieties of the disease are also distinguished respectively as tinea trichophytina barbæ, tinea trichophytina capitis, and tinea trichophytina corporis. The same remedies are applicable to the treatment of these three forms of the disease, but the location in which the lesion is found necessitates some difference in their mode of application.

The trichophyton fungus is found and grows in the epidermal layer of the skin. It penetrates into the hair follicles, and also into the root and body of the hair. Its presence in the latter locations renders the application of drugs for its destruction very difficult, and it is on this account that the affection of the hairy scalp and of the beard is especially resistant to treatment.

There are several drugs which are useful in the treatment of the disease when they can be effectively applied. The most important are mercury, hyposulphite of sodium (sodii thiosulphas), tincture of iodin, and sulphur. When there are a few spots on the surface of the body, a useful application is the following:

℞	Gm. or c.c.		
Hydrargyri chloridi corrosivi	10		gr.ii
Glycerini	5	or	fl.ʒii
Aquæ	ad 50		ad fl.℥ii

M. et Sig.—Shake, and rub thoroughly into the lesion, twice a day.

The application of this lotion, or in fact of any remedy, should be preceded by a thorough scrubbing of the affected parts with hot water and soap, preferably soft soap or green soap. When the patient is a young child, care should be exercised not to apply too strong a lotion and not to apply it to too extensive a portion of the body, for too liberal applications of strong mercurial lotions may cause mercurial poisoning.

Another very effective remedy for the trichophyton as well as for other vegetable parasitic growths is the hyposulphite of sodium. This may be used in the strength of 15 to 20 per cent. in water.

If one prefers to use an ointment—and ointments are often exceedingly useful because watery preparations do not easily penetrate the skin—an efficient ointment is the official unguentum hydrargyri ammoniati. This ointment is 10 per cent. in strength. If there are many spots of disease, or the skin is tender, it is well to dilute it with an equal part of lard or petroleum fat, as:

℞	Gm.		
Unguenti hydrargyri ammoniati....	15	or	
Adipis benzoinati	15		āā ℥ss

M. et Sig.—Apply to spots twice a day.

Sulphur may be used in ointment or lotion, but is not so efficient.

If the condition is chronic, and these washes and lotions do not prove effective, the patches may be painted with tincture of iodin. This may be repeated every day for several days until the inflammation becomes so great that the application causes objectionable discomfort

Ointments containing chrysarobin (incorrectly called chrysophanic acid), or pyrogallol (pyrogallic acid) are effective, but should not often be used on account of the fact that they stain the skin and clothing, and sometimes cause considerable inflammation.

When the scalp is affected and the fungus has penetrated the hair follicles, it is often difficult to apply these remedies effectively. It is generally wise to cut the hair short, and even to shave the head. The hairs will usually be found broken, and it is generally desirable to remove as many of the hairs as possible before applying the remedy. The affected parts should then be thoroughly washed with soap and water, and lotions of corrosive sublimate or of the thiosulphate of sodium may be used.

In cases which prove resistant to other treatment, it is sometimes necessary to attempt a cure by producing an active inflammation of the affected part. This may be accomplished by painting the part with tincture of iodin, as has been already mentioned; or croton oil may be rubbed into the affected part; or the part may be painted with cantharidated collodion so as to produce a blister. This will often result in a rapid cure.

The *x*-ray has been used as a germicidal application, and as a promoter of a mild dermatitis (often a forerunner of a cure) in all parts of the body, and with frequent reports of success. The hair, if the ray is used on hairy parts, falls out, but seems to generally soon return.

When the beard is affected, the removal of the hairs can generally be more thoroughly accomplished, and then the various applications already enumerated may be used.

Poultices have been suggested for the purpose of softening the skin and cleaning off the crusts, but they are generally undesirable, as the moist heat favors the growth of the fungus.

These cases are often very obstinate, and treatment must sometimes be carried on, intermittently, for weeks. It often happens that an apparent cure results while a few of the fungi still remain in the skin without showing any evidence of their presence. Consequently, cases should be kept under observation for some time after a cure is apparently complete, and if any evidence of a return of the disease appears, the treatment should be renewed.

This disease appears more frequently in children than in adults, and the growth of the fungus seems to be favored by high temperature and by moisture. The disease is contagious, and is readily passed from one individual to another. Where considerable numbers of people associate intimately together great care should be observed to prevent one contracting the disease from another. The use of combs, brushes, towels and clothing by different individuals in common should be strictly forbidden, especially when the existence of a single case among a number of children, as for instance in a large family or in a school, is known. It seems likely that with the extension of medical inspection to children in the public schools and with sanitary barber shops, this disease will, in a few years, become exceedingly rare.

INGROWING TOE-NAIL

This rather common, always troublesome, and frequently obstinate affection is usually considered as belonging in the domain of the surgeon, but the general practitioner is often consulted first, and the patient frequently objects to operative treatment. When he does so, he is entitled to receive from his physician such less radical treatment as will increase his comfort and, if possible, cure the disease.

This condition may be the result of an hypertrophy of the nail, which may become thickened and increase laterally so as to become imbedded in the tissues at the side of the nail. More commonly the trouble is due to the patient's carelessness in not keeping his feet clean, in not paying proper attention to the condition of his nails, and in wearing too tight or otherwise ill-fitting shoes. The condition is characterized by swelling, with congestion and inflammation of the tissues, accompanied with considerable, and often intolerable pain.

When it is decided to apply palliative treatment and there is considerable swelling and inflammation in the soft parts, attended with pain, the toe may be poulticed for twenty-four hours with an antiseptic wet dressing. A very efficient and satisfactory antiseptic wet dressing is one of alcohol 1 part and hot water 4 parts. A napkin or a large bunch of loose gauze is thoroughly soaked in this solution and applied about the toe and the part of the foot affected; then the foot and application is surrounded by rubber tissue or oil silk, and a retaining bandage applied. This dressing may be reapplied every six hours. This application will relieve the pain, swelling and inflammation, and soften the nail. It may be preferable to apply constantly for twenty-four or forty-eight hours a warm 1 per cent. solution of phenol (carbolic acid). A strong solution of hydrogen peroxid, 1 part to 4 of water, may also be used as a dressing. The patient, of course, must be quiet in bed, or in a chair with his leg and foot resting on a pillow on another chair.

After these wet dressings have been applied constantly for one or two days, the plan of treatment may be somewhat changed. At each dressing the toe should be allowed to soak in a bowl of hot water for ten minutes. The water may contain 1 per cent. of phenol, or a 1 to 2,000 solution of corrosive sublimate. In this way both the nail and the surrounding tissues are softened and thoroughly cleansed. If there are granulations present, these should be touched with a stick of nitrate of silver (lunar caustic), or with a swab wet with a 25 per cent. solution of nitrate of silver.

An effort should be made to retract the soft tissues from the side of the nail, and as this is accomplished a small piece of sterile gauze or sterile linen should be placed under the edge of the nail between it and the soft tissues. Narrow strips of adhesive plaster may then be applied transversely to the nail and around the toe so as to exert pressure on the soft parts in such a direction as to draw them away from the side of the nail.

After this treatment has been followed for some days, the condition of the parts will usually be found to be greatly improved. The pain, inflammation and swelling of the soft parts will have disappeared, and the edge of the nail will not be overlapped by the soft parts.

By this time the patient wishes to walk about, and then he must be provided with a suitable shoe which will be large enough not to press injuriously on the toe. The toe should also be wrapped in absorbent cotton so as to be protected from the moderate pressure which is more or less inevitable.

Instead of this treatment, some prefer to touch the granulating point with a drop of pure phenol.

In other cases it may be preferable to apply a drying and antiseptic powder, as:

℞	Gm.		
Sodii salicylatis	50	or	gr.x
Acidi borici	50		℥ii

M. et Sig.—Use externally.

Or,

℞	Gm.		
Sodii salicylatis	50		gr.x
Mentholis	2	or	ʒss
Acidi borici	ad 50		ad ℥ii

M. et Sig.—Use externally.

Or,

℞	Gm.		
Sodii salicylatis	25		gr.v
Aluminis exsiccati	5	or	ʒiss
Acidi borici	ad 25		ad ℥i

M. et Sig.—Use externally.

If these simple methods of treatment do not prove effective, a more radical surgical procedure must be resorted to. In this case it is necessary to give the patient a general anesthetic, or to apply sufficient local anesthesia. The congested and swollen soft parts may then be removed with a sharp knife and the raw surface allowed to heal by granulation under suitable dressings. Or, the part of the nail which has grown into the soft parts may be removed by incision and avulsion, along with the matrix beneath it, which will prevent further growth of the nail, and leave the parts free from the irritation of the edge of the nail. In other cases the whole nail may be removed and a part, or the whole, of the matrix so that no part of the nail will grow again.

Infection of Wounds.—The nearer we can approach, without unreasonably delaying the operation, to four clean hands, rubber-gloved, the wiser. (They must be clean, absolutely, because of the occasional tearing or cutting of a glove finger.) With one excellently trained player in the treble, the surgeon takes the bass, making the *magnum opus* a four-handed piece; and there will be, indeed, few or no false notes while this music lasts—certainly a triumph, remembering that the musicians are playing while gloved. To-day, with rare exceptions, infection in a clean wound should mean shame to the surgeon.—Dawbarn in *Medical Record.*

MEDICAL COLLEGES OF THE UNITED STATES

Annual Presentation of Educational Data by the Council on Medical Education

Below are given brief descriptions of the medical colleges in the United States and Canada that are legally chartered to teach medicine, several of which do not grant degrees. The name, address, year of organization, history and date when first class graduated are given in each instance. Unless otherwise stated, a class graduated each subsequent year. Where official reports have been received from the college, information regarding faculty, entrance requirements, length of term, fees, students (excluding specials and postgraduates), graduates, name of dean and next session is given without discrimination, regardless as to whether the college is sectarian or not. In a few instances in which such reports were not received the information published is from other reliable sources. Extracts of rules and the membership of the Association of American Medical Colleges are shown following the list of colleges. Figures showing population of cities and states are taken from the United States Census Bureau's returns for 1910.

ALABAMA

Alabama, population 2,138,093, has two medical colleges, the Medical Department of the University of Alabama and the Birmingham Medical College, located, respectively, in Mobile and Birmingham. The population of Mobile is 51,521 and of Birmingham 132,685.

Birmingham

Birmingham Medical College, Avenue F and Twentieth Street.—Chartered in 1894. The first class graduated in 1895. There are 22 professors and 12 assistants, total 34. The course of instruction embraces four separate sessions of eight months each. The fees are $100 for each of the first three years and $125 for the fourth. The Dean is Dr. B. L. Wyman. Registration, 1910-11, 207; graduates, 28. The eighteenth session begins Sept. 27, 1911, and ends May 10, 1912.

Mobile

University of Alabama School of Medicine, St. Anthony and Lawrence Streets.—Organized in 1859 as the Medical College of Alabama. Classes were graduated in 1861 and in all subsequent years except 1862 to 1868, inclusive. It was reorganized as the Medical Department of the University of Alabama in 1897. All property was transferred to the University of Alabama in 1907. Present title assumed in 1909. The faculty consists of 9 professors and 17 lecturers and assistants, a total of 26. The course of study covers four years of thirty weeks each. The total fees for each of the first three years is $100; for the fourth year, $125. The Dean is Dr. Rhett Goode. The total registration for 1910-11 was 154; graduates, 43. The forty-sixth session begins Sept. 18, 1911, and ends May 8, 1912.

ARKANSAS

Arkansas, population 1,574,449, has one medical college, the Medical Department of the University of Arkansas, located in Little Rock, a city of 45,941.

University of Arkansas Medical Department, Second and Sherman Streets.—Organized in 1879 as the Medical Department of Arkansas Industrial University. The first class graduated in 1880. It assumed the present title in 1899. In 1911 the College of Physicians and Surgeons united with it and the new school was made an integral part of the University of Arkansas. The faculty consists of 25 professors and 22 lecturers and assistants, total, 47. The course of study covers four years of eight months each. The fees are $100 for each of the first three years and $125 for the fourth year. The dean is Dr. James H. Lenow. Total registration, 1910-11, was 104; graduates, 34. The thirty-third session begins Sept. 15, 1911, and ends May 8, 1912.

CALIFORNIA

California, population 2,337,459, has eight medical colleges. Four are located in San Francisco, a city of 416,912 inhabitants. They are Leland Stanford Junior University College of Medicine, Medical Department of the University of California, Hahnemann Medical College of the Pacific and the College of Physicians and Surgeons. The College of Physicians and Surgeons and the California Eclectic Medical College and the Los Angeles Clinical Department of the University of California are situated in Los Angeles, population 319,198. The Oakland College of Medicine and Surgery is in Oakland, population 150,174. The College of Medical Evangelists is located at Loma Linda, a village near San Bernardino, this latter place having a population of 12,779.

Loma Linda

College of Medical Evangelists.—Organized in 1909. The faculty numbers 10. The course extends over five years of nine months each, but includes a study of the Bible, pastoral training and other non-medical subjects. The total fees each year are $100; matriculation fee, $5, payable but once; graduation fee, $10. The Dean is Dr. George Knapp Abbott. The total registration for 1910-11 was 39; no graduates. The third session begins Sept. 28, 1911, and ends June 26, 1912

Los Angeles

College of Physicians and Surgeons, Medical Department, University of Southern California, 516 East Washington Street.—Organized in 1903, first class graduated in 1905, became Medical Department, University of Southern California August 11, 1909. The course covers four years of nine months each. The faculty consists of 15 professors and 33 associate professors, lecturers and instructors, a total of 48. The fees are $150 per year, not including matriculation fee, paid but once, $5, and graduation fee, $25. The Dean is Charles W. Bryson, Delta Building, Los Angeles. The registration for 1910-11 was 108; graduates, 8. The next session begins Sept. 18, 1911, and ends June 13, 1912.

California Eclectic Medical College, 846 Lyon Street.—Organized in 1879 at Oakland as the California Medical College. Removed to San Francisco in 1887. Suspended in 1906. Reorganized at Los Angeles with the present title in 1907. Classes were graduated in 1880, and in all subsequent years except 1907. It has a faculty of 30 professors. The Dean is Dr. J. A. Munk. The registration for 1910-11 was 24; graduates, 3. The thirty-third session begins September 18, 1911, and ends May 17, 1912.

Oakland

Oakland College of Medicine and Surgery, Thirty-first and Grove Streets.—Organized in 1900, opened in 1902. The first class graduated in 1906. The faculty numbers 33. The course covers four years of nine months each, and the classes are limited to ten students each. The total fees for each of the four years respectively are $210, $200, $150 and $175. The Registrar is Dr. Edward N. Ewer. The total registration for 1910-11 was 21; no graduates. The tenth session begins Aug. 14, 1911, and ends May 18, 1912.

San Francisco

Hahnemann Medical College of the Pacific. Homeopathic. Sacramento and Maple Streets.—Organized in 1881 as the Hahnemann Medical College. The first class graduated in 1884. In 1888 it became the Hahnemann Hospital College of San Francisco. It assumed the present name in 1902. It has a faculty of 26 professors and 16 lecturers, instructors, etc., a total of 42. The course covers four years of seven months each. Total fees for the first year are $155, and $100 for each of the other three. The Dean is Dr. James W. Ward, 1380 Sutter Street. The total registration for 1910-11 was 34; graduates, 6. The thirtieth session begins Aug. 10, 1911, and ends April 26, 1912.

College of Physicians and Surgeons, 344 Fourteenth Street.—Organized in 1896. The first class graduated in 1897. The faculty numbers 60. The course covers four years of nine months each. The fees for each of the four years respectively are $165, $160, $160 and $185. The Dean is Dr. Ethan H. Smith. Registration for 1910-11 was 23; graduates, 10. The fifteenth session begins Sept. 4, 1911, and ends June 1, 1912.

San Francisco-Palo Alto

Leland Stanford Junior University, Department of Medicine. University Campus, Palo-Alto, and Sacramento and Webster Streets, San Francisco.—Organized in 1858 as the Medical Department of the University of the Pacific. Discontinued in 1864. Revived in 1870. It became the Medical College of the Pacific, Medical Department of the University College of San Francisco in 1873. Became Cooper Medical College in 1882. A class was graduated in 1860 and in each subsequent year except 1865 to 1869, inclusive. In 1908 an agreement was made to unite with the Leland Stanford Junior University. By the terms of this agreement Cooper Medical College will continue to teach until the classes which entered prior to August, 1909, have been graduated. The last class will be graduated in 1912. Three years of collegiate work are required for admission. During the next session the work of the first, second and third years will be given by Leland Stanford University Medical Department and the fourth year by Cooper Medical College. The faculty of the combined schools consists of 16 professors and 30 lecturers, assistants, etc., a total of 46. The course covers four years of nine months each. The total fees for each of the first and second years are $175; for the third year $170, and for the fourth year $195. The Dean is Dr. R. L. Wilbur, San Francisco. The total registration for 1910-1911 was 76; graduates, 23. The next session at Palo-Alto begins Aug. 31, 1911, and ends May 15, 1912. At San Francisco, the next session begins Aug. 15, 1911, and ends May 10, 1912.

San Francisco-Berkeley-Los Angeles

University of California Medical Department. University Campus, Berkeley; Second and Parnassus Avenues, San Francisco, and Buena Vista and Alpine Streets, Los Angeles.—Organized in

1863 as the Toland Medical College. The first class graduated in 1865. In 1872 it became the Medical Department of the University of California. In 1909 it absorbed the College of Medicine of the University of Southern California, which became a clinical department at Los Angeles. Two years of collegiate work are required for admission. The work of the first two years is given at Berkeley and the work of the last two years at both Los Angeles and San Francisco. The faculty is composed of 28 professors and 76 associates and assistants, a total of 104. The course covers four years of nine months each. The fees are: Matriculation, $5; tuition, $150 each year. The Dean at San Francisco is Dr. Arnold A. D'Ancona; at Los Angeles, Dr. W. Jarvis Barlow. Total registration of the two schools for 1910-11 was 92; graduates, 22. The thirty-ninth session at San Francisco begins Aug. 15, 1911, and ends May 15, 1912. The next session at Los Angeles begins Sept. 4, 1911, and ends May 31, 1912.

COLORADO

Colorado, with a population of 799,024, has one medical college, the University of Colorado, School of Medicine. The first two years of the course are given at Boulder, the seat of the university, while the last two, or clinical years, are given in Denver, which has a population of 213,381.

Boulder-Denver

University of Colorado School of Medicine.—Organized in 1883. Classes were graduated in 1885 and in all subsequent years except 1898 and 1899. Denver and Gross College of Medicine was merged Jan. 1, 1911, when the legal right to teach the last two or clinical years in Denver had been secured. The faculty embraces 23 professors and 20 lecturers and assistants, a total of 43. The work embraces a graded course of four years of nine months each. The entrance requirements are two years of college work counting toward a degree in arts in an accredited college or university. The tuition is $75 per year; there are no other fees. The Dean is Dr. William P. Harlow. The total registration for 1910-11 was 152; graduates, 39. The thirtieth session begins Sept. 11, 1911, and ends June 5, 1912.

CONNECTICUT

Connecticut, with a population of 1,114,756, has one medical college, located in New Haven, population 133,605.

New Haven

Yale Medical School, York and Chapel Streets.—This is the Department of Medicine of Yale University. In 1810 a charter was granted for the establishment of this school, and in 1813 it was organized as the Medical Institution of Yale College. The first class graduated in 1814. The faculty consists of 16 professors and 55 lecturers and assistants, a total of 71. The requirement for admission is two full years of collegiate work plus evidence of satisfactory preparation in physics, general inorganic chemistry and general biology. The course covers four years of nine months each. The fees are $150 each year; in the first year there are additional fees amounting to $71, in the second $3, and in the fourth year $13. The Dean is Dr. George Blumer. The total registration for 1910-11 was 83; graduates, 20. The ninety-ninth session begins Sept. 28, 1911, and ends June 20, 1912.

DISTRICT OF COLUMBIA

Washington, population 331,069, has three medical colleges; George Washington University Department of Medicine, Georgetown University School of Medicine and Howard University School of Medicine.

Washington

George Washington University Department of Medicine, 1325 H Street, N.-W.—Organized in 1825 as the National Medical College, Medical Department of Columbian College. Classes were graduated in 1826 and in all subsequent years, except 1834 to 1838, and 1861 to 1863, inclusive. The original title was changed to Medical Department of Columbian University in 1873. In 1904, by an act of Congress, it received its present title. The faculty is composed of 30 professors and 43 instructors, demonstrators and assistants, a total of 73. The course covers four years of thirty-two weeks each. The total fees are $150 per year. The Dean is Dr. William C. Borden. The total registration for 1910-11 was 98; graduates, 19. The ninetieth session begins Sept. 27, 1911, and ends June 5, 1912.

Georgetown University School of Medicine, 920 H Street, N.-W.—Organized in 1851. The first class graduated in 1852. The faculty contains 20 professors, 54 instructors and assistants; total 74. The course of study covers four terms of eight and one-half months each. The fees are $150 each year. The Dean is Dr. George M. Kober, 1600 T Street. The registration for 1910-11 was 131; graduates, 14. The sixty-first session begins Sept. 27, 1911, and ends June 13, 1912.

Howard University School of Medicine, Fifth and W Streets, N.-W.—Chartered in 1867. Organized in 1869. The first class graduated in 1871. Colored students compose a majority of those in attendance. The faculty comprises 23 professors and 23 lecturers and assistants, 46 in all. The course covers four years of thirty weeks each. The fees of each of the four sessions respectively are $107, $102, $102 and $109. The Dean is Dr. Edward A. Balloch. Registration for 1910-11 was 193; graduates, 28. The forty-fourth session begins Sept. 27, 1911, and ends June 1, 1912.

GEORGIA

Georgia, population 2,609,121, has five medical colleges; Medical College of Georgia, located in Augusta, population 41,040; Atlanta College of Physicians and Surgeons, Atlanta School of Medicine, the Georgia College of Eclectic Medicine and Surgery, and the Hospital Medical College are in Atlanta, a city of 154,839 population.

Atlanta

Atlanta College of Physicians and Surgeons, Butler and Armstrong Streets.—Organized in 1898 by union of the Atlanta Medical College, organized in 1855, and Southern Medical College, organized in 1878. The first class graduated in 1899. It has a faculty of 23 professors and 29 assistants, a total of 52. The course of study covers four years of seven months each. Fees: $100 each year. The Dean is Dr. W. S. Elkin, 29 Luckie Street. Total registration of students for 1910-11 was 320; graduates, 46. The fourteenth session begins Sept. 27, 1911, and ends May 1, 1912.

Atlanta School of Medicine, Luckie, Barton and Cain Streets. —Organized in September, 1905. The first class graduated in 1906. The course covers four years of seven months each. It has a faculty of 14 professors and 30 lecturers and assistants, a total of 44. The fees each year are $100; graduation fee, $30. The Proctor is Dr. Edward G. Jones. The total registration for 1910-11 was 219; graduates, 47. The seventh session begins Sept. 20, 1911, and ends April 15, 1912.

Georgia College of Eclectic Medicine and Surgery, Tanner Street, near Edgewood Avenue.—Organized in 1877 as the Georgia Eclectic Medical College. In 1884 it acquired the charter of the College of American Medicine and Surgery. It assumed its present name in 1886. The first class graduated in 1878. The faculty consists of 13 professors and 6 assistants, a total of 19. Tuition is $80 per year; graduation fee, $25. The Proctor is Dr. E. B. Thomas. Total registration for 1910-11 was 81; graduates, 23. The next session begins Sept. 19, 1911, and ends April 20, 1912.

Hospital Medical College, Eclectic, Capitol Avenue and Richardson Street.—Organized in 1908. The faculty consists of 16 professors and 8 lecturers and assistants, a total of 24. The tuition fees are $80 each year; graduation fee, $30. The Secretary is Dr. G. W. D. Patterson. Total registration for 1910-11 was 65; graduates, 26. The next session begins Sept. 15, 1911, and ends April 1, 1912.

Augusta

Medical College of Georgia, Sixth and Telfair Streets.—Organized in 1828 as the Medical Academy of Georgia, the name being changed to the Medical College of Georgia in 1829. Since 1873 it has been known as the Medical Department of the University of Georgia. Classes were graduated in 1833 and in all subsequent years, except 1862 and 1863. The faculty includes 16 professors and 22 assistants, 38 in all. The course is four years of eight months each. Fees for each of the four years are $100; graduation fee, $30. The Dean is Dr. W. H. Doughty, Jr. The total registration for 1910-11 was 136; graduates, 26. The eightieth session begins Sept. 18, 1911, and ends May 15, 1912.

ILLINOIS

Illinois, population 5,638,591, has eight medical colleges, one of which is a night school, all located in Chicago, a city of 2,185,283 inhabitants, and are as follows: Rush Medical College, Northwestern University Medical School, University of Illinois College of Medicine, Hahnemann Medical College, Bennett Medical College, Hering Medical College, Jenner Medical College and Chicago College of Medicine and Surgery.

Chicago

Rush Medical College.—This school was founded in 1837, organized in 1843, was the medical department of Lake Forest University from 1887 until 1898, when it became affiliated with the University of Chicago. The first class graduated in 1844. The faculty is composed of 90 professors, 159 associates, instructors, etc., a total of 249. The requirements for admission are two years of college work, including courses in college chemistry, physics and biology, and a reading knowledge of German or French. The course covers four years of eight and a half months each. An optional fifth year, consisting of a hospital internship or of a fellowship in one of the departments is offered. All freshmen and sophomore studies are given at the University of Chicago. The last two years are given in the clinical building at the corner of Wood and Harrison Streets. The total fees are $180 each year. A matriculation fee of $5 is paid but once, and there are incidentals amounting to from $2 to $5 annually. The Dean is Dr. John M. Dodson. Total registration 1910-11 was 426; graduates, 87. The sixty-ninth session begins Oct. 1, 1911, and ends June 15, 1912.

Northwestern University Medical School, Dearborn Street, between Twenty-fourth and Twenty-fifth Streets.—Organized in 1859 as the Medical Department of Lind University. In 1864 it became independent as the Chicago Medical College. It united with Northwestern University in 1869, but retained the name of Chicago Medical College until 1891, when the present name was taken. The faculty comprises 53 professors and 110 lecturers and assistants, a total of 163. The requirements for admission are such as will admit to the College of Liberal Arts of Northwestern University plus two years of college work including courses in physics, chemistry, biology and modern languages. The course covers four years of eight months each. The fees for the first year are $190; second year, $200; third year, $191.50, and fourth year, $185. The Secretary is Dr. Charles Louis Mix. The total registration for 1910-11 was 397; graduates, 158. The fifty-second session begins Oct. 3, 1911, and ends June 3, 1912.

University of Illinois College of Medicine. Honore and Congress Streets.—Organized in 1882 as the College of Physicians and Surgeons. The first class graduated in 1883. It became the Medical Department of the University of Illinois by affiliation in 1896 and an integral part in 1910. Present title assumed in 1911. The American Medical Missionary College was merged into it in 1910. The faculty is composed of 44 professors, 95 assistants and instructors, a total of 139. The fees are $155 each for the first two years, $150 for the third, and $160 for the fourth year. The Dean is Dr. William E. Quine. Total registration for 1910-11 was 508; graduates, 94. The thirtieth session begins Sept. 26, 1911, and ends June 4, 1912.

Chicago College of Medicine and Surgery, 706 South Lincoln Street.—Organized in 1901 as the American College of Medicine and Surgery (Chicago Eclectic Medical College). The latter part of the name was dropped in 1902 and it became the Medical Department of Valparaiso University. Eclecticism was dropped in 1905. The name was changed to the above in 1907. The course covers four years of eight months each. The faculty consists of 39 professors and 34 lecturers and assistants, a total of 73. The total fees for each of the four years, respectively, are $120, $110, $100 and $100. The Registrar is Dr. G. E. Wyneken. The total registration for 1910-11 was 630; graduates, 86. The eleventh session begins Sept. 26, 1911, and ends May 20, 1912.

Hahnemann Medical College and Hospital of Chicago, 2811 Cottage Grove Avenue.—Organized in 1859. The first class was graduated in 1861. The faculty includes 38 professors and 46 lecturers, assistants, etc., a total of 84. The course extends over four years of eight months each. The tuition fees are $100 each year. The Registrar is Dr. W. Henry Wilson. The total registration for 1910-11 was 107; graduates, 22. The fifty-second session begins Sept. 27, 1911, and ends May 25, 1912.

Hering Medical College, Homeopathic, Wood and York Streets. —Organized in 1892. The first class graduated in 1893. The faculty consists of 28 professors and 22 assistants, instructors, etc., a total of 50. The tuition fees for each of the four years respectively are $115, $105, $110 and $100. The Dean is Dr. Robert N. Morris. The total registration for 1910-11 was 40; graduates, 7. The next session begins Sept. 26, 1911, and ends June 16, 1912.

Bennett Medical College, Fulton and Ada Streets, Medical Department of Loyola University.—Organized in 1868 as the Bennett College of Eclectic Medicine and Surgery. Dropped Eclecticism in 1909. In 1910 it united with the Illinois Medical College and became by affiliation the Medical Department of Loyola University. The first class graduated in 1870. The faculty numbers 102. The course covers four years of thirty weeks each. Fees for each year are $125, with a matriculation fee, paid once, of $5. The President is Dr. John D. Robertson. The total registration for the two colleges in 1910-11 was 283; graduates, 56. The next session begins Sept. 26, 1911, and ends June 13, 1912.

Jenner Medical College, an afternoon and evening school, located at 223 West Washington Street.—Organized in 1892. Classes were graduated in 1896 and in all subsequent years. The faculty numbers 42. The Secretary is Dr. John D. MacKellar. Total registration for 1910-11 was 117; graduates, 9. The next session begins Sept. 5, 1911, and ends June 15, 1912.

INDIANA

Indiana, population 2,700,876, has one medical college, the Indiana University School of Medicine, located at Indianapolis, a city of 233,650 people, except that the work of the first year is offered also at Bloomington, the seat of the University.

Bloomington and Indianapolis

Indiana University School of Medicine.—Organized in 1893, medical course until 1905. In 1907, by union with the State College of Physicians and Surgeons, the complete course in medicine was offered. In 1908 the Indiana Medical College, which was formed in 1907 by the merger of the Medical College of Indiana (organized in 1869) and the Fort Wayne College of Medicine (organized in 1879) merged into it. The faculty consists of 100 professors and 89 lecturers, associates and assistants, a total of 189. Two years of collegiate work are required for admission. The work of the first year may be taken either at Bloomington or at Indianapolis. The work of the other three years is all done at Indianapolis. A fifth optional year leading to the "M.D. *cum laude*" has been added. The Secretary at Bloomington is Dr. B. D. Myers; the Dean is Dr. Charles P. Emerson, Indianapolis. The total registration for 1910-11 was 188; graduates, 52. The next session begins Sept. 21, 1911, and ends June 18, 1912.

IOWA

Iowa, population 2,224,771, has three medical colleges. The College of Medicine of the State University of Iowa and the College of Homeopathic Medicine of the State University of Iowa are located in Iowa City, population 10,091. In Des Moines, population 86,368, is the College of Medicine of Drake University.

Des Moines

Drake University College of Medicine.—First two years given on the University Campus, University Avenue, between Twenty-fifth and Twenty-eighth Streets, the clinical years at Fourth and Center Streets. Organized in 1881 as the Iowa Eclectic Medical College. The first class graduated in 1882. In 1887 it merged into the Iowa College of Physicians and Surgeons and became the Medical Department of Drake University. In 1903 it took its present title. The faculty consists of 20 professors and 23 assistants, lecturers, etc., a total of 43. Two years of collegiate work, including courses in physics, chemistry and biology, are required for admission. The work covers four years of nine months each. The total fees are $165 each year. The Dean is Dr. William Wilson Pearson. The total registration for 1910-11 was 72; graduates, 14. The twenty-ninth session begins Sept. 20, 1911, and ends June 12, 1912.

Iowa City

State University of Iowa College of Medicine. University Campus.—Organized in 1869. First session began in 1870. First class graduated in 1871. The faculty is made up of 15 professors, 25 lecturers, demonstrators and assistants, a total of 40. Two years of collegiate work, including courses in physics, chemistry and biology, are required for admission. The course of study covers four years of thirty-six weeks each. Total fees for each year are $50 plus a matriculation fee of $10 paid but once and a graduation fee of $10. The Dean is Dr. James R. Guthrie, Dubuque. Total number of students registered for 1910-11 was 118; graduates, 24. The forty-second session begins September 18, 1911, and ends June 12, 1912.

State University of Iowa College of Homeopathic Medicine. —Organized in 1877. The first class graduated in 1878. The faculty is composed of 11 professors and 19 lecturers and assistants, a total of 30. The work of the first two years is taken in classes with the students of the College of Medicine of the State University of Iowa, and it has the same entrance requirements. The fees are $50 each year, plus a matriculation fee of $10, paid but once, and a graduation fee of $10. The Dean is Dr. George Royal. Total registration for 1910-11 was 18; graduates, 3. The thirty-fourth session begins Sept. 18, 1911, and ends June 2, 1912.

KANSAS

Population 1,690,949, has two medical colleges. Kansas Medical College is in Topeka, population 43,684. The School of Medicine of the University of Kansas gives its first two years in Lawrence, population 12,915, and the last two years in Rosedale, a suburb of the two Kansas Cities, which together have a population of 330,662.

Lawrence and Kansas City

University of Kansas School of Medicine.—Organized in 1880. In 1905 it merged with the Kansas City (Mo.) Medical College, founded in 1869, the College of Physicians and Surgeons, founded in 1894, and the Medico-Chirurgical College, founded in 1897. The faculty, including lecturers and clinical assistants, numbers 84. The requirements for admission are two years of collegiate work. The course covers four years of nine months each. The total fees are, for the first two years, $60 per year (and for non-residents of the state, $80); for the last two years, $100 and $110, respectively. The Dean at Lawrence is Dr. Mervin T. Sudler. The Dean at Kansas City is Dr. George Howard Hoxie. The total registration for 1910-11 was 85; graduates, 19. The thirty-second session begins Sept. 13, 1911, and ends June 5, 1912.

Topeka

Kansas Medical College, 521 Quincy Street.—Organized in 1890. The first class graduated in 1892. It has been the Medical Department of Washburn College since 1903. It has a faculty of 31 professors and 10 lecturers and assistants, a total of 41. The course covers four years of nine months each. Fees, $100 yearly. Matriculation fee of $5 paid but once. The Dean is Dr. William E. McVey. Total registration for 1910-11 was 52; graduates, 10. The twenty-second session begins Sept. 12, 1911, and ends June 5, 1912.

KENTUCKY

Kentucky, population 2,289,905, has two medical colleges. They are both situated in Louisville, a city of 223,928 inhabitants, and are as follows: University of Louisville Medical Department and Louisville National Medical College.

Louisville

University of Louisville Medical Department, Eighth and Chestnut Streets.—Organized in 1837 as the Louisville Medical Institute. The first class graduated in 1838, and a class graduated in each subsequent year except 1863. In 1846 the present name was assumed. In 1907 it absorbed the Kentucky University Medical Department. In 1908 it absorbed the Louisville Medical College, the Hospital College of Medicine and the Kentucky School of Medicine. It has a faculty of 42 professors and 50 lecturers and assistants, a total of 92. The course covers four years of thirty-two weeks each. The fees are $105 each year; graduation fee, $25. The Dean is Dr. W. Edward Grant. The total registration for 1910-11 was 447; graduates, 159. The next session begins Oct. 2, 1911, and ends May 30, 1912.

Louisville National Medical College.. Colored. 112 West Green Street.—Organized in 1888. The first class graduated in 1889. The faculty numbers 23. The course covers four years of seven months each. The fees are $60, $55, $55 and $75 for the four years, respectively. The Dean is Dr. E. S. Porter. Total registration for 1910-11 was 25; graduates, 10. The next session begins Oct. 2, 1911, and ends May 18, 1912.

LOUISIANA

Louisiana, having a population of 1,656,388, contains one medical college, the Medical Department of the Tulane University of Louisiana, situated in New Orleans, a city of 339,075.

New Orleans

Medical Department of the Tulane University of Louisiana. University Campus and 1551 Canal Street.—Organized in 1834 as the Medical College of Louisiana. Classes were graduated in 1835 and in all subsequent years, except 1863-65, inclusive. It was transferred to Medical Department of the University of Louisiana in 1847 and became the Medical Department of the Tulane University in 1884. The faculty numbers 93. The course covers four years of thirty-two weeks each. One year of collegiate work is required for admission. Total fees are $180 per year; graduation fee, $30. The Dean is Dr. Isadore Dyer. The total registration for 1910-11 was 379; graduates, 90. The seventy-eighth session begins Sept. 29, 1911, and ends May 29, 1912.

MAINE

Maine, population 742,371, has one medical college, located in Brunswick and Portland, the latter having a population of 58,571.

Brunswick-Portland

Medical School of Maine.. The medical department of Bowdoin College. The first two years are given at Bowdoin College, Brunswick, the last two at Portland, building located on Chadwick Street.—Organized in 1820. The first class graduated in 1820. The faculty numbers 41. The course covers four years of eight months each. The total fees are $120 for the first year and $110 for each of the other three years. The Dean is Dr. Alfred Mitchell, Brunswick. Total number of students in 1910-11 was 67; graduates, 13. The ninety-first session begins Oct. 12, 1911, and ends June 19, 1912.

MARYLAND

Maryland, with a population of 1,295,346, contains five medical colleges, all located in Baltimore; a city with 558,485 inhabitants. They are as follows: Johns Hopkins University Medical Department, School of Medicine of the University of Maryland, College of Physicians and Surgeons, Baltimore Medical College and Maryland Medical College.

Baltimore

Johns Hopkins University Medical Department, Washington and Monument Streets.—Organized in 1893. The first class graduated in 1897. The faculty consists of 23 professors and 89 clinical professors, etc., a total of 112. The requirements for admission demand that the applicant either has (a) completed the chemical-biologic course which leads to the A.B. degree in the university or (b) graduated at an approved college or scientific school and has a knowledge of French and German, physics, chemistry and biology, such as may be obtained from a year's course. The course extends over four years of eight and one-half months each. The charge for tuition is $200 per annum. The Dean is Dr. J. Whitridge Williams. Total registration for 1910-11 was 347; graduates, 85. The nineteenth session begins Oct. 3, 1911, and ends June 11, 1912.

College of Physicians and Surgeons, Calvert and Saratoga Streets.—Organized in 1872. The first class graduated in 1873. In 1878 it united with Washington University School of Medicine. The faculty numbers 62. The work covers four years of eight months each. Total fees are $155 for each of the first three years and $185 for the fourth year. The Dean is Dr. Charles F. Bevan. The total number of students registered in 1910-11 was 289; graduates, 57. The fortieth session begins Oct. 2, 1911, and ends June 16, 1912.

University of Maryland School of Medicine, Lombard and Greene Streets. Organized in 1807 as the College of Medicine of Maryland. The first class graduated in 1810. In 1812 it became the University of Maryland School of Medicine. The faculty numbers 62. The course covers four years of eight months each. The total fees are $155 each year; graduation fee, $30. The Dean is Dr. R. Dorsey Coale. The total number of students registered in 1910-11 was 324; graduates, 70. The 105th session begins Oct. 2, 1911, and ends June 1, 1912.

Baltimore Medical College, Madison Street and Linden Avenue.—Organized in 1881. The first class graduated in 1882. The faculty numbers 75. The course covers four years of eight months each. Total fees for the first three years are $125 per year; for the fourth year, $155. The Dean is Dr. David Streett. The total number of students registered in 1910-11 was 205; graduates, 48. The thirtieth session begins Sept. 20, 1911, and ends June 1, 1912.

Maryland Medical College, 1114 West Baltimore Street.—Organized in 1898. The first class graduated in 1899. The faculty numbers 39. The course covers four years of eight months each. Total fees for the four years, respectively, are $111, $111, $105 and $135. The Dean is Dr. W. S. Smith. The total registration for 1910-11 was 167; graduates, 65. The next session begins Oct. 2, 1911, and ends June 1, 1912.

MASSACHUSETTS

Massachusetts, population 3,366,416, has four medical colleges: Medical School of Harvard University, Boston University School of Medicine, College of Physicians and Surgeons and Tufts College Medical School. They are all situated in Boston, a city of 670,585.

Boston

Medical School of Harvard University, Longwood Avenue.—Organized in 1782. The first class graduated in 1788. It has a faculty of 30 professors and 146 associates, assistants, etc., a total of 176. Candidates for admission "must present a degree in arts, literature, philosophy or science from a recognized college or scientific school, with the exception of such persons as may be admitted by special vote of the faculty." The session is four years of eight months each. Fees: Matriculation, $5; tuition, $200 each year. The Dean is Dr. Henry A. Christian. The total registration for 1910-11 was 264; graduates, 87. The 130th session begins Sept. 28, 1911, and ends June 28, 1912.

Boston University School of Medicine, 80 East Concord Street.—Organized in 1873. In 1874 the New England Female Medical College, founded in 1848, was merged into it. The first class graduated in 1874. The faculty includes 25 professors, 49 associates, etc., a total of 74. The course covers four years of eight months each. Total fees for the first, second and third years, $127 each, and for the last year $155. The Dean is Dr. John P. Sutherland, 295 Commonwealth Avenue. Total registration for 1910-11 was 86; graduates, 16. The thirty-ninth session begins Oct. 5, 1911, and ends June 6, 1912.

Tufts College Medical School, 416 Huntington Avenue.—Organized in 1893 as the Medical Department of Tufts College. The first class graduated in 1894. It has a faculty of 22 professors and 94 assistants, lecturers, etc., a total of 116. The course covers four years of eight months each. The total fees are $155 each year. The Secretary is Dr. Frederic M. Briggs, 416 Huntington Avenue. Total number of students for 1910-11 was 379; graduates, 71. The eighteenth session begins Sept. 27, 1911, and ends June 1, 1912.

College of Physicians and Surgeons, 517 Shawmut Avenue.—Organized in 1880. The first class graduated in 1882. The college announcement gives the names of 226 "matriculants and applicants" for the session of 1909-10, which included both dental and medical students. The same total is given for 1910-11, but 198 are reported as having "registered" for the medical work. The names of some of the students who graduated in 1910 appear in the announcements of this school from six to nine years! There were 23 medical graduates reported in 1911. The Dean is Dr. Thomas D. Crothers. *This college is not recognized by the Massachusetts Medical Society.*

MICHIGAN

Michigan, population 2,810,173, has four medical colleges. Two of these, the University of Michigan Department of Medicine and Surgery and the Homeopathic College of the University of Michigan, are located at Ann Arbor, a city of 14,817 people. Detroit, a city of 465,766 inhabitants, contains two medical colleges, the Detroit College of Medicine and the Detroit Homeopathic College.

Ann Arbor

University of Michigan Department of Medicine and Surgery.—Organized in 1850. The first class graduated in 1851. It has a faculty composed of 33 professors, 38 associates, instructors, etc., a total of 71. The entrance requirements are two years of college work, including courses in chemistry, physics and biology, with laboratory work, and a reading knowledge of one modern language. The curriculum embraces four years of nine months each. The total fees for Michigan students for the entire course of four years is $350 and for others about $400. The Dean is Dr. Victor C. Vaughan. The total registration for 1910-11 was 260; graduates, 53. The sixty-second session begins Oct. 3, 1911, and ends June 27, 1912.

University of Michigan Homeopathic College.—Organized in 1875. The first class graduated in 1877. Although the work of the first two years taken in the same classes with the Department of Medicine and Surgery of the University of Michigan, nevertheless the entrance requirements are still kept at only a high-school education—a difference of two years of collegiate work! It is announced that one year of collegiate work will be required for admission in 1912 and thereafter. The Dean is Dr. W. B. Hinsdale. The total registration for 1910-11 was 92; graduates, 13. The next session begins Oct. 3, 1911, and ends June 27, 1912.

Detroit

Detroit College of Medicine, St. Antoine, Catherine and Mullett Streets and Gratiot Avenue.—Organized in 1885 by consolidation of Detroit Medical College, organized in 1868, and the Michigan College of Medicine, organized in 1880. The first class graduated in 1886. The faculty embraces 23 professors, 101 lecturers, instructors, etc., a total of 124. The course covers four years of eight months each. The Registrar is Dr. F. B. Walker. The total registration for 1910-11 was 163; graduates, 41. The twenty-seventh session begins Sept. 20, 1911, and ends May 23, 1912.

Detroit Homeopathic College, Lafayette Avenue and Third Street.—Organized in 1899. A class was graduated in 1900 and in each subsequent year. It has a faculty of 36. The course embraces four years of eight months each. Fees: From $75 to $95 per year. The Dean is Dr. D. A. Machlan. The total registration for 1910-11 was 21; graduates, 9. The thirteenth session begins Sept. 14, 1911, and ends May 19, 1912.

MINNESOTA

Minnesota, population 2,075,708, contains one medical college, the College of Medicine and Surgery of the University of Minnesota, situated in Minneapolis. Minneapolis and St. Paul are practically one city, and have a combined population of 516,162.

Minneapolis

University of Minnesota College of Medicine and Surgery.—Organized in 1883; reorganized in 1888 by absorption of St. Paul Medical College and Minnesota Hospital Medical College. The first class graduated in 1889. In 1908 the Minneapolis College of Physicians and Surgeons, organized in 1883, was merged. In 1909 the Homeopathic College of Medicine and Surgery was merged and provision made for elective chairs in didactic materia medica and therapeutics. Students electing these courses on graduation will receive the degree of Doctor of Medicine in Homeopathy. The faculty includes 67 professors and clinical professors and 81 associate professors, assistants, etc., a total of 148. The curriculum covers five years of nine months each, including a year's internship in a hospital. The entrance requirements are two years of university work which must include one year each of physics, general chemistry, qualitative analysis, zoology or botany, and German or French, all in addition to a four-year high school course, including Latin. Total fees for the first and second years are $150 each, and for the third and fourth years $100 each; microscopic rental, $1 to $4 per annum. The Dean is Dr. F. F. Wesbrook. The total registration for 1910-11 was 172, including 6 Hamline University students; the graduates of 1911 numbered 31, including 6 which were granted degrees by Hamline University. The twenty-fourth session begins Sept. 20, 1911, and ends June 14, 1912.

MISSISSIPPI

Mississippi, population 1,797,114, has two medical colleges. The Medical Department of the University of Mississippi giving only the first two years of the medical course, is located at Oxford, a city of 1,825 inhabitants. The Mississippi Medical College is located at Meridian, population 23,285.

Meridian

Mississippi Medical College, Fifth Street and Twenty-fourth Avenue.—Organized in 1906. The first class graduated in 1907. The faculty numbers 22. The course covers four years of seven months each. The Dean is Dr. T. A. Barber. The total registration for 1910-11 was 95; graduates, 19. The sixth session begins Oct. 2, 1911, and ends April 28, 1912.

Oxford

University of Mississippi Medical Department.—Organized in 1903. Gave only the first two years of the medical course until 1909, when a clinical department was organized at Vicksburg. Graduated one class in 1910, when the clinical years of the course were discontinued. The course covers four years of eight and a half months each. The faculty numbers 14. The Dean is Dr. W. S. Leathers. The total registration for 1910-11 was 50. The ninth session begins Sept. 21, 1911, and ends June 4, 1912.

MISSOURI

Missouri, population 3,293,335, has nine medical colleges. St. Louis, population 687,029, contains five of these, viz., St. Louis College of Physicians and Surgeons, American Medical College, the School of Medicine of St. Louis University, Washington University Medical Department and Barnes Medical College. Kansas City, which with Kansas City, Kan., has a total population of 330,662, has two colleges, namely: the Kansas City Hahnemann Medical College and the Eclectic Medical University. Ensworth Medical College is located in St. Joseph, population 77,403. The Department of Medicine of the University of Missouri is at Columbia, a town of 9,662 people.

Columbia

University of Missouri School of Medicine.—Organized at St. Louis in 1845; was discontinued in 1859, but was reorganized at Columbia in 1872. Teaching of the clinical years was suspended in 1909. The faculty includes 10 professors, 7 assistant professors, lecturers, etc., a total of 17. The course covers two years of nine months each. The entrance requirements are two years of college work, including English, 5 hours; German, 5 hours; general zoology, 5 hours; physics, 5 hours; inorganic chemistry, 5 hours; Elective, 35 hours. Equivalent work in foreign language may be substituted for the English and German. Total fees are $70 each year. The Dean is Dr. C. M. Jackson. Total registration of students for 1910-11 was 34. The next session begins Sept. 21, 1911, and ends June 13, 1912.

Kansas City

Kansas City Hahnemann Medical College, 1020 East Tenth Street.—Organized in 1888 as the Kansas City Homeopathic Medical College. The first class graduated in 1899. In 1902 it united with the Hahnemann Medical College of the Kansas City University, taking the present title. The Dean is Dr. William E. Cramer. Total registration for 1910-11 was 42; graduates, 7. The next session begins Sept. 7, 1911, and ends May 6, 1912.

Eclectic Medical University, 1423 Independence Avenue.—Organized at Kansas City, Mo., in 1898 with the present title. Moved to Kansas City, Kan., in 1907, and took the name of Western Eclectic College of Medicine and Surgery. Returned to Kansas City, Mo., in 1909 and resumed the present title. First class graduated in 1900. Fees are $100 each year. The Secretary is Dr. D. R. Alexander. The total registration for 1910-11 was 49; graduates, 12. The fourteenth session begins Sept. 4, 1911, and ends May 19, 1912. *Reported not in good standing by the Missouri State Board of Health.*

St. Joseph

The Ensworth Medical College, Seventh and Jule Streets.—Organized in 1876 as the St. Joseph Hospital Medical College. In 1882 it merged with the College of Physicians and Surgeons to form the St. Joseph Medical College In 1888 changed name to Ensworth Medical College. In 1905 merged with the Central Medical College, organized in 1894, to form the Ensworth-Central Medical College. In 1907 the present title was resumed. The faculty numbers 34. The course covers four years of thirty weeks each. The fees for the four years, respectively, are $90, $95, $75 and $95. The Secretary is Dr. T. E. Potter. Total registration for 1910-11 was 56; graduates, 9. The next session begins Oct. 1, 1911, and ends about May 31, 1912.

St. Louis

Washington University Medical School, 1806 Locust Street.—Organized in 1842 as the Medical Department of St. Louis University. In 1855 it was chartered as an independent institution under the name of St. Louis Medical College. The first class graduated in 1843. In 1891 it became the Washington University Medical School. In 1899 it absorbed the Missouri Medical College. The faculty comprises 39 professors, 54 lecturers and instructors, a total of 93. The course is four years of eight months each. The total fees for the four years are, respectively, $140.25, $142.75, $111.25 and $105.25. The Dean is Dr. George Dock. The total registration for 1910-11 was 123; graduates, 34. The next session begins Oct. 2, 1911, and ends June 8, 1912.

St. Louis University School of Medicine, 1402 South Grand Avenue. Organized in 1901 by union of Marion-Sims Medical College, organized in 1890, and Beaumont Hospital Medical College, organized in 1886. It became the Medical Department of St. Louis University in 1903. The faculty is composed of 37 professors, 75 lecturers and assistants, a total of 112. The curriculum covers four years of eight months each. The total fees are $110 each year. The Dean is Dr. E. P. Lyon. The total registration for 1910-11 was 274; graduates, 50. The next session begins Oct. 2, 1911, and ends May 29, 1912.

St. Louis College of Physicians and Surgeons, Jefferson Avenue and Gamble Street.—Organized in 1869. Classes graduated in 1870 and in each subsequent year until 1873, when it suspended. It was reorganized in 1879. Classes graduated in 1880 and subsequent years. The Dean is Dr. Waldo Briggs, 2600 Gamble Street. Total registration for 1910-11 was 52; graduates, 22.

Barnes Medical College, Garrison and Lawton Avenues.—Organized in 1892. Classes graduated in 1893 and in all subsequent years except 1899. The faculty consists of 40 professors and 8 lecturers and assistants, a total of 48. The course covers four years of eight months each. The total fees are $100 each year. The Dean is Dr. A. R. Kieffer. Total registration for 1910-11 was 176; graduates, 52. The next session begins Sept. 14, 1911, and ends about May 13, 1912.

American Medical College, 407 South Jefferson Avenue.—Organized in 1873 as an Eclectic College. Eclecticism dropped in 1910. Two classes were graduated each year from 1874 to 1883, inclusive. Since then one class has graduated each year. The course covers four years of nine months each. The fees are $100 each year. The Dean is Dr. James Moores Ball. The total registration for 1910-11 was 46; graduates, 12. The next session begins Sept. 11, 1911, and ends June 2, 1912.

NEBRASKA

Nebraska, population 1,192,214, has three medical colleges: The University of Nebraska College of Medicine and the John A. Creighton Medical College at Omaha, population 124,096, and the Lincoln Medical College at Lincoln, population 43,973.

Lincoln and Omaha

College of Medicine University of Nebraska, Eleventh and R Streets, Lincoln, and Twelfth and Pacific Streets, Omaha.—Organized in 1881 as the Omaha Medical College. The first class graduated in 1882. It became the Medical Department of Omaha University in 1891. In 1902 it affiliated with the University of Nebraska, with the present title. Two years of collegiate work are required for admission. The first two years are given at Lincoln; the last two at Omaha. The faculty is composed of 29 professors and 38 lecturers and instructors, total 67. The fees are approximately $100 per annum. Total registration for 1910-11 was 72; graduates, 10. The next session begins Sept. 12, 1911, and ends May 31, 1912.

Lincoln

Lincoln Medical College. Eclectic. Corner 13th and P Streets. It is the Medical Department of Cotner University.—Organized in 1890. The first class graduated in 1891. The Secretary is Dr. R. H. Spradling. The total registration for 1910-11 was 42; graduates, 9.

Omaha

John A. Creighton Medical College, Fourteenth and Davenport Streets. It is the Medical Department of Creighton University.—Organized in 1892. The first class graduated in 1895. It has a faculty of 30 professors and 18 associates, lecturers and assistants, a total of 48. The course of study embraces four years of eight months each. The total fees for the four years, respectively, are $105, $100, $100 and $105. The Dean is Dr. D. C. Bryant, McCague Building. Total number of students registered in 1910-11 was 188; graduates, 43. The twentieth session begins Sept. 4, 1911, and ends April 27, 1912.

NEW HAMPSHIRE

New Hampshire, population 443,140, has one medical college. located at Hanover, population 1,884.

Hanover

Dartmouth Medical School.—Organized as New Hampshire Medical Institute in 1797. The first class graduated in 1798. It is the Medical Department of Dartmouth College. The faculty is made up of 23 professors and 6 instructors, a total of 29. Two years of collegiate work are required for admission. The course covers four years of eight months each. The fees are $125 each year. The Dean is Dr. John M. Gile. The total registration for 1910-11 was 42; graduates, 11. The work of the first and second years begins with that of the academic department Sept. 21, 1911, and ends June 25, 1912; for the advanced classes the course begins Aug. 1, 1911, and ends April 18, 1912.

NEW YORK

New York State, population 9,113,614, has eleven medical colleges. Eight of these, College of Physicians and Surgeons (Columbia University), Long Island College Hospital, New York Homeopathic Medical College and Hospital, New York Medical College and Hospital for Women, Eclectic Medical College of the City of New York, Cornell University Medical College, the University and Bellevue Hospital Medical College; and Fordham University School of Medicine, are located in New York City, population 4,766,883. Albany Medical College is located in Albany, a city of 100,253 people. The University of Buffalo Medical Department is situated in Buffalo, population 423,715. The College of Medicine, Syracuse University, is in Syracuse, a city of 137,249 inhabitants.

Albany

Albany Medical College, Lancaster and Jay Streets.—Organized in 1838. The first class graduated in 1839. It became the Medical Department of Union University in 1873. The faculty is composed of 27 professors and 72 lecturers, assistants, etc., a total of 99. The curriculum covers four years of eight months each. Fees: First year, $130; second year, $145; third year, $120, and fourth year, $130. The Registrar is Dr. Willis G. Tucker. The total registration for 1910-11 was 208; graduates, 42. The eighty-first session begins Sept. 19, 1911, and ends May 14, 1912.

Buffalo

University of Buffalo Medical Department, High Street, near Main.—Organized in 1846. The first class graduated in 1847. It absorbed the Medical Department of Niagara University in 1898. The faculty is composed of 36 professors and 46 lecturers, assistants, etc., a total of 82. The course covers four years of eight months each. The total fees for the four years, respectively, are $185, $180, $140 and $140. The Dean is Dr. Matthew D. Mann, 37 Allen Street. Total registration for 1910-11 was 223; graduates, 41. The sixty-sixth session begins Sept. 25, 1911, and ends May 31, 1912.

New York

Columbia University College of Physicians and Surgeons, 437 West Fifty-ninth Street.—Organized in 1807 by the regents of the University of the State of New York as their medical department. The first class graduated in 1811. Affiliated with Columbia College in 1814 and was permanently connected in 1860, when it became the Medical Department of Columbia College. That institution became Columbia University in 1891. The faculty is composed of 55 professors and 121 instructors, demonstrators, etc., a total of 176. Two years of collegiate work, including courses in physics, chemistry and biology are required for admission. The work covers four years of eight months each. The Dean is Dr. Samuel W. Lambert. The total fees for the first year are $255; for the second and third, $250, and $275 for the fourth year. Total registration for 1910-11 was 328; graduates, 70. The 104th session begins Sept. 27, 1911, and ends June 5, 1912.

Cornell University Medical College, First Avenue and Twenty-Eighth Street, New York City, and Ithaca.—Organized in 1898. The first class was graduated in 1899. The work of the first year may be taken either in Ithaca or New York. The faculty is composed of 53 professors and 86 assistants, lecturers, instructors, etc., a total of 139. All candidates for admission must be graduates of approved colleges or scientific schools and in addition must have such knowledge of physics, inorganic chemistry and biology as may be obtained in college by a year's course in these subjects when accompanied by laboratory work. Fees: First year, $190; second and third, $185 each, and $200 for the fourth year. The Dean is Dr. William M. Polk. Total registration for 1910-11 was 116; graduates, 55. The fourteenth session begins Sept. 27, 1911, and ends June 12, 1912.

Eclectic Medical College of the City of New York, 239 East Fourteenth Street.—Organized in 1865. The first class graduated in 1867. The faculty consists of 19 professors and 24 lecturers, assistants, etc., a total of 43. The course covers four years of eight months each. The Dean is Dr. Samuel A. Hardy. Total registration for 1910-11 was 77; graduates, 10. The next session begins Sept. 14, 1911, and ends May 1, 1912.

Fordham University School of Medicine, Third and Pelham Avenues.—Organized in 1905. First class graduated in 1909. The faculty consists of 35 professors and 34 lecturers and assistants, a total of 69. The course of instruction covers four years of nine months each. Fees, $200 each year. A year's work in a recognized college of liberal arts is required for admission. The Dean is Dr. James J. Walsh. The total registration for 1910-11 was 94; graduates, 17. The seventh session begins Sept. 20, 1911, and ends June 14, 1912.

Long Island College Hospital, Henry Street, near Atlantic Avenue, Brooklyn.—Organized in 1858. The first class graduated in 1860. It has a faculty of 9 professors and 86 assistants, insructors, etc., a total of 95. The course covers four years of eight months each. Fees: First year, $205; second year, $200; third, $189, and $200 for the fourth year. The Secretary is Dr. Joseph H. Raymond. Total registration, 1910-11, was 407; graduates, 73. The fifty-fourth session begins Sept. 28, 1911, and ends June 3, 1912.

New York Homeopathic Medical College and Hospital, Eastern Boulevard, between Sixty-third and Sixty-fourth Streets.—Organized in 1858. Incorporated in 1860 as the Homeopathic Medical College for the State of New York. The present title was assumed in 1869. The first class graduated in 1861. The faculty consists of 32 professors and 28 assistants, lecturers, etc., a total of 60. The Dean is Dr. Royal S. Copeland. Total registration for 1910-11 was 210; graduates, 14. The next session begins Oct. 5, 1911, and ends June 1, 1912.

New York Medical College and Hospital for Women, 17-19 West One Hundred and First Street.—Organized in 1863. The first class graduated in 1864. The faculty consists of 30 professors and 20 lecturers and assistants, a total of 50. The course covers four years of thirty weeks each. The fees for each of the four years, respectively, are $155, $150, $135 and $155. The Dean is Dr. Helen Cooley Palmer. The total registration for 1910-11 was 24; graduates, 4. Names of matriculants not printed in the annual announcement. The forty-ninth session begins Oct. 2, 1911, and ends May 24, 1912

University and Bellevue Hospital Medical College, First Avenue and Twenty-sixth Street.—Organized in 1898 by the union of the New York University Medical College, organized in 1841, and the Bellevue Hospital Medical College, organized in 1861. It is the Medical Department of New York University. The faculty is composed of 35 professors and 139 instructors, etc., in all 174. The course covers four years of eight months each. The fees are $200 per year. The Dean is Dr. Egbert Le Fevre. Total registration for 1910-11 was 511; graduates, 68. The next session begins Sept. 27, 1911, and ends June 1, 1912.

Syracuse

Syracuse University College of Medicine, 307-311 Orange Street.—Organized in 1872 as the College of Physicians and Surgeons of Syracuse University. The present title was assumed in 1875. In 1872 Geneva Medical College was merged with it. The first class was graduated in 1873. The faculty is composed of 15 professors and 45 assistant professors, lecturers and instructors, in all 60. The course covers four years of eight months each. The completion of two years in an accredited college of liberal arts is required for admission. The total fees for each of the four years, respectively, are $181, $191, $151 and $166. The Dean is Dr. John L. Heffron. The total registration for 1910-11 was 109; graduates, 29. The fortieth session begins Oct. 3, 1911, and ends June 12, 1912.

NORTH CAROLINA

North Carolina, population 2,206,287, has four medical schools, two of which give only the first two years of the medical course. The Medical Department of the University of North Carolina is located at Chapel Hill, population 1,200. The Leonard School of Medicine is at Raleigh, population 19,218. The North Carolina College is at Charlotte, population 34,014. Wake Forest School of Medicine is at Wake Forest, population 823.

Chapel Hill

University of North Carolina Medical Department.—Organized in 1890. Until 1902 this school gave only the work of the first two years, when the course was extended to four years by the establishment of a department at Raleigh. The first class graduated in 1903. A class was graduated each subsequent year, including 1910, when the clinical department at Raleigh was discontinued. The faculty is composed of 14 professors and 17 lecturers, assistants, etc., a total of 31. The total fees for the two years, respectively, are $114 and $116. The Dean is Dr. G. H. Manning. The total registration for 1910-11 was 51. The twenty-sixth session begins Sept. 5, 1910, and ends May 30, 1911.

Charlotte

North Carolina Medical College, Church and Sixth Streets.—Organized in 1887 at Davidson as the Davidson School of Medicine. It was a preparatory school only, not granting any degrees until 1903, when it was chartered under its present name. The first class was graduated in 1893. Removed to Charlotte in 1907. The faculty numbers 35. The course covers four years of about eight months each. The fees for the four years, respectively, are $97, $95, $80 and $105. The Dean is Dr. Walter O. Nisbet. The total registration for 1910-11 was 112; graduates, 22. The next session begins Sept. 13, 1911, and ends May 3, 1912.

Raleigh

Leonard Medical School.—Colored. This department of Shaw University was established in 1882. Classes were graduated in 1886, 1888 and in all subsequent years. It has a faculty of 14. The course covers four years of seven months each. The total fees for each year are $52; graduation fee, $10. The Dean is Dr. William Moncure. Total registration for 1910-11, was 120; graduates, 24. The thirtieth session begins Sept. 28, 1911, and ends May 9, 1912.

Wake Forest

Wake Forest College School of Medicine.—This school was organized in 1902. The faculty numbers 16. It gives only the first two years of the medical course, which constitute a part of the course for the B.S. degree. Each annual course extends over nine months. The fees for the first year are $105 and $115 for the second. The Dean is Dr. John Brewer Powers. The total registration for 1910-11 was 38. The tenth session begins Sept. 5, 1911, and ends May 15, 1912.

NORTH DAKOTA

North Dakota, population 577,056, has one medical college, the College of Medicine of the State University of North Dakota, which is situated at University near Grand Forks, a city of 12,478 people. It gives only the first two years of the medical course.

University

University of North Dakota College of Medicine.—Organized in 1905. The faculty is composed of 7 professors and 18 instructors, a total of 25. The course consists of two years' academic work and two years of medical college subjects, occupying nine months each year. The total fees for each of the medical years are $50. The Dean is M. A. Brannon, A.M. The total registration for 1910-11 was 39. The seventh session begins Sept. 19, 1911, and ends June 14, 1912.

OHIO

Ohio, population 4,767,121, has six medical colleges. Two of these, the Ohio-Miami Medical College of the University of Cincinnati and the Eclectic Medical College, are located in Cincinnati, a city of 364,463 inhabitants. Cleveland, population 560,663, contains two medical schools: Western Reserve Medical College and the Cleveland-Pulte Medical College. Columbus, population 181,548, contains one medical college, the Starling-Ohio Medical College. Toledo, with 168,497 people, has one medical school, the Toledo Medical College.

Cincinnati

The Ohio-Miami Medical College of the University of Cincinnati.—Organized in 1909 by the union of the Ohio Medical College (founded in 1819) with the Miami Medical College (founded in 1852). The Ohio Medical College became the Medical Department of the University of Cincinnati, April 26, 1896. Under a similar agreement, March 2, 1909, Miami Medical College also merged into the University, when the present title was taken. The faculty consists of 19 professors, 98 associates, assistants, etc., a total of 117. The course covers four years of eight months each. The fees are a tuition fee of $125 a year; a matriculation fee of $5, payable but once, and a graduation fee of $25. The Dean is Dr. Paul G. Woolley. The total registration for 1910-11 was 149; graduates, 38. The next session begins Sept. 25, 1911, and ends June 1, 1912.

Eclectic Medical College, 630 West Sixth Street.—Organized in 1832 at Worthington as the Worthington Medical College. Removed to Cincinnati in 1843. In 1845 it was chartered as the Eclectic Medical Institute. In 1857 the American Medical College, organized in 1839, was merged into it, and in 1859 the Eclectic College of Medicine and Surgery, organized in 1856, merged into it. In 1910 it assumed its present title. Classes were graduated in 1833 and in all subsequent years except 1839 to 1843, inclusive. It has a faculty of 14 professors and 13 lecturers and assistants, a total of 26. The course covers four years of thirty weeks each. The fees are $100 for each year. The Dean is Dr. Rolla L. Thomas, 792 East McMillan Street. Total registration for 1910-11 was 95; graduates, 27. The next session begins Sept. 18, 1911, and ends May 8, 1912.

Cleveland

Cleveland-Pulte Medical College, Prospect Avenue and Huron Road.—Homeopathic.—Organized in 1849 as the Western College of Homeopathic Medicine. The first class graduated in 1853. In 1857 it became the Western Homeopathic College and in 1870 it became the Homeopathic Hospital College when the Homeopathic Medical College for Women, organized in 1868, merged into it. In 1894 it became the Cleveland University of Medicine and Surgery. In 1898 it merged with the Cleveland Medical College, organized in 1890, and assumed the title of Cleveland Homeopathic Medical College. In 1910 Pulte Medical College of Cincinnati merged into it and the present title was assumed. The faculty numbers 59. The fees are $125 each year. The Dean is Dr. George H. Quay. Total registration for 1910-11 was 81; graduates, 13. The next session begins Sept. 20, 1911, and ends May 16, 1912.

Western Reserve University, Medical Department, St. Clair Avenue and East Ninth Street.—Organized in 1843 as the Cleveland Medical College. The first class graduated in 1845. It assumed the present title in 1881. In 1910 it absorbed the Cleveland College of Physicians and Surgeons. Under the terms of the merger the Ohio Wesleyan University will grant degrees to students enrolled in the College of Physicians and Surgeons prior to the merger. The faculty includes 40 professors and 34 lecturers, assistants, etc., a total of 74. The curriculum embraces four years of eight and one-half months each. Three years of college work are required for admission to first year of medical course. The total fees for the first year are $142 and $135 each for the other three years. The Dean is Dr. B. L. Millikin, 1110 Euclid Avenue. The total registration for 1910-11 was 171, including 64 students of the College of Physicians and Surgeons; there were 36 graduates in 1911, including 22 from the latter school. The sixty-ninth session begins Oct. 1, 1911, and ends June 13, 1912.

Columbus

Starling-Ohio Medical College, Buttles Avenue and Park Street.—Organized in 1907 by the union of Starling Medical College (organized 1834) with the Ohio Medical University (organized 1890). The faculty consists of 27 professors and 37 lecturers, demonstrators, etc., a total of 64. The course covers four years of eight months each. Matriculation, $5; tuition, $135 each year. The Dean is Dr. W. J. Means. The total registration for 1910-11 was 252; graduates, 51. The next session begins Sept. 20, 1911, and ends May 22, 1912.

Toledo

Toledo Medical College, Cherry and Page Streets.—Organized in 1883. The first class graduated in 1883. The faculty numbers 48. The curriculum embraces four years of eight months each. The fees are $120 for each year, with a matriculation fee of $5, payable once. The Secretary is Dr. E. I. McKesson. The total registration for 1910-11 was 40; graduates, 8. The next session begins Oct. 2, 1911, and ends May 24, 1912.

OKLAHOMA

Oklahoma, population 1,657,155, has one medical college, the School of Medicine of the State University of Oklahoma. The work of the first and second years is given in the academic laboratories at Norman, a city of 3,040 inhabitants. The work of the third and fourth years is given in Oklahoma City, which has a population of 64,205 and which is eighteen miles north of Norman.

Norman and Oklahoma City

State University of Oklahoma School of Medicine.—Organized in 1900. Gave only the first two years of the medical course until 1910, when a clinical department was established at Oklahoma City. It has a faculty of 26 professors and 14 instructors, a total of 40. The course is four years of nine months each. An optional course of six years is offered for the degrees of B.S., and M.D. The total fees for the four years, respectively, are $50, $30, $100 and $105. The Secretary is Dr. Walter L. Capshaw, Norman. The total registration for the combined schools for 1910-11 was 63; graduates, 15. The twelfth session begins Sept. 19, 1911, and ends June 13, 1912.

OREGON

Oregon, population 672,765, has two medical colleges: The Medical Department of Willamette University, located at Salem, a city of 14,094 people, and the University of Oregon Medical Department, in Portland, a city of 207,214 population.

Portland

University of Oregon Medical Department, Lovejoy and Twenty-third Streets.—Organized in 1887. The first class graduated in 1888. It has a faculty of 14 professors and 36 lecturers, assistants, etc., a total of 50. The course is four years of eight months each. Fees: First year, $142.50; second, $137.50; third, $100.50, and for the fourth, $57.50. The Dean is Dr. Simeon E. Josephi. The total registration for 1910-11 was 72; graduates, 16. The twenty-fifth session begins Sept. 15, 1911, and ends May 15, 1912.

Salem

Medical Department Willamette University.—Organized in 1865 at Salem. Classes were gaduated in 1867 and in all subsequent years except 1896. It moved to Portland in 1878, but returned to Salem in 1895. The faculty numbers 20. The course is four years of eight months each. The fees for the four years, respectively, are $122.50, $110, $87.50 and $57.50. The Dean is Dr. W. H. Byrd. The total registration for 1910-11 was 47; graduates, 3. The next session begins Oct. 3, 1911, and ends June 1, 1912.

PENNSYLVANIA

Pennsylvania, population 7,665,111, has seven medical colleges. Of these Philadelphia, having a population of 1,549,008, contains six, as follows: University of Pennsylvania Department of Medicine, Jefferson Medical College, Hahnemann Medical College, Woman's Medical College of Pennsylvania, Medico-Chirurgical College of Philadelphia and Temple University Department of Medicine. The other school, the Medical Department of the University of Pittsburgh, is situated in Pittsburgh, a city of 533,905.

Philadelphia

University of Pennsylvania Department of Medicine, Thirty-sixth Street and Hamilton Walk.—Organized in 1765. Classes were graduated in 1768 and in all subsequent years except 1772-79, inclusive. The original title was the Department of Medicine, College of Philadelphia, which was changed to the present title in 1791. It granted the first medical diploma issued in America. The faculty is made up of 25 professors, 20 associate adjunct and assistant professors and 121 demonstrators, lecturers, associates, instructors, etc., a total of 166. The requirements for admission are the equivalent of work prescribed for the first two years in recognized colleges, which work must include a knowledge of physics, chemistry and general biology or zoology with laboratory work as specified by the College Entrance Examination Board and, in addition, two foreign languages, one of which must be French or German. The course embraces study of four years of 34 weeks each. The total fees for each of the four years, respectively, are $218, $213, $210 and $211.50. The Dean is Dr. Allen J. Smith. Total registration for 1910-11 was 445; graduates, 151. The next session begins Sept. 29, 1911, and ends June 10, 1912.

Jefferson Medical College, Tenth and Walnut Streets.—Organized in 1825 as the Medical Department of Jefferson College, Cannonsburg. The first class graduated in 1826. The present title was assumed in 1838. It has a faculty of 33 professors and 97 lecturers, demonstrators, etc., a total of 130. The course of study covers graded work of four years of eight and a half months each. An optional fifth year is offered. The tuition is $180 a year, with a matriculation fee of $5, paid but once. The Dean is Dr. James W. Holland. The total registration for 1910-11 was 559; graduates, 127. The eighty-seventh session begins Sept. 25, 1911, and ends June 3, 1912.

Medico-Chirurgical College of Philadelphia, Cherry Street, between Seventeenth and Eighteenth Streets.—Organized in 1881. The first class graduated in 1882. The faculty is composed of 35 professors and 69 lecturers, assistants, etc., a total of 104: The work embraces four years of eight months each. The fees for each of the four years, respectively, are $162.50, $159, $155.50 and $150. The Dean is Dr. Seneca Egbert. The total registration for 1910-11 was 462; graduates, 74. The thirty-first session begins Sept. 25, 1911, and ends June 7, 1912.

Woman's Medical College of Pennsylvania, Twenty-first and N. College Avenue.—Organized in 1850. Classes were graduated in 1851 and in all subsequent years except 1861 and 1862. It has a faculty of 10 professors and 50 assistants, lecturers, etc., in all 60. The curriculum covers four years of eight months each. Fees, about $145 each year. The Dean is Dr. Clara Marshall. The total registration for 1910-11 was 110; graduates, 32. The sixty-second session begins Sept. 21, 1911, and ends May 31, 1912.

Hahnemann Medical College and Hospital.—Organized in 1848 as the Homeopathic Medical College of Pennsylvania. In 1869 it united with the Hahnemann Medical College of Philadelphia, taking the present title. The first class graduated in 1849. It has a faculty of 13 professors and 67 lecturers, instructors, etc., in all 80. The work covers four years of eight and a half months each. Fees: For each year, $150; matriculation, $5. The Dean is Dr. William B. Van Lennep. The total registration for the college year 1910-11 was 135; graduates, 37. The sixty-fourth session begins Sept. 27, 1911, and ends June 6, 1912.

The Temple University Department of Medicine, Eighteenth and Buttonwood Streets.—Organized in 1901. The first class graduated in 1904. The faculty numbers 84. It gives a four-year day course. The fees are $150 per year. The Dean is Dr. Frank C. Hammond. The total registration for 1910-11 was 91; graduates, 23. The eleventh session begins Sept. 15, 1911, and ends June 3, 1912.

Pittsburgh

University of Pittsburgh Medical Department, Brereton Avenue and Thirtieth Street.—Organized in 1886 as the Western Pennsylvania Medical College. Became the Medical Department of the University of Pittsburgh in 1909. The first class graduated in 1887. The faculty is composed of 43 professors and 59 associates, assistants, etc., 102 in all. The course of study embraces four years of eight and a half months each. The total fees for each of the four years, respectively, are $235, $220, $155 and $160. The Dean is Dr. Thomas S. Arbuthnot. The total registration for 1910-11 was 240; graduates, 55. The twenty-eighth session begins Sept. 25, 1911, and ends June 12, 1912.

PHILIPPINE ISLANDS

The Philippine Archipelago, having a population of 7,635,436, has one medical college, the University of the Philippines College of Medicine and Surgery. It is located in the City of Manila, which in 1903 had a population of 219,928.

Manila

University of the Philippines College of Medicine and Surgery, Manila.—Organized in 1907 as the Philippine Medical School, under the support of the Philippines Commission. Present title in 1910. The faculty numbers 42. The course extends over five years of nine months each. The requirements for admission conform to the standards in the United States and Great Britain. The Dean is Dr. Paul C. Freer. The total registration for 1910-11 was 65; graduates, 3. The fifth session begins June 1, 1911, and ends March 4, 1912.

SOUTH CAROLINA

South Carolina, population 1,515,400, has one medical college, situated in Charleston, a city of 58,833 people.

Charleston

The Medical College of the State of South Carolina.—Founded in 1823 as the Medical College of South Carolina. In 1832 it was chartered with the present title. Classes were graduated in 1825 and in all subsequent years except 1861 to 1865 inclusive. It has a faculty of 11 professors and 30 lecturers, instructors, etc., a total of 41. The course covers four years of eight months each. The total fees each year are $100. The Dean is Dr. Robert Wilson. Total enrolment for 1910-11 was 203; graduates, 49. The eighty-ninth session begins Oct. 2, 1911, and ends June 3, 1912.

SOUTH DAKOTA

South Dakota, population 583,888, has one medical college, the University of South Dakota College of Medicine, located at Vermilion, a city of 2,147 people.

Vermilion

University of South Dakota College of Medicine.—Organized in 1907. Offers only the first two years of the medical course. Two years work in a college of liberal arts is required for admission. The faculty numbers 9. The Dean is Christian P. Lommen, B.S. The total registration for 1910-11 was 7. The fifth session begins Sept. 18, 1911, and ends June 6, 1912.

TENNESSEE

Tennessee, population 2,184,789, has six medical colleges. Of these Vanderbilt University Medical Department and Meharry Medical College are situated in Nashville, a city with a population of 106,476. Knoxville, population 37,758, contains one college, the Tennessee Medical College. Memphis Hospital Medical College, the Medical Department of the University of Tennessee and the University of West Tennessee are located in Memphis, population 136,363.

Knoxville

Tennessee Medical College, Cleveland Street and Dameron Avenue. It is the Medical Department of Lincoln Memorial University. Organized in 1889. The first class graduated in 1890. It has a faculty of 20 professors and 7 assistants, a total of 27. The curriculum covers four years of seven months each. Fees: First three years, each $100; fourth year, $125; matriculation fee, $5; graduation fee, $25. The total registration for 1910-11 was 101; graduates, 24. The twenty-second session begins Oct. 2, 1911, and ends May 9, 1912.

Memphis.

University of Tennessee Medical Department.—Organized 1876 as Nashville Medical College. Became Medical Department University of Tennessee 1879. First class graduated 1877 and a class graduated each subsequent year. In 1909 it united with the Medical Department of the University of Nashville to form the Universities of Nashville and Tennessee. Union dissolved in 1911 and this college removed to Memphis, where it united with the College of Physicians and Surgeons. Total registration in the combined schools in 1910-11 was 308; graduates, 85. The next session begins Sept. 13, 1911, and ends May 7, 1912.

Memphis Hospital Medical College, Marshall Avenue and Myrtle Street.—Organized in 1880. The first class graduated in 1881. It has a faculty of 12 professors and 31 lecturers, instructors, etc., a total of 43. The course covers four years of thirty weeks each. The total fees for each of the first three years are $125, for the fourth, $150. The Dean is Dr. W. B. Rogers. Total registration for 1910-11 was 379; graduates, 97. The thirty-second annual session will begin Oct. 12, 1911, and close May 18, 1912.

Medical Department of the University of West Tennessee. Colored, 1190 South Phillips Place.—Organized in 1900. The first class graduated in 1904 and a class graduated each subsequent year. It has a faculty of 16. The course is four years of thirty weeks each. The fees are $50 per year; graduation $10 extra. The Dean is Dr. M. V. Lynk. Registration for 1910-11 was 35; graduates, 8. The twelfth session begins Sept. 14, 1911, and ends May 1, 1912.

Nashville

Vanderbilt University Medical Department, Elm Street and Fifth Avenue.—This school was founded in 1874. The first class graduated in 1875. The faculty consists of 20 professors and 30 lecturers, a total of 50. The course covers four years of eight months each. The total fees for each of the first three years are $125, and for the fourth year, $150. The Dean is Dr. William L. Dudley. The total registration for 1910-11 was 279; graduates, 40. The thirty-eighth session begins Sept. 20, 1911, and ends May 15, 1912.

Meharry Medical College, Colored, Maple and Chestnut Streets.—This school was organized in 1876 and is the Medical Department of Walden University. The faculty is made up of 12 professors and 14 instructors, demonstrators, etc., 26 in all. The work embraces four years of thirty-two weeks each. The total fees for each of the four years, respectively, are $56, $59, $57 and $65. The Dean is Dr. G. W. Hubbard. Total registration for 1910-11 was 299; graduates, 56. The thirty-sixth session begins Sept. 13, 1911, and ends April 24, 1912.

TEXAS

Texas, population 3,096,542, has four medical colleges. The University of Texas Department of Medicine is located at Galveston, a city of 36,981 inhabitants. The Medical Department of Fort Worth University is at Fort Worth, population 73,312. The Baylor University College of Medicine and the Medical Department of Southwestern University are situated in Dallas, population 92,104.

Dallas

Baylor University College of Medicine, 435-37 South Ervay Street.—Organized in 1900 as the University of Dallas Medical Department. In 1903 it took its present name and became the Medical Department of Baylor University at Waco. It acquired the charter of Dallas Medical College in 1904. The first class graduated in 1901. The faculty numbers 28. The course is four years of seven months each. The fees are $100 each year; matriculation fee of $5, paid but once; graduation fee, $25. The Dean is Dr. E. H. Cary. Total registration for 1910-11 was 90; graduates, 17. The twelfth session begins Oct. 2, 1911, and ends May 21, 1912.

Southwestern University Medical College.—Organized in 1903. The first class graduated in 1904. It has a faculty of 19 professors and 13 instructors, assistants, etc., a total of 32. The course of instruction covers four years of eight months each. The fees for the four years, respectively, are $110, $105, $100 and $125. The Dean is Dr. John O. McReynolds. Total registration for 1910-11 was 69; graduates, 17. The ninth session begins Oct. 2, 1911, and ends May 25, 1912.

Fort Worth

Fort Worth School of Medicine, Medical Department of Texas Christian University, Calhoun and Fifth Streets.—Organized in 1894 as the Medical Department of Fort Worth University. The first class graduated in 1895. Present title in 1911. It has a faculty of 17 professors and 32 lecturers, assistants, etc., in all 49. The course covers four years of seven and a half months each. The total fees for each of the four years, respectively, are $114, $113, $108 and $125. The Dean is Dr. W. R. Thompson. The total registration for the college year 1910-11 was 90; graduates, 28. The eighteenth session begins Sept. 25, 1911, and ends May 16, 1912.

Galveston

University of Texas Department of Medicine, Avenue B and Ninth Street.—Organized in 1891. The first class graduated in 1892. It has a faculty of 12 professors and 13 lecturers, a total of 25. The curriculum embraces four years of eight months each. The entrance requirement is one year of collegiate work in addition to a four-year high school education. The total fees for the four years, respectively, are $61, $31, $21 and $6. The Dean is Dr. William S. Carter. Total registration for 1910-11 was 177; graduates, 53. The twenty-first session begins Oct. 2, 1911, and ends May 31, 1912.

UTAH

Utah, population 373,351, has one medical college, the Medical Department of the University of Utah, situated at Salt Lake City, which has 92,777 people.

Salt Lake City

University of Utah School of Medicine.—Organized in 1906. Gives only the first two years of the medical course. Each course covers thirty-six weeks. Two years of collegiate work are required for admission. The medical faculty consists of 9 professors and 10 lecturers and assistants, a total of 19. The fees are $55 each year. The Acting-dean is Dr. Charles T. Vorhies. Total registration for 1910-11 was 19. The fifth session begins September 18, 1911, and ends June 1, 1912.

VERMONT

Vermont, population 355,956, has one medical school, located at Burlington, a town of 20,468 people.

Burlington

University of Vermont College of Medicine, Pearl Street, College Park.—Organized with complete course in 1822. Classes graduated in 1823 to 1836, inclusive, when the school was sus- pended. It was reorganized in 1853 and classes were graduated in 1854 and in all subsequent years. The faculty numbers 54. The course of study covers four years of thirty weeks each. The total fees for each of the first three years are $135, and $165 for the fourth year. The Secretary is Dr. James N. Jenne. The total registration for 1910-11 was 186; graduates, 40. The next session begins Oct. 30, 1911, and ends June 27, 1912.

VIRGINIA

Virginia, population 2,061,612, has three medical colleges, one, the Medical Department of the University of Virginia, situated in Charlottesville, population 6,765, and two, the Medical College of Virginia and the University College of Medicine, in Richmond, population 127,628.

Charlottesville

University of Virginia Department of Medicine.—Organized in 1827. Classes were graduated in 1828 and in all subsequent years except 1865. It has a faculty of 16 professors and 17 lecturers, instructors, assistants, etc., a total of 33. The requirements for admission are the completion of a four years' high school course, or its equivalent, and a year of college work devoted to chemistry, physics and biology. Total fees each year are $150. The Dean is Dr. R. H. Whitehead. The total registration for 1910-11 was 79; graduates, 20. The next session begins Sept. 14, 1911, and ends June 12, 1912.

Richmond

Medical College of Virginia, Marshall and College Streets.—Organized in 1838 as the Medical Department of Hampden Sydney College. Present title was taken in 1854. Classes were graduated in 1840 and in all subsequent years. It has a faculty of 16 professors and 38 lecturers, instructors, etc., a total of 54. The requirement for admission is a full four-year high school education. The course embraces four years of eight months each. Fees, $100 each year; graduation fee, $30. The Dean is Dr. Christopher Tompkins. The total registration for the college year 1910-11 was 210; graduates, 40. The seventy-fourth session begins Sept. 12, 1911, and ends May 29, 1912.

University College of Medicine, Twelfth and Clay Streets.—Organized in 1893. The first class graduated in 1894. It has a faculty of 65. Curriculum covers four years of eight months each. The total fees are $100 for each year. The Dean is Dr. A. L. Gray. The total registration for the college year 1910-11 was 149; graduates, 33. The nineteenth session begins Sept. 12, 1911, and ends May 24, 1912.

WISCONSIN

Wisconsin, population 2,333,860, has three medical colleges, the Medical Department of the University of Wisconsin, which teaches the first two years of the medical course, and is located at Madison, a city of 25,531 people, and the Milwaukee Medical College and Wisconsin College of Physicians and Surgeons, situated in Milwaukee, a city of 373,857 people.

Madison

University of Wisconsin College of Medicine.—Organized in 1907. Gives only the first two years of the medical course. For matriculation at least two years in a college of arts and science or an equivalent training are required, including two years of Latin, a reading knowledge of French and German, and at least a year's work in physics, chemistry and biology. It has a faculty of 12 professors and 4 lecturers, instructors, etc., a total of 16. The Dean is Dr. Charles R. Bardeen. The registration for 1910-11 was 48. The fourth session begins Sept. 27, 1911, and ends June 22, 1912.

Milwaukee

Milwaukee Medical College, Ninth and Wells Streets.—Organized in 1894. The first class graduated in 1895. It became the Medical Department of the Marquette University in 1907. It has a faculty of 33 professors and 29 lecturers, instructors, etc., a total of 62. The course covers four years of eight months each. The total fees are $135 each for the first three years and $150 for the fourth year. The Dean is Dr. Warren B. Hill. The total registration for 1910-11 was 253; graduates, 48. The eighteenth session begins Oct. 3, 1911, and ends May 27, 1912.

Wisconsin College of Physicians and Surgeons, Fourth Street and Reservoir Avenue.—Organized in 1893. The first class graduated in 1894. In 1898 it became the medical department of Carroll College. It has a faculty of 20 professors and 34 lecturers, instructors, etc., a total of 54. The curriculum includes four years of eight months each. Total fees each year for the four years, respectively, are $145, $135, $130 and $145. The Dean is Dr. Thomas C. Phillips. The total registration for 1910-11 was 55; graduates, 16. The twentieth session begins Oct. 2, 1911, and ends May 24, 1912.

CANADA

Manitoba

Manitoba Medical College, Winnipeg.—It is the Medical Faculty of the University of Manitoba. Organized in 1883, first class graduated in 1886 and a class graduated each subsequent year. The faculty numbers 50. The fees are $155 for the first year and $150 for each subsequent year. The entire course covers five years. The Dean is Dr. H. H. Chown, 263 Broadway, Winnipeg. Total registration for 1910-11 was 137; graduates, 18. The next session begins Oct. 1. 1911, and ends May 1, 1912.

Nova Scotia

Dalhousie Medical College, Medical Faculty of Dalhousie University, Halifax.—Organized 1867 as Halifax School of Med- icine, united same year with Dalhousie University, separately incor- porated 1876, affiliated with Dalhousie University 1885, first class graduated 1872 and a class graduated each subsequent year except 1873 and 1886. The Medical Faculty of Dalhousie University is the Examining Board for Nova Scotia and teaches only the pre- medical branches; Halifax Medical College taught the medical courses, but the Medical Faculty conducted the examinations and granted the degrees. Entire control secured by Dalhousie University in 1911. The course covers four years. The Dean is Dr. George L. Sinclair; the Secretary is Dr. A. W. H. Lindsay. The total registration for 1910-11 was 71; graduates, 16. The next session begins Aug. 31, 1911, and ends April 28, 1912.

Ontario

University of Toronto Faculty of Medicine, Toronto.—Organized 1843 as the Medical Faculty of King's College. Abolished in 1853. Re-established in 1887. The course of study covers five years of eight months each. In 1903 it absorbed Trinity Medical College. The Secretary is Dr. A. Primrose. The total registration for 1910-11 was 510; graduates, 143. The next session begins Sept. 27, 1911, and ends May 18, 1912.

Medical Faculty of Queen's University, Kingston.—Organized 1854, first class graduated in 1855, and a class graduated each subsequent year. The faculty was originally a department of the University, but a separation took place in 1866, when the school was conducted under the charter of the Royal College of Physicians and Surgeons at Kingston. In 1892 the school again became an integral part Queen's University. The fees amount to $105 each year; fee for M.D., C.M. degrees, $30. The course covers five years of seven months each. The total registration in 1910-11 was 232; graduates, 46. The Dean is Dr. A. R. B. Williamson. The next session begins Sept. 13, 1911, and ends April 24, 1912.

Medical Department of Western University, London.—Organized in 1881, first class graduated in 1883 and a class graduated each year subsequently. The faculty numbers 26. The course is five years of seven and a half months each. The Registrar is Dr. W. E. Waugh. Total registration for 1910-11 was 129; graduates, 26. The next session begins Sept. 12, 1911, and ends April 30, 1912.

Quebec

Medical Faculty of McGill University.—Founded 1824 as Montreal Medical Institution; became the Medical Faculty of McGill University in 1829; first class graduated under the uni- versity auspices in 1833. No session between 1836-39 owing to political troubles. In 1905 it absorbed the Faculty of Medicine of the University of Bishop College. The course extends over five years of eight months each. The faculty numbers 100. The total fees for each of the five years, respectively, are $160, $160, $148, $154 and $184. The total registration for 1910-11 was 308; graduates, 31. The Registrar is Dr. John W. Scane. The next session begins Oct. 2, 1911, and ends June 12, 1912.

Laval University Medical Department, Quebec.—The Quebec School of Medicine, organized in 1848, became in 1852 Medical Department of Laval University; first class graduated in 1855. and a class graduated each subsequent year. The course extends over five years. The Dean is Dr. Michael Joseph Ahern, Quebec. Total registration 1910-11 was 84; graduates, 19. The next session begins Sept. 12, 1911, and ends June 20, 1912.

Laval University, Medical Department, Montreal.—Organized in 1878. First class graduated in 1879. The course extends over five years. The Dean is Dr. E. P. Lachapelle. The total registration for 1910-11 was 195; graduates, 51. The next session begins Oct. 2, 1911, and ends June 20, 1912.

MEDICAL COLLEGES OF THE WORLD.

Nation.	Colleges.	Nation.	Colleges.
Argentine	2	Iceland	1
Australia	3	India	5
Austria	7	Ireland	4
Belgium	4	Italy	20
Bolivia	2	Japan	8
Brazil	3	Madagascar	1
Canada	8	Mexico	9
Chile	1	Netherlands	4
China	8	New Zealand	1
Colombia	1	Norway	1
Cuba	1	Peru	1
Denmark	1	Portugal	3
Ecuador	1	Roumania	2
Egypt	1	Russia	11
England	21	Scotland	8
France	7	Spain	9
Germany	20	Sweden	3
Greece	1	Switzerland	7
Guatemala	1	Syria	2
Haiti	1	Turkey	1
Honduras	1	Uruguay	1
Hungary	2	Wales	1

Total medical colleges in all foreign countries..............200

Total in the United States alone..............120

Counting also the 20 sectarian schools, the graduates of which treat diseases, gives the United States a total of 140.

STANDARDS OF THE COUNCIL ON MEDICAL EDUCATION OF THE AMERICAN MEDICAL ASSOCIATION

These standards were prepared by the Council on Medical Education acting under the direction of the House of Delegates of the American Medical Association.

Standard Now Recommended

The standard now recommended prerequisite to the practice of medicine is as follows:

(A) Preliminary education sufficient to enable the candidate to enter our recognized universities, such qualifications to be passed on by the state authorities. (B) A premedical course of one or two years devoted to the sciences of physics, chemistry and biology and to modern languages. (C) Four years in pure medical work, the first two of which should be largely spent in laboratories of anatomy, physiology, pathology, pharmacology, etc., and the last two in close contact with patients in dispensaries and hospitals in the study of medicine, surgery, obstetrics, and the specialities. (D) A final year as an interne in a hospital or dispensary should then complete the medical course.

Standard High School Course

SCHEDULE OF SUBJECTS OFFERED IN ACADEMIC AND SECONDARY SCHOOLS, CREDITS IN WHICH ARE ACCEPTABLE FOR ENTRANCE TO MEDICAL COLLEGES

Based on the requirements of the College Entrance Examination Board.

SUBJECTS	UNITS.	REQUIRED.	ELECTIVE.
ENGLISH			
READING AND PRACTICE	2	2	...
Study and Practice	1	...	1
MATHEMATICS			
ALGEBRA, TO QUADRATICS	1	1	...
ALGEBRA (Quadratic Equations, Binomial Theorem and Progressions	½	...	½
PLANE GEOMETRY	1	1	...
Solid Geometry	½	...	½
Trigonometry	½	...	½
LATIN			
GRAMMAR AND COMPOSITION	1	1	...
CAESAR	1	1	4
Cicero	1	...	1
Virgil	1	...	1
Cornelius Nepos	1	...	1
Greek			
Grammar and Composition	1	*	1
Xenophon	1	...	1
Homer	1	...	1
German			
Elementary	2	**	2
Intermediate	1	...	1
French			
Elementary	2	**	2
Intermediate	1	...	1
Spanish			
Elementary	2	**	2
HISTORY			
UNITED STATES HISTORY	1	1	...
Greek and Roman History	1	...	1
Medieval and Modern	1	...	1
English	1	...	1
SCIENCE †			
Botany and Zoology, each	½	...	½
or Biology	1	...	1
Chemistry	1	...	1
PHYSICS	1	1	...
Physiography	½	...	½
Physiology	½	...	½
Drawing	1	...	1
Music			
Appreciation	1	...	1
Harmony	1	...	1
Total	34	8	26

A *unit* is the credit value of 36 weeks' work of 5 recitation periods per week, each recitation period to be of not less than 40 minutes.

Required Branches: Of the 14 units of high school work it is suggested that the subjects in capitals aggregating 8 units should be required. Other work to the amount of at least 6 units may be made up from any of the other subjects of the above schedule.

* Two units of Greek may be substituted for the two required units of Latin.

** A reading knowledge of German, French or other modern language is recommended in the high school courses of students contemplating the study of medicine without higher preliminary qualifications.

† It should be understood that each science course must include laboratory work.

Under such a scheme the majority of men would begin the study of medicine between 18 and 19 years of age, and would graduate from the hospital internship at from 24 to 25. A college education is recognized as a desirable preparation for a limited number of men, but it is thought that it is not and never will be desirable to make such college education a minimum requirement to the study of medicine, as it would make the age of graduation from 27 to 28 years, which is regarded as too old a period at which the young medical man should begin his life's work.

An Acceptable Medical College

The following outline of the essentials of an acceptable medical college was issued by the Council on Medical Education of the American Medical Association for its suggestive value in the rapid development in progress among the medical colleges in the United States:

1. A strict enforcement of all standards and requirements, the college itself to be held responsible for any instances where they are not enforced.

2. A requirement for admission of at least a four-year high school education superimposed on eight years of grammar school work as defined by the College Entrance Examination Board and required by the Carnegie Foundation for the Advancement of Teaching (see schedule, opposite column).

3. As soon as conditions warrant, the minimum requirement for admission should be enlarged to include at least one year's college work in physics, chemistry and biology and a reading knowledge of at least one modern language, preferably German or French.

4. A requirement that students be in actual attendance in the college within the first week of each annual session and thereafter.

5. That actual attendance at classes be insisted on except for good cause, such as for sickness, and that no credit be given under any circumstances for less than 80 per cent. of attendance on each course.

6. That advanced standing be granted only to students of other acceptable colleges and that in granting advanced standing there shall be no discrimination against the college's full-course student.

7. Careful and intelligent supervision of the entire school by a dean or other executive officer who holds, and has sufficient authority to carry out, fair ideals of medical education as interpreted by modern demands.

8. A good system of records showing conveniently the credentials, attendance, grades and accounts of the students.

9. A fully graded course covering four years of at least 30 weeks each, exclusive of holidays, and at least 30 hours per week of actual work; this course should be clearly set forth in a carefully prepared and printed schedule of lectures and classes.

10. Two years of work consisting largely of laboratory work in thoroughly equipped laboratories in anatomy, histology, embryology, physiology, chemistry (inorganic, organic and physiologic), bacteriology, pathology, pharmacology, therapeutics and clinical diagnosis.

11. Two years of clinical work largely in hospitals and dispensaries, with thorough courses in internal medicine (including physical diagnosis, pediatrics, nervous and mental diseases), surgery (including surgical anatomy and operative surgery on the cadaver), obstetrics, gynecology, laryngology, rhinology, ophthalmology, otology, dermatology, hygiene and medical jurisprudence.

12. At least six expert, thoroughly trained instructors in the laboratory branches, salaried so they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects. These instructors should rank sufficiently high to have some voice in the conduct of the college. There should also be a sufficient number of assistants in each department to look after the less important details.

13. The medical teaching should be of at least the same degree of excellence as obtains in our recognized liberal arts colleges and technical schools.

14. The members of the faculty, with a few allowable exceptions, should be graduates of institutions recognized as medical colleges and should have had a training in all departments of medicine. They should be appointed because of their ability as teachers and not because they happen to be on the attending staff of some hospital or for other like reasons.

15. The college should own or entirely control a hospital in order that students may come into close and extended contact with patients under the supervision of the attending staff. The hospital should have a sufficiently large number of patients to permit the student to see and study the common variety of surgical and medical cases as well as a fair number in each of the so-called specialties.

16. The college should have easily accessible hospital facilities of not less than 200 patients which can be utilized for clinical teaching (for senior classes of 100 students or less), these patients to represent in fair proportion all departments of medicine.

17. The college should have additional hospital facilities for children's diseases, contagious diseases and nervous and mental diseases.

18. Facilities for at least five maternity cases for each senior student, who should have actual charge of these cases under the supervision of the attending physician.

19. Facilities for at least 30 autopsies during each college session (for senior classes of 100 students or less).

20. A dispensary, or out-patient department, under the control of the college, the attendance to be a daily average of 60 cases (for senior classes of 100 students or less), the patients to be carefully classified, good histories and records of the patients to be kept and the material to be well used.

21. The college should have a working medical library to include the more modern text and reference books and 10 or more leading medical periodicals; the library room to be easily accessible to students during all or the greater part of the day; to have suitable tables and chairs and to have an attendant in charge.

22. A working medical museum having its various anatomic, embryologic, pathologic and other specimens carefully prepared, labeled and indexed so that any specimen may be easily found and employed for teaching purposes.

23. A supply of such useful auxiliary apparatus as a stereopticon, a reflectoscope, carefully prepared charts, embryologic or other models, manikins, dummies for use in bandaging; a Roentgen ray or other apparatus now so generally used in medical teaching.

24. The colleges should show evidences of reasonably modern methods in all departments and evidences that the equipment and facilities are being intelligently used in the training of medical students.

25. A clear statement of the college's requirements for admission, tuition, time of attendance on the classes, sessions and graduation should be clearly set forth, together with complete lists of its matriculants and latest graduating class in regular annual catalogues or announcements.

Definitions of a Medical College* and a Medical School†

"An institution to be ranked as a medical college must have at least six (6) professors giving their entire time to medical work, a graded course of four full years of college grade in medicine, and must require for admission not less than the usual four years of academic or high-school preparation, or its equivalent, in addition to the preacademic or grammar school studies."

By a medical school as differentiated from a medical college is meant a part of a university requiring for admission the equivalent of two years of collegiate work and which offers instruction of not less than two years' duration, leading to the degree of Doctor of Medicine.

COLLEGES LISTED AS ACCEPTABLE (CLASS A)

By the Council on Medical Education of the American Medical Association

1. Giving a complete four-year course:

Alabama
  University of Alabama Medical Department.

California
  Leland Stanford Junior University Medical Department (Cooper Medical College).
  University of California Medical Department, San Francisco-Los Angeles.

Colorado
  University of Colorado, School of Medicine.

Connecticut
  Yale Medical School.

District of Columbia
  George Washington University, Department of Medicine.
  Georgetown University, School of Medicine.

Illinois
  Northwestern University Medical School.
  Rush Medical College, University of Chicago.
  College of Physicians and Surgeons, Chicago.
  Hahnemann Medical College and Hospital, Chicago.

Indiana
  Indiana University School of Medicine.

Iowa
  State University of Iowa, College of Medicine.
  State University of Iowa, Homeopathic College.
  Drake University, College of Medicine.

Kansas
  University of Kansas, School of Medicine.

Kentucky
  University of Louisville, Medical Department.

Louisiana
  Tulane University of Louisiana, Medical Department.

Maine
  Medical School of Maine.

Maryland
  Johns Hopkins University, Medical Department.
  University of Maryland, School of Medicine.
  College of Physicians and Surgeons, Baltimore.
  Baltimore Medical College.

Massachusetts
  Boston University, School of Medicine.
  Harvard Medical School.
  Tufts College Medical School.

Michigan
  University of Michigan, Department of Medicine and Surgery.
  University of Michigan, Homeopathic College.
  Detroit College of Medicine.

Minnesota
  University of Minnesota, College of Medicine and Surgery.

Missouri
  St. Louis University, School of Medicine.
  Washington University Medical Department.
  University Medical College, Kansas City.

Nebraska
  Creighton Medical College.
  University of Nebraska, College of Medicine.

New Hampshire
  Dartmouth Medical School.

New York
  Albany Medical College.
  Columbia University, College of Physicians and Surgeons.
  Cornell University Medical College.
  Fordham University, School of Medicine.
  Long Island College Hospital.
  New York Homeopathic Medical College and Hospital.
  Syracuse University, Medical Department.
  University and Bellevue Hospital Medical College.
  University of Buffalo, Medical Department.

Ohio
  Ohio-Miami Medical College, Medical Department, University of Cincinnati.
  Starling-Ohio Medical College.
  Western Reserve University, Medical Department.

Oregon
  University of Oregon, Medical Department.

Pennsylvania
  Hahnemann Medical College and Hospital, Philadelphia.
  Jefferson Medical College.
  Medico-Chirurgical College of Philadelphia.
  University of Pennsylvania, Medical Department.
  Woman's Medical College of Pennsylvania.
  University of Pittsburg, Medical Department.

Tennessee
  Vanderbilt University, Medical Department.

Texas
  University of Texas, Medical Department.

Vermont
  University of Vermont, College of Medicine

Virginia
  Medical College of Virginia.
  University College of Medicine.
  University of Virginia, Department of Medicine.

2. Giving a two-year course acceptably:

Mississippi
  University of Mississippi, Medical Department.

Missouri
  University of Missouri, Medical Department.

North Carolina
  University of North Carolina College of Medicine
  Wake Forest College, Medical School.

North Dakota
  University of North Dakota, College of Medicine.

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* This definition of a college is based on that given in the revised ordinances of the State of New York and which was adopted by the Carnegie Foundation for the Advancement of Teaching as their standard.

† Based on the definition of the term "school" adopted in 1909 by the Association of American Universities.

Oklahoma
University of Oklahoma School of Medicine.
South Dakota
University of South Dakota, College of Medicine.
Utah
University of Utah, Department of Medicine.
West Virginia
West Virginia University, Department of Medicine.
Wisconsin
University of Wisconsin, College of Medicine.

3. Medical Schools for the Colored Race:

Howard University, Medical Department, Washington, D. C.
Meharry Medical College, Nashville, Tenn.

Colleges and States Having Higher Requirements

The twenty-eight medical schools which are now requiring as a minimum for entrance two or more years of work in a college of liberal arts in addition to a four-year high-school education are as follows:

College	Began
Johns Hopkins University, Medical Department	1893
Harvard Medical School	1900
Western Reserve University, Medical Department	1901
University of Chicago, Rush Medical College	1904
University of California, Medical Department	1905
University of Minnesota, College of Medicine and Surgery	1907
University of North Dakota, College of Medicine	1907
University of Wisconsin, College of Medicine	1907
Cornell University Medical College	1908
Wake Forest College, School of Medicine	1908
Leland Stanford Junior University, Department of Medicine	1909
Yale Medical School	1909
University of Kansas, School of Medicine	1909
University of Michigan, College of Medicine	1909
University of Nebraska, College of Medicine	1909
University of South Dakota, College of Medicine	1909
University of Colorado, School of Medicine	1910
Indiana University School of Medicine*	1910
State University of Iowa, College of Medicine*	1910
State University of Iowa, College of Homeopathic Medicine	1910
Drake University College of Medicine	1910
University of Missouri, Department of Medicine†	1910
Dartmouth Medical School	1910
Columbia University College of Physicians and Surgeons	1910
Syracuse University College of Medicine*	1910
University of Pennsylvania, Medical Department*	1910
University of Utah, Medical Department*	1910
Northwestern University Medical School‡	1911

* One year required for the session of 1909-10.
† One year has been required since 1906.
‡ One year required since the session of 1908-09.

The thirteen following colleges require in addition to a four-year high-school course one year of work in a college of liberal arts.

College	In Force
Howard University School of Medicine	1910
Kansas Medical College	1910
Tulane University, Medical Department	1910
St. Louis University School of Medicine	1910
University Medical College, Kansas City	1910
Washington University, Medical Department*	1910
University of North Carolina School of Medicine	1910
Ohio-Miami Medical College, University of Cincinnati	1910
University of Oregon, Medical Department	1910
University of Texas, Medical Department	1910
University of Virginia, Department of Medicine	1910
Fordham University School of Medicine	1911
University of Pittsburgh, Medical Department	1911

* Will require two years in 1912 and thereafter.

Six other colleges have stated in printed announcements that one year of collegiate work in addition to a four year high-school education will be required for admission beginning in 1912. These are:

Georgetown University School of Medicine.
Boston University School of Medicine.
Medical School of Maine.
University of Michigan, Homeopathic College.
University and Bellevue Hospital Medical College.
University of Vermont, College of Medicine.

From the fact that forty-seven medical colleges have adopted higher entrance requirements it is interesting to note that nine state examining boards have also adopted preliminary requirements in advance of a four-year high-school education. These are as follows:

State Examining Board of	No. of Years Required.	Affects Students Matriculating.	Affects All Applicants.
North Dakota	2	1907-08	1911
South Dakota	1	1907-08	1911
Iowa	2	1907-08	1911
Minnesota	2	1908-09	1912
Colorado	1	1908-09	1912
Colorado	2	1910-11	1914
Connecticut	1	1910-11	1914
Kansas	1	1910-11	1914
Indiana	1	1909-10	1913
Indiana	2	1910-11	1914
Utah	1	1910-11	1914

There are several other states which are contemplating similar increases in their requirements in the near future.

THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES

The requirements for admission to and graduation from colleges holding membership in force prior to April 10, 1905, were as follows:

Section 1.—Each college holding membership in this Association shall require of each student, before admission to its course of study, an examination, the minimum of which shall be as follows:

1. In English, a composition on some subject of general interest. This composition must be written by the student at the time of the examination, and should contain at least 200 words. It should be criticized in relation to thought, construction, punctuation, spelling and handwriting.

2. In Arithmetic, such questions as will show a thorough knowledge of common and decimal fractions, compound numbers, and ratio and proportion.

3. In Algebra, such questions as will bring out the student's knowledge of the fundamental operations, factoring, and simple quadratic equations.

4. In Physics, such questions as will discover the student's understanding of the elements of mechanics, hydrostatics, hydraulics, optics and acoustics.

5. In Latin, an examination on such elementary work as the student may offer, showing a familiarity usually attained by one year of study; for example, the reading of the first fifteen chapters of Cæsar's Commentaries, and the translation into Latin of easy English sentences involving the same vocabulary.

Sec. 2.—In place of this examination, or any part of it, colleges, members of this Association, are at liberty to recognize the official certificates of reputable literary and scientific colleges, academies, high schools, and normal schools, and also the medical student's certificate issued by any state examining board covering the work of the foregoing entrance examination.

Sec. 3.—Colleges, members of this Association, may allow students who fail in one or more branches in this entrance examination the privilege of entering the first-year course, but such students shall not be allowed to begin the second course until the entrance requirements are satisfied.

Sec. 4.—Colleges, members of this Association, are free to honor official credentials issued by medical colleges of equal requirements, except in the branches of study embraced in the last year of their own curriculum.

Sec. 5.—Candidates for the degree of Doctor of Medicine in the year 1899 and thereafter shall have attended at least four courses of medical instruction, each course of at least six months' duration, no two courses of which shall have been in the same calendar year.

Sec. 6.—Colleges, members of this Association, are free to give to students who have met the entrance requirements of the Association additional credit for time on the four years' course as follows: (a) To students having the A.B., B.S., or equivalent degree from reputable literary colleges, one year of time; (b) To graduates and students of colleges, of homeopathic or eclectic medicine, as many years as they attended those colleges, provided they have met the previous requirements of the Association and that they pass an examination in materia medica and therapeutics; (3) To graduates of reputable colleges of dentistry, pharmacy, and veterinary medicine, one year of time.

On April 10, 1905, a new constitution was adopted, which is here given with such amendments as have been made since that time (except where the entire section is changed parts affected by later amendments are inclosed in brackets [] and amendments are printed in italics):

ARTICLE III.

Section 1.—Every college holding membership in this Association shall demand of each student, under the condition hereinafter stated, as a minimum requirement for admission to the medical course:

(On and after Jan. 1, 1912, the above paragraph is no longer effective, the following substitute having been adopted Feb. 28, 1911:

Section 1.—Every college holding membership in this Association shall, on and after Jan. 1, 1912, require for matriculation a completed or unconditioned medical student's certificate, to be granted by a state medical examining and licensing board, or a board empowered by statute to grant such certificates, or a certificate of entrance to the academic department of any state university, or a certificate of entrance to an accredited university or college, providing that said certificate is granted on no less than the following requirements:

(*a*) A bachelor's degree from an accredited college or university.

(*b*) A diploma from an accredited high school, normal school or academy requiring for admission evidence of the completion of an eight-year course in primary and intermediate grades, and for graduation not less than four years of study embracing not less than two years (4 points) [of foreign language, of which one must be Latin], two years (4 points) of mathematics, two years (4 points) of English, one year (2 points) of history, two years (4 points) of laboratory science, and six years (12 points) of further credit in language, literature, history or science.

Amended May 6, 1907, as follows:

(*b*) A diploma from an accredited high school . . . embracing not less than two years (4 points) *of Latin*, two years (4 points) of mathematics, two years (4 points) of English, one year (2 points) of history, [two years (4 points) of laboratory science], and six years (12 points) of further credit in language, literature, history or science.

(*Continued on page 645*)

TABLE 1.—STATISTICS OF MEDICAL COLLEGES IN THE UNITED STATES AND CANADA

	NAME AND LOCATION OF COLLEGE	Population of city where college is located. (Census of 1910.)	No. of students registered 1910-11. Men.	No. of students registered 1910-11. Women.	Graduates 1911. Men.	Graduates 1911. Women.	Grads. with A.B., B.S., or Ph.B.	No. of teachers.	Weeks in college year.	Total fees. (Dollars.) 1st year.	Total fees. (Dollars.) 2nd year.	Total fees. (Dollars.) 3rd year.	Total fees. (Dollars.) 4th year.	Executive Officer.	Session of 1911-12. Begins 1911.	Session of 1911-12. Ends 1912.	
	ALABAMA		**360**	**1**	**71**	...	**7**	...	...	...	...	...	...				
1	Birmingham Medical College, Birmingham	132,683	206	1	28	...	1	34	30	100	100	100	125	B. L. Wyman, M.D., Dean	Sept. 27	May 10	1
2	University of Alabama, Medical Department, Mobile	51,521	154	...	43	...	6	26	30	100	100	100	125	Rhett Goode, M.D., Dean	Sept. 18	May 8	2
	ARKANSAS		**229**	**2**	**76**	...	**7**	...	...	...	...	...	...				
3	College of Physicians and Surgeons, Little Rock (a)	45,941	126	1	42	...	...	...	...	...	...	...	...	....	....	....	3
4	University of Arkansas, Medical Department, Little Rock	45,941	103	1	34	...	7	47	30	100	100	100	125	James H. Lenow, M.D., Dean	Sept. 15	May 8	4
	CALIFORNIA		**379**	**38**	**65**	**7**	**12**	...	...	...	...	...	...				
5	College of Physicians and Surgeons, San Francisco	416,912	23	...	10	...	...	60	35	165	160	160	185	Ethan H. Smith, M.D., Dean	Sept. 4	June 1	5
6	Cooper Medical College, San Francisco (b)	416,912	59	1	23	...	2	40	35	...	...	170	195	Henry Gibbons, Jr., M.D., Dean	Aug. 15	May 10	6
7	Hahnemann Medical College of the Pacific, San Francisco.—H.	416,912	34	...	6	...	...	42	32	155	100	100	100	James W. Ward, M.D., Dean	Aug. 10	April 26	7
8	Leland Stanford Junior University, Dept. of Med., San Francisco	416,912	14	2	...	...	...	25	34	160	160	150	150	R. L. Wilbur, M.D., Dean, San Francisco	Aug. 31	May 15	8
9	University of California, Medical Department, San Francisco	416,912	48	11	5	1	5	57	36	185	185	160	160	A. A. D'Ancona, M.D., Dean	Aug. 15	May 15	9
10	University of California, Medical Department, Los Angeles	319,198	27	6	11	5	4	47	36	...	...	150	150	W. Jarvis Barlow, M.D., Dean	Sept. 4	May 31	10
11	California Eclectic Medical College, Los Angeles.—E.	319,198	24	...	3	...	...	30	32	125	120	100	125	J. A. Munk, M.D., Dean	Sept. 18	May 17	11
12	College of Physicians and Surgeons, Los Angeles	319,198	100	8	7	1	1	48	36	155	156	150	175	Charles W. Bryson, M.D., Dean	Sept. 13	June 13	12
13	Oakland College of Medicine and Surgery, Oakland	150,174	19	2	0	...	...	32	36	210	210	150	175	Edward N. Ewer, M.D., Registrar	Aug. 14	May 18	13
14	College of Medical Evangelists, Loma Linda		31	8	...	...	...	15	36	100	100	100	100	George K. Abbott, M.D., Dean	Sept. 28	June 26	14
	COLORADO		**143**	**9**	**36**	**3**	**14**	...	...	...	...	...	...				
15	University of Colorado, School of Medicine, Boulder-Denver	213,381	143	9	36	3	14	77	35	80	80	80	80	William P. Harlow, M.D., Dean	Sept. 11	June 5	15
	CONNECTICUT		**83**	...	**20**	...	**6**	...	...	...	...	...	...				
16	Yale Medical School, New Haven	133,605	83	...	20	...	6	71	35	221	153	150	163	George Blumer, M.D., Dean	Sept. 28	June 20	16
	DISTRICT OF COLUMBIA		**412**	**10**	**59**	**2**	**11**	...	...	...	...	...	...				
17	George Washington University, Depart. of Medicine, Washington	331,069	94	4	18	1	...	73	33	150	150	150	150	W. C. Borden, M.D., Dean	Sept. 27	June 5	17
18	Georgetown University, School of Medicine, Washington	331,069	131	...	14	...	5	74	34	165	150	150	150	George M. Kober, M.D., Dean	Sept. 27	June 13	18
19	Howard University, School of Medicine, Washington	331,069	187	6	27	1	6	44	32	107	102	102	109	E. A. Balloch, M.D., Dean	Sept. 27	June 1	19
	GEORGIA		**819**	**2**	**168**	...	**8**	...	...	...	...	...	...				
20	Atlanta College of Physicians and Surgeons, Atlanta	154,839	320	...	46	...	3	52	28	100	100	100	100	W. S. Elkin, M.D., Dean	Sept. 27	May 1	20
21	Atlanta School of Medicine, Atlanta	154,839	219	...	47	...	5	44	27	100	100	100	130	E. G. Jones, M.D., Proctor	Sept. 20	April 15	21
22	Georgia College of Eclectic Medicine and Surgery, Atlanta.—E.	154,839	79	2	23	...	...	19	28	80	80	80	105	Elzie B. Thomas, M.D., Proctor	Sept. 19	April 20	22
23	Hospital Medical College, Atlanta.—E.	154,839	65	...	26	...	...	24	27	80	80	80	110	G. W. Patterson, M.D., Secretary	Sept. 15	April 1	23
24	Medical College of Georgia, Augusta	41,040	136	...	26	...	...	38	31	100	100	100	130	W. H. Doughty, Jr., M.D., Dean	Sept. 18	May 15	24
	ILLINOIS		**2538**	**124**	**513**	**23**	**102**	...	...	...	...	...	...				
25	Bennett Medical College, Chicago	2,185,283	273	10	50	6	...	102	34	130	125	125	125	John D. Robertson, M.D., President	Sept. 26	June 13	25
26	Chicago College of Medicine and Surgery, Chicago	2,185,283	614	16	80	6	...	73	31	125	120	100	115	G. E. Wyneken, M.D., Registrar	Sept. 26	May 20	26
27	University of Illinois, College of Medicine, Chicago (c)	2,185,283	475	33	87	7	4	139	33	155	155	150	160	William E. Quine, M.D., Dean	Sept. 26	June 4	27
28	College of Medicine and Surgery, Chicago.—Ph.M. (d)	2,185,283	38	11	4	1	...	...	...	...	...	...	...	....	....	....	28
29	Hahnemann Medical College and Hospital, Chicago.—H.	2,185,283	100	7	21	1	...	84	32	125	125	125	175	W. Henry Wilson, M.D., Registrar	Sept. 25	May 23	29
30	Hering Medical College, Chicago.—H.	2,185,283	36	4	7	...	1	50	33	115	105	110	100	Robert N. Morris, M.D., Dean	Sept. 26	June 6	30
31	Jenner Medical College, Chicago.*	2,185,283	104	13	9	...	...	42	37	130	125	110	135	John D. MacKellar, M.D., Secretary	Sept. 5	June 15	31
32	Northwestern University Medical School, Chicago	2,185,283	397	...	158	...	29	161	32	190	200	192	185	Arthur R. Edwards, M.D., Dean	Oct. 3	June 3	32
33	Reliance Medical College, Chicago.* (e)	2,185,283	98	7	11	1	...	...	...	...	...	...	...	....	....	....	33
34	Rush Medical College, Chicago	2,185,283	403	23	86	1	68	235	33	185	180	180	180	John M. Dodson, M.D., Dean	Oct. 1	June 15	34
	INDIANA		**179**	**9**	**50**	**2**	**4**	...	...	...	...	...	...				
35	Indiana University, School of Medicine, Indianapolis	233,650	179	9	50	2	4	167	35	100	100	135	135	Chas. P. Emerson, M.D., Dean, Indianapolis	Sept. 21	June 18	35
	IOWA		**197**	**11**	**38**	**3**	**8**	...	...	...	...	...	...				
36	Drake University, College of Medicine, Des Moines	86,368	66	6	13	1	3	43	35	165	165	165	165	W. W. Pearson, M.D., Dean	Sept. 20	June 12	36
37	State University of Iowa, College of Medicine, Iowa City	10,091	114	4	23	1	5	40	35	60	50	50	60	James R. Guthrie, M.D., Dean	Sept. 18	June 12	37
38	State Univ. of Iowa, Coll. of Homeopathic Med., Iowa City.—H.	10,091	17	1	2	1	...	24	35	60	50	50	60	George Royal, M.D., Dean	Sept. 18	June 12	38
	KANSAS		**129**	**8**	**25**	**3**	**1**	...	...	...	...	...	...				
39	Kansas Medical College, Topeka	43,684	49	3	9	1	1	41	35	100	100	100	100	William E. McVey, M.D., Dean	Sept. 12	June 5	39
40	University of Kansas, School of Medicine, Kansas City (f)	336,662	80	5	16	2	...	87	36	80	380	100	110	George O. Foster, Registrar, Lawrence	Sept. 13	June 5	40
	KENTUCKY		**472**	...	**169**	...	...	...	...	...	...	...	...				
41	Louisville National Medical College, Louisville	223,928	25	...	10	...	...	...	...	...	...	...	...	E. S. Porter, M.D., Dean	....	....	41
42	University of Louisville, Medical Department, Louisville	223,928	447	...	159	...	...	92	32	105	105	105	125	W. Edward Grant, M.D., Dean	Oct. 2	May 30	42
	LOUISIANA		**392**	**1**	**90**	...	**24**	...	...	...	...	...	...				
43	Flint Medical College, New Orleans (g)	339,075	14	...	...	...	...	...	...	...	...	...	...	....	....	....	43
44	Tulane University Medical Department, New Orleans	339,075	378	1	90	...	24	93	32	180	180	180	210	Isadore Dyer, M.D., Dean	Sept. 29	May 29	44
	MAINE		**67**	...	**13**	...	**5**	...	...	...	...	...	...				
45	Medical School of Maine, Portland	58,571	67	...	13	...	5	41	33	100	100	100	100	Addison S. Thayer, M.D., Dean, Portland	Oct. 12	June 19	45
	MARYLAND		**1295**	**37**	**315**	**10**	**94**	...	...	...	...	...	...				
46	Baltimore Medical College, Baltimore	558,485	205	...	48	...	...	75	34	125	125	125	155	David Streett, M.D., Dean	Sept. 20	June 1	46
47	College of Physicians and Surgeons, Baltimore	558,485	289	...	57	...	...	62	32	155	155	155	185	Charles F. Bevan, M.D., Dean	Oct. 2	June 6	47
48	Johns Hopkins University, Medical Department, Baltimore	558,485	317	30	77	8	85	121	33	217	217	217	217	J. Whitridge Williams, M.D., Dean	Oct. 3	June 11	48
49	Maryland Medical College, Baltimore	558,485	160	7	63	2	2	38	32	111	111	105	135	W. S. Smith, M.D., Dean	Oct. 1	May 31	49
50	University of Maryland, School of Medicine, Baltimore	558,485	324	...	70	...	7	73	32	155	150	150	180	R. Dorsey Coale, M.D., Dean	Oct. 2	June 1	50

	MASSACHUSETTS		**853**	**74**	**178**	**19**	**91**	...	...	...	...	...	...			
51	Boston University, School of Medicine.—H.	670,585	65	21	10	6	2	74	32	142	127	127	155	John P. Sutherland, M.D., Dean	Oct. 5	June 6	51
52	College of Physicians and Surgeons, Boston (h)	670,585	179	19	19	4	3	58	35	100	120	105	130	Thomas D. Crothers, M.D., Dean	Sept. 20	June 12	52
53	Harvard Medical School, Boston	670,595	264	...	87	...	83	176	36	207	203	200	200	Henry A. Christian, M.D., Dean	Sept. 28	June 28	53
54	Tufts College Medical School, Boston	670,585	345	34	62	9	3	116	32	155	155	155	155	Frederic M. Briggs, Secretary	Sept. 27	June 1	54
	MICHIGAN	670,585	179	19	19	4	3	58	35	100	120	105	130				
55	Detroit College of Medicine, Detroit	465,766	163	...	41	...	...	124	32	115	120	100	130	H. O. Walker, M.D., Secretary	Sept. 20	May 23	55
56	Detroit Homeopathic College, Detroit.—H.	465,766	18	3	9	...	1	36	30	95	85	75	95	D. A. MacLachlan, M.D., Dean	Sept. 14	May 1	56
57	University of Michigan, Dept. of Med. and Surg., Ann Arbor	14,817	246	14	57	2	19	71	35	105	95	95	95	Victor C. Vaughan, M.D., Dean	Oct. 3	June 27	57
58	University of Michigan, Homeopathic College, Ann Arbor.—H.	14,817	87	5	13	1	2	24	35	105	95	95	95	W. B. Hinsdale, M.D., Dean	Oct. 3	June 27	58
	MINNESOTA		**168**	**10**	**31**	...	**8**	...	...	...	...	...	...				
59	University of Minnesota, Coll. of Med. and Surg., Minneapolis (i)	516,152	162	10	25	...	8	148	35	150	150	100	100	F. F. Wesbrook, M.D., Dean	Sept. 20	June 14	59
60	Hamline University, Medical Department, Minneapolis (j)	516,152	6	...	6	...	...	...	...	...	...	...	...	....	....	....	60
	MISSISSIPPI		**145**	...	**19**	...	**1**	...	...	...	...	...	...				
61	University of Mississippi, Medical Department, Oxford.†	1,825	50	...	...	...	...	14	34	100	100	...	...	W. S. Leathers, M.D., Dean	Sept. 21	June 4	61
62	Mississippi Medical College, Meridian	23,285	95	...	19	...	1	22	28	85	85	75	100	T. A. Barber, M.D., Dean	Oct. 2	April 28	62
	MISSOURI		**971**	**21**	**225**	**9**	**21**	...	...	...	...	...	...				
63	University of Missouri, Medical Department, Columbia.†	9,662	34	...	...	...	...	17	35	70	70	...	...	C. M. Jackson, M.D., Dean	Sept. 21	June 13	63
64	Kansas City Hahnemann Medical College, Kansas City.—H. (k)	330,662	42	...	7	...	...	49	32	105	100	100	100	W. E. Cramer, M.D., Dean	Sept. 4	May 13	64
65	University Medical College, Kansas City (l)	330,662	140	...	36	...	...	...	...	...	...	...	...	....	....	....	65
66	Eclectic Medical University, Kansas City.—E. (m)	330,662	49	...	12	...	1	39	34	100	100	100	100	D. R. Alexander, M.D., Secretary	Sept. 4	May 19	66
67	Ensworth Medical College, St. Joseph	77,403	56	...	9	...	...	34	32	90	95	75	95	T. E. Potter, M.D., Secretary	Oct. 1	May 31	67
68	American Medical College, St. Louis	687,029	39	7	11	1	...	30	35	100	100	100	100	James Moores Ball, M.D., Dean	Sept. 4	May 31	68
69	Barnes Medical College, St. Louis	687,029	168	8	49	3	...	48	32	100	100	100	100	A. R. Kieffer, M.D., Dean	Sept. 14	May 13	69
70	St. Louis University, School of Medicine	687,029	274	...	50	...	14	89	35	120	120	120	120	E. P. Lyon, Ph.D., Dean	Oct. 2	May 29	70
71	St. Louis College of Physicians and Surgeons	687,029	46	6	17	5	...	47	30	105	100	100	105	Waldo Briggs, M.D., Dean	Sept. 18	May 6	71
72	Washington University, Medical Department, St. Louis	687,029	123	...	34	...	6	93	32	140	142	111	105	George Dock, M.D., Dean	Oct. 2	June 8	72
	NEBRASKA		**281**	**21**	**56**	**6**	**6**	...	...	...	...	...	...				
73	Creighton Medical College, Omaha	124,096	175	13	38	5	2	48	31	105	100	100	105	D. C. Bryant, M.D., Dean	Sept. 4	April 27	73
74	University of Nebraska, College of Medicine, Lincoln and Omaha	124,096	67	5	9	1	4	67	34	117	114	100	105	Robert H. Wolcott, M.D., Lincoln	Sept. 12	May 31	74
75	Lincoln Medical College.—E. (n)	43,973	39	3	9	...	...	37	34	90	90	90	90	F. L. Wilmeth, M.D., Dean	Sept. 6	May 20	75
	NEW HAMPSHIRE		**42**	...	**11**	...	**5**	...	...	...	...	...	...				
76	Dartmouth Medical School, Hanover	2,075	42	...	11	...	5	29	36	145	147	125	125	John M. Gile, M.D., Dean	Sept. 21	June 26	76
	NEW YORK		**2231**	**75**	**405**	**18**	**76**	...	...	...	...	...	...				
77	Albany Medical College, Albany	100,253	208	...	42	...	...	99	31	130	145	120	130	Willis G. Tucker, M.D., Registrar	Sept. 19	May 14	77
78	Columbia University, College of Phys. and Surgs., New York City	4,766,883	328	...	70	...	43	176	33	250	250	250	250	Samuel W. Lambert, M.D., Dean	Sept. 27	June 5	78
79	Cornell University Medical College, New York City	4,766,883	98	18	48	7	13	150	34	190	185	185	200	William M. Polk, M.D., Dean	Sept. 27	June 12	79
80	Eclectic Medical College of the City of New York.—E.	4,766,883	63	14	10	...	1	43	32	160	150	150	160	Samuel A. Hardy, M.D., Dean	Sept. 14	May 14	80
81	Fordham University School of Medicine, New York City	4,766,883	94	...	17	...	...	69	35	200	200	200	200	James J. Walsh, M.D., Dean	Sept. 20	June 14	81
82	Long Island College Hospital, New York City	4,766,883	407	...	73	...	3	106	32	205	200	180	200	Joseph H. Raymond, M.D., Secretary	Sept. 28	June 3	82
83	New York Homeopathic Medical College and Hospital.—H.	4,766,883	210	...	14	...	5	60	32	130	130	125	155	Royal S. Copeland, M.D., Dean	Oct. 5	June 1	83
84	New York Medical College and Hospital for Women.—H.	4,766,883	...	24	...	4	...	50	32	155	150	135	155	Helen Cooley Palmer, M.D., Dean	Oct. 2	May 24	84
85	University and Bellevue Hospital Medical College, New York	4,766,883	510	...	68	...	3	174	33	205	200	200	200	Egbert Le Fevre, M.D., Dean	Sept. 27	June 5	85
86	Syracuse University, College of Medicine, Syracuse	137,249	102	7	27	2	5	60	33	181	191	151	166	John L. Heffron, M.D., Dean	Oct. 3	June 12	86
87	University of Buffalo, Medical Department, Buffalo	423,715	211	12	36	5	3	83	32	185	180	140	140	Matthew D. Mann, M.D., Dean	Sept. 25	May 31	87
	NORTH CAROLINA		**319**	**2**	**46**	...	**4**	...	...	...	...	...	...				
88	Leonard Medical School, Raleigh	19,218	120	...	24	...	2	14	29	52	52	52	62	Charles F. Meserve, LL.D., President	Sept. 28	May 9	88
89	University of North Carolina, Medical Department, Chapel Hill.†	1,200	51	...	...	...	...	32	34	114	116	...	...	Isaac Hall Manning, M.D., Dean	Sept. 14	June 4	89
90	North Carolina Medical College, Charlotte	34,014	110	2	22	...	2	35	30	97	95	80	105	W. O. Nisbet, M.D., Dean	Sept. 13	May 3	90
91	Wake Forest School of Medicine, Wake Forest.†	823	38	...	...	...	...	16	33	105	115	...	...	John Brewer Powers, M.D., Dean	Sept. 5	May 15	91
	NORTH DAKOTA		**34**	**5**	...	...	...	...	...	...	...	...	...				
92	Univ. of North Dakota, Med. Dept., University, Grand Forks.†	12,478	34	5	...	...	...	25	35	50	50	...	...	M. A. Brannon, A.B., Dean	Sept. 19	June 14	92
	OHIO		**763**	**25**	**170**	**3**	**29**	...	...	...	...	...	...				
93	College of Physicians and Surgeons, Cleveland (o)	560,663	60	4	20	2	1	...	...	...	...	...	...	....	....	....	93
94	Cleveland-Pulte Medical College, Cleveland.—H.	560,663	72	9	13	...	...	59	32	125	125	125	125	George H. Quay, M.D., Dean	Sept. 21	May 11	94
95	Western Reserve University Medical Department, Cleveland	560,663	107	...	14	...	12	114	34	142	135	135	135	F. C. Waite, M.D., Secretary	Oct. 1	June 13	95
96	Eclectic Medical College, Cincinnati.—E.	364,463	92	3	27	...	2	27	30	100	100	100	100	John K. Scudder, M.D., Secretary	Sept. 18	May 8	96
97	Ohio-Miami Medical College of the University of Cincinnati	364,463	145	4	38	...	10	117	33	125	125	125	125	Paul G. Woolley, M.D., Dean	Sept. 25	June 1	97
98	Starling-Ohio Medical College, Columbus	181,548	248	4	50	1	4	64	32	140	135	135	135	W. J. Means, M.D., Dean	Sept. 20	May 22	98
99	Toledo Medical College, Toledo	168,497	39	1	8	...	...	48	30	120	120	120	120	E. I. McKesson, M.D., Secretary	Oct. 2	May 24	99
	OKLAHOMA		**57**	**8**	**13**	**2**	...	...	...	...	...	...	...				
100	Univ. of Oklahoma, School of Med., Norman and Oklahoma City	64,205	57	6	13	2	...	40	35	50	30	100	105	Walter L. Capshaw, M.D., Secretary	Sept. 19	June 13	100
	OREGON		**114**	**5**	**19**	...	**2**	...	...	...	...	...	...				
101	University of Oregon, Medical Department, Portland	207,214	68	4	16	...	1	50	32	155	150	117	58	S. E. Josephi, M.D., Dean	Sept. 12	May 15	101
102	Willamette University, Medical Department, Salem	14,094	46	1	3	...	1	20	32	123	110	88	58	W. H. Byrd, M.D., Dean	Oct. 3	June 1	102
	PENNSYLVANIA		**1910**	**123**	**453**	**36**	**81**	...	...	...	...	...	...				
103	Hahnemann Medical College and Hospital, Philadelphia.—H.	1,549,008	135	...	37	...	7	80	33	150	150	150	150	Wm. B. Van Lennep, M.D., Dean	Sept. 27	June 6	103
104	Jefferson Medical College, Philadelphia	1,549,008	559	...	117	...	12	130	33	186	182	181	180	James W. Holland, M.D., Dean	Sept. 25	June 3	104
105	Medico-Chirurgical College of Philadelphia	1,549,008	462	...	74	...	9	104	33	162	159	156	150	Seneca Egbert, M.D., Dean	Sept. 25	June 7	105
106	Temple University, Medical Department, Philadelphia	1,549,008	73	9	22	1	...	84	34	155	150	150	150	Frank C. Hammond, M.D., Dean	Sept. 15	June 3	106
107	University of Pennsylvania, Department of Medicine, Philadelphia	1,549,008	445	...	151	...	51	166	34	200	200	200	200	Allen J. Smith, M.D., Dean	Sept. 29	June 19	107
108	Woman's Medical College of Pennsylvania, Philadelphia	1,549,008	....	110	...	32	2	53	30	161	156	154	154	Clara Marshall, M.D., Dean	Sept. 21	May 2	108
109	University of Pittsburgh, Medical Department, Pittsburgh	533,905	236	4	52	3	...	102	34	235	220	155	160	Thomas S. Arbuthnot, M.D., Dean	Sept. 25	June 12	109
	PHILIPPINE ISLANDS		**65**	...	**3**	...	...	...	...	...	...	...	...				
110	University of the Philippines Coll. of Med. and Surg., Manila	219,928	65	...	3	...	...	45	36	...	...	...	...	Paul C. Freer, M.D., Dean	June 1	May 4	110
	SOUTH CAROLINA		**201**	**2**	**48**	**1**	**7**	...	...	...	...	...	...				
111	Medical College of South Carolina, Charleston	58,833	201	2	48	1	7	41	32	100	100	100	100	Robert Wilson, Jr., M.D., Dean	Oct. 2	June 3	111

TABLE 1.—STATISTICS OF MEDICAL COLLEGES IN THE UNITED STATES AND CANADA—(*Concluded*)

Number.	NAME AND LOCATION OF COLLEGE	Population of city where college is located. (Census of 1910.)	No. of students registered 1910-11. Men	No. of students registered 1910-11. Women.	Graduates 1911. Men.	Graduates 1911. Women.	Grads. with A.B., B.S., or Ph.B.	No. of teachers.	Weeks in college year.	Total fees. (Dollars.) 1st year.	Total fees. (Dollars.) 2nd year.	Total fees. (Dollars.) 3rd year.	Total fees. (Dollars.) 4th year.	Executive Officer.	Session of 1911-12. Begins 1911.	Session of 1911-12. Ends 1912.	Number.
	SOUTH DAKOTA		**7**	...	...	...	...	...	...	...	...	...	...				
112	University of South Dakota, College of Medicine, Vermilion.†	2,147	7	...	...	...	...	9	34	60	60	...	...	Christian P. Lommen, B.S., Dean	Sept. 18	June 6	112
	TENNESSEE		**1391**	**10**	**308**	**2**	**25**	...	...	...	...	...	...				
113	Lincoln Memorial University Medical Department, Knoxville	36,346	97	4	22	2	1	32	28	100	100	100	125	S. L. Jones, M.D., Dean	Oct. 1	May 1	113
114	Meharry Medical College, Nashville	110,364	297	2	56	...	7	26	29	56	59	57	65	G. W. Hubbard, M.D., Dean	Sept. 13	April 24	114
115	Universities of Nashville and Tennessee, Dept. of Medicine (p)	110,364	192	...	63	...	4	...	...	...	...	...	...	....	....	....	115
116	Vanderbilt University, Medical Department, Nashville	110,364	279	...	40	...	6	50	31	125	125	125	150	L. E. Burch, M.D., Secretary	Sept. 20	May 15	116
117	College of Physicians and Surgeons, Memphis (p)	131,105	113	3	22	...	2	...	...	...	...	...	...	....	....	....	117
118	University of Tennessee, College of Medicine, Memphis (p)	131,105	...	...	...	...	...	40	30	125	125	125	150	E. C. Ellett, M.D., Dean	Sept. 13	May 7	118
119	Memphis Hospital Medical College, Memphis	131,105	379	...	97	...	4	43	30	125	125	125	150	Wm. B. Rogers, M.D., Dean	Oct. 2	May 18	119
120	University of West Tennessee, Medical Department, Memphis	131,105	34	1	8	...	1	16	30	50	50	50	60	M. V. Lynk, M.D., Dean	Sept. 14	May 1	120
	TEXAS		**411**	**15**	**112**	**3**	**5**	...	...	...	...	...	...				
121	Fort Worth School of Medicine, Fort Worth. (q)	73,312	89	1	27	1	...	49	30	114	113	108	125	W. R. Thompson, M.D., Dean	Sept. 25	May 16	121
122	University of Texas, Department of Medicine, Galveston	36,981	164	13	52	1	4	25	32	61	31	21	6	W. S. Carter, M.D., Dean	Oct. 2	May 31	122
123	Baylor University, College of Medicine, Dallas	92,104	89	1	17	...	...	25	30	105	100	100	125	Edward H. Carey, M.D., Dean	Oct. 2	May 21	123
124	Southwestern University Medical College, Dallas	92,104	69	...	17	...	1	32	31	110	105	100	125	John O. McReynolds, M.D., Dean	Oct. 1	May 25	124
	UTAH		**18**	**1**	...	...	...	...	...	...	...	...	...				
125	University of Utah, School of Medicine, Salt Lake City.†	92,777	18	1	...	...	...	19	34	55	55	...	...	Charles T. Vorhies, M.D., Dean	Sept. 18	June 1	125
	VERMONT		**186**	...	**40**	...	**2**	...	...	...	...	...	...				
126	University of Vermont, College of Medicine, Burlington	20,468	186	...	40	...	2	61	31	135	135	135	165	J. N. Jenne, M.D., Secretary	Oct. 30	June 27	126
	VIRGINIA		**438**	...	**93**	...	**17**	...	...	...	...	...	...				
127	Medical College of Virginia, Richmond	127,628	210	...	40	...	...	54	34	100	100	100	100	Christopher Tompkins, M.D., Dean	Sept. 12	May 29	127
128	University College of Medicine, Richmond	127,628	149	...	33	...	3	65	34	104	104	104	134	Alfred L. Gray, M.D., Dean	Sept. 12	May 24	128
129	University of Virginia, Department of Medicine, Charlottesville	6,765	79	...	20	...	14	33	36	150	150	150	150	R. H. Whitehead, M.D., Dean	Sept. 14	June 12	129
	WEST VIRGINIA		**13**	...	...	...	...	...	...	...	...	...	...				
130	West Virginia University College of Medicine, Morgantown. (r)	9,150	13	...	...	...	...	...	...	...	...	...	...	....	....	....	130
	WISCONSIN		**345**	**11**	**60**	**4**	...	...	...	...	...	...	...				
131	Marquette University, Medical Department, Milwaukee	373,857	247	6	46	2	...	62	31	135	135	135	150	Warren B. Hill, M.D., Dean	Oct. 3	May 27	131
132	Wisconsin College of Physicians and Surgeons, Milwaukee	373,857	53	2	14	2	...	54	31	145	135	130	145	Thomas C. Phillips, M.D., Dean	Oct. 2	May 24	132
133	University of Wisconsin, College of Medicine, Madison.†	25,531	45	3	...	...	...	16	35	75	75	...	...	Charles R. Bardeen, M.D., Dean	Sept. 27	June 22	133
	CANADA		**1525**	**7**	**340**	**2**	**15**	...	...	...	...	...	...				
134	Dalhousie University, Faculty of Medicine, Halifax, N. S.	40,832	67	4	14	2	1	26	31	91	111	112	121	A. W. H. Lindsay, Secretary	Sept. 4	April 28	134
135	Queen's University, Faculty of Medicine, Kingston, Ontario	17,961	232	...	46	...	...	...	29	105	105	105	135	A. R. B. Williamson, M.D., Secretary	Sept. 13	April 24	135
136	Western University, Faculty of Medicine, London, Ont.	37,981	129	...	26	...	...	26	30	105	105	105	105	W. E. Waugh, M.D., Registrar	Sept. 12	April 30	136
137	McGill University, Medical Faculty, Montreal, Que.	353,007	303	...	31	...	13	100	33	160	148	154	154	John W. Scane, M.D., Registrar	Oct. 1	June 12	137
138	Laval University, Medical Faculty, Montreal, Que.	353,007	195	...	51	...	...	50	34	110	118	126	138	E. P. Lachapelle, M.D., Dean	Oct. 2	May 29	138
139	Laval University, Medical Faculty, Quebec, Que.	73,500	84	...	19	...	...	17	34	75	75	75	75	Michael J. Ahern, M.D., Dean	Sept. 12	June 19	139
140	University of Toronto, Medical Faculty, Toronto, Ont.	208,040	510	...	143	...	...	157	31	150	150	150	150	A. Primrose, M.D., Secretary	Sept. 26	May 17	140
141	University of Manitoba, Manitoba Medical College, Winnipeg	42,336	134	3	19	...	1	50	28	155	155	155	155	E. S. Popham, M.D., Registrar	Oct. 1	May 1	141
	MEXICO		**322**	**3**	**58**	...	...	...	...	...	...	...	...				
142	Escuela Nacional de Medicina, Mexico City	344,721	322	3	58	...	...	103	36	...	...	...	...	Fernando Zarraga, M.D., Dean	July 1	April 15	142

H., Homeopathic; E., Eclectic; Ph.M., Physiomedical. * Night schools. † Gives only two years of the medical course.

REFERENCES TO TABLE I.

(a) The College of Physicians and Surgeons of Little Rock has united with the University of Arkansas Medical Department and the consolidated school will be entirely controlled and financed hereafter by the University of Arkansas.

(b) Cooper Medical College will continue until the students enrolled at the time of its merger with the Leland Stanford University in 1908 have been graduated. It will then cease to exist and the Leland Stanford will teach all four years of the medical course.

(c) Formerly the College of Physicians and Surgeons. The school is now an integral part and entirely under the control of the University of Illinois.

(d) The College of Medicine and Surgery, the last of the physiomedical colleges, has been absorbed by the Chicago College of Medicine and Surgery.

(e) This college, which held its sessions at night, has been discontinued.

(f) The population figures given are for both Kansas City, Kansas, and Kansas City, Missouri.

(g) Flint Medical College has been temporarily suspended.

(h) The College of Physicians and Surgeons of Boston is not included in the list of medical colleges recognized by the Massachusetts Medical Society.

(i) The population figures given are for the adjoining cities of Minneapolis and St. Paul.

(j) This is the last medical class which will be graduated by the Hamline University Medical Department. Under the agreement whereby this school was merged with the University of Minnesota, College of Medicine and Surgery, the Hamline University was to grant degrees for all students enrolled at the time of the merger who were not eligible for the degree from the University of Minnesota.

(k) See note (f).

(l) This University Medical College has been permanently suspended.

(m) The Eclectic Medical University is said to be not in good standing with the Missouri State Board of Health.

(n) Last year an offshoot of the Lincoln Medical College was organized under the name of the Nebraska Medical College. They have been reunited, however, and will continue as the Medical Department of Cotner University.

(o) The College of Physicians and Surgeons of Cleveland has been merged into the Western Reserve University Medical Department but by the terms of the agreement will continue to grant degrees until all the students enrolled at the time of the merger, who were not eligible to receive the degree from Western Reserve, have been graduated.

(p) The union between the Medical Departments of the University of Nashville and the University of Tennessee has been dissolved, the former has ceased to exist and the latter has been moved to Memphis where it will occupy the building of the College of Physicians and Surgeons, with which it has been consolidated.

(p) The Medical Department of Fort Worth University has taken the title of Fort Worth School of Medicine and by affiliation has become the Medical Department of the Texas Christian University. Neither institution assumes any liability for the conduct or the expenses of the other.

(r) This college was closed by the Regents of West Virginia University at the end of the session of 1910-11.

(*Continued from page 641*)

Amended March 17, 1908, as follows:

(*b*) A diploma from an accredited high school . . . embracing not less than two years (4 points) [of Latin], two years (4 points) of mathematics, two years (4 points) of English, one year (2 points) of history, *one year (2 points) of physics*, and six years (12 points) of further credit in language, literature, history or science.

Amended March 21, 1910, as follows:

(*b*) A diploma from an accredited high school . . . embracing two years (4 points) of Latin, *or four years (8 points) of either high school French or German or its full equivalent, provided a satisfactory examination is passed in the elements of Latin grammar;* two years (4 points) of mathematics, two years (4 points) of English, one year (2 points) of history, one year (2 points) of physics, and six years (12 points) of further credit in language, literature, history or science.

(*c*) An examination in the following branches: A. Required, 18 points: Mathematics, 4 points; English, 4 points; History, 2 points; [Language (2 must be Latin), 4 points]; Science (taken from physics, chemistry, botany, zoology), 4 points.

B. Optional (to 12 points): English, 2 points; History, 6 points; Language, 6 points; Manual Training, 2 points; Mechanical Drawing, 1 point; Natural Science (botany, biology, zoology), 2 points; Physical Science (chemistry, physics), 2 points; Trigonometry, 1 point; Astronomy 1, Civics 1, Geology 1, Physical Geography 1, Physiology and Hygiene 1, Political Economy 1.

(One point in any subject in a high school or academic course demands not less than five periods per week of forty-five minutes each for eighteen weeks.)

Amended May 6, 1907, as follows:

(*c*) An examination in the following branches: A. Required, 18 points: Mathematics, 4 points; English, 4 points; History, 2 points; *Latin, 4 points;* Science (taken from physics, chemistry, botany, zoology), 4 points.

B. Optional: (Same as before.)

Amended March 17, 1908, as follows:

(*e*) An examination in the following branches, totaling 30 points:

A. Required, 16 points.	Points
Mathematics—(Minimum, 2 years; maximum, 3 years	4
Algebra and plain geometry.	
English—(Minimum, 2 years; maximum, 4 years)	4
(*a*) English grammar.	
(*b*) Rhetoric and composition.	
Latin—(Minimum, *see* (*b*); maximum, 4 years)	4
(*a*) Latin grammar.	
(*b*) Latin prose composition.	
(*c*) Reading four books of Cæsar or equivalent.	
Physics—(1 year). With laboratory work	2
History (1 year). Including civics and political economy	2
Total required	16

B. Elective, 14 points.	Points
English Language and Literature (2 years) Only if taken after the required English	4
Language—German, French, Spanish or Greek (4 years); not less than 1 year in any one *see* (*b*)	2
Advanced Mathematics—Solid Geometry and Trigonometry (½ year each)	1
Natural Science (1 year). Biology, 1 year, or Botany and Zoology, ½ year each	2
Physical Science—(1 year). Chemistry	2
Earth Science—Physical Geography and Geology, ½ year each	1
Physiology and Hygiene—(½ year)	1
Astronomy—(½ year)	1
Drawing—(½ year)	1

One point in any subject demands one period per week of not less than 45 minutes, for 18 weeks.

Two points equal 5 counts, or 1 unit, or 2 credits.

If only 4 hours per week are given in a subject, the year's work represents 4 counts (the minimum), and must be counted as such and not as 5 counts (the maximum).

(*d*) Certificates from reputable instructors [recognized by the superintendent hereinafter to be mentioned or] by any state board of medical examiners duly authorized by law, may be accepted in lieu of any part of this examination.

Amended March 19, 1906, as follows:

(*d*) Certificates from reputable instructors *recognized by any state board of medical examiners duly authorized by law or by the superintendents of public instruction in states not having a board of examiners,* may be accepted in lieu of any part of this examination.

Section 1 (e) was added May 21, 1910, as follows:

The university matriculation certificate of the members of the Association of American Universities may be accepted as a minimum requirement for admission.

Section 1 (d) and (e) were eliminated Feb. 28, 1911.

SEC. 2.—This examination must be conducted by or under the authority of the superintendent of public instruction [of the city or] state in which the college is located. In no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission.

Amended March 19, 1906, as follows:

SEC. 2.—This examination must be conducted by or under the authority of the *board of examiners or* of the superintendent of public instruction of [the city or] state in which the college is located. In no case shall it be conducted by any person connected with the faculty, medical or otherwise, of the institution to which the student is seeking admission.

Amended March 21, 1910, as follows:

This examination must be conducted by or under the authority of the board of examiners [or of the superintendent of public instruction] of the state in which the college is located [*as provided for in Sec. 1, (d).*] In no case, etc. (same as before).

Amended Feb. 28, 1911, as follows:

SEC. 2—This examination must be conducted by or under the authority of the board of *medical* examiners of the state in which the college is located, *or by a duly authorized examiner of the college entrance examination board, or the authorized examiner of an accredited university, state or otherwise, or by an examiner whose certificates are accepted by accredited colleges or universities, or by a method approved by the judicial council of this association.*

SEC 3.—A student may be allowed to enter on his medical work conditioned in not more than six points, and these conditions must be removed by satisfactory examination before he is allowed to enter on the second year of his medical course.

By an amendment adopted Feb. 28, 1911, to become effective on and after Jan. 1, 1912, no entrance conditions are to be permitted, and Section 3 is re-worded to cover another subject, as follows:

SEC. 3.—The term "accredited" as applied to high schools, academies, colleges and universities means institutions of that type that have been investigated and are accredited by the state university of their respective states, by the North Central Association of Colleges and Secondary Schools, the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the New England College Entrance Certificate Board, the Association of American Universities and the Association of State Universities, provided that such accrediting is based on Article III, Section 1, of this constitution.

SEC 4.—Colleges in membership in this Association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this Association, excepting for the fourth year of the course, but no member of this Association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receiving from the dean of such college a direct written communication certifying to the applicant's [professional and moral qualifications, and to the exact work he has done in said college.]

Amended Feb. 28, 1911, to read:

Colleges in membership . . . without . . . receiving from the dean, *secretary or registrar* of such college a direct written communication certifying to the applicant's *standing. Credit for time or scholarship cannot be given beyond that of the college issuing the credentials, except by mutual agreement between the colleges.*

SEC. 5.—Candidates for the degree of Doctor of Medicine shall have attended four courses of study in four calendar years, each annual course to have been of not less than thirty (changed to *thirty-two* by amendment adopted March 21, 1910) teaching weeks' duration, and at least ten months shall intervene between the beginning of any course and the beginning of the preceding course.

SEC. 6.—Credit may be given to the holder of a Bachelor's degree from an approved college or university for any work in the medical branches which he has successfully completed in his college course, only so far as it is the full equivalent of corresponding work in the medical curriculum. The holder of such Bachelor's degree may also be given time credits of not exceeding one year, provided that such student has had at least 40 hours in physics, 144 hours in chemistry, 24 hours in osteopathy, 292 hours in human or comparative anatomy, 124 hours in histology, 85 hours in embryology, 145 hours in physiology and 46 hours in materia medica, provided that the applicant for such time credits satisfies the professors of the chairs mentioned in the medical school as to his proficiency in these first-year medical studies, and satisfies the examiner, as provided for in Section 2, Article III, that his studies for which the degree was conferred include the above requirements. Such student may be allowed to complete a course for the medical degree in not less than 31 months, provided he completes the remainder of the medical curriculum in that time.

This section was amended May 6, 1907, to read as follows:

SEC. 6.—No time credit shall be given to holders of a Bachelor's degree, but subject credit may be given on satisfactory examination. Four years of residence in a medical college shall be required of all candidates for the degree of Doctor of Medicine.

SEC 7.—A college which gives less than a four years' course of study, but does not graduate students, and is possessed of other required qualifications, may be admitted to membership.

SEC. 8.—Each student shall be obliged to attend 80 per cent. of the exercises in every annual course of study for which he seeks credit. No student shall be given credit on examination unless he attains a grade of at least 70 per cent. or its equivalent in any other marking system. And no student shall be graduated unless he shall have attained a passing grade in each and all subjects of the required curriculum.

This section was amended Feb. 28, 1911, by inserting in the first line, after the word "attend," "*not less than.*"

ARTICLE V.

SECTION 1.—The entire course of four years shall consist of at least 4,000 hours, divided into the subjects as shown in the following table, and no college shall be recognized that falls below this standard over 20 per cent. in any one branch or over 10 per cent in the total. Laboratory or clinic hours may be substituted for didactic hours.

(*Continued on page 648*)

TABLE 2.—DISTRIBUTION OF MEDICAL

Number.	NAME OF COLLEGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Number.
		Alabama.......549	Arizona..........10	Arkansas.......307	California.......356	Colorado........143	Connecticut.......243	Delaware.........34	Dist. of Columbia.131	Florida.........167	Georgia.........710	Idaho...........25	Illinois.........1598	Indiana..........503	Iowa..............489	Kansas..........341	Kentucky.......359	Louisiana........329	Maine.............151	Maryland.......291	Massachusetts....819	
1	Birmingham Medical College, Birmingham	182								6	3						1					1
2	University of Alabama, Medical Dept., Mobile	140	1							2	1											2
3	College of Physicians and Surgeons, Little Rock		1	75						2	2		3			1		6				3
4	University of Arkansas, Med. Dept., Little Rock			83	1								1	1			1	3				4
5	College of Phys. and Surgs., San Francisco				12									2		1					1	5
6	Hahnemann Medical College of the Pacific.—H.*				33																	6
7	Leland Stanford Junior University, Dept. of Med.				14									1								7
8	Cooper Medical College, San Francisco				57																	8
9	Univ. of California, Med. Dept., San Francisco				51								1	1								9
10	Univ. of California, Med. Dept., Los Angeles				31																	10
11	California Eclectic Med. Coll., Los Angeles.—E				22	1																11
12	College of Physicians and Surgeons, Los Angeles		2		17	1	1		1				7	2	14	4	1				4	12
13	Oakland College of Med. and Surgery, Oakland				18											1						13
14	College of Medical Evangelists, Loma Linda				10	2							1	2	1	1						14
15	University of Colorado, School of Med., Boulder	1				89	1			1		3	1	4	14	3	1	1			2	15
16	Yale Medical School, New Haven						53									1			2		3	16
17	George Washington University, Dept. of Med				2		1		30				2			1			1	3	3	17
18	Georgetown Univ., School of Med., Washington	1			2		7		39	1			2				3		1	4	18	18
19	Howard University, School of Med., Washington	3		2			1	2	34	5	6		3				1	3		12	2	19
20	Atlanta College of Phys. and Surgs., Atlanta	27			1	1				36	199							1				20
21	Atlanta School of Medicine, Atlanta	13								14	154							2			1	21
22	Georgia College of Eclectic Med. and Surg.—E	5								7	63											22
23	Hospital Medical College, Atlanta.—E.*			3						9	42											23
24	Medical College of Georgia, Augusta						1			8	109											24
25	Bennett Medical College, Chicago.*			1		1	1			1			153	12	17	3	2				1	25
26	Chicago College of Medicine and Surgery	7	1	4	2		2			1			288	51	21	11	5		2		6	26
27	College of Physicians and Surgeons, Chicago	1		1		4			1	1		2	263	31	21	8		1			1	27
28	College of Medicine and Surgery, Chicago.—Ph.M.				1								22	3	4		1					28
29	Hahnemann Med. Coll. and Hosp., Chicago.—H.				2	1						1	53	7	16	2	4				3	29
30	Hering Medical College, Chicago.—H			1	2								17	2			5					30
31	Jenner Medical College, Chicago.*			1					1		1		91	2	2		2				1	31
32	Northwestern University Medical School, Chicago		1	1	4	8					1		149	16	38	10		1				32
33	Reliance Medical College												105									33
34	Rush Medical College, Chicago	1		6	4	2				1		5	154	26	34	18	1	3			2	34
35	Indiana University, School of Med., Indianapolis			1									2	180								35
36	Drake University, College of Med., Des Moines				1							1	2		52							36
37	State Univ. of Iowa, Coll. of Med., Iowa City												3		104		1					37
38	State Univ. of Iowa, Coll. of Homeo. Med.—H														15							38
39	Kansas Medical College, Topeka			1												46						39
40	Univ. of Kansas, School of Med., Kansas City									1					1	76						40
41	Louisville National Medical College, Louisville																25					41
42	University of Louisville, Med. Dept., Louisville	4		7		1				2	5		13	65	2	5	176	7				42
43	Flint Medical College, New Orleans												1					6				43
44	Tulane University, Medical Dept., New Orleans	45		9			1			10	9			1				166	1		1	44
45	Medical School of Maine, Portland				2		2												56		4	45
46	Baltimore Medical College, Baltimore	2		1			10		1	2								1	5	24	19	46
47	College of Physicians and Surgeons, Baltimore	1			1		28	3	1	1	4									37	21	47
48	Johns Hopkins Univ., Med. Dept., Baltimore	7		4	13		15		5	2	16	1	11	7	7	1	15	5	4	48	11	48
49	Maryland Medical College, Baltimore	1					8	1	3		1			2						25	7	49
50	Univ. of Maryland, School of Med., Baltimore						5	7	1	8	8			1		1		1	2	122	3	50
51	Boston University, School of Medicine.—H						1												4		59	51
52	College of Physicians and Surgeons, Boston						3		1	3					1				8		102	52
53	Harvard Medical School, Boston			1	12	5	5		1				4	2	3	3	2		17		133	53
54	Tufts College Medical School, Boston						11						1		1				17		301	54
55	Detroit College of Medicine, Detroit													2								55
56	Detroit Homeopathic College, Detroit.—H																					56
57	Univ. of Michigan, Dept. of Med. and Surg	2		1	5	2			1		4	1	7	9	7		3		1		2	57
58	Univ. of Michigan, Homeo. Coll., Ann Arbor.—H.								1				1	2	1	1		1	1	2	1	58
59	Univ. of Minnesota, Coll. of Med. and Surg					1						1	3		2	1						59
60	University of Mississippi, Med. Dept., Oxford																	1				60
61	Mississippi Medical College, Meridian	8									2							3				61
62	University of Missouri, Med. Dept., Columbia														1						2	62
63	Kansas City Hahnemann Med. Coll.—H.*												1	1	1	18						63
64	University Medical College, Kansas City			3	1	2			2						2	57						64
65	Eclectic Medical University, Kansas City.—E			1									7	1	4	10	1					65
66	Ensworth Medical College, St. Joseph			1								1			2	7						66
67	American Medical College, St. Louis.—E			2									11	1	1	2	2					67
68	Barnes Medical College, St. Louis.*			3		2							56	9	7	4	7				1	68
69	St. Louis University, School of Medicine		1	1	1	3	1				1		72	6	14	6						69
70	St. Louis College of Physicians and Surgeons			1									19	1	2		1					70
71	Washington University, Med. Dept., St. Louis			1	1								23	3	2	6						71
72	John A. Creighton Medical College, Omaha				2	2	2					2	2		43	4					1	72
73	University of Nebraska, College of Medicine					1									9	1						73
74	Lincoln Medical College, Lincoln.—E.*														1	1						74
75	Dartmouth Medical School, Hanover						3						1						3		10	75
76	Albany Medical College, Albany																				13	76
77	Columbia Univ., Coll. of Phys. and Surg	2			2	2	7		1		2		2	1			1		3		7	77
78	Cornell Univ., Medical College, New York City				3									2	1					1	2	78
79	Eclectic Med. Coll. of the City of New York.—E.						1															79
80	Fordham Univ. School of Med., New York City				1		4	1													1	80
81	Long Island College Hospital, New York City						12														1	81
82	New York Med. Coll. and Hosp. for Women.—H.																				1	82
83	New York Homeo. Med. Coll. and Hosp.—H				2		6		2		2		1							2	1	83
84	Univ. and Bellevue Hosp. Med. Coll., New York	1			2	1	5			3			4		1		2				5	84
85	Syracuse University, Coll. of Med., Syracuse				1			1							1							85
86	University of Buffalo, Medical Dept., Buffalo						1						1	1								86
87	Leonard Medical School, Raleigh	4								2	5									1	1	87
88	University of North Carolina, Med. Dept																					88
89	North Carolina Medical College, Charlotte					1																89
90	Wake Forest School of Medicine, Wake Forest																					90
91	University of North Dakota, Med. Dept																					91
92	Cleveland-Pulte Med. College, Cleveland.—H												1	1								92
93	Western Reserve Univ., Med. Dept., Cleveland	1				1							3	5	1	1						93
94	Eclectic Medical College, Cincinnati.—E			4							4		4	10		1	5					94
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
Number.	Michigan.........407	Minnesota.........313	Mississippi.........495	Missouri.........620	Montana.........27	Nebraska.........271	Nevada.........4	New Hampshire....84	New Jersey.........455	New Mexico.........11	New York.........2162	North Carolina...487	North Dakota.....96	Ohio.........859	Oklahoma.........171	Oregon.........111	Pennsylvania.....1799	Rhode Island.....105	South Carolina...379	South Dakota.....87	Tennessee.........550	Texas.........704	Utah.........77	Vermont.........96	Virginia.........445	Washington.......88	West Virginia.....220	Wisconsin.........459	Wyoming.........11	Philippine Is., Etc.59	Foreign.........579	Totals.........19,786	Number.
1	1		4									2							1		1				1						5	207	1
2			8											1											1							154	2
3			5	3										1	7		1				4	13									3	127	3
4															9							4									1	104	4
5																						2									5	23	5
6																										1						34	6
7				1																												16	7
8							1									1										1						60	8
9							1									2											1				2	59	9
10																			1			1										33	10
11																						1										24	11
12	1	4		9		4		1	1		3			3		1	4				1	1					2	5			14	108	12
13	1						1																									21	13
14	1	1			1	2					3			1		1				1		1				2		1			7	39	14
15	2	2		2		3		1			2			3	1	1						2	2	1	2	1	1	1	1		3	152	15
16				1					2		4			5		1	4	2		1				3							1	83	16
17	1	2				1		1			3	2	2	3	1		4		2		2	1		2	15	1	3	1			8	98	17
18			1					1	5		4	1		2	1		11	8							1	1	4			4	9	131	18
19		1	2	3	1				4		10	5	1	7			6	3	5		3	6			29						33	193	19
20			12								5	4					1		26		3	2									2	320	20
21			11	1								7		1			1		7		6										1	219	21
22				1																	1	2									2	81	22
23												1			2				3		2	3										65	23
24		1									1								15		1											136	24
25	12	3	2	3							9	2	2	3			10			6		3				1		24			11	283	25
26	14	15	3	24	1	3		1	5	5	28		6	23	1	1	34		1	4	5	8	1			2	6	10		3	25	630	26
27	23	21		8	5	4					4		7	6		1	2	1		14		1	3		2	9	1	30		3	28	508	27
28			1	1							3			2								3	1					1			6	49	28
29	3										1		1	2			1	1					1		2	1	1	2			2	107	29
30	1										2						1											1			8	40	30
31	1	2		1							2			2	1						2							3			2	117	31
32	8	28		5	3	9				1	2		5	12	2	6	1			14	1		18		2	5	1	32	1	2	10	397	32
33																																105	33
34	7	8	1	16	2	14			1	1	3	1	7	22	3	5	1	2		10	4	4	14	1	3	6		24	1		8	426	34
35				1											1						2										1	188	35
36		2		3	1	2					1		1			1				1		1				1					2	72	36
37	1	3			1								1							2						1		1				118	37
38						3																										18	38
39				1		2								1								1										52	39
40				6											1																	85	40
41																																25	41
42	2	7	14	8		1			3	1	3	5	3	7	6		17		1		15	18			6	1	37	1			4	447	42
43			3						1													2									1	14	43
44	1		64	1								6			7				4		4	44									5	379	44
45								2										1														67	45
46								6	13		23	3		4			41	4	2					1	8		13				22	205	46
47			1						18		16	2		4			50	13			1		7		4		58				18	289	47
48		1		6		2		3	4		28	9	1	11		5	34	1	4	3	3	9		2	18	7	7	11	1		5	347	48
49								1	16		5	4		2			37	5	3		1				11		22			7	5	167	49
50	1		1					1	11		13	41			2		24	4	30		1	1			15		3			4	13	324	50
51						1		2	1		2						1	2						1	1						11	86	51
52		1	1					9	4		8	2		1			4	9	2			1			1						37	198	52
53		1		4	1	2		3	2		13		1	7		3	8	12	1	1				1		3			2	2	9	264	53
54								13		1	6			1			1	18						1							7	379	54
55	134	1									3			4			2														17	163	55
56	16										2			1													1				1	21	56
57	114	1		3	1		1		3		28		1	29		2	11		3	3	1			1		4		2		3	4	260	57
58	34	2				1					20			8		3	9														4	92	58
59		152											9							2		1				3		2			1	178	59
60			49																													50	60
61			79																		1	2										95	61
62				29																1											1	34	62
63				18							1				1											1						42	63
64				55		2				1				1	12							1									1	140	64
65				16		2									1					2		2								1	1	49	65
66				43		1									1																	56	66
67		1		17													1														8	46	67
68	1	2	1	61		6					1				3		1				4						1	1		1	4	176	68
69	5	3		125	1	2					3	1		4	4	1	3					1				3		6			6	274	69
70				16							1				1							5									5	52	70
71	1			80		1								1							1	1				1		1				123	71
72	2	3		6		99					1		2			1	3			8		1	1					1	2			188	72
73						60																							1			72	73
74						37									1					1									1			42	74
75					1			16	3		1													4								42	75
76									2		190							1	1											1		208	76
77			5	2				3	42		203	1	1	3	2	3	13	1	4			2	1	2	1	3					6	328	77
78					1				13		84	2		1	1		1			1	1									1	1	116	78
79									4		69						1														2	77	79
80	1								8		49						3	1							1						24	94	80
81									20		369	1					1														3	407	81
82									3		19			1																		24	82
83				1				1	33		142		1			1	4	1			1	1		2				1			5	210	83
84		1						1	87		371			3	1		1	4			2	1		1	2	1		1		2	7	510	84
85									1		99			1			1											1		1	2	109	85
86	1										203			1			11					1									3	223	86
87			2						4		1	46					3		17			3			20						11	120	87
88												48					1		2													51	88
89											1	99					1		8												2	112	89
90												34							4													38	90
91		2											33													1		1			2	39	91
92	1										2			55			19		1							1						81	92
93	1	1	1		1	1					2			139			8						1				1	1			2	171	93
94				4					1		1			40	1		9				1	1				1	8					95	94
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	

TABLE 2.—DISTRIBUTION OF MEDICAL

Number.	NAME OF COLLEGE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Number.
		Alabama....549	Arizona....10	Arkansas....307	California....356	Colorado....143	Connecticut....243	Delaware....34	Dist. of Columbia.131	Florida....167	Georgia....710	Idaho....25	Illinois....1598	Indiana....503	Iowa....489	Kansas....341	Kentucky....359	Louisiana....329	Maine....151	Maryland....291	Massachusetts....819	
95	Ohio-Miami Med. Coll. of the Univ. of Cincinnati	....	....	....	....	....	....	....	1	....	....	....	....	5	....	1	17	....	....	....	....	95
96	Starling Ohio Medical College, Columbus	....	....	....	....	....	....	....	....	1	....	....	1	3	1	....	1	....	....	....	....	96
97	Toledo Medical College, Toledo	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	97
98	University of Oklahoma, School of Med., Norman	....	....	....	....	....	1	....	....	....	....	....	....	1	....	2	....	....	....	....	....	98
99	University of Oregon, Medical Dept., Portland	....	....	1	....	....	....	....	....	....	....	1	3	3	2	3	....	....	2	....	1	99
100	Willamette University, Medical Dept., Salem	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	100
101	Hahnemann Med. Coll. and Hosp., Phila.—H	....	....	....	2	....	1	2	....	....	....	....	....	....	2	....	2	....	1	1	....	101
102	Jefferson Medical College, Philadelphia	3	....	3	1	1	10	9	....	2	5	2	3	7	9	6	5	....	2	1	10	102
103	Medico-Chirurgical College of Philadelphia	1	....	....	2	....	5	2	....	....	....	....	2	....	....	....	....	1	1	1	3	103
104	Temple University, Medical Dept., Philadelphia.*	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	104
105	University of Pennsylvania, Dept. of Medicine	1	2	2	2	3	2	6	2	2	3	1	1	5	....	2	5	3	2	2	6	105
106	Woman's Med. Coll. of Pennsylvania, Phila	....	....	1	2	2	2	....	1	....	....	....	....	....	2	1	....	2	3	1	4	106
107	University of Pittsburgh, Med. Dept	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	107
108	Medical College of South Carolina, Charleston	....	....	....	....	....	....	....	....	11	4	....	....	....	....	....	....	....	....	....	1	108
109	Univ. of South Dakota, Coll. of Med., Vermilion	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	109
110	Lincoln Memorial Univ., Med. Dept., Knoxville	1	....	....	....	1	....	....	....	....	....	....	....	....	....	....	8	....	....	....	....	110
111	Meharry Medical College, Nashville	16	....	14	....	1	....	....	....	5	34	....	....	2	....	6	6	12	....	....	....	111
112	Univ. of Nashville and Tennessee, Dept. of Med.	15	....	6	....	....	1	....	....	5	4	....	1	....	....	....	12	14	....	....	1	112
113	Vanderbilt University, Med. Dept., Nashville	24	....	8	6	....	....	....	....	7	5	....	3	....	1	1	30	8	....	....	1	113
114	College of Physicians and Surgeons, Memphis	2	....	6	....	....	....	....	1	....	3	....	1	....	....	....	1	3	....	....	1	114
115	Memphis Hospital Medical College, Memphis	16	....	39	1	1	....	....	....	....	3	....	2	....	....	....	3	68	....	....	....	115
116	Univ. of West Tennessee, Med. Dept., Memphis	1	....	2	....	....	....	....	....	3	....	....	....	....	....	....	....	2	....	....	....	116
117	Fort Worth University, Med. Dept., Fort Worth	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	1	....	....	....	117
118	University of Texas, Dept. of Med., Galveston	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	118
119	Baylor University, College of Medicine, Dallas	....	....	1	....	....	....	....	....	....	1	....	....	....	....	1	....	1	....	....	....	119
120	Southwestern University Medical College, Dallas	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	120
121	Univ. of Utah, Dept. of Med., Salt Lake City	....	....	....	....	....	....	....	....	....	....	2	....	....	....	....	....	....	....	....	....	121
122	Univ. of Vermont, Coll. of Med., Burlington	....	....	....	....	....	21	....	....	....	....	1	....	....	....	....	....	....	12	....	30	122
123	Medical College of Virginia, Richmond	....	....	....	1	....	....	....	....	....	....	....	....	....	....	....	....	1	....	2	....	123
124	University College of Medicine, Richmond	2	1	....	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	....	....	124
125	Univ. of Virginia, Dept. of Med., Charlottesville	7	....	3	....	....	....	....	....	1	2	....	....	....	....	....	....	....	....	1	2	125
126	West Virginia Univ., Coll. of Med., Morgantown	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	126
127	Marquette University, Med. Dept., Milwaukee	....	....	....	1	....	....	....	....	....	....	....	1	....	1	....	....	....	....	....	....	127
128	Wisconsin Coll. of Phys. and Surgs., Milwaukee	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....	....	128
129	University of Wisconsin, Coll. of Med., Madison	....	....	....	....	....	1	....	....	....	....	....	5	....	....	....	....	....	....	1	1	129
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

H., Homeopathic; E., Eclectic; P., Panpathic; * Total exact; distribution based on that of 1909-10.

(Continued from page 645)

CURRICULUM

	No. of Hours of Lectures.	Hours of Laboratory.	Hours of Clinics.	Total.
Histology	30	60	..	90
Embryology	30	60	..	90
Osteology	30	..	..	30
Anatomy	190	230	..	420
Physiology	180	120	..	300
Chemistry and Toxicology	100	200	..	300
Materia Medica	40	20	..	60
Pharmacology	40	20	..	60
Therapeutics	90	..	..	90
Bacteriology	40	100	..	140
Pathology	100	140	..	240
Medical Zoology, Post Mortem Work and Clinical Microscopy	30	60	..	90
Physical Diagnosis	20	..	80	100
Practice of Medicine	180	..	360	540
Surgery	180	..	360	540
Obstetrics	100	..	60	160
Gynecology	50	..	110	160
Pediatrics	40	..	60	100
Eye and Ear	30	..	30	60
Nose and Throat	30	..	30	60
Mental and Nervous Diseases	60	..	60	120
Electro-Therapeutics	20	..	40	60
Genito-Urinary Diseases	30	..	30	60
Dermatology and Syphilis	20	..	20	40
Hygiene and Public Health	30	..	..	30
Dietetics	30	..	..	30
Medical Jurisprudence	30	..	..	30
	1,750	1,010	1,240	4,000

Art. V, Sec. 1, was eliminated Feb. 28, 1911, and the following was substituted:

Art. V. Section 1.—The entire course of four years shall consist of at least 4,000 hours for each student, and shall be grouped in divisions and subdivided into subjects; each division and subject to be allotted the number of hours as shown in the following schedule:

Division 1.—Anatomy, 710 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Gross anatomy (including applied anatomy)	510	120	390
(b) Histologic and microscopic anatomy	135	30	105
(c) Embryology	75	30	45

Division 2.—Physiology and Chemistry, 600 Hours (15 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Inorganic chemistry	180	60	120
(b) Organic chemistry	75	30	45
(c) Physiologic chemistry	104	30	75
(d) Physiology	240	140	100

Division 3.—Pathology, Bacteriology and Hygiene, 450 Hours (11.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Bacteriology	135	30	105
(b) Hygiene and general dietetics	45	45	...
(c) Pathology	270	60	210

Division 4.—Pharmacology, Materia Medica and Therapeutics, 240 Hours (6 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Pharmacology	105	40	65
(b) Materia medica and pharmacology	80	...	...
(c) Therapeutics	55	...	..

Division 5.—Medicine and Medical Specialties, 970 Hours (24.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General medicine (including clinical microscopy)	640	...	...
(b) Pediatrics	150	...	...
(c) Nervous and mental diseases	105	...	...
(d) Jurisprudence, ethics and economics	30	...	...
(e) Dermatology and syphilis	45	...	...

Division 6.—Surgery and Surgical Specialties, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General surgery	510	...	...
(b) Orthopedic surgery	45	...	...
(c) Genito-urinary diseases	45	...	...
(d) Eye	60	...	...
(e) Ear, nose and throat	60	...	...

Division 7.—Obstetrics and Gynecology, 300 Hours (7.5 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Obstetrics	195	...	...
(b) Gynecology (including some abdominal surgery)	105	...	...

Colleges may reduce the number of hours in any subject not more than 20 per cent. provided that the total number of hours in a division is not reduced. Where the teaching conditions in a college are best subserved, the subject may be, for teaching purposes, transferred from one division to another. When didactic and laboratory hours are specified in any subject, laboratory hours may be substituted for didactic hours.

(Continued on opposite page)

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	
Number.	Michigan........407	Minnesota........313	Mississippi........495	Missouri........620	Montana........27	Nebraska........271	Nevada........4	New Hampshire....84	New Jersey........455	New Mexico........11	New York........2162	North Carolina....487	North Dakota....96	Ohio........859	Oklahoma........171	Oregon........111	Pennsylvania......1799	Rhode Island......105	South Carolina....379	South Dakota....87	Tennessee........550	Texas........704	Utah........77	Vermont........96	Virginia........445	Washington........88	West Virginia......220	Wisconsin........459	Wyoming........11	Philippine Is........59	Foreign........579	Totals........19,786	Number.
95	....	....	....	....	....	....	....	....	....	....	2	....	....	118	....	....	1	....	....	....	....	1	....	....	....	....	2	....	....	....	1	149	95
96	....	....	....	....	1	....	....	....	....	....	1	....	1	220	....	....	11	....	....	....	....	....	....	....	....	1	7	....	....	....	3	252	96
97	....	....	....	....	....	....	....	....	....	....	....	....	....	39	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	40	97
98	....	....	....	1	....	....	....	....	....	....	1	....	....	....	53	....	....	....	....	....	....	4	....	....	....	....	....	....	....	....	....	63	98
99	2	2	....	....	....	2	....	....	....	....	3	....	....	2	....	23	1	1	....	2	2	....	....	....	....	4	....	4	....	....	8	72	99
100	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	41	....	....	....	....	....	....	....	....	....	5	....	....	....	....	....	47	100
101	....	....	....	....	....	....	....	....	14	....	5	....	....	2	....	....	94	....	....	....	....	....	....	....	2	1	....	1	....	....	5	135	101
102	1	2	2	....	3	4	....	2	40	....	8	27	1	17	....	4	314	3	4	....	4	4	3	2	8	7	5	2	1	5	7	559	102
103	....	....	....	....	....	....	....	1	27	1	8	....	....	1	....	....	363	....	....	....	....	1	5	1	....	....	....	....	....	8	28	462	103
104	....	....	....	....	....	....	....	....	8	....	....	....	....	....	....	....	69	....	....	....	....	....	....	....	....	....	....	....	....	....	5	82	104
105	2	1	....	2	....	....	....	....	32	....	15	16	....	12	....	2	265	3	3	....	3	4	2	1	6	3	1	2	....	4	14	445	105
106	1	1	....	1	1	....	....	....	8	....	12	1	....	3	....	....	40	1	1	....	1	....	....	1	....	2	1	....	....	3	11	110	106
107	....	....	....	1	....	....	....	....	1	....	....	....	....	8	....	....	226	....	....	....	....	....	....	....	....	....	3	....	....	....	1	240	107
108	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	185	....	....	....	....	....	1	....	....	....	....	....	....	203	108
109	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6	....	....	....	....	....	....	....	....	....	....	....	7	109
110	....	....	....	....	....	....	....	....	....	....	....	6	....	1	....	....	....	....	2	....	73	....	....	....	7	....	....	....	....	....	2	101	110
111	....	....	31	11	....	....	....	....	1	....	....	8	....	1	7	....	....	....	17	....	54	53	....	....	1	....	2	....	....	....	17	299	111
112	....	....	9	2	....	....	....	....	2	....	4	7	....	....	5	....	....	....	2	....	87	11	....	....	1	....	....	....	....	....	3	192	112
113	1	....	19	12	....	....	....	....	....	....	....	3	....	1	5	....	....	....	3	....	118	21	....	....	....	1	1	....	....	....	....	279	113
114	....	....	35	1	....	....	....	....	....	....	....	1	....	....	2	....	....	....	....	....	51	6	....	....	....	....	....	....	....	1	1	116	114
115	....	....	118	4	....	....	....	....	....	....	....	....	....	....	14	....	....	....	3	....	69	37	....	....	....	....	1	....	....	....	....	379	115
116	....	....	5	....	....	....	....	....	....	....	....	3	....	....	2	....	1	....	1	....	10	4	....	....	....	....	....	....	....	1	....	35	116
117	....	....	....	....	....	....	....	....	....	....	....	....	....	....	6	....	....	....	....	....	....	82	....	....	....	....	....	....	....	....	....	90	117
118	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	172	....	....	....	....	....	....	....	....	2	177	118
119	....	....	1	....	....	....	....	....	....	....	....	1	....	....	2	1	1	....	....	....	1	79	....	....	....	....	....	....	....	....	....	90	119
120	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....	65	....	....	....	....	....	....	....	....	....	69	120
121	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	17	....	....	....	....	....	....	....	....	19	121
122	1	....	....	....	....	....	....	15	3	....	23	....	....	1	....	....	3	3	....	....	....	....	....	68	....	....	....	....	....	....	5	186	122
123	....	1	....	....	....	....	....	....	3	....	6	27	....	....	....	....	3	....	4	....	1	1	....	....	151	1	6	1	....	....	1	210	123
124	....	....	....	....	....	....	....	....	1	....	1	48	....	....	....	....	....	....	1	....	....	....	....	....	83	....	7	....	....	....	2	149	124
125	....	....	4	....	....	....	....	....	....	....	....	9	....	....	....	....	1	....	5	....	1	1	....	....	39	....	1	....	....	....	2	79	125
126	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	12	....	....	1	....	13	126
127	7	32	....	....	1	....	....	....	....	....	....	....	8	1	....	....	....	....	....	....	....	....	....	....	....	....	....	199	....	1	1	253	127
128	....	2	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	3	....	....	....	....	....	....	....	46	....	....	1	55	128
129	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	1	....	....	....	....	....	....	....	33	....	....	....	48	129
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	

(*Continued from opposite page*)

The following section was added to Article V, May 6, 1907:

SEC. 2.—Each medical college in membership in the Association shall print in every annual catalogue or announcement a table of the total number of hours work given in said college, arranged both by subjects and years.

The following section was added to Article V, Feb. 28, 1911:

SEC. 3.—Each college in membership in this Association shall print annually a list of its students by classes.

The following colleges are members of the Association: Leland Stanford Junior University Department of Medicine, Palo Alto and San Francisco, Cal.; University of California, Medical Department, Berkeley, Los Angeles and San Francisco, Cal.; University of Southern California, Medical Department, Los Angeles, Cal.; University of Colorado, School of Medicine, Boulder and Denver, Colo.; George Washington University Department of Medicine, Washington, D. C.; Georgetown University School of Medicine, Washington, D. C.; Howard University Medical Department, Washington, D. C.; University of Illinois, College of Medicine, Chicago, Ill.; Northwestern University Medical School, Chicago, Ill.; Indiana University School of Medicine, Bloomington and Indianapolis, Ind.; Drake University College of Medicine, Des Moines, Iowa; State University of Iowa, College of Medicine, Iowa City, Iowa; Kansas Medical College, Medical Department of Washburn College, Topeka, Kan.; University of Kansas, School of Medicine, Lawrence and Rosedale, Kan.; University of Louisville, Medical Department, Louisville, Ky.; Medical Department of the Tulane University of Louisiana, New Orleans, La.; Baltimore Medical College, Baltimore, Md.; College of Physicians and Surgeons, Baltimore, Md.; Johns Hopkins University, Medical Department, Baltimore, Md.; University of Maryland, School of Medicine, Baltimore, Md.; Medical School of Howard University, Boston, Mass.; Tufts College Medical School, Boston, Mass.; Detroit College of Medicine, Detroit, Mich.; University of Michigan, Department of Medicine and Surgery, Ann Arbor, Mich.; University of Minnesota, College of Medicine and Surgery, Minneapolis, Minn.; University of Mississippi Medical Department, Oxford, Miss.; University of Missouri Department of Medicine, Columbia, Mo.; University Medical College, Kansas City, Mo.; St. Louis University School of Medicine, St. Louis, Mo.; Washington University Medical School, St. Louis, Mo.; University of Nebraska, College of Medicine, Lincoln and Omaha, Neb.; John A. Creighton Medical College, Omaha, Neb.; University of Buffalo, Medical Department, Buffalo, N. Y.; University and Bellevue Hospital Medical College, New York, N. Y.; Cornell University Medical College, Ithaca and New York, N. Y.; Syracuse University, College of Medicine, Syracuse, N. Y.; University of North Carolina, Medical Department, Chapel Hill, N. C.; Wake Forest College, School of Medicine, Wake Forest, N. C.; University of North Dakota, College of Medicine, University, N. D.; Western Reserve University, Medical Department, Cleveland, Ohio; Starling-Ohio Medical College, Columbus, Ohio; Ohio-Miami Medical College of the University of Cincinnati, Cincinnati, Ohio; State University of Oklahoma, School of Medicine, Norman, Okla.; Meharry Medical College, Medical Department of Walden University, Nashville, Tenn.; Vanderbilt University, Medical Department, Nashville, Tenn.; Medical College of Virginia, Richmond, Va.; University College of Medicine, Richmond, Va.; University of Wisconsin, College of Medicine, Madison, Wis.

The secretary-treasurer of the Association is Dr. Fred C. Zapffe, 3431 Lexington Street, Chicago.

COLLEGE NOTES

Colleges Closed During the Year.—Thirteen medical colleges have been closed during the year, eight of which were suspended and five by merger with other institutions. The list is as follows:

College of Physicians and Surgeons, Little Rock, Arkansas Merged into the Medical Department of the University of Arkansas.

Denver and Gross College of Medicine, Denver, Colo. Merged into the University of Colorado School of Medicine.

American Medical Missionary College, Battle Creek, Mich., and Chicago. Merged into the College of Physicians and Surgeons, Chicago.

College of Medicine and Surgery, Physiomedical, Chicago. Absorbed by the Chicago College of Medicine and Surgery.

Reliance Medical College, Chicago. Discontinued.

Southwestern Homeopathic Medical College, Louisville, Ky. Merged into the Hahnemann Medical College and Hospital, Chicago.

Atlantic Medical College, Baltimore, Md., formerly the Southern Homeopathic Medical College. Suspended.

University Medical College, Kansas City, Mo. Suspended.

Knoxville Medical College (Colored), Knoxville, Tenn. Suspended.

College of Physicians and Surgeons, Memphis, Tenn. Merged with, and building to be occupied hereafter by, the Medical Department of the University of Tennessee, which is to be removed from Nashville.

University of Nashville, Medical Department, Nashville, Tenn. Dissolved its union with the University of Tennessee Medical Department and became extinct.

West Virginia University College of Medicine, Morgantown, W. Va. Closed.

The San Jose College of Medicine and Pharmacy of the San Thomas University, Manila, Philippine Islands, has been permanently closed.

(*Continued on page 650*)

TABLE 3.—WHERE STUDENTS STUDY MEDICINE

A. STUDENTS FROM THE EASTERN STATES

Eastern States.	Year.	Attending Medical Schools in the East.		Middle States.		West.		South.		Totals.
		Students.	Percentage.	Students.	Percentage.	Students.	Percentage.	Students.	Percentage.	
Connecticut	1908	264	96.7	6	2.2	0	0.	3	1.1	273
	1909	255	97.0	5	1.9	1	0.4	2	0.7	263
	1910	258	95.2	8	2.9	1	0.4	4	1.5	271
	1911	230	94.6	7	2.9	2	0.8	4	1.7	243
Delaware	1908	52	98.1	1	1.9	0	0.	0	0.	53
	1909	53	98.1	0	0.	1	1.9	0	0.	54
	1910	38	97.4	0	0.	0	0.	1	2.6	39
	1911	34	100.0	0	0.	0	0.	0	0.	34
Dist. of Columbia	1908	117	96.0	2	1.6	1	0.8	2	1.6	122
	1909	109	92.4	4	3.4	0	0.	5	4.2	118
	1910	109	94.0	5	4.3	0	0.	2	1.7	116
	1911	119	90.8	7	5.4	4	3.0	1	0.8	131
Maine	1908	172	94.5	6	3.3	2	1.1	2	1.1	182
	1909	165	94.8	5	2.9	3	1.7	1	0.6	174
	1910	149	97.4	4	2.6	0	0.	0	0.	153
	1911	144	90.3	4	2.7	2	1.3	1	0.7	151
Maryland	1908	236	95.5	6	2.4	1	0.5	4	1.6	247
	1909	302	97.1	4	1.3	0	0.	5	1.6	311
	1910	298	97.4	4	1.3	0	0.	4	1.3	306
	1911	288	99.0	3	1.0	0	0.	0	0.	291
Massachusetts	1908	835	97.4	15	1.7	4	0.5	3	0.4	857
	1909	789	97.0	12	1.5	7	0.9	5	0.6	813
	1910	778	96.2	20	2.5	4	0.4	7	0.9	809
	1911	782	95.5	22	2.7	8	1.0	7	0.8	819
New Hampshire	1908	113	95.0	4	3.4	1	0.8	1	0.8	119
	1909	102	99.0	1	1.0	0	0.	0	0.	103
	1910	95	97.9	0	0.	2	2.1	0	0.	97
	1911	81	96.4	1	1.2	2	2.4	0	0.	84
New Jersey	1908	426	94.2	18	4.0	2	0.5	6	1.3	452
	1909	438	97.1	10	2.2	1	0.3	2	0.4	451
	1910	445	94.9	16	3.4	1	0.2	7	1.5	469
	1911	433	95.1	13	2.9	1	0.2	8	1.8	455
New York	1908	1978	93.5	105	5.0	8	0.4	25	1.1	2116
	1909	1959	92.3	133	6.3	12	0.5	19	0.9	2123
	1910	1972	93.0	126	5.9	10	0.5	12	0.6	2120
	1911	2012	93.0	126	5.9	11	0.5	13	0.6	2162
Pennsylvania	1908	1920	91.3	155	7.4	4	0.2	25	1.1	2104
	1909	2005	92.9	130	6.0	11	0.5	13	0.6	2159
	1910	1828	91.9	145	7.3	7	0.3	10	0.5	1990
	1911	1639	91.1	145	8.1	5	0.2	10	0.6	1799
Rhode Island	1908	92	92.9	5	5.1	0	0.	2	2.0	99
	1909	94	94.9	3	3.1	2	2.0	0	0.	99
	1910	95	94.0	5	5.0	0	0.	1	1.0	101
	1911	99	95.1	4	3.9	1	1.0	0	0.	105
Vermont	1908	93	87.8	10	9.4	3	2.8	0	0.	103
	1909	95	89.6	7	6.6	4	3.8	0	0.	106
	1910	93	91.1	7	6.9	2	2.0	0	0.	102
	1911	93	96.9	2	2.1	1	1.0	0	0.	96
Virginia	1908	448	86.0	14	2.7	0	0.	59	11.3	521
	1909	410	85.1	17	3.5	3	0.6	52	10.8	482
	1910	400	86.0	21	4.5	3	0.7	41	8.8	465
	1911	396	89.0	15	3.4	2	0.4	32	7.2	445
West Virginia	1908	190	65.1	89	30.5	0	0.	13	4.4	292
	1909	168	62.0	89	32.8	0	0.	14	5.2	271
	1910	149	56.0	105	39.5	2	0.7	10	3.8	266
	1911	146	66.4	66	30.0	4	1.8	4	1.8	220
Totals	1908	6936	92.0	436	5.8	26	0.3	145	1.9	7543
	1909	6944	92.3	420	5.6	45	0.5	118	1.6	7527
	1910	6707	91.8	466	6.4	32	0.5	99	1.3	7304
	1911	6497	92.3	415	6.0	43	0.5	80	1.2	7035

B. STUDENTS FROM THE MIDDLE STATES

Middle States.	Year.	Attending Medical Schools in the East.		Middle States.		West.		South.		Totals.
		Students.	Percentage.	Students.	Percentage.	Students.	Percentage.	Students.	Percentage.	
Illinois	1908	55	3.1	1651	94.4	14	0.8	29	1.7	1749
	1909	54	2.8	1832	95.4	14	0.8	20	1.0	1920
	1910	44	2.3	1884	96.2	14	0.6	17	0.9	1959
	1911	38	2.4	1535	96.1	17	1.1	8	0.4	1598
Indiana	1908	23	3.2	680	94.6	9	1.2	7	1.0	719
	1909	29	4.8	565	92.6	9	1.5	7	1.1	610
	1910	28	4.9	530	92.8	5	0.9	8	1.4	571
	1911	28	5.6	455	90.5	15	3.0	5	0.9	503
Iowa	1908	26	3.6	676	94.4	8	1.1	6	0.9	716
	1909	35	4.8	658	91.1	27	3.7	2	0.4	722
	1910	30	4.7	582	91.5	22	3.5	2	0.3	636
	1911	28	5.5	429	87.9	31	6.4	1	0.2	489
Kansas	1908	26	5.6	418	89.9	3	0.6	18	3.9	465
	1909	20	5.2	349	90.2	9	2.3	9	2.3	387
	1910	26	6.3	362	87.9	12	2.9	12	2.9	412
	1911	16	4.7	300	88.0	13	3.8	12	3.5	341
Kentucky	1908	33	5.2	541	85.2	0	0.	61	9.6	635
	1909	28	5.6	401	80.7	6	1.2	62	12.5	497
	1910	29	6.8	331	77.3	2	0.5	66	15.4	428
	1911	36	10.0	259	72.1	2	1.7	62	17.2	359
Michigan	1908	24	4.9	457	92.7	4	0.8	8	1.6	493
	1909	11	2.2	470	95.7	6	1.4	4	0.7	491
	1910	11	2.5	429	95.6	6	1.3	3	0.6	449
	1911	9	2.2	388	95.3	7	1.7	3	0.8	407
Minnesota	1908	21	5.7	350	94.3	0	0.	0	0.	371
	1909	25	7.2	313	90.2	7	2.0	2	0.6	347
	1910	16	4.7	313	92.6	6	1.8	3	0.9	338
	1911	12	3.6	291	93.1	9	2.9	1	0.4	313
Missouri	1908	26	2.8	851	92.6	9	1.0	33	3.6	919
	1909	27	3.4	743	91.4	12	1.3	31	3.9	813
	1910	28	3.5	734	91.0	12	1.4	33	4.1	807
	1911	21	3.3	550	88.7	12	2.0	37	6.0	620
Nebraska	1908	12	3.6	317	95.5	2	0.6	1	0.3	332
	1909	8	2.3	329	95.1	9	2.6	0	0.	346
	1910	8	2.7	285	94.6	8	2.7	0	0.	301
	1911	10	3.7	250	92.2	11	4.1	0	0.	271
North Dakota	1908	6	7.9	70	92.1	0	0.	0	0.	76
	1909	8	10.4	68	88.3	1	1.3	0	0.	77
	1910	7	7.2	89	91.8	1	1.0	0	0.	97
	1911	8	8.3	88	91.7	0	0.	0	0.	96
Ohio	1908	140	15.3	756	82.9	5	0.6	11	1.2	912
	1909	116	12.5	792	85.3	13	1.4	8	0.8	929
	1910	99	11.0	780	86.5	14	1.6	9	0.9	902
	1911	101	11.6	740	86.2	9	1.6	9	1.6	859
South Dakota	1908	3	4.2	66	93.0	0	0.	2	2.8	71
	1909	1	1.1	86	98.9	0	0.	0	0.	87
	1910	4	4.7	80	94.1	1	1.2	0	0.	85
	1911	6	6.9	78	89.7	3	3.4	0	0.	87
Wisconsin	1908	22	4.6	450	94.2	2	0.4	4	0.8	478
	1909	18	4.2	407	94.7	5	1.1	0	0.	430
	1910	16	3.1	498	96.0	5	0.9	0	0.	519
	1911	21	4.5	427	93.0	11	2.5	0	0.	459
Totals	1908	417	5.3	7283	91.8	56	0.6	180	2.3	7936
	1909	380	5.0	7013	91.6	118	1.5	145	1.9	7656
	1910	617	8.2	6626	88.3	108	1.5	153	2.0	7504
	1911	334	5.2	5790	90.5	140	2.2	138	2.1	6402

This table gives an interesting study of the migration of medical students. It shows that of the 19,148 medical students coming from the various states and attending the medical schools of the United States during the session of 1910-11, 2,330 went to other parts of the country to study medicine. Groups A, B, C and D show where the students from each section go to study medicine. Group A shows where the students coming from the eastern section of the country went to study medicine. Section B shows the same for the students from the middle section of the country. Table C, students from the western section of the country, and Table D, students from the southern section. For example, Group A shows that 7,035 medical students came from the eastern section during 1910-11 and of that number 6,497 entered colleges of the east, 415 attended colleges of the middle states, 43 attended western colleges and 80 attended southern colleges. Figures for the last four college sessions are given and this permits an interesting study by states. For example, Kentucky furnished 635 students in 1908 but only 359 in 1911; nevertheless, where only 9.6 per cent. attended southern colleges in 1907-08, 17.2 per cent. attended southern colleges in 1910-11. Was this due to the fact that the south has better medical colleges now than in 1908 or to the fact that a large number of colleges in the middle section have adopted higher standards? These tables show also the total number of students coming from each state for each of the last four years as well as from each section. For example, a study of Group A shows that for each of the four years New York furnished over 2,100 medical students and about 93 per cent. of those students attended the colleges of their home section. Group D of Table 3 shows that the southern section furnished 5,467 students for the session of 1907-08 but only 4,848 for the session of 1910-11. This section also shows a larger percentage of students going to the eastern schools in 1911 than went to those schools in 1908; it also shows that a smaller portion of students attended the colleges of the middle states during 1911 than attended those schools in 1908.

(Continued from page 649)

Endowments, New Medical Buildings and Hospitals

Alabama.—The state legislature made an appropriation of $25,000 per year for the running expense of the Medical Department of the University of Alabama, Mobile.

Connecticut.—Yale Medical School received a donation of $30,000 from Francis E. Loomis of the class of 1864. Of this

(Continued on opposite page)

TABLE 3.—WHERE STUDENTS STUDY MEDICINE—(Concluded)

C. STUDENTS FROM THE WESTERN STATES

Western States.	Year.	Attending Medical Schools in the East. Students.	East. Percentage.	Middle States. Students.	Middle States. Percentage.	West. Students.	West. Percentage.	South. Students.	South. Percentage.	Totals.
Arizona	1908	1	6.7	4	26.7	2	13.3	8	53.3	15
	1909	1	8.3	3	25.0	2	16.7	6	50.0	12
	1910	2	40.0	1	20.0	0	0.	2	40.0	5
	1911	3	30.0	3	30.0	2	20.0	2	20.0	10
California	1908	55	13.5	39	9.6	306	75.0	8	1.9	408
	1909	52	18.4	33	11.7	192	68.1	5	1.8	282
	1910	48	13.4	26	7.2	277	77.2	8	2.2	359
	1911	53	15.1	30	7.8	266	74.1	10	3.0	359
Colorado	1908	9	5.8	28	17.9	117	75.0	2	1.3	156
	1909	10	6.7	21	14.0	116	77.3	3	2.0	150
	1910	13	8.3	29	18.5	112	71.3	3	1.9	157
	1911	14	9.8	31	21.7	93	65.0	5	3.5	143
Idaho	1908	2	8.3	17	70.9	5	20.8	0	0.	24
	1909	1	3.8	16	61.6	8	30.8	1	3.8	26
	1910	1	4.8	11	52.2	9	42.8	0	0.	21
	1911	5	20.0	14	56.0	6	24.0	0	0.	25
Montana	1908	8	18.6	32	74.4	1	2.3	2	4.7	43
	1909	6	19.4	21	67.7	4	12.9	0	0.	31
	1910	8	21.6	25	67.6	4	10.8	0	0.	37
	1911	8	29.6	18	66.7	1	3.7	0	0.	27
Nevada	1908	1	12.5	3	37.5	3	37.5	1	12.5	8
	1909	1	12.5	3	37.5	4	50.0	0	0.	8
	1910	0	0.	5	83.3	1	16.7	0	0.	6
	1911	0	0.	1	25.0	3	75.0	0	0.	4
New Mexico	1908	2	18.2	3	27.3	2	18.2	4	36.3	11
	1909	3	37.5	4	50.0	1	12.5	0	0.	8
	1910	3	27.3	5	45.5	1	9.1	2	18.1	11
	1911	2	18.2	9	81.8	0	0.	0	0.	11
Oregon	1908	22	16.8	15	11.5	92	70.2	2	1.5	131
	1909	19	16.4	19	16.4	77	66.3	1	0.9	116
	1910	15	11.5	25	19.2	90	69.3	0	0.	130
	1911	19	17.1	21	18.9	70	63.1	1	0.9	111
Utah	1908	35	35.4	34	34.3	29	29.3	1	1.0	99
	1909	22	29.3	32	42.7	20	26.7	1	1.3	75
	1910	25	28.4	35	39.8	26	29.6	2	2.2	88
	1911	18	23.4	40	51.9	19	24.7	0	0.	77
Washington	1908	26	25.2	47	45.7	26	25.2	4	3.9	103
	1909	29	32.6	36	40.4	21	23.6	3	3.4	89
	1910	26	29.3	40	44.9	21	23.6	2	2.2	89
	1911	30	34.1	43	48.9	14	15.9	1	1.1	88
Wyoming	1908	1	16.7	4	66.7	1	16.7	0	0.	6
	1909	3	21.4	5	35.7	5	35.7	1	7.2	14
	1910	3	27.3	5	45.4	3	27.3	0	0.	11
	1911	4	36.3	6	54.5	1	9.2	0	0.	11
Totals	1908	162	16.1	226	22.5	584	58.2	32	3.2	1004
	1909	147	18.1	193	23.8	450	55.5	21	2.6	811
	1910	144	15.8	207	22.6	544	59.5	19	2.1	914
	1911	156	18.1	216	24.8	475	55.0	19	2.1	866

D. STUDENTS FROM THE SOUTHERN STATES

Southern States.	Year.	Attending Medical Schools in the East. Students.	East. Percentage.	Middle States. Students.	Middle States. Percentage.	West. Students.	West. Percentage.	South. Students.	South. Percentage.	Totals.
Alabama	1908	36	5.3	24	3.5	0	0.	633	91.2	683
	1909	116	12.5	792	85.3	13	1.4	8	0.8	929
	1910	33	5.2	27	4.3	1	0.2	572	90.3	633
	1911	32	5.8	17	2.9	1	0.2	499	91.1	549
Arkansas	1908	20	4.8	60	14.3	0	0.	339	80.9	419
	1909	20	5.2	47	12.2	0	0.	317	82.6	384
	1910	18	4.5	56	14.3	1	0.5	317	80.7	392
	1911	17	5.5	42	13.7	1	0.5	247	80.5	307
Florida	1908	19	14.4	9	6.8	0	0.	104	78.8	132
	1909	27	17.2	9	5.7	0	0.	121	77.1	157
	1910	22	15.4	12	8.4	1	0.7	108	75.5	143
	1911	31	18.8	8	4.8	1	0.6	127	75.8	167
Georgia	1908	51	7.8	17	2.6	1	0.1	586	89.5	655
	1909	50	7.6	15	2.2	1	0.2	593	90.0	659
	1910	45	6.4	13	1.9	0	0.	644	91.7	702
	1911	51	7.3	20	2.8	0	0.	639	89.9	710
Louisiana	1908	19	3.9	30	6.2	0	0.	438	89.9	487
	1909	20	4.4	31	6.8	1	0.2	404	88.6	456
	1910	14	3.7	23	6.1	3	0.8	336	89.4	376
	1911	17	5.9	13	3.9	1	0.3	298	90.6	329
Mississippi	1908	16	2.7	39	6.5	1	0.4	547	90.4	603
	1909	18	3.0	40	6.7	1	0.2	534	90.1	593
	1910	17	3.0	37	6.6	0	0.	506	90.4	560
	1911	17	3.2	23	4.7	0	0.	455	92.1	495
North Carolina	1908	158	31.5	13	2.5	2	0.4	329	65.6	502
	1909	170	33.1	11	2.1	1	0.2	332	64.6	514
	1910	174	35.3	11	2.2	0	0.	308	62.5	493
	1911	201	41.0	9	1.9	0	0.	277	57.1	487
Oklahoma	1908	8	5.3	41	27.0	1	0.7	102	67.0	152
	1909	8	4.3	55	29.6	0	0.	123	66.1	186
	1910	6	3.1	52	26.5	0	0.	134	68.4	192
	1911	8	4.7	40	23.4	1	0.6	122	71.3	171
South Carolina	1908	73	21.3	9	2.6	0	0.	261	76.1	343
	1909	66	16.8	12	3.0	1	0.3	314	79.9	393
	1910	75	18.2	8	1.9	0	0.	330	79.9	413
	1911	72	18.8	6	1.6	1	0.2	300	79.4	379
Tennessee	1908	19	3.1	45	7.3	1	0.1	552	89.5	617
	1909	21	3.9	38	7.1	0	0.	478	89.0	537
	1910	26	4.5	43	7.6	0	0.	500	87.9	569
	1911	25	4.5	36	6.5	3	0.6	486	88.4	550
Texas	1908	41	4.7	113	12.9	3	0.4	717	82.0	874
	1909	39	5.2	76	10.1	7	0.9	629	83.8	751
	1910	45	6.3	70	9.7	6	0.8	598	83.2	719
	1911	36	5.0	53	7.5	8	1.2	607	86.3	704
Totals	1908	460	8.4	400	7.3	9	0.1	4598	84.2	5467
	1909	473	8.9	358	6.7	12	0.3	4474	84.1	5317
	1910	475	9.1	352	6.8	12	0.3	4353	83.8	5192
	1911	507	10.4	267	5.5	17	0.3	4057	83.8	4848
Average 1908, 1909 1910 and 1911	A	6771	92.1	434	5.9	37	0.5	110	1.5	7352
	B	437	5.9	6678	90.6	105	1.4	154	2.1	7374
	C	152	16.9	210	23.4	513	57.1	23	2.6	898
	D	479	9.2	344	6.6	12	0.2	4370	84.0	5205
Where migrating students went.	1908	1039	40.8	1062	41.7	91	3.5	357	14.0	2549
	1909	1000	41.2	971	40.0	175	7.1	284	11.7	2430
	1910	1092	42.7	1020	39.9	139	5.5	304	11.9	2555
	1911	998	42.6	895	38.6	200	8.6	237	10.2	2330

(*Continued from opposite page*)

sum $20,000 is for medical research and $10,000 is to go toward the endowment of the university clinic.

Georgia.—The Atlanta College of Physicians and Surgeons received a gift of $5,000 from Dr. W. S. Elkin, which was expended in equipping the departments of embryology, histology and physiology.

—The Medical College of Georgia received $46,000 from the citizens of Augusta, for a new college building.

Illinois.—The legislature appropriated $120,000 for the College of Medicine of the University of Illinois (The College of Physicians and Surgeons, Chicago). This is $60,000 per year for two years.

—The sum of $65,000 has been donated by Mrs. Anna W. Phelps to provide a new site for the Hahnemann Hospital, Chicago. In his will the late Erskine M. Phelps had bequeathed $30,000 for a new hospital building and $75,000 for a nurses home. It is stated that the Hahnemann Medical College intends to sell its present college building and will erect another building on the new site.

—A gift of $250,000 was received by Northwestern University Medical School, Chicago, from Mr. James A. Patten, to endow and maintain a chair of medical research.

Indiana.—Property valued at $200,000 was donated by Dr. and Mrs. R. W. Long of Indianapolis toward the establishing of a state hospital under the direction of the Indiana University School of Medicine. The school also received a bonus of $25,000 annually through the last legislature.

Iowa.—One new building at a cost of $30,000 has been completed by the Drake University College of Medicine, Des Moines, and a second building which will cost a like sum is now in course of construction.

—An addition has been made to the University Hospital of the State University of Iowa College of Medicine, at a cost of $100,000.

Maryland.—The University of Maryland School of Medicine has received pledges amounting to $7,250 toward an endowment for the department of pathology.

(*Continued on next page*)

Massachusetts.—Harvard Medical School was left $22,000 by the will of the late Samuel Hubbard Scudder, which will revert to the school on the death of the testator's sister, Mrs. Mary E. Blatchford. Also $4,000 in cash and all his medical books and scientific apparatus were received through the will of the late Dr. Henry P. Bowditch.

—The medical building of the Tufts College Medical School has been enlarged at an expense of about $50,000.

Missouri.—The Robert A. Barnes Hospital is to be erected on the campus of the Washington University School of Medicine on King's highway, St. Louis, at a cost of $1,500,000. It will consist of a group of ten buildings.

—A new hospital for the clinical department of the St. Louis University School of Medicine has been erected by the Sisters of Mercy at a cost of $350,000.

New York.—The Medical Department of the University of Buffalo has erected an addition to its college building at a cost of $20,000.

—An additional donation of $3,820,000 has been given by John D. Rockefeller for the Rockefeller Institute of Medical Research. This brings his total gifts for the institute to $8,240,000.

—Fordham University School of Medicine is erecting a new college building, the approximate cost of which, when completed, will be $100,000.

—A gift of $1,300,000 has been pledged for the perfection of the affiliation of the Presbyterian Hospital and the medical school of Columbia University. The gift was made through Edward H. Harkness and is believed to have come from members of his family. He himself contributes $300,000 for the erection of a surgical pavilion to be equipped with modern appliances and also a complete laboratory for advanced research work. More recently $100,000 has been given to this hospital by the will of Miss Adele A. Dortic and a second $100,000 by the Supreme Court decision in regard to the will of Edward O. Kindberg.

—Columbia University received an anonymous gift of $10,000 annually for four years, a total of $40,000, to be used in surgical research.

—A sum of $10,000 has been pledged by the alumni of the New York Homeopathic Medical College and Hospital for the maintenance of the bacteriological laboratory at the college.

Nebraska.—The Nebraska legislature appropriated $100,000, which will be used to establish all four years of the medical course of the University of Nebraska College of Medicine on the new campus in Omaha.

North Carolina.—A new medical building has been erected on the campus of the University of North Carolina at an approximate cost of $37,000.

Ohio.—Western Reserve University has received from Mr. H. M. Hanna a gift of $250,000 toward an endowment fund for the Medical Department.

—A new addition to the laboratory building of the Starling-Ohio Medical College has been erected at a cost of $10,000.

—Ohio-Miami Medical College of the University of Cincinnati received $50,000 by the will of the late Dr. Francis Brunning as an addition to the endowment fund.

Oregon.—The legislature recently made an appropriation of $30,000 for the Medical Department of the University of Oregon.

Pennsylvania.—The University of Pennsylvania received a gift of $100,000 to be used in establishing a "Benjamin Rush Chair of Physiologic Chemistry." The chair has been established and Dr. Alonzo E. Taylor has been chosen for the place.

—A modern clinical amphitheater was erected for the Woman's Medical College of Pennsylvania at a cost of $22,500. The college also received a bequest of $3,000 by the will of the late Annie Shoemaker.

—The Hahnemann Medical College and Hospital of Pennsylvania is said to have received a gift of $100,000 to establish a chair in materia medica.

South Carolina.—A new building is being erected by the Medical College of South Carolina which will cost approximately $75,000.

Tennessee.—A special donation of $150,000 was made by Mr. W. K. Vanderbilt to purchase the sixteen-acre campus of the Peabody Normal College for the Medical and Dental Departments of Vanderbilt University. Vanderbilt University has now assumed all responsibility financially and otherwise for its medical department.

—Meharry Medical College, Nashville, has been promised $10,000 by Mr. Andrew Carnegie for the completion of Hubbard Hospital, on condition that another $10,000 is raised from other sources.

Virginia.—The University College of Medicine, Richmond, is erecting a new college building to replace the one destroyed by fire in January, 1910. The approximate cost will be $135,000.

Wisconsin.—An anonymous donor contributed $5,000 to the maintenance fund of the Wisconsin College of Physicians and Surgeons, Milwaukee.

Philippine Islands.—The new Philippine General Hospital at Manila has been completed. It is located on the same campus as the Philippine Medical School, now the College of Medicine and Surgery of the University of the Philippines.

Total Donations for the Year.—Although there were doubtless other instances of gifts or new buildings not reported to us, the above items show that at least $855,500 were spent during the year for new medical buildings; $459,000 were received in straight donations; $215,000 were given for the endowment of special chairs; $266,130 for the endowment of the medical schools proper and $150,000 for a new campus. Therefore, for purposes directly concerned with medical education a total of $1,945,630 was provided for. Besides this sum, $3,755,000 were given to establish teaching hospitals and $310,000 for medical research in medical schools, increasing the total to $6,010,630. This does not include an additional sum of $3,820,000 given by Mr. Rockefeller for medical research at the Rockefeller Institute.

Other College Notes

Adopted Hospital Year.—The University of Minnesota College of Medicine and Surgery has adopted the requirement that beginning this fall all matriculants must have attended a five-year course before graduation and that the fifth or last year must have been spent as an intern in a hospital satisfactory to the college.

Adopt Concentration Method.—The concentration method of teaching medicine, modifications of the method employed at the Harvard Medical School, have been adopted by Syracuse University College of Medicine, Syracuse, N. Y.; Drake University College of Medicine, Des Moines, Iowa, and the State University of Iowa College of Medicine, Iowa City.

To Save Old Medical Building.—The alumni of the Department of Medicine and Surgery of the University of Michigan are endeavoring to raise $50,000 to save the old medical building as a memorial to the medical department. This amount will be sufficient to reconstruct the interior without changing the outside appearance.

Special Chair in Preventive Medicine.—A special chair in preventive medicine has been established at the Washington University Medical School and Dr. David L. Edsall, formerly professor of medicine in the University of Pennsylvania has been selected to occupy the place.

Diploma Mill Again Closed.—The Gate City Medical College, formerly located at Texarkana and which was reported to have been closed in 1907, reopened in Dallas in 1910. Circulars were sent out offering to give courses by mail and several of these were sent by the recipients to the office of the American Medical Association.[1] Some decoy correspondence was carried on with the dean, Dr. J. W. Decker. This correspondence and several of the circulars were forwarded to the Texas State Medical Association, who placed the matter in the hands of their attorney, Mr. James N. Wilkerson. Mr. Wilkerson succeeded in purchasing outright two diplomas from Decker for $50 on December 29, 1910. Decker was arrested and a bill of indictment was found against him by the Federal Grand Jury for fraudulent use of the mails. In May, 1911, Decker was convicted and sentenced to fifteen months of hard labor at Fort Leavenworth, Kansas. At the trial it was shown that the defunct College of Physicians and Surgeons had been consolidated with this "college" and that the entire equipment of the consolidated institution consisted of a stove, a table, two chairs, a manikin, a blackboard and a defective skeleton.

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[1] The Journal A. M. A., March 18, 1911, p. 839.

Cooperative Course in Public Health.—The board of directors of the University of Cincinnati has arranged to cooperate with the health department of the city of Cincinnati to provide for the medical students a training in public health work. Each of the two upper classes will be divided into four groups and each group will be assigned to the board of health where the students will do chemical and bacteriological work (such as the examination of milk and water, the making of tests for typhoid fever, tuberculosis, diphtheria, etc.) They will also do sanitary inspection and fumigation; trace the sources of infections; make food, dairy, bakery, barber-shop and school inspections; practice preventive inoculation and vaccination; study the methods of disposal of sewage and of the dead and serve in the city dispensaries. Students will also participate in the work of the Antituberculosis League, and in the office work of the board of health, studying methods of making reports, compiling statistics and keeping records. Two groups of students, one from each class, will be assigned to the board of health at one time and these two groups will serve for one month after which two other groups will be assigned until all students have taken the work. This work is designed to send out physicians who will be better acquainted with public health problems and better trained to take up the work of disease prevention.

Public Health Course in Wisconsin.—In conjunction with the State Department of Public Health, the University of Wisconsin has arranged for a special course for public health officers to begin this fall. The course will extend over one year and will lead to a Diploma of Public Health. It will be open to those who have received a degree in medicine or in medical or sanitary science and desire to fit themselves especially for public health work. The subjects offered are as follows:

First Semester.—1. Bacteriology for Health Officers. 2. Physiology—Respiration, dietetics, the chemistry of food, air, water, sewage, etc. 3. Meteorology. 4. Medical Zoology.

Second Semester.—1. Special Bacteriology, Pathology and Hygiene for Health Officers. To include bacteriology of air, water, food and soils, epidemiology, diseases of animals transferable to man, occupational diseases, etc. 2. Microscopical Examination of Drugs and Foods. 3. Public Health Administration and Vital Statistics. 4. Practical Field Work. 5. Hydrology.

In addition to the course above outlined, it is planned to have a conference of public health officers of the villages and cities of Wisconsin at the state university once in two years. The recent legislature passed a bill authorizing the secretary of the State Board of Health to call a conference of this kind and authorizing the expenses of such officers who attend such a conference to be paid by the village or city from which they come.

FOREIGN COLLEGE NOTES

Adelaide, Australia.—The medical school in the University of Adelaide, Australia, was founded in 1883, but the complete curriculum was not offered until 1886. The course covers five years of nine months each in addition to preliminary work, including courses in physics, chemistry and elementary biology. The faculty numbers 17. The total enrolment of medical students in 1910 was 73; graduates, 8. The amount received from medical students' fees in 1910 was 2,172 pounds (about $10,860), while the amount expended for medical teaching was 3.072 pounds (or about $15,360). The school has endowments amounting to 36,000 pounds (about $180,000).

Canton, China.—The University Medical School of Canton, China, was organized in 1908 by the Christian Association of the University of Pennsylvania as a modern missionary enterprise. A dispensary was opened. In the first year, 3,839 patients were treated, and in the second year 4,203. A hospital to cost $16,500 is now being erected. The first class consisting of four students was enrolled in February, 1910. That the standards of its work may be guaranteed it is desired to bring the Medical School and Hospital into some direct official relationship with the University of Pennsylvania. It is now affiliated with the Canton Christian College, an institution incorporated under the regents of the State of New York, with assets of $180,000, having a faculty of twelve American professors, assisted by fourteen Chinese instructors. The campus of the Canton Christian College consists of forty-eight acres, adjoining the eight-acre tract belonging to the University Medical School.

—Reports have also been received from the South China Medical College at Canton, which during 1910 enrolled thirty-six students. Eleven physicians are engaged in teaching. A four-year course of over 900 hours each year is required. Before completing his course the student is required to do six months' clinical work in the hospital wards. In the hospital 1,928 patients were cared for during 1910, and in the outpatient department, 17,962. There were 1,747 surgical operations.

Siena, Italy.—The Royal University of Siena, Italy, gives a medical course covering six years, including preliminary courses in physics, chemistry and biology. The medical faculty numbers twenty. The annual session begins early in November and extends to the last week in July of each year. During 1909-10 the enrolment of medical students was forty-nine, including nine candidates for graduation.

Halifax, Nova Scotia.—Dalhousie University has taken over the Halifax Medical College and hereafter assumes full control, financially and otherwise. The college is to be completely reorganized and the name has been changed to the Dalhousie Medical College, Medical Faculty of Dalhousie University.

Zurich, Switzerland.—The total enrolment of medical students at the University of Zurich during last year was 393, and of this number 124 were women. The faculty is made up of eighteen professors and twenty-seven docents, a total of forty-five. The summer semester begins in April and the winter semester in October of each year. The course covers five years, including preliminary courses in physics, chemistry and biology.

Beirut, Syria.—In France, 100,000 francs, or more than $20,000, have been subscribed for the enlargement of the Beirut Medical School at Beirut, Syria. The number of students enrolled is reported at 250, and the new building will increase the capacity to 400. A new teaching hospital is also planned.

—The School of Medicine of the Syrian Protestant College of Beirut, Syria, was organized in 1867, the first class graduating in 1871. The course covers four years of thirty-five weeks each. Its faculty numbers fourteen. The total enrollment for 1909-10 was 138; graduates, eighteen. Johanniter Hospital is under the care of the medical school. It has eighty-three beds and over 800 patients were admitted during the year. In the policlinic, the out-patient department, over 13,000 cases were treated during the year. The school possesses a medical library of over 1,800 volumes and several prominent medical journals, American, English and French.

Montpellier, France.—The medical course at the University of Montpellier extends over four years. For admission a diploma from a seven-year gymnasium or lyceum is required and in addition to this the student must complete a year in the college of science devoted to physics, chemistry and biology. During the session of 1909-10, 729 medical students were enrolled and 133 were granted degrees. Of this number 120 received state diplomas and thirteen the diploma of the university. Of the 729 students, 650 were in regular attendance, the other seventy-nine being absent on military duty or for other cause.

Montreal, Canada.—The Medical Faculty of McGill University is now occupying the new buildings erected during 1909 and 1910 at a cost of 450,000, to replace those destroyed by fire in April, 1907. The money was provided by Lord Strathcona, who in June, 1911, gave an additional $100,000 for equipment.

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[*For other information see second page following reading matter*]

SATURDAY, AUGUST 19, 1911

MEDICAL EDUCATION IN THE UNITED STATES

The tabulated statistics herewith presented (pages 642 to 651) are for the year ending June 30, 1911, and are based on signed reports received directly from the medical colleges, or from other reliable sources. We wish here to acknowledge the courtesy and cooperation of the officials of the medical colleges which have made the compilation of these complete statistics possible.

STATISTICS OF COLLEGES

On pages 642 to 644 is Table 1, which gives all the colleges in session during 1910-11, the population of the city in which each college is located, the number of students, men and women, registered during the year, the number of 1911 graduates, men and women, the number of graduates holding collegiate degrees, the number of teachers for each college, the number of weeks of actual work in the college year, the total fees for each year, the executive officer of the college and the dates of beginning and ending of the next session. The figures in heavy-faced type show the totals by states. Beginning on page 630 are given essential facts concerning all medical colleges, arranged by states.

NUMBER OF MEDICAL STUDENTS

The total number of medical students (matriculants) in the United States for the year ending June 30, 1911, excluding special students, was 19,786, a decrease of 1,740 below 1910, a decrease of 2,359 below 1909, a decrease of 2,816 below 1908, and a decrease of 8,356 below 1904, when the highest number of students was enrolled. In fact, it is the lowest number since The Journal began compiling these statistics in 1900. Of the total number of students, 18,414 were in attendance at the regular colleges, 890 at the homeopathic, 433 at the eclectic, and 49 at the physiomedical colleges. The attendance at the regular colleges shows a decrease of 1,722 below that of last year, of 2,140 below 1909, and 2,522 below 1908. In the homeopathic colleges there was an increase of 23 above the attendance of 1910, but a decrease of 9 below the total for 1909. The eclectic colleges show a decrease of 22 below 1910, but an increase of 20 above 1909. The physiomedical colleges had the same number as last year, 49 students, as compared with 52 in 1909, and 90 in 1908.

TABLE 4.—Medical College Attendance

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med.	Nondescript.	Total.
1880..........	9,776	1,220	830	...	...	11,826
1890..........	13,521	1,164	719	...	...	15,404
1900..........	22,710	1,909	522	...	...	25,171
1901..........	23,846	1,683	664	80	144	26,417
1902..........	24,878	1,617	765	91	150	27,501
1903..........	24,930	1,498	848	149	190	27,615
1904..........	23,662	1,309	1,014	123	234	28,142
1905..........	24,119	1,104	578	114	232	26,147
1906..........	23,116	1,085	644	110	249	25,204
1907..........	22,303	1,039	545	97	292	24,276
1908..........	20,936	891	479	90	206	22,602
1909..........	20,554	899	413	52	227	22,145
1910..........	20,136	867	455	49	19	21,526
1911..........	18,414	890	433	49	...	19,786

GRADUATES

The total number of graduates for the year ending June 30, 1911, was 4,273, a decrease of 167 below 1910, of 242 below 1909, of 468 below 1908 and of 707 below 1907. It is the lowest number graduating since The Journal began compiling these statistics, and is 181 less than the number graduated in 1890. The total this year is 1,474 less than in 1904, when there were 5,747 graduates. The percentage of graduates to matriculants was 21.6 this year, as compared with 20.7 in 1910, 20.1 in 1909 and 21.0 in 1908. The number of graduates from the regular colleges was 4,006, or 107 less than in 1910, 157 less than in 1909, and 364 less than in 1908. From the homeopathic colleges there were 152 graduates, or 31 less than in 1910, 57 less than in 1909, and 63 less than in 1908. The eclectic colleges graduated 110, 4 less than last year, but 26 more than in 1909. The physiomedical colleges had 5 graduates this year, as compared with 16 last year and 15 in 1909.

TABLE 5.—Medical College Graduates

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med.	Nondescript.	Total.
1880..........	2,673	380	188	..	..	3,241
1890..........	3,853	380	221	..	..	4,454
1900..........	4,715	413	86	..	..	5,214
1901..........	4,879	387	148	18	12	5,444
1902*..........	4,508	336	138	16	11	5,009
1903..........	5,088	420	149	24	17	5,698
1904..........	5,190	371	146	20	20	5,747
1905..........	5,126	276	153	22	23	5,600
1906..........	4,841	286	186	22	29	5,364
1907..........	4,591	225	121	11	32	4,980
1908..........	4,370	215	116	12	28	4,741
1909*..........	4,163	209	84	15	44	4,515
1910*..........	4,113	183	114	16	14	4,440
1911..........	4,006	152	110	5	..	4,273

* The figures for these years include some corrections made since the last Educational Number was published.

Of the 4,273 medical graduates, 705, or 16.5 per cent., were reported to hold also degrees in arts or science, as compared with 15.3 per cent. last year and 15.6 per cent. in 1909. As will be noted by referring to Table 10, of the 705 graduates holding baccalaureate degrees, 102, the largest number, came from Illinois colleges, followed by 94 from Maryland, 91 from Massachusetts, 81 from Pennsylvania and 76 from New York colleges. It is expected that in future the percentage of college graduates entering medicine will increase since more medical schools are requiring college work for admission.

WOMEN IN MEDICINE

During the past year there were 680 women studying medicine, a decrease of 227 below 1910, and a decrease of 241 below 1909. The percentage of all medical students was 3.4 as compared with 4.2 last year. There were 159 women graduates this year, or 3.7 per cent. of all graduates. In 1910 there were 907 women students and 157 graduates, while in 1909 there were 921 women students and 162 graduates. Of all the women matriculants, 134 (17.7 per cent.) were in attendance at the two medical colleges for women, as compared with 155 (17.1 per cent.) in 1910, 169 (18.4 per cent.) in 1909 and 186 (22.3 per cent.) in 1908. The remaining 546 (80.3 per cent.) were matriculated in coeducational colleges. From the two women's colleges, there were 36, or 22.6 per cent., of all women graduates, as compared with 41 (26.1 per cent.) in 1910 and 33 (20.3 per cent.) in 1909. There were 123, or 80.3 per cent., of all women graduates who secured their degrees from coeducational colleges.

TABLE 6.—Women in Medicine

Year.	Total women students.	Percentage of all graduates, both sexes.	Total women graduates.	Percentage of Grads., both sexes.	Women's colleges.	Students.	Percentage of all women students.	Graduates.	Percentage of all woman graduates.	Co-ed. schools.	Students.	Percentage of all women graduates.	Graduates.	Percentage of all woman graduates.
1904	1,129	4.3	244	4.0	3	183	16.2	56	23.0	97	946	83.8	198	77.0
1905	1,073	4.1	219	4.0	3	221	20.6	54	24.5	96	852	79.4	165	75.5
1906	895	3.5	233	4.3	3	189	21.0	33	14.1	90	706	79.0	200	85.9
1907	928	3.8	211	4.2	3	210	22.6	39	18.5	86	718	77.4	172	81.5
1908	835	3.7	185	3.9	3	186	22.3	46	24.9	88	649	77.7	139	75.1
1909	921	4.2	162	3.7	3	169	18.4	33	20.3	91	752	81.6	129	79.7
1910	907	4.2	157	3.5	3	155	17.1	41	26.1	82	752	82.9	116	73.9
1911	680	3.4	159	3.7	2	134	19.7	36	22.6	74	546	80.3	123	77.4

NUMBER OF COLLEGES

Since June 30, 1910, 13 colleges (mentioned on page 649) have either suspended or have merged into others, leaving 120 medical colleges still existing. The regular colleges number 101, a decrease of 10 since last year. The homeopathic colleges number 12, a decrease of 1 since last year. Of the eclectic colleges the number is 7, the same as last year. Among the 13 colleges which closed during the year, were included the last of the physiomedical colleges, and the last of the unclassifiable colleges.

TABLE 7.—Medical Colleges

Year.	Regular.	Homeopathic.	Eclectic.	Physio-Med.	Nondescript.	Total.
1880..........	72	12	6	..	..	90
1890..........	93	14	6	..	..	116
1900..........	121	22	8	..	..	151
1901..........	124	21	10	2	2	159
1902..........	121	20	10	3	1	155
1903..........	121	19	10	3	1	154
1904..........	133	19	10	3	1	166
1905..........	129	18	9	3	1	160
1906..........	130	18	9	3	1	161
1907..........	131	17	8	3	2	161
1908..........	123	16	8	2	3	152
1909..........	117	14	8	2	3	144
1910..........	111	13	7	1	1	133
1911..........	101	12	7	..	..	120

During the past seven years, 64 medical colleges have ceased to exist, either through merger or otherwise. During the same time, however, 18 new colleges were organized, leaving a net decrease of 46. While the total number of colleges is smaller, the percentage of higher-grade, stronger medical colleges, has been considerably increased.

LENGTH OF TERMS

The length of term of each college fluctuates somewhat from year to year, but on the whole, during the last eleven years there has been a decided lengthening of college terms. This has reference to the weeks of actual work, exclusive of holidays. There were no colleges this year which reported sessions shorter than twenty-seven weeks, whereas in 1901 there were 58. There were only 6 colleges having sessions of twenty-seven or twenty-eight weeks, or 2 less than last year, and 40 less than in 1903. There are 16 colleges claiming courses of twenty-nine or thirty weeks of actual work, and 37, the largest number, claim courses of thirty-one or thirty-two weeks. Of the 120 colleges now existing, 97, or over 80 per cent., now claim to require from 31 to 36 weeks of actual work, exclusive of holidays, as compared with 30 per cent. in 1901, 42 per cent. in 1904, and 76 per cent. last year. The one college claiming a course longer than thirty-six weeks is a night school. It would require twelve or fourteen years of the usual night-school study, however, to obtain the equivalent of four years of thirty weeks each in one of the better day colleges.

TABLE 8.—College Terms

	23 to 26 weeks.		27 to 28 weeks.		29 to 30 weeks.		31 to 32 weeks.		33 to 34 weeks.		35 to 36 weeks.		Over 36 weeks.	
1901	58	36.5	42	26.4	8	5.0	26	16.4	4	2.5	18	11.3	3	1.9
1902	44	28.4	44	28.4	11	7.1	33	21.3	3	1.9	18	11.6	2	1.3
1903	33	21.4	46	29.9	15	9.7	37	24.0	2	1.3	19	12.4	2	1.3
1904	27	16.3	44	26.5	22	13.3	37	22.3	13	7.8	20	12.0	3	1.8
1905	15	9.4	35	21.8	12	7.5	44	27.5	13	8.1	38	23.8	3	1.9
1906	14	8.7	35	21.7	26	16.1	32	19.9	24	14.9	28	17.4	2	1.3
1907	6	3.7	27	16.8	26	16.1	42	26.1	29	18.0	29	18.0	2	1.3
1908	2	1.3	21	13.8	28	18.4	51	33.6	24	15.8	22	14.5	4	2.6
1909	4	2.3	17	11.6	23	16.4	51	34.9	18	12.3	30	20.5	3	2.0
1910	2	1.5	8	6.0	19	14.3	42	31.5	30	22.6	30	22.6	2	1.5
1911	..	..	6	5.0	16	13.3	37	30.8	32	26.7	28	23.4	1	0.8

TUITION AND OTHER FEES

Special attention is called in Table 1 to the total amount charged by the various colleges for tuition, matriculation, laboratory and graduation fees per annum for each student. In Table 9, the 120 colleges have been grouped according to the amount of fees charged and according to their grouping by the Council on Medical Education in Classes A, B, or C.

Thirty-five colleges charge fees of $100 or less per year, 70 colleges charge between $100 and $175, and 15 colleges charge above $175. Of the 35 colleges charging $100 or less, 18, or over 50 per cent., were listed among Class A (acceptable) colleges[1] by the Council on Medical

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[1] For complete classification see The Journal A. M. A., June 18, 1910, pp. 2061 and 2062.

TABLE 9.—College Fees.

Total Fees.	Number of Colleges.			
	Class A.*	Class B.	Class C.	Total.
$ 50 or less	2	..	..	2
50 to $ 75	8	2	..	10
75 to 100	8	6	9	23
100 to 125	14	10	10	34
125 to 150	13	7	..	20
150 to 175	12	2	2	16
175 to 200	9	1	..	10
200 or above	4	..	..	5

* Based on the classification of medical colleges prepared by the Council on Medical Education.

Education, 8 were among Class B colleges, and only 9 of them are found among the Class C colleges. Among the 18 Class A colleges having these low fees are to be found the schools of medicine of the state universities of Colorado, Iowa, Mississippi, Missouri, North Dakota, South Dakota and Utah. On the other hand, 12 colleges listed by the Council in Class C charge fees of over $100 per year for each student. This clearly refutes the assertion made by some inferior colleges that they are needed for the sake of "the poor boy who wants to study medicine." Although 25 colleges listed in Class A charge fees ranging from $150 to $275 per year for each student, the actual expense for teaching that student in these colleges ranges from $300 to $600 or even more per year.

TABLE 10.—Students and Graduates, Totals by States

State.	Students.		Graduates.		Graduates with B.S. or A.B.
	Men	Women.	Men.	Women.	
Alabama	360	1	71	..	7
Arkansas	229	2	76	..	7
California	379	38	65	7	12
Colorado	143	9	36	3	14
Connecticut	83	..	20	..	6
District of Columbia	412	10	59	2	11
Georgia	819	2	168	..	8
Illinois	2,538	124	513	23	102
Indiana	179	9	50	2	4
Iowa	197	11	38	3	8
Kansas	129	8	25	3	1
Kentucky	472	..	169	..	..
Louisiana	392	1	90	..	24
Maine	67	..	13	..	5
Maryland	1,295	37	315	10	94
Massachusetts	853	74	178	19	91
Michigan	514	22	120	3	22
Minnesota	168	10	31	..	8
Mississippi	145	..	19	..	1
Missouri	971	21	225	9	21
Nebraska	281	21	56	6	6
New Hampshire	42	..	11	..	5
New York	2,231	75	405	18	76
North Carolina	319	2	46	..	4
North Dakota	34	5	..	..	..
Ohio	763	25	170	3	29
Oklahoma	57	6	13	2	..
Oregon	114	5	19	..	2
Pennsylvania	1,910	123	453	36	81
South Carolina	201	2	48	1	7
South Dakota	7	..	..	..	..
Tennessee	1,391	10	308	2	25
Texas	411	15	112	3	5
Utah	18	1	..	..	..
Vermont	186	..	40	..	2
Virginia	438	..	93	..	17
West Virginia	13	..	..	..	..
Wisconsin	345	11	60	4	..
Totals	19,106	680	4,114	159	705

DISTRIBUTION OF MEDICAL STUDENTS

Table 2, on pages 646 to 649, shows from what states the students come who were in attendance at each medical college during the session of 1910-11. The influence of the proximity of the medical school is seen in the fact that states having medical colleges contribute more students in proportion to the population than those which have no colleges, as shown by the dark zone of larger figures running diagonally down the page. A comparison of this table with the large tables based on state board examinations[2] which show the distribution of the alumni of each college, is interesting. The college which has widely distributed alumni usually has a student body from an equally large number of states.

The state furnishing the largest number of students this year was New York, with 2,162. Pennsylvania contributed 1,799 and Illinois 1,598. The next states, in the order of the number of students contributed, are: Ohio, 859; Massachusetts, 819; Texas, 704; Missouri, 620, and Indiana, 503. Four states had less than 20 each, these being New Mexico and Wyoming, each 11; Arizona 10, and Nevada 4. There were 59 students from Hawaii, Porto Rico and the Philippine Islands and 579 students from foreign countries.

In Table 3, on pages 650 and 651, the totals coming from each state for the last four years may be seen. For instance, the number coming from New York has remained nearly the same, over 2,100 for each of the four years, while the number from Pennsylvania has decreased from 2,159 in 1909 to 1,799 in 1911. Illinois, also, shows a decrease from 1,749 in 1908 to 1,598 in 1911. On the other hand, a few states, for example Rhode Island, North Dakota, South Dakota and Georgia show an increase. In the last-named state, this may be due to the continuation of low educational standards.

MIGRATION OF MEDICAL STUDENTS

Table 3 also shows the number of students of each section of the country who attended medical schools of that section, and the number who attended medical colleges of other sections. Section A gives the figures for students from the eastern states; Section B, for students from the middle states; Section C, for students from the western states, and Section D, for students from the southern states. Figures are given for the four college years 1907-8, 1908-9, 1909-10 and 1910-11. The differences in the figures for the four years show the fluctuation due to the exit of the graduating classes, to the ingress of the new freshmen and to the comparatively few who left the colleges of one section and went to those of other sections. At the bottom of Section D appear the averages of the totals for the four years. Percentages are given in order to permit of comparisons. The eastern section has long held the largest place in medical education, and, as would be expected, still has the smallest percentage of students leaving to attend colleges in other sections, the percentage of those remaining in the eastern section being 92.3. The middle section is a close second, with 90.5 per cent. of its own resident students studying medicine in the home section. The southern section has 83.8 per cent. of its medical students studying in its own colleges, while the western section, having the smallest number of colleges, naturally has a smaller proportion of students (55 per cent.) attending in that section. Of the students who migrate from the middle and southern sections, the largest proportions go east while of those from the western section, the largest proportion attends colleges of the middle section. Altogether 2,330 students attended colleges outside of the section in which they lived during the session of 1910-1911. Of this number 998, or 42.6 per cent., went to the eastern section; 895, or 38.6 per cent., went to the middle section; 237, or 10.2 per cent., went to the southern section, and 200, or 8.6 per cent., went to the western section.

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[2] The Journal A. M. A., May 27, 1911, p. 1566.

THE YEAR IN MEDICAL EDUCATION

There have been several important developments in medical education during the past year. One was the beginning of the requirement for admission of one or two years of collegiate work by 22 of the better-class medical schools of the United States, making a total of 41[3] which are now enforcing the higher standard. Another important development was the action taken by the Association of American Medical Colleges providing that after Jan. 1, 1912, students with entrance conditions are not to be accepted by colleges in membership in that organization. One more state licensing board, that of Utah, adopted as its minimum requirement of preliminary education a year of collegiate work, and the board of Colorado has increased its requirement from one to two years of collegiate work. There are, therefore, nine states[3] that have adopted this higher standard of preliminary education. Another feature of the year is the increased development of special courses in tropical medicine and in public health work.[4] Still another, and probably the most important feature of the year, however, is the large amount of money given for medical education.[5] The amount probably exceeds the gifts of any previous year, and insures an even greater development for medical education in the immediate future. Indeed, the outlook for medical education from every point of view is very encouraging.

DICTATOR McCABE

When it was first announced that Congress had called for an investigation of the facts leading to the charges preferred against Dr. Wiley by Messrs. McCabe, Dunlap and Wickersham, THE JOURNAL expressed the opinion that no one would welcome such an investigation more than would Dr. Wiley, unless it was the general public. Although the body created by Congress to look into this matter has been in existence but a few days, the mass of evidence already presented shows how accurate THE JOURNAL'S statement was. Every point brought out so far has put Dr Wiley in a still more favorable light, while at the same time it has proved how well founded is the lack of confidence which the public has in those who are fighting him. It has been shown conclusively that Secretary Wilson — unknowingly, probably — has been a passive tool of those vast interests which have made their millions by poisoning the country's food and sophisticating its drugs.

The active partner in this attempt to nullify the national pure food law and make its action abortive is Solicitor McCabe. According to the evidence presented, McCabe both falsified and expurgated the account of a court proceeding in at least one pure food case. A firm pleaded guilty to the charge, brought by Dr. Wiley's assistants, that certain soft drinks contained "cocain, benzoic acid and coal tar dye." Mr. McCabe would not permit this judgment to be made public in that form, but when the printer's "proof" came he erased the words "benzoic acid" and substituted the word "caffein." This, of course, makes the government report of the case an official falsehood, but apparently McCabe feels that falsifying is permissible when it is done in the interest of the conservation of sodium benzoate. The fact of the matter is, the real power behind the throne—so far as the administration of the Food and Drugs Act is concerned—is Solicitor McCabe. By framing and manipulating the departmental rules with all the skill of a pettifogging lawyer, he has put himself in a position of being sole judge whether cases against food "dopers" and "patent-medicine" fakers should or should not be prosecuted. Dr. Wiley's bureau investigates cases of food adulteration and drug misbranding, carefully and scientifically examines the products and submits evidence to show that certain foods or drugs are adulterated or misbranded. Mr. McCabe, by the autocratic use of powers that he has delegated to himself, may bury in the government files all the evidence submitted. That he has thus withheld from the courts evidence of violations of the law has been shown at the present congressional investigation.

It is not surprising that a man who could thus "protect" manufacturers who might have been proved guilty, should have altered the court's decrees when such decrees brought out facts regarding sodium benzoate that were distasteful to him and the "interests" he serves. The exercise of this autocratic power, which has long been known to those who were conversant with the inner workings of the Department of Agriculture, may explain why the New Hartford Canning Company, of which Vice-President Sherman is the reported head, was not prosecuted for selling short-weight products even though evidence to that effect had been collected by Dr. Wiley's assistants. It may also explain why the cases against the Duffy Malt Whiskey fraud, Kilmer's Swamp Root and scores of other similar preparations have never been brought to the courts.

The American people, after having fought for over seventeen years to get the Food and Drugs Act on the federal statute books, finally succeeded—thanks largely to the aggressiveness and honesty of the chief of the Bureau of Chemistry. That act, although not so strong or comprehensive as it might be, can still furnish a large degree of protection to the public. At the outset the chief of the Bureau of Chemistry tried vigorously and unflinchingly to enforce it. Such enforcement against vested wrongs and opulent dishonesty was distasteful to those in high places. The fortunes that might be made by polluting the food-supplies of the country and by the manufacture of "patent-medicines" were not to be abandoned without a struggle. Pressure was brought time and again to secure Dr. Wiley's removal, but in each case it was found that that official was too strongly entrenched in the hearts of the great American public to be removed on any mere trumped up charge. When the present charges were made against Dr. Wiley, the public and the press showed that they had confidence in him. The investigation that was demanded, and that is now being carried on, is proving as rapidly as possible that the judgment of the press and of the public is to be relied on. Dr. Wiley will come out of the case stronger and better loved than ever. His traducers, we believe, will be relegated to that political oblivion to which they belong.

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[3] See list on page 641.
[4] See page 653.
[5] See items on pages 650 to 652.

PHYSIOMEDICALISM

As will be noticed elsewhere in this issue, the last of the colleges which represented the physiomedical sect has gone out of existence. This sect has endured for three-quarters of a century and was one of the "schools" of medicine which have existed only in this country.

According to its adherents, physiomedicalism was founded in New England early in the last century by Samuel Thomson (1769-1843), a native of New Hampshire. Thomson was a self-educated man, a student of nature, who strongly advocated care of the stomach, good food and proper elimination together with vapor baths and sweating and also employment of certain botanic drugs such as lobelia, marigold and yellowroot. Many of his principles and methods are matters of common sense and, in fact, were not uncommonly employed by other successful physicians. The emphasis which was laid on them in a special book circulated by Thomson, however, no doubt led to the formation of this particular school of medicine and also drew into it a number of very able men, some of whom, from the educational standpoint at least, were destined to have a wider influence than Thomson himself.

Thomson was not altogether unselfish, however, in his efforts to cure the ailments of a suffering humanity. He secured from the government a patent giving him the exclusive use of certain medicines of which he was recognized as the original discoverer. Thereupon he began a systematic monopoly betraying more selfishness than his friends were prepared to witness. Two small books outlining his principles and methods of treatment were sold for twenty dollars, including a written permit to one family to use his medicines. Agencies were established in all the principal cities and so-called botanic societies, made of holders of permits, organized. The income from this business must have been enormous. One agent alone in about three years' time is said to have collected about $80,000. Although enabled for many years by his patent rights to control this profitable enterprise, in time infringements became numerous and the latter part of Thomson's life was largely spent in contentions with his agents.

Although Thomson is recognized as the founder of physiomedicalism, he really opposed the formation of colleges. Dr. Alvin Curtis, who organized the first physiomedical college in 1838, had aroused Thomson's enmity by advocating a more thorough medical education. The first college was located at Columbus, Ohio, but was removed to Cincinnati, in 1841, where it continued under varying fortunes until about 1880. Other colleges known as "Thomsonian," "botanico-medical," or "physiomedical" colleges were organized later in Georgia, Massachusetts, Illinois, Indiana and Texas. So far as it is known no colleges were organized outside of the United States. Only about twelve colleges altogether were organized, omitting a fraudulent concern which was organized in Oklahoma, and only three or four were existing at any one time. Only three have been in existence since 1900, one each in Illinois, Indiana and Texas.

Medicine of to-day is more largely based on scientific facts and there is less room for the differences of opinion which in earlier times led to the formation of medical sects. Formerly valuable principles in the treatment of disease may have needed the emphasis which medical sects laid on them, but not so to-day In this day of the microscope, the special laboratory test, of full-time instructor and of medical research, all methods will be put to the test, the good will be utilized and the useless will be discarded. Sectarianism, dissension and doubt must give way to scientific facts and to certainty.

SEVEN YEARS' PROGRESS IN MEDICAL EDUCATION

Those who have been watching the development of medical education in this country have noted with no little astonishment and gratification the remarkable progress that has been made in recent years and particularly since the American Medical Association created its permanent committee, the Council on Medical Education. At the beginning of its work in 1905, after a thorough investigation of conditions, the Council formulated two standards of medical education, one for immediate adoption and an ideal standard for future consideration. These standards were not for any one state or for any one section, but for the entire country. The result is that nearly all colleges are up to or beyond the standard recommended in 1905 for "immediate adoption," while more than a third of the colleges (42) have, so far as entrance requirements are concerned, adopted the "ideal," namely, a four-year high school education, plus at least one year to include thorough courses in physics, chemistry, biology and modern languages.

During 1906 and 1907, the Council made the first complete personal tour of inspection of the medical colleges of the United States that had ever been made, and in 1907, reported its findings at its annual conference and to the House of Delegates of the American Medical Association. This inspection revealed the fact that nearly a third of the medical schools existing at that time were seriously defective in their methods, standards and equipment. Since that report was made the decrease in the number of these inferior colleges has been marked, while on the other hand, there has begun a corresponding improvement in many other colleges. The second inspection was completed in 1910, and resulted in the publication of a classified list of medical colleges. This doubtless gave added impetus to the improvements being made and to the further elimination of unworthy colleges. In seven years, therefore, the over-supply of medical schools has been reduced in number, quantity giving way to quality, and a decided check has been placed on the rapid multiplication of inferior schools.

In 1908 and 1909, a thorough study of the medical college curriculum was made by a special committee of the Council, made up of over a hundred leading medical educators, to ascertain the relative value of the subjects of the curriculum in order that proper emphasis might be laid on them in the medical course. This special study also included the character of equipment, methods of instruction, qualifications of teachers, necessary hospital facilities, etc. As a result of this and the Council's reports based on its actual inspection, an unprecedented improvement in the physical equipment and methods of medical education was started. New college buildings have been erected; more teaching hospitals have been secured; new laboratories have been equipped and more expert full-time teachers employed.

During each of the seven years the Council has held a special, delegated conference attended largely by members of state licensing boards, university presidents, representatives of medical colleges and other prominent educators. These conferences have had a wide and powerful influence in the progress that has been made. They have resulted in more uniformity of effort on the part of all forces working for the betterment of educational standards and have provided opportunity for the study and discussion of educational problems. Above all, however, at these conferences, the attention of university presidents and others has been drawn to the absolute necessity of state aid or private endowment for medical schools. As a direct or indirect result of this campaign, the amount of money given for medical education has increased from a few thousands of dollars during 1904 to several millions of dollars during the last year. This is indeed encouraging and gives promise of even greater advancement in the immediate future.

Of course, not all the credit for these vast improvements belongs to the Council on Medical Education. Nevertheless this body, representing the organized profession of the country and holding up standards of national and not sectional scope, was bound to have a powerful influence. It has cooperated with the other agencies which have been doing masterly work in their various fields, and has brought about greater harmony and more unanimity of effort. These achievements are the more gratifying since all the agencies save one, the Carnegie Foundation for the Advancement of Teaching, are entirely made up of physicians and fully represent the medical profession. Meanwhile, no one is better acquainted with the needs of the people in regard to the prevention and cure of disease and the preservation of health and healthful conditions than the medical profession itself. And that the medical profession may be even more capable of caring for these needs, nothing is more important than the continued improvement of medical education.

Current Comment

RADIO-ACTIVE MENTHOL-IODIN OR DIORADIN

Another consumption cure! This time it is one of the semi-ethical, quasi-respectable type brought out by a European physician, delivered to the world *via* sensational newspaper articles in which the "chemical name" of the preparation is emphasized and the proprietary name kept in the background. The latest panacea is marketed under the proprietary name Dioradin and is described by its "discoverer" as "radio-active menthol-iodin." Professor de Szendeffy of Budapest is the originator of the new "specific"; Drs. Samuel Bernheim and Louis Dieupart of Paris seem to have been the ones selected by Professor de Szendeffy to deliver the news of the wonderful discovery to the public—and incidentally to the profession. Dioradin comes in boxes of six ampoules, price $3.60. It is administered intramuscularly. Its composition, as described both in the American newspapers and in the European medical journals, is said to be:

Peptonized iodin	0.75 cg.
Menthol	0.06 cg.
Radium-barium chlorid in ethereal solution	1/10 drop

Of course, what peptonized iodin is, no one but the inventor of Dioradin seems to know. Radium-barium chlorid may be a definite product, but there is a delightful vagueness regarding the strength of the "ethereal solution" that is employed. The same vagueness is found in the description of cases in which the "cure" has been tried. Glittering generalities abound and, while these make interesting newspaper reading, they are very unsatisfying to the physician who would like definite, scientific evidence. Possibly Professor de Szendeffy has a remedy that may prove of moderate value in the treatment of tuberculosis; if so, it is unfortunate both for the public and for scientific medicine that it has been introduced by such crude methods. As the London *Lancet* says, in summing up the case against this much-vaunted remedy: "The exploitation in the lay press of immature work in regard to any medical question is particularly to be deprecated. Hopes are raised in the minds of many sufferers which are fore-doomed to disappointment, more especially when they rest on such slender foundation as the treatment here suggested."

THERE'S A REASON

Our readers will remember that when the manufacturer of Postum Cereal and Grape-Nuts was forced to show his hand, it developed that the only "famous physician" whose name was signed to a Postum testimonial "turned out to be a poor old broken-down homeopath, who is now working in a printer's establishment," and who received $10 for his testimonial. These facts came as a surprise to those who are familiar with the testimonial business. When one considers how easy it is to get physicians of a certain class to write testimonials for any food or medicine bearing a proprietary name, it seems strange that Mr. Post should have had such a poor collection. Since the trial, at which these facts were brought out, this enterprising breakfast-food manufacturer has been endeavoring, apparently, to remedy the deficiency that existed in his advertising department. Unsigned testimonials from physicians are being published, the names and addresses to be furnished on application. How such testimonials are obtained, we do not know. A possible explanation has been suggested by physicians who have sent in some letters to The Journal. These letters consist of personal communications from the *American Journal of Clinical Medicine (née Alkaloidal Clinic)* to physicians over the country and read as follows:

> *Dear Doctor:* The advertising of Postum and Grape-Nuts has been appearing in *Clinical Medicine* for the past ten years. We have always believed in the purity of these products. In fact, we have used them ourselves and have recommended them extensively.
>
> Will you cooperate to the extent of giving us your opinion of these products? Have you used them personally and have you recommended them to your patients, and with what results?
>
> Your reply, using the stamped return envelope enclosed, will be appreciated.
>
> Yours sincerely,
>
> The American Journal of Clinical Medicine.

A study of the wording of this letter makes it plain that only those physicians who hold the same favorable opinions regarding Grape-Nuts and Postum that are held by the *American Journal of Clinical Medicine* will be likely to answer this ingenuous appeal. Such testimony, of course, will please not only Mr. Post, but those publications that wish some excuse for participating in the benefits of his million-dollar advertising campaign. Six years ago The Journal showed that Duffy's Malt Whiskey was being advertised by means of fraudulent testimonials. Since that time the Duffy concern has worked up a nice line of bona fide testimonials from not-too-particular physicians. The task, apparently, was neither difficult nor expensive. History is about to repeat itself, it seems, in the case of Postum and Grape-Nuts. The spectacle is not a pretty one and is somewhat disheartening to those who would believe that the medical profession is becoming more cultured and scientific. We hesitate to believe that, in his search for testimonials, Mr. Post felt impelled to enlist the help of that particular journal. While to collect such testimony through such an instrumentality may be perfectly logical, the ease with which it may be otherwise obtained makes it quite unnecessary.

DR. FRANK P. FOSTER

Our obituary columns this week contain the announcement of the death of Dr. Frank P. Foster, for over thirty years editor of the *New York Medical Journal.* Dr. Foster, since the death of Dr. George F. Schrady a few years ago, has been recognized as the dean of the medical editors of this country. Dr. Foster's energies were varied, but especially literary in character. Aside from his contributions to the periodical of which he was editor, he has written several books, and has contributed to many others. As a monument of his literary labors may be mentioned the "Encyclopedic Medical Dictionary" which bears his name, a four-volume book that has been translated into seven different languages. Dr. Foster was a moral and intellectual force in medical literature. Until recently he took an active interest in all that related to medicine, and his influence was always in the right direction. His friends count it a privilege to recall his fine character, his charitable judgment, his facile pen and his ever-ready assistance so freely given from his great store of knowledge.

AMERICAN MEDICAL DIRECTORY—THIRD EDITION

In this week's Journal appears an insert announcement of the third edition of the American Medical Directory, now in course of preparation. Since the publication of the second edition in the fall of 1909, a large amount of additional data has been secured regarding medical schools, hospitals and public institutions, professional organizations and especially regarding physicians themselves. The material which was obtained for the two previous editions has been carefully revised and corrected. The work which has been done insures a third edition which will be fuller, more complete and more accurate than either of the preceding editions. Based on the only firm foundation which we have in this country, viz., the records of the state licensing boards and the alumni lists of medical colleges, making no distinction between classes of physicians so far as information is concerned and containing three times as much data as any other medical directory published, the American Medical Directory is recognized as the standard official authoritative directory of the medical profession of the United States and Canada. It is the only national directory published as a non-commercial enterprise and must be issued for some time to come at a financial loss. Much expense has been incurred by the Association in getting the fundamental data covering especially the school of graduation and license. The publication of such a reference book is of direct interest and value to every American physician, medical college and hospital. We earnestly bespeak for this very important work the support of every member of our profession. It is hoped that each physician who is asked to assist in furnishing information will respond willingly and promptly. By united effort and cooperation it will be possible to make this publication a realization of the ideal for the attainment of which it was inaugurated, namely, an official and accurate roster of the American medical profession.

LESLIE'S WEEKLY—A CONSISTENT JOURNAL

The clipping bureau service of the American Medical Association is a most complete one. We receive, daily, hundreds of clippings from the various newspapers all over the country. Since the abortive attempt of Messrs. Wickersham, McCabe and Dunlap to oust Dr. Wiley has become public property, we have received newspaper items on the subject literally by the thousand. The unanimity with which the press of the United States has supported Dr. Wiley in his present fight is a surprise even to those who know how well the chief of the Bureau of Chemistry deserves such support. Among the one or two news items and editorial comments that show their writers to be unfriendly to Dr. Wiley and antagonistic to his work, one appeared in *Leslie's Weekly,* which expresses itself in part as follows:

> "Dr. Wiley is not the author of the pure-food law. It would continue to be enforced whether he were in the public service or not. He has occupied a subordinate place in the department, but has always managed to make it appear that he was the only champion of pure food at Washington. The public may rest assured that the pure-food law will be enforced just as vigorously and earnestly whether Wiley stays or goes."

This editorial statement is one that those who are familiar with *Leslie's Weekly* would logically expect to find in that publication. The antagonism of some journals is to be desired rather than their approbation; *Leslie's* is one of them. For years there have appeared at intervals speciously written "special articles" in this publication, devoted to the exploitation of "patent medicines" and quackery. Oren Oneal, the eye quack of Chicago, the wide-spread fake Viavi, and the Alexander cancer cure—each of these in turn has been the subject of fulsomely laudatory articles appearing in *Leslie's Weekly.* Under the circumstances, it is evident that this journal's antagonism to Dr. Wiley is one more point in that gentleman's favor. Had it expressed itself in the same terms of warm commendation that have characterized the editorial expressions throughout the country generally, it would have been a grave embarrassment to the chief of the Bureau of Chemistry. In the estimation of the public, one of Dr. Wiley's greatest assets is the character of the enemies he has made. The opposition of the food dopers and the "patent-medicine" makers has long been known; *Leslie's* having lined itself up with its logical associates, the public will find one more reason for upholding Dr. Wiley.

INTERESTING DETAILS COMING

The investigation by a congressional committee of the charges against Dr. Wiley is bringing out some interesting details. When the hearing is over, we shall probably publish such part of the evidence as will prove of value to physicians.

EDUCATIONAL PROGRESS IN GEORGIA

By recent legislation the Medical College of Georgia, located at Augusta, has been made an integral part of the University of Georgia. The people of Augusta had already awakened to the needs of its medical school and had raised $46,000 by subscription for its equipment. The city of Augusta has agreed to erect a new city hospital at a cost of $200,000 on the campus of the medical school and has further agreed to place it under the perpetual and unrestricted control of the medical faculty as a teaching hospital. It was doubtless this energetic action by the city and people of Augusta which won for them favorable action by the Georgia legislature. It is to be hoped that this action creating a state-supported medical school will lead also to the securing of better legal standards of medical education and licensure in that state. Georgia cannot well afford to assume the responsibility of furnishing a good training for those who are to have in charge the lives and health of the people of that commonwealth, and at the same time leave the people unprotected against the ignorant and poorly trained graduates of low grade colleges of that and other states.

Medical News

ARKANSAS

Society to be Organized.—The North Arkansas Four Counties Medical Society is to be organized at a meeting to be held at Hardy, September 6 and 7, under the auspices of the Sharp County Medical Society.

Railway Surgeons Meet.—At the semi-annual meeting of the surgeons of the Missouri and North Arkansas Railroad, Dr. Hugh L. Routh, Batavia, was elected president, and Searcy was selected as the next place of meeting.

Personal.—Dr. William T. McCurry, Texarkana, with his wife and daughter, sail for Europe next week.——Dr. A. G. Thompson, Pine Bluff, physician for the Sawyer and Austin Lumber Co., has resigned, to take effect September 1.——Dr. Monroe D. McClain, Little Rock, has been elected state physician of the Modern Woodmen of America.

Typhoid in Little Rock.—Surgeon W. H. Frost, Public Health and Marine-Hospital Service, who has been making an investigation of the typhoid situation in Little Rock, reports that while it is true that Little Rock has suffered during the last two months from an epidemic of typhoid fever, there is no need for alarm in this regard in the city as the number of cases is steadily on the decline.

CALIFORNIA

Branch Society Meets.—At the annual meeting of the Santa Monica Branch of the Los Angeles County Medical Association, Dr. John A. Balsley, Santa Monica, was elected president; Dr. H. Wilson Levengood, Ocean Park, vice-president, and Dr. George A. Fielding, Sawtell, secretary-treasurer.

Medical Society Condemns Lodge Practice.—The Santa Clara County Medical Society, at its annual meeting, July 19, is reported to have adopted amendments to its by-laws condemning the practice of members of caring for lodge members on the contract plan. The amendments allow members of the society to care for railroad contract work and work in boarding schools and in charitable institutions.

New Home for Lane Library.—The Lane Library is soon to be housed in a new three-story building to be erected on the corner of Sacramento and Webster Streets, San Francisco, at a cost of $100,000. The building will be ready for occupancy at the end of the school year and will accommodate the Lane Medical Library which was founded by Dr. Lane, former president of Cooper Medical College, and the medical library of Leland Stanford University.

COLORADO

No Public Drinking Cups.—The law prohibiting common drinking cups in public places is now in effect in Colorado.

Bubbling fountains have in many places taken the place of the cups.

New Hospital Wing Opened.—The new wing of the Denver County Hospital has been formally opened. The building has cost $120,000 and will accommodate eighty patients, and contains a laboratory, maternity wards, children's wards and operating rooms.

State Dairy Law.—The new state dairy law forbids the handling of milk in storerooms where oil, poultry or vegetables are kept. Preservatives are barred. The dealer with one cow, selling milk to his neighbor is under the same regulations as the large dairyman and must obtain a license. Milk cans are not allowed to stand at railroad stations for more than one day.

Health Train for Colorado.—The State Board of Health has announced its intention of adopting the method used by the Louisiana State Board of Health for the promulgation of information regarding health and sanitation and expects to start a special health train on a tour of Colorado about January 1. During the tour, which is to be educational, demonstrations regarding pure food, health and sanitary matters will be made, lectures will be delivered and literature will be distributed.

GEORGIA

Open-Air School Established.—The first open-air school to be established in the South will be opened in Atlanta next month under the auspices of the Ninth Avenue Presbyterian Church.

City Hospital Planned.—A movement has been inaugurated by the citizens of Dublin for the establishment of a hospital in that city. James M. Finn has been appointed chairman and R. M. Martin, secretary of the committee on the hospital enterprise.

District Meeting.—At the annual meeting of the First District Medical Society held at Atlanta, August 7, the following officers were elected: president, Dr. Edward T. Coleman, Greymont; vice-presidents, Drs. Lorin V. Strickland, Cobbtown, and John W. Daniel, Savannah; and secretary-treasurer, Dr. John M. Sigman, Savannah.

Medical College Directors Named.—The governor has appointed the following directors of the Medical College of Georgia, Augusta: Hon. A. L. Miller, Macon; Hon. Enoch H. Calloway, Augusta; Hon. John T. West, Thomson, and Hon. William A. Lattimer, Augusta, for two years, and Hon. P. A. Stovall, Savannah, and Hon. L. C. Hayne, Augusta, for six years from August 3, 1911.

Medical Scholarships Announced.—Scholarships in the Medical College of Georgia, Augusta, have been bestowed on twenty-six young Georgians by the governor as follows: first district—D. C. Colson, Sylvania, Screven County; Gordon Herrington, Nunez, Emanuel. Second district—T. P. Brown, Beachton, Grady; E. M. Walker, Tifton, Tift. Third district—W. B. Watts, Jr., Byromville, Dooly; C. C. Frederick, Wellston, Houston. Fourth district—Arthur H. Drane, Buena Vista, Marion; J. C. Bonner, Carrollton, Carroll. Fifth district—Nathan G. Rice, Atlanta, Fulton; J. C. Savage, Jr., Atlanta, Fulton. Sixth district—Linn C. McAfee, Macon, Bibb; B. W. Freene, Haddock, Jones. Seventh district—Arthur Horton, Ranger, Gordon; Egbert M. Townsend, Tilton, Whitfield. Eighth district—Wilbur Gibson Jenkins, Eatonton, Putnam; Earle Newsom, Union Point, Greene. Ninth district—J. W. Wallace, Commerce, Jackson; T. L. Holcombe, Statham, Jackson. Tenth district—William V. Verdery, Harlem, Columbia; John R. Lewis, Sparta, Hancock. Eleventh district—J. C. Carter, Jr., Dublin, Laurens; Warren L. Hall, Nicholls, Coffee; and at large—Robert C. Montgomery, Junction City, Tolbert; J. L. Logue, Louisville, Jefferson; Garnet Edwards, Crawfordville, Taliaferro, and Fred Ware, Wrightsville, Johnson.

ILLINOIS

New Asylum Site.—The State Board of Administration has had drafted the itinerary of a trip to visit the seventy-one sites offered for the new state insane hospital for which $1,500,000 has been appropriated by the legislature.

Hospital Closes.—The Franciscan Sisters' Hospital, Highland, known as St. Joseph's Hospital, closed its doors temporarily, August 9, on account of lack of funds. The Sisters claim that they are obliged to accept a certain percentage of charity patients and that for the county patients the hospital receives only 50 cents a day for the first fifteen days and 20 cents a day thereafter.

The New Cook County Hospital.—Preliminary plans for the new Cook County hospital have been completed by the county architect. The main portion of the new structure, first to be erected, will cost between $2,000,000 and $3,000,000. It will be nine stories high, 950 feet long and 59 feet wide, fronting on Harrison Street, and will accommodate approximately 1,300 patients. On the ninth floor of the building will be seven operating rooms and two amphitheaters, together with the necessary anesthetic and recovery rooms, etc. There will also be four roof-gardens at the disposal of the patients.

Personal.—Dr. John A. Pratt, Aurora, has been appointed oculist for the Aurora division of the Burlington system.——Dr. James A. Rutledge, Elgin, has been appointed medical director of the Modern Woodmen's Sanatorium, Colorado Springs, and will assume charge about September 1. At present the sanatorium accommodates 180 patients, but when completed the capacity will be 400.——Dr. Elmer E. Nystrom, assistant physician of Peoria County, who has been dangerously ill with an infection of the ear, is convalescent.——Dr. Charles B. Dirks, a member of the staff of the Kankakee State Hospital, has been appointed assistant superintendent of the Elgin State Hospital.——Dr. Charles E. Crawford, Rockford, has been elected grand medical examiner of the Sons of St. George, Illinois jurisdiction.

Chicago

Health Exhibit Goes to Canada.—The Chicago Department of Health has decided to send its health exhibit, in charge of Dr. C. St. Clair Drake, to the Canadian National Exposition which is to be held in Toronto from August 25 to September 11.

Large Employers of Labor Oppose Tuberculosis.—The directors of the Chicago Tuberculosis Institute announce that they are ready, through their advisory committee on factories, to enter into practical cooperation with large employers of labor with a view to weeding out and treating employees suffering from tuberculosis and to the prevention of the spread of the disease among their fellow workers. A start has been made at the plant of the International Harvester Company and two of the largest mail-order houses already have established cottages for the treatment of employees suffering from tuberculosis.

Personal.—Dr. Ralph R. Campbell announces his return to Chicago and resumption of practice.——Dr. and Mrs. Wesley J. Woolston have returned from Europe.——Dr. Harry S. Gradle has been elected professor of ophthalmology in the Chicago Ear, Eye, Nose and Throat College.——Dr. and Mrs. Harry D. Orr have returned from Europe.——Dr. Frank Branen sustained painful injuries, August 6, in a collision between an automobile and a street car.——Dr. Joseph P. Smyth has been elected high chief medical examiner of the Catholic Order of Foresters.——Dr. Alexander Hugh Ferguson is reported to be seriously ill with septicemia due to a carbuncle.

INDIANA

Hospital Enlarged.—The Lutheran Hospital Association, Fort Wayne, has purchased adjoining property, the buildings on which, after remodeling, will be used for a maternity.

Raise Money for Hospital.—At a mass meeting of the citizens of Gary, August 7, $20,000 was raised for the assistance of Mercy Hospital in that city. This amount is needed to complete the new hospital building which will have cost when completed $100,000.

Personal.—The residence on the farm near Noblesville of Dr. Simon P. Scherer, Indianapolis, was burned, August 10.——Dr. Fred E. Jackson, intern at the City Dispensary, Indianapolis, has resigned.——Dr. G. S. Hobbs, intern at the Methodist Episcopal Hospital, Indianapolis, has completed his term of service and commenced practice in that city.——Dr. Lewis Maxwell, Indianapolis, has returned after a year abroad.——Dr. F. W. Hixon has been commissioned first lieutenant, medical corps, Indiana National Guard.——Dr. Jonas Stewart, Anderson, was thrown from his buggy in a runaway accident, August 4, and painfully injured.——Dr. Robert A. Bunch, Muncie, who has been seriously ill, is reported to be convalescent.——Dr. Joseph E. Showalter, Waterloo, has been appointed a member and secretary of the Waterloo school board.

IOWA

New State Journal.—Iowa has been added to the list of states whose medical associations publish journals. The *Journal of the Iowa State Medical Society* made its appearance, July 15, with Dr. David S. Fairchild, Clinton, as editor and Dr. Clyde A. Boice, Washington, as associate editor. The first issue contains a report of the proceedings of the state medical society, the president's address, address on surgery, proceedings of the House of Delegates and a list of officers and directors of the state, district and county societies.

KENTUCKY

Gets Field Hospital Equipment.—The Kentucky State Guard has obtained from the War Department a field hospital equipment and has organized a field hospital with Major Charles W. Hibbitt, Louisville, in command.

New Sanatorium.—Work will be begun shortly under the provisions of the will of the late Dr. John A. Ouchterlony for the construction of a tuberculosis sanatorium on the grounds of the Sisters of Nazareth on the Newberg road about two miles from Louisville.

The State Board and Pellagra.—A special meeting of the State Board of Health was held at Corbin, August 9, to discuss the problem of pellagra, more than 100 cases of which have been reported from Bell and Whitely counties in addition to twenty-four cases reported from the Lexington and Hopkinsville state hospitals for the insane.

Transfer Patients from Hospital.—A contract for moving the inmates and the equipment from the old city hospital, Louisville, to the temporary hospital located in the building of the former Kentucky School of Medicine, will be awarded this week by the board of public safety. The patients suffering from tuberculosis will be moved to the Waverly Hills Sanatorium, as no provision is to be made in the new city hospital for cases of tuberculosis.

Personal.—Dr. Joseph M. Mathews, Louisville, has been appointed a member of the State Board of Health, vice Dr. William Bailey, deceased.——Dr. William A. Quinn, Henderson, has been appointed a member of the State Board of Health to succeed himself.——Dr. Henry Enos Tuley has resigned as professor of obstetrics at the University of Louisville and has been succeeded by Dr. William B. Doherty. Dr. Doherty has also been appointed a member of the State Library Commission.——Dr. Charles J. Lockhart, Owensboro, was seriously injured in a runaway accident, July 14.——Dr. Lee C. Redmon, Lexington, has been elected medical supervisor of the city schools.

LOUISIANA

A Good Record.—The president and secretary of the Caldwell Parish Medical Society announce that every physician in the parish is a member of the society.

Personal.—Dr. Stephen W. Stafford, New Orleans, intern in the Charity Hospital, was operated on in that institution, August 7.——Dr. Louis J. Genella has been appointed superintendent of the scout camp at Clairmont Harbor, vice Dr. Mayer Newhauser.——Dr. James F. Smith, Leesville, is reported to be ill at his old home in Eutaw, Ala.——Dr. William T. O'Reilly, chairman of the State Board of Health, has gone to Nicaragua for a vacation.——Dr. Erastus J. Lyons, Lake Charles, after practicing for fifty years in Calcasieu Parish, has retired from practice.——Dr. Cornelius A. M. Dorrestein has been appointed outdoor clinical assistant in the gynecologic and obstetric department of Touro Infirmary, New Orleans.——Dr. E. C. Samuel has been appointed junior in the department of radiology, and Dr. Abraham L. Levin, outdoor clinical assistant in the gastro-intestinal service of the department of medicine.——Dr. Frazer B. Gurd, junior pathologist of Touro Infirmary, has resigned.——Dr. Marion S. Souchon has been appointed a member of the board on administration of the charity hospital, New Orleans, vice Dr. George S. Bel, resigned.

MARYLAND

Baltimore

Zones of Quiet.—Alderman T. O. Heatwole has prepared an ordinance which will be introduced at the meeting of the city council in September. The ordinance will empower the city engineer to erect signs at intersections of streets in which there are hospitals or sanatoriums, and these will be known as "Hospital Streets." In such localities the ringing of street-car bells, the playing of street organs, crying of hucksters, etc., are prohibited under a penalty of a fine of $10.00.

Personal.—Dr. Richard C. Massenburg, Towsen, is ill with typhoid fever.——Dr. Robert Hoffman sailed for Germany, August 10.——Dr. Winford H. Smith, new superintendent of the Johns Hopkins Hospital, assumed his duties August 15, succeeding Dr. Henry M. Hurd who had been superintendent of the institution for fifteen years.——Dr. Charles Phillips Emerson, associate professor in medicine in Johns Hopkins University has accepted the deanship of the Indiana University School of Medicine, Indianapolis, vice Dr. Allison Maxwell.

MASSACHUSETTS

New Private Hospital.—A movement has been started in Boston by Drs. Arthur T. Cabot, William T. Councilman, Reginald H. Fitz, Joseph L. Goodale, Francis B. Harrington, Henry Jackson, Robert W. Lovett, John L. Morse, Edward Reynolds, Maurice H. Richardson, Frederick C. Shattuck, Edward W. Taylor, Paul Thorndike and J. Collins Warren to provide hospital facilities for private patients who are able to pay for the service they receive. It is proposed to offer $500,000 worth in stock and as much more in bonds in order to provide the funds necessary for this undertaking.

Officials of Hospitals.—Dr. Maurice H. Richardson has been appointed surgeon-in-chief of the Massachusetts General Hospital with Drs. Francis B. Harrington and Samuel J. Mixter as assistants, with the titles of chiefs-of-service. Dr. George Morse has been placed in supervision of the work of house officers with the title of house surgeon. Dr. Hugh Cabot will be placed in charge of the genito-urinary cases. The out-patient staff has been increased and now includes Drs. Channing C. Simmons, Samuel Robinson, Beth Vincent and John Homans with Drs. John B. Hartwell, Wyman Whittemore, Edward P. Richardson and William J. Mixter as assistants.——Dr. Herbert B. Howard is announced as superintendent, Dr. Harvey Cushing, surgeon-in-chief, and Dr. Henry A. Christian, physician-in-chief of the new Peter Bent Brigham Hospital.

The New Peter Bent Brigham Hospital.—Ground was broken, August 7, for the Peter Bent Brigham Hospital, which will eventually comprise fourteen buildings on Huntington Avenue and Francis Street, next to the Harvard Medical School. The late Peter Bent Brigham bequeathed about $1,000,000 to found a hospital in Boston "for the care of sick persons in indigent circumstances residing in the county of Suffolk." By the contract the buildings are to be complete in fourteen months. They are to be of brick and limestone. The main architectural features will be the administration building and its two flanking structures which will form an amphitheater. There will be five wards which will have their ground level only one low step above the ground. To the westward of the entrance court will be the dispensary building and the general clinical amphitheater, which will be connected by covered corridors with the administration building, the dispensary and the nurses' home. To the northwest of the administration building will be the domestic building in which all the food will be prepared for the hospital staff, nurses and patients, and this building will be connected by a corridor with the main building. Westward from the domestic building comes the surgical, medical and pathological buildings. The superintendent's house will be to the east of the medical building. The wards first to be built will accommodate 240 patients.

MICHIGAN

Bequests.—By the will of the late Henry A. Cleland, Detroit, $5,000 is left to the Children's Free Hospital, Detroit, and $3,000 to the Wayne County Medical Association.

Mason to Have Private Hospital.—A house has been purchased by F. P. Dean which will be remodeled and equipped by Dr. Richard H. Alexander, Dansville, as a private hospital.

Fire Destroys Medical Building.—The western half of the medical building, one of the oldest structures on the campus of the University of Michigan, Ann Arbor, was destroyed, August 12, by fire believed to have been of incendiary origin.

Personal.—Dr. Conrad George, Jr., Ann Arbor, was seriously burned in the face and eyes by splashing of sulphuric acid from the battery of his automobile.——Dr. Andrew T. Sherman, Detroit, has purchased the Anhut Apartments on Trumbull Avenue.

Antituberculosis Society Elects.—The Jackson County Association for the Study and Prevention of Tuberculosis at its regular meeting elected the following officers: president, E. J. Ryerson; vice-president, Dr. Peter Hyndman; secretary, Dr. Harry D. Obert (reelected), and treasurer, Fred Helmar (reelected). After the meeting a board of directors was elected, composed of the officers and enough additional members to make a total of fifty, including representative business men and women of Jackson. A tag or membership day is soon to be held to enlist funds for the erection of a modern sanatorium.

MINNESOTA

Fails to Pass Enabling Act.—Although the state legislature appropriated $500 to be used to defray the expenses of a board to be known as the State Tuberculosis Commission, it failed to pass the necessary enabling act, and as a result the governor has been advised by the attorney general that he has no power to create such a commission with authority to expend the money appropriated.

Personal.—Dr. John E. Corrigan has been appointed health officer and a member of the board of health of Spooner.——Dr. Edward J. Davis, Minneapolis, physician of the Minnesota Old Soldiers' Home, has resigned because of ill health.——Dr. Julian A. DuBois has been appointed physician to the State Home School for Girls, Sauk Centre.——Dr. William H. Hart, Duluth, superintendent of the St. Louis County Sanatorium, has resigned to take charge of the antituberculosis work in Saskatchewan.

Society Merger.—At the joint meeting of the Southern Minnesota and the Minnesota Valley Medical Associations held in Rochester, August 3 and 4, the merger of the societies was perfected and the following officers were elected: president, Dr. Louis A. Fritsche, New Ulm; vice-presidents, Drs. Hugh F. McGaughey, Winona, and John E. Crewe, Rochester; and secretary-treasurer, Dr. William T. Adams, Elgin. One of the features of the evening was the memoir of the late Dr. William W. Mayo, Rochester, presented by Dr. Charles Hill, Pine Island, a physician now in his eighty-fifth year, who forty years ago was associated with Dr. Mayo in St. Paul.

NEBRASKA

Personal.—Dr. Cyrus L. and Leta M. Pickett, formerly of Tecumseh, missionaries of the Christian Church at Laoag, P. I., who have been in the United States for several months, are about to return to the Philippine Islands, sailing from San Francisco, September 3.——Dr. J. H. Stough, Chadron, has recovered from his recent illness.

Typhoid Situation at Beatrice.—An epidemic of typhoid fever is reported to be raging at the Nebraska Institution for Feeble-Minded Youths, Beatrice, where there are twenty-eight cases, including the superintendent and six attendants, with two deaths thus far. Dr. William H. Thomas, Pickrell, the superintendent is reported to be critically ill.

New Hospitals.—The construction of the Omaha Surgical Hospital, which is to be erected for Dr. Albert P. Condon, has been commenced. The building will be 70 by 50 feet, two stories and one-half in height, and will have twenty-three private rooms in addition to two operating rooms, and the necessary sterilizing and etherizing rooms. The building is to cost about $50,000.——The former Holdredge home has been purchased for $50,000 by eight physicians of Omaha, and together with the house next to it will be remodeled as a hospital especially for nervous diseases. The institution will be able to accommodate about forty patients.

NEW JERSEY

Personal.—Dr. Duncan W. Blake, Jr., has been reelected medical inspector of the public schools of Gloucester.——Dr. William G. Schauffler, Lakewood, has been elected president of the new State Board of Education.

Typhoid Epidemic in Clayton.—Because of a serious outbreak of typhoid fever in Clayton, a thorough investigation is being made of every house, with special inspection of drains and sewer. The drinking water of the town is being tested. As soon as the reports come from the laboratory at Trenton, there will be a meeting of the Clayton board of health, the state board and the council of Clayton.

Reorganization of Medical Corps.—The Medical Department of the National Guard of New Jersey has now conformed to the army standard and will henceforth be known as the Medical Corps, N. G., N. J., and the officers will hereafter be designated as officers of the medical corps and will be assigned to the various organizations in the service. The reorganization has been under the direction of Lieut.-Col. Henry Allers, Harrison, assisted by Majors Paul M. Mecray, Camden, and James T. Wyckoff, Leonia. Requisition has been made for a fully equipped field hospital.

NEW YORK

Outing for Medical Staff.—The medical staff of the Syracuse Hospital for Women and Children was entertained by a dinner and outing by Dr. Hersey Goodwin Locke, Syracuse, president of the staff, at his home in Marcellus, July 26.

Cost of State Charities.—The fiscal supervisor of state charities shows in his annual report that the gross expenditures of the institutions reporting to him amount to $2,834,063. The cost of supervising fiscal affairs of institutions was less than 1¼ per cent.

Personal.—Dr. James V. May of Binghamton, has been appointed superintendent of Matteawan State Hospital for the Criminal Insane to succeed Dr. Robert B. Lamb, Fiskill-on-the-Hudson, who recently resigned.——Dr. Frank W. McMorrow, Syracuse, is spending the summer abroad.

Shows Gratitude by Gift.—Mrs. Cyrus H. McCormick, Chicago, has presented the Ithaca Hospital with a new *x*-ray machine at a cost of $500, in appreciation of the careful and prompt attention received at the hospital by her grand-niece, who was injured recently in an automobile accident.

G. A. R. Medical Bureau.—The formation of the Grand Army of the Republic Relief Bureau for the free use of all veterans of the Civil War in the State of New York is announced by Dr. Thomas W. Topham, Brooklyn, medical director of the Department of New York. The personnel of the bureau is as follows: Dr. Lewis S. Pilcher, Brooklyn, surgery; Dr. George Thomas Stevens, New York City, diseases of the eye; Dr. Wendell C. Phillips, diseases of the nose, ear and throat; Dr. Thomas W. Topham, Brooklyn, electrical therapeutics; Dr. J. Bentley Squier, New York City, genito-urinary diseases; Dr. Winfield Ayres, New York City, diseases of the bladder; Dr. Harold Barclay, New York City, diseases of digestion, and Dr. Alcinous B. Jamison, New York City, intestinal diseases.

New York City

Office Building for Physicians.—Plans have been filed for a seven-story building for physicians on West Seventy-Second Street to cost $65,000.

New Hospital.—A charter for a new Lutheran Hospital has been filed with the State Board of Charities and $200,000 has been pledged towards the enterprise.

Health Board to Move.—The city has leased the Abingdon Building, a new building not yet completed, at the corner of Center and Walker Streets, which will be occupied by the Department of Health. The annual rental will be $58,500 and the lease is for ten years.

Mediterranean Liners Held.—The steamers *Calabria* and the *Venezia* which arrived from the Mediterranean on August 11 are being held at quarantine. There was a death from cholera on board the *Venezia* on August 7, while the *Calabria* was held simply as a precautionary measure because she came from Naples.

Bequests to Charity.—The will of the late E. C. Whitney of New York gives $5,000 to endow a bed in the Orthopedic Hospital.——Mrs. Russell Sage has given $5,000 to the building fund of St. Joseph's Hospital at Far Rockaway, N. Y.——The will of the late Simon E. Bernheim leaves $2,500 to Mount Sinai Hospital, Home for Aged and Infirm, and the German Hospital.

Optometry Course at Columbia.—The department of extension teaching of Columbia University announces that it will give a two years' course for optometrists in answer to a special request from the Department of Education of the State of New York. The course is open to anyone who has completed a high school course but does not lead to a degree or a diploma; instead, a report of standing will be submitted to the Board of Regents.

Infant Mortality in New York and Brooklyn.—The Public Service League of Brooklyn has issued a statement based on the reports of the health department, showing that the infant mortality in that borough is greater than in Manhattan. The number of deaths for the last week in July for infants under five years of age was 304, against 284 in New York. At the offices of the health department in Brooklyn it was stated that this discrepancy was probably due to the numerous charitable organizations interested in the care of infants and young children in Manhattan.

Pasteurization Must Safeguard the Milk Supply.—The Commissioner of Health, Dr. Lederle, has made special efforts to ensure a pure milk supply for the city, but admits that it is impossible to exercise a sufficiently rigid inspection of the 44,000 farms in seven states that send 2,000,000 quarts of milk to this city daily. Beginning with January 1, practically all milk for general use must be pasteurized with the exception of the "certified" milk which is known to be produced under exceptional circumstances, and that used only for cooking purposes.

Personal.—Dr. John T. Fitzgerald, formerly medical superintendent of Public Charities in Brooklyn, has been made general superintendent of the Public Charities Commission Hospitals.——Drs. Henry B. Minton, Brooklyn, Dr. Hubbard W.

Mitchell and Dr. Henry W. Frauenthal have sailed for Europe.——Dr. George G. Rambaud, physician of the Pasteur Institute, who was recently injured in an automobile accident and has been seriously ill in the Vassar Hospital, Poughkeepsie, is now said to be out of danger.——Dr. and Mrs. Ernest P. Livingston sail for Europe, August 12.——Dr. Hugh S. Reed, a physician in the employ of the Department of Health, was struck by a subway train at Fourteenth Street, July 28, and suffered a fracture of the skull.

Aid for Many Charities.—The will of the late John Curley of Brooklyn makes bequests to about fifty charities, among which are: the Sisters of the Poor of St. Francis, in charge of St. Peter's Hospital, $15,000; the Hospital of the Holy Family, $5,000; St. Mary's Hospital, $5,000; St. Catherine's Hospital Association, $10,000; Seney Hospital, Brooklyn Hospital, Brooklyn Bureau of Charities and Long Island College Hospital, each receives $1,000.——The will of Smith Ely, former mayor of New York, leaves about $1,000,000 to charities. Among the charities remembered are the Fresh Air Home for Crippled Children at Sea Breeze, Coney Island, $50,000; West Side Day Nursery of the City of New York, $10,000. After all debts and legacies have been paid, the Children's Aid Society and the New York Society for Improving the Condition of the Poor are to receive $100,000 each on condition that with the sum special endowments be instituted to be known forever as the Ambrose K. Ely Memorial.

OHIO

Personal.—Dr. James J. McClellan, Columbus, who has been seriously ill with septicemia, is reported to be improving.——Dr. Asa H. Syler, Sugar Creek, is ill with typhoid fever.

Secretary of State Board Resigns.——Dr. Charles O. Probst, Columbus, secretary of the Ohio State Board of Health for twenty-five years, has resigned, to take effect September 30.

Gift to Hospital.—Dr. David J. Merriman, Painesville, has donated his medical library together with the cases which contain it to the Painesville Hospital for the use of nurses in training and others who may desire to consult it.

Cincinnati

Personal.—Dr. John D. Miller has been appointed to succeed himself as a member of the board of health.——Dr. Rufus B. Hall is reported to be seriously ill in Cleveland.

PENNSYLVANIA

Personal.—Dr. Edgar Sturge, Scranton, was thrown from his carriage in a runaway accident, August 5, and sustained serious spinal injuries.——Dr. Percy C. Hoskins, West Chester, was operated on for appendicitis in the West Chester Hospital, August 1, and is reported to be doing well.

State Insane Hospital.—Bids were opened on August 8, by the Pennsylvania Commission to erect a state hospital for the criminal insane, for the construction of new buildings known as dining room building, kitchen, bakery, laundry, power building, icehouse, reservoir, system of sewage disposal, together with equipments pertaining to the State Hospital for the Criminal Insane, at Fairview.

Department Aids Country Doctor.—The department of health of Pennsylvania is doing great work for country practitioners. It not only furnishes laboratory facilities for the diagnosis of certain morbid conditions and the detection of obscure sources of disease, but has also put at command of physicians 350 stations at which diphtheria antitoxin may be obtained, and more recently, has established sixty-seven stations at which antitetanic serum may be furnished for indigent patients. The department also supplies physicians with instructions for families detailing the necessary precautions to be exercised by those in care of patients suffering from communicable diseases.

Pure Food Prosecutions Begun.—As a result of the violation of the pure food laws of the state, Dairy and Food Commissioner Foust ordered 215 prosecutions of which 138 are for the sale of milk having a lower quantity of butter fats than the law requires, fifty-three for the sale of cream below state standards and three for the sale of skimmed milk without notice that it was skimmed. These suits will be entered in Allegheny, Armstrong, Beaver, Blair, Butler, Cambria, Center, Chester, Clinton, Dauphin, Erie, Fayette, Huntingdon, Lancaster, Lebanon, Luzerne, Lycoming, McKean, Montgomery, Montour, Northumberland, Philadelphia, Venango, Warren, Washington, Westmoreland, Wyoming and York counties. Seven suits for the sale of ice cream not in accordance with state laws, five for the sale of adulterated non-alcoholic drinks and seven for the sale of adulterated candies, catsup and sausage were ordered in western counties and two suits for the sale of butter against state laws and one for the sale of bad eggs were ordered in Philadelphia.

Philadelphia

Hospital Buys New Quarters.—The American Oncologic Hospital has purchased the large stone residence at Thirty-Third and Powelton Avenue for $40,000, and will at once occupy the property.

Personal.—Dr. John K. Mitchell and Dr. Ernest LaPlace have sailed for Europe.——Dr. William C. Hollopeter has gone to Honolulu.——Dr. William E. Lee, chief visiting surgeon at the Pennsylvania Hospital, has been taken to that institution suffering with typhoid fever.——Dr. L. Webster Fox sailed for Europe, August 3.

Inspection of Public Baths.—Dr. Joseph S. Neff, director of Public Health and Charities, recently ordered a special investigation of swimming pools by a corps of medical inspectors, with the result that many of them, including some prominent club swimming pools were condemned as unsanitary. The investigations embraced twenty-nine swimming pools, of which twenty-two were municipal baths. Ten of these were declared to be in bad condition and improvements were ordered.

To Endow Room in Jewish Hospital.—At a meeting of the officers of the Jewish Hospital Association the offer of Mr. Isaac Wolf, Jr., who stated that he had made a provision in his will for the payment to the Jewish Hospital of $10,000 to endow a room in memory of his parents and to give a donation of $500 yearly during his lifetime, provided that the room were established at once. If for any reason the annual payments of $500 should not be regularly made or if the bequest of $10,000 was not paid under the will such endowment room should cease.

Tuberculosis Pier Successful.—The day camp for consumptives, established on the Bainbridge Street Pier, is now able to care for thirty patients daily. It is open from 9 a. m. to 6 p. m. Luncheons of milk, bread and butter are served at 10 a. m. and 4 p. m. and a good dinner at 12:30. A canvas pavilion, 30 by 40 feet, open on all sides protects the patients from sun, and there are curtains which can be lowered. The two dozen cure-all chairs were loaned by the Shut-In Society, while department stores and other firms have given the furniture needed. The pier is under the care of Dr. Albert P. Francine of the State Tuberculosis Dispensary assisted by a corps of physicians.

Bequest.—By the will of Meyer Seidenbach, $4,000 is devised to charity with the provision that in the event of the death of his widow and children and issue of the latter the trust funds established for their benefit also should go to charity. The will bequeaths to the Jewish Foster Home and Orphanage, $1,000; to the Jewish Hospital Association, $1,000; to the Federation of Jewish Charities of Philadelphia, $1,000; to the German Hospital, $500, and to a Jewish Synagog, $500.

SOUTH CAROLINA

Free Typhoid Serum.—The State Board of Health announces that in addition to the immunizing treatment of rabies, smallpox vaccine and antitoxin for diphtheria, it has decided to begin the free distribution of anti-typhoid serum.

TENNESSEE

College Building Sold.—The building on Broadway, Nashville, formerly occupied by the Medical Department of the University of Tennessee and for the last two years by the Tennessee Hospital has been sold on account of the removal of the medical department of the university to Memphis.

The Pellagra Board.—The board of inspectors of pellagra appointed by the State Board of Health has been completed by the appointment of Dr. Byrd S. Rhea, Bon Air, for the middle division. The three inspectors have taken a ten days' preparatory course in Nashville before entering on their duties. They are to lecture on pellagra in the various counties, and after the lectures, are to accompany physicians in visits to pellagra cases or pellagra suspects, giving personal instruction in each case as to diagnosis, isolation, etc.

VIRGINIA

Memorial Antituberculosis League.—The Latane Antituberculosis League, Winchester, organized as a memorial to the late Dr. Samuel P. Latane, has employed Miss Anne Carson, Riverton, to take charge of its work in Winchester.

Personal.—Dr. Washington B. Sager, Woodstock, has been appointed resident physician at the Alleghany Hospital, Davis, W. Va.——Dr. Robert F. Williams, Richmond, has been selected as dean of the medical school of the state university of Oklahoma, Norman.

Elections.—The Augusta County Medical Association, whose membership includes physicians of Augusta, Bath and Highland Counties, held its annual meeting at Staunton, August 2, and the following officers were elected: president, Dr. Harry F. White, Fishersville; vice-presidents, Drs. Walter S. Whitmore, Mount Sidney; Herman Welland, Middlebrook, and Kenneth Bradford, Staunton; secretary, Dr. Alexander J. Burkeholder, Mount Sidney; treasurer, Dr. Walter F. Hartman, Swoope; censor, Dr. Marshall P. Jones, Churchville; and trustee, Dr. R. Sumpter Griffith, Basic City.——At the annual meeting of the Piedmont Medical Society, held in Charlottesville, July 30, the following officers were elected: president, Dr. George W. Stark, Overton; vice-presidents, Drs. Ernest D. Davis, Standardsville, and Harry W. Porter, Louisa; secretary, Dr. Frank G. Scott, Orange; treasurer, Dr. John T. Walker, Barboursville.

WISCONSIN

Ill and Injured.—Dr. Guy A. Grafton, Hayward, sustained a fracture of the leg and other serious injuries in an automobile accident, August 3.——Dr. William P. Salbreiter, Racine, is reported to be seriously ill with pneumonia.——Dr. Frederick J. Hamlin, Beloit, has gone to South Dakota for a two months' vacation on account of ill health.

Personal.—Dr. Glenford L. Bellis, Antigo, has been appointed a member of the advisory board of the state tuberculosis sanatorium.——Dr. Jonas R. Longley, Fond du Lac, has been appointed local physician for the Soo line.——Dr. Lewis F. Bennett, after twenty-two years' practice in Beloit, has decided to locate in Spokane, Wash. At a farewell banquet given Dr. Bennett by the medical profession and the school board of Beloit, glowing tributes were paid to Dr. Bennett for his work in the civic uplift of the city.

GENERAL NEWS

Soo Line Surgeons to Meet.—The fifth annual meeting of the Minneapolis, St. Paul and Sault Ste. Marie Railway Surgical Association will be held in the Blackstone Hotel, Chicago, October 16 and 17, under the presidency of Dr. Albert E. Halstead, Chicago.

Military Surgeons' Meeting.—The annual convention of the Association of Military Surgeons of the United States will be held in Milwaukee, September 26 to 29. The headquarters will be at the Hotel Pfister and Dr. Gilbert E. Seaman is chairman of the committee on arrangements.

Antismokers Incorporate.—An organization called the Non-Smokers' Protective League of America, having its principal office in New York City, has recently filed papers of incorporation with the secretary of this state. The object of the league will be to enforce laws, ordinances and regulations restricting smoking. Among the directors are Dr. Harvey W. Wiley of Washington, Chancellor James R. Day of Syracuse University, Dr. Burt G. Wilder of Cornell University, President David Starr Jordan of Leland Stanford University, Dr. Winfield S. Hall of Northwestern University and other prominent educators.

Wall Charts on Hookworm Disease and Soil Pollution.—The United States Public Health and Marine-Hospital Service has just issued a series of nine wall charts illustrating the anatomy and life-history of hookworms, the methods of their dissemination, methods of prevention, and pictures of severely infected patients. These charts are intended for use in schools, colleges and field work. They are now being used by some of the state boards of health in the campaign for the eradication of hookworm disease. The charts are printed on heavy paper mounted on linen, with wooden hangers and are sold by the Superintendent of Documents, Government Printing Office, Washington, D. C., at $3.00 per set.

Municipal Congress.—The International Municipal Congress and Exposition is to be held at the Coliseum, Chicago, September 18 to 30, inclusive. The purpose of the congress is to discuss municipal problems. Many of the cities of the United States have already designated delegates and the most of these have included representatives from their departments of health. Discussions will be held before the general body by health officers on the "Milk Supply," and the "Advantage of a Low Death-Rate to a City." From September 28 to 30, inclusive, there will be a series of seven meetings participated in by health officers. These are for the purpose of adopting means of controlling such important activities of a city as "The Control of Contagion," "The Control of Milk and Water," "The Disposal of Sewage and Garbage," and methods of supervising those things in a city which easily become a nuisance. The plan is to have the subjects discussed in a very concrete way and then to have those in attendance go on record as in favor of certain methods of procedure, and against other methods. Many of the leading sanitarians of this country have agreed to act as leaders of discussions.

CANADA

Cocain Arrests.—The annual report of the chief of police of Montreal states that since July 1, 1910, there have been more than 150 arrests for either selling or using cocain in that city.

Council Meeting.—The Ontario Medical Council at its July meeting decided to cut out all examinations except the finals and to accept the examinations for the primary and scientific subjects of the provincial universities. The names of two physicians were struck from the register and two were readmitted, one of whom had had his license canceled sixteen years ago. Two representatives of defunct medical teaching boards who were on the staff of the medical department of the University of Toronto were refused status as members of the Council.

Personal.—Dr. Alfred Poole, house physician of the Vancouver (B. C.) General Hospital, has resigned.——Drs. H. H. Manseau, Montreal, Charles A. Hodgetts, Toronto, and Major Loren Drum, Quebec, chief sanitary officer of the Canadian Army Medical Service, have sailed for Europe.——Dr. Richard A. Reeve, Toronto, has been given an honorary degree by the University of Birmingham, England.——Dr. Harry B. Anderson, Toronto, has returned home after a several months' stay in Germany.——Dr. Andrew McPhail, Montreal, editor of the *Canadian Medical Association Journal*, who recently suffered severe injuries to the eyes, is reported to be improving.——Dr. Thomas G. Roddick, Montreal, has recovered from his recent illness.——Dr. Francis J. Shepherd, Montreal, has been reappointed dean of the medical faculty of McGill University.

LONDON LETTER

(From Our Regular Correspondent)

London, August 5, 1911.

The National Insurance Bill: Victory of the Profession

The unanimity of the profession in the face of what they regard as a great danger to their interests (described in previous letters to The Journal) has been crowned with almost complete victory in parliament, which is probably only the prelude to the complete attainment of all their demands. In the House of Commons, Sir P. Magnus, the member for London University, moved an amendment in accordance with the demand of the profession that persons with an income above $500 be excluded from obtaining medical attendance at contract rates. He pointed out that the profession was absolutely agreed on the point. Persons with incomes between $500 and $800 (the present limit of income above which the bill does not apply) should receive a money grant in lieu of medical attendance. The present system of contract attendance applied to 6,000,000 people and the bill as it stood would bring in 9,000,000 more. Experience had shown that while the contract system might be necessary in some cases it was not the best system for the cure of illness. Moreover, many doctors would be absolutely ruined by the bill as it stood and a great extension of the contract system would injure the status and character of medical practice. At present the doctor was able to combine contract with private practice, but if the contract system were to occupy his whole time the position would be intolerable. His whole time would be occupied and he would have neither leisure nor opportunity to keep abreast of the advances of science. Mr. Lloyd-George, the chancellor of the exchequer, pointed out that in many districts all medical arrangements had long been on contract terms, although in the skilled industries incomes above the proposed limit were earned. On the other hand, there were other industrial districts, such as rural ones, in which the incomes earned were below the proposed limit of $500, but the people were as well off, in consequence of lower cost of living, and the contract system did not prevail. Obviously the amendment would be of no advantage to the doctors practicing here who equally objected to the conversion of private into contract practice. A far better method was to leave the question of wage limit to the local health committee. The amendment was negative without a division. Dr. Addison, lecturer on anatomy at St. Bartholomew's Hospital, then moved an amendment authorizing the local committee to require any person whose income exceeds a limit, to be fixed by them, and to allow any other persons, in lieu of receiving medical benefit, to make their own arrangements and to receive the sum which would otherwise have been expended in providing medical benefit. The amendment had a great advantage of introducing elasticity. It was carried by a large majority. It is thus open to the profession, if they maintain their unity, to insist in each locality on whatever limit of income they prefer. This amendment has the advantage over the rigid one of $500, which was proposed at first, that where circumstances require it a still lower limit can be fixed. The two other demands of the profession—that the administration of medical benefits shall be transferred from the friendly societies to the local health committees and allowing the free choice of doctor were also carried by large majorities. The British Medical Association have decided to place the whole bill before the profession again and to convene another representative meeting to consider it after it has passed through committee in the House of Commons. Many of the friendly society officials are very angry that the control of the doctors is taken out of their hands.

The Radium Institute

The Radium Institute, which was founded at the suggestion of the late King Edward two years ago by two well-known philanthropists, Sir Ernest Cassel and Viscount Iveagh, is now compleded. Paying patients will be treated only in association with and through the introduction of their physician: At the first visit they must either be accompanied by their medical adviser or bring with them his written statement of the case, giving details of the treatment already employed. Physicians are cordially invited to be present during the treatment and to assist in it when practicable. The following fees will be charged: for first consultation at the institute, $10; for treatment when the lesion is situated on the external surface of the body with apparatus containing not more than 50 mg. of radium, $10 per sitting; when containing more than 50 mg., $20; when the lesion is situated in a cavity, e. g., larynx; uterus, urethra, etc., $25 per sitting. Necessitous patients will be admitted to free treatment if certified by their physician to be fit subjects for charity. The diagnosis of the disease from which the patient is suffering must rest with the physician introducing him and should the medical superintendent not agree with the diagnosis he will discuss the matter with the physician. Should a third opinion be considered necessary one of the honorary consulting staff will be called in in the case of a free patient. In the case of a paying patient the physician will nominate the consultant, or if he prefers it, leave this to the medical superintendent. In no case will the medical superintendent acting on behalf of the institute accept a fee for taking part in any consultation: Physicians desiring information concerning the activity of specimens of radium salts can obtain it from the chemicophysical laboratory of the institute at the following rates: measuring the amount of radium contained in specimens of radium salts, or measuring the amount of radium contained in various applicators, $10; analysis of the rays emitted from various applicators: preparation of radium applicators; circular or square disks, $10; cylindrical and special designs, $25; examination of water minerals and the like for radioactivity, $10. The institute is a handsome building situated in the west of London near Portland Place, well designed and thoroughly equipped. On the ground floor are rooms for the reception of paying and free patients and for diagnosis. The first floor is fitted up for the treatment of patients; the second floor is devoted to scientific research, and the third floor for a workshop and tools which make the institute independent of outside help in the matter of apparatus. On the ground floor there are five consulting rooms—two for paying and two for free patients and one for gynecologic examination. The medical superintendent is Mr. A. E. Hayward Pinch, F. R. C. S., who has already achieved a considerable reputation in the administration of the polyclinic of which he was for several years medical superintendent. The executive committee is composed of Sir Frederick Treves, Sir Lauder Brunton, Sir William Ramsay (the eminent scientist), Sir Malcolm Morris. The honorary consulting staff consists of a number of specialists: Mr. W. H. Clayton-Greens, Dr. Herbert French, Mr. W. H. H. Jessop, Dr. J. H. Sequeira; Dr. W. H. H. Tate; Mr. Herbert Tilley and Mr. F. Holding.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, July 28, 1911.

Charles Nélaton

Dr. Charles Nélaton, surgeon of the hospitals and *agrégé* professor at the Faculté de médecine de Paris, has just died, aged 60, at his estate in Seine-et-Oise, of an embolism. Charles Nélaton followed in the footsteps of his father, the celebrated surgeon of Napoleon III. The younger Nélaton had a sort of predilection for diseases of the bones and joints. He was especially fond of surmounting the difficulties of autoplastic surgery and his procedures in rhinoplasty especially have been much noticed. He published works on tuberculosis in surgical affections on benign tumors of the bones and, in collaboration with Ombredanne, two monographs devoted respectively to autoplasty in general and to rhinoplasty.

The Appearance of Cholera in France

The minister of foreign affairs has ordered the French consuls to report without delay all cases of cholera which may appear in their respective localities, so that measures may be taken with regard to travelers and merchants coming from these places. Unfortunately there is reason to doubt that these measures will be efficacious. A correspondent of the *Semaine Médicale* has observed how these precautionary measures are applied to travelers coming from and returning to Italy through Modane. Only travelers coming direct from an infected locality are detained. Therefore a traveler coming from Naples, for example, might take a ticket for Rome, and if he stops a few hours or minutes in the station without going into the city even, he might take another train direct from Rome to Paris with a new ticket and would not be stopped on the way. It is therefore not surprising that this surveillance has not been efficacious in some one of the four frontier stations and that some travelers coming from infected localities or from regions not officially declared infected have been allowed to pass without detention. Thus several cases of cholera have appeared in different quarters of Marseilles. The situation appears more serious in the department of l'Hérault of which Montpellier is the capital, where there have been a series of cases of cholera and of deaths from cholera in various localities.

Permanent Marking of Professional Criminals.

Dr. Séverin Icard of Marseilles proposes a means of marking indelibly professional criminals by injecting under the skin a certain quantity of cold paraffin so as to make a small nodule. This nodule, not appreciably altering the appearance of the skin, would remain unnoticed by the uninitiated, and in case it should be discovered by accident by a third party, it might pass for a small cyst or some kind of tumor, whose judicial origin would not be suspected. The points of the skin chosen for the injection would vary according to the nature of the crime or the offenses and according to the dangerous character of the criminal. Dr. L. Sadoul writes in the *Caducée*: "This is evidently an excellent police measure which without barbarism or pain, permits a return to the old brand placed on convicts; but who will make the injection? If it is some jailer, there is reason to fear that the syringe may not always be aseptic. If it is a physician the condemned will have the guarantees of safety but the physician will lower himself to the level of an executioner. There is no discussion possible. Even if the prisoner consents the physican would still be lowering his professional dignity."

A Fake Philanthropist

For some time there have been scattered broadcast circulars headed "Oeuvre philanthropique" and couched in the following terms: "In the name of humanity, for the sake of God and men, I announce gratuitously to all how I was cured of that terrible disease tuberculosis after having been abandoned and condemned by all physicians. Let the sick take courage. Thousands of others seriously ill like me have been radically cured. It is my priestly duty to spread in the world this extraordinary discovery for the sake of God and humanity. For all information write to M. l'abbé Juillies, 26, rue Chanoinesse. Enclose a stamp for reply. Thousands of cures and testimonials! Preserve this advice with care; it will save the existence of those who are dear to you." Many have followed this advice and have written. It must be inferred that they were not satisfied with the result of their correspondence and their credulity, for the courts have been led to take a hand in the affair. The investigation shows that it was not an abbé but merely a tradesman who had taken this title the better to exploit public credulity and who was selling some kind of elixir at $1, $2 and $4 a bottle. The elixir promised to cure all kinds of diseases; tuberculosis, syphilis and baldness.

Syphilis in Prehistoric Times

The question whether syphilis existed in the old world before the fifteenth century or whether the companions of Christopher Columbus brought it from America, is not yet cleared up. In studying bones collected by the Baron de Baye in burial places on the Marne and preserved in the Museum of National Antiquities of Saint-Germainen-Laye near Paris, Dr. Paul Raymond, former *agrégé* professor at the Faculté de médecine de Montpellier, found a humerus and a cubitus belonging to different subjects which presented evident lesions of syphilis. Dr. Raymond concludes that syphilis, like tuberculosis, is as old as humanity and that America had no share in its propagation in Europe.

Personal

Dr. Antonin Imbert, major in the colonial sanitary corps, has died of the sequelæ of an anatomic puncture produced during a demonstration given in the amphitheater of the Ecole du service de santé des troupes coloniales.

The death of Dr. Charpy, professor in anatomy at the Faculté de médecine de Toulouse, is reported.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, July 29, 1911.

Personal

Professor Killian of Freiburg has accepted a call as the successor of Professor B. Fraenkel to the chair of laryngology at Berlin. In this way the question of which I have written has been happily solved. Our laryngologic clinic maintains its independence and receives for its head an investigator who is acknowledged as the foremost specialist in Germany. Moreover, we have at present no authority on laryngology in Berlin, so that the suffering public receives an essential advantage from this appointment.

Professor Fritsch of Bonn is to be succeeded by Professor Menge of Heidelberg.

Professor Wenckebach has accepted the call to Strasburg as director of the medical clinic.

Professor Bethe of Strasburg has at last accepted the call as professor of physiology at Kiel; his decision was delayed for many months on account of his illness as the result of an operation for hernia.

Professor Enderlen of Würzburg has been selected as the successor of Professor Payr of Königsburg.

Professor Kehrer of Bern, a son of the former gynecologist at Heidelberg, has assumed the direction of the gynecologic clinic at Dresden in place of Professor Leopold.

Jubilees

July 22, the semicentennial of the doctorate of Professor Waldeyer was celebrated at Berlin. The large participation of both natives and foreigners afforded another proof of the great esteem in which the 74-year-old scientist is held by his colleagues and the love and honor which is accorded to him by a large circle of the lay public. From many scientific bodies addresses and other marks of honor were presented. His pupils provided for a portrait bust and presented a memorial volume to which scientists of all lands have contributed. The Prussian government has awarded him the great gold medal for art and science.

July 24, Dr. Max Salomon also celebrated his golden doctor jubilee. He made himself noted, formerly, by several works in the field of medical history.

July 22. Professor Schmidt-Rimpler, the well-known ophthalmologist of Halle, celebrated his semicentennial as doctor.

July 25, the well-known pharmacologist, Professor Jaffe, of Königsburg, celebrated his 70th birthday. At the beginning of his career Jaffe was connected with the medical clinic at Königsberg as assistant of von Leyden. He published with Leyden an article on putrid sputum in which the discovery of the etiologic importance of spirilla and leptotriches for the lung process was announced. Of his pharmacologic works the chief are concerned with intermediary metabolism.

New Regulations for Hospital Construction

New provisions for the construction of hospitals, lying-in homes and infant homes were promulgated July 8, by the Prussian government, of which we will notice some of general interest. For hospitals it is required that the ground area of the building shall be at least 100 square meters (about 120 square yards) for each bed. The front wall of each hospital that is intended for the permanent accommodation of patients must be at least 20 meters (66 feet) distant from other buildings and the other walls 10. Before the windows of the patients' rooms such a free space must be provided that the enclosing walls and roofs of opposite buildings shall not extend beyond an air line drawn from the point of junction of the front wall of the building with the floor at an angle of 30 degrees with the extended floor line. Each story which is intended for more than thirty beds must have two staircases which reach the open air. Vestibules and passages must be at least 1.8 meters (6 feet) wide, well lighted and capable of being heated and ventilated. Rooms whose floors are not at least 30 cm. (12 inches) above the adjoining earth surface must not be used for patients. Sick-rooms which are lighted from only one side must not have their windows to the north. Stairs in institutions with more than twenty beds must be fireproof and in all stories, including the roof story, must be surrounded by strong walls. They shall be without windings and be furnished with landings of equal width and shall be at least 52 inches wide. The treads must be at least 30 cm. (12 inches) wide and the risers at most 17 cm. (6.8 inches) high. The staircases must receive light and air directly from outside. The windows in rooms with several beds must have a surface equal to at least one-seventh of the floor space and in single bedrooms must have a surface of at least 2 sq. m. (2 sq. yds.). Each room for more than one patient confined to bed must have an air space of at least 30 cu. m. (cubic yard) with 7.5 sq. m. (sq. yd.) of floor space per bed and in single bedded rooms there must be an air space of at least 40 cu. m. (cubic yards) with 10 sq. m. (sq. yd.) of floor space; for children under 14, a space of 20 c. m. and a floor space of 5 sq.m. will suffice. For patients that are not confined to bed in rooms with more than one bed, and air space of 24 cu. m. and for children under 14 an air space of 14 cu. m. are sufficient if a sufficient day room with at least 2 sq. m. of floor space is provided. More than thirty beds may not be placed in one room. In every hospital there must be erected for every ward or at least for every story a suitable day room with its chief windows not directed to the north for the recreation of patients who can temporarily leave their beds; this room must have at least 2 sq. m. (sq. yd.) floor space for each patient and must in any case measure as much 20 sq. m. (sq. yd.). Besides, a recreation yard with a garden having as a rule a space of 10 sq. m. for each bed, must be provided. The water-closets must be sufficiently extensive and at least one water-closet must be provided for every fifteen beds for men and for every ten beds for women, properly furnished and separated from the ward. Special water-closets, separate from those for the patients, must be provided for the nurses.

In lying-in hospitals and infant homes and similar establishments or wards for this purpose in general hospitals there must be provided for each woman with her child, in rooms occupied by several puerperal patients, space of at least 35 cu. m. and in rooms for one woman with her child at least 45 cu. m. In rooms for infants an air space of at least 12 cu. m. must be provided for each infant's bed. For sick infants at least 20 cu. m. of air space must be allowed.

Competition in Infants

In September Berlin will have a baby show under the supervision of the matron of a welfare station. Of those entered, 150 children of mothers, selected by lot, are to be admitted to the actual competition. A classification of the children is provided for into those whose parents prefer a vegetable, a meat, or a mixed diet, and also into the children of drinkers or abstainers. The distribution of prizes will be undertaken by all the women who offer to compete, with the exclusion of those whose children are selected for the narrower competition.

Industrial Instruction for Cripples

The East Prussian agricultural trade union has lately arranged for courses for the instruction of cripples open to the members of their guild. In this way a number of invalids who were hitherto entirely unfit for work will be rendered at least partly self-supporting and social insurance and public charity will be relieved of part of their burden.

State Assistance of Midwives

In many country districts of Prussia, especially in the East, numerous births occur without professional assistance on account of the lack of midwives, which results in a considerable increase in illness and death, both of mothers and children. This lack is principally due to the insufficient opportunities for earning a living in these districts. In order to meet the most stringent need the Prussian government has appropriated 100,000 marks ($25,000) for the support of district midwives for the poorer classes.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, July 28, 1911.

Organization of Midwives in Austria

The distribution and social position of midwives has long been unsatisfactory and has been the subject of much discussion in the public and in medical circles. Recently the "Union of Midwives" (Hebammen-Verband) of Austria sent a delegation to the minister of interior and to the minister of education, informing these authorities of the wishes and suggestions framed at the last meeting of the union. They desire a "numerusclausus" for their profession, on a scale of one midwife to 2,000 women of adult age, as well as fixed pay by the state in places where the quality of the population does not offer a likelihood of living for a midwife: This holds good chiefly for the country places and villages where at present there is no help for a parturient woman for miles around, because neither doctor nor midwife is within easy reach. Apart from that, the suggestions thrown out also provide for a tariff of fees for the women, as well as new regulations concerning the "curriculum." At present, one year of study at the gynecologic clinic is required. In future, two years should be spent in the midwives' school; the teaching to comprise the fundamental knowledge of anatomy and physiology of the pregnant and parturient female body, the necessary elements of bacteriology along with the surgical principles governing the process of childbirth. In order to enable the midwives to attain their aims, all women of the calling will be united in local and district branches to be called into existence soon, and it is intended to inquire also into the nature of diplomas and other qualifications possessed by the ladies at present.

The Heat in Austria

The most unusual weather conditions experienced in central Europe have had a very different effect in various places. Thus, in our country the sunshine during the first three weeks of July amounted to 260 hours, or fifty-five hours more than the average taken from the observations of 125 years. The rainfall was very small, only seven days instead of eighteen were classified as moist, with more than one hour's rain. At the same time, the temperature went up high, excessively high since the 19th, so that in Vienna the thermometer went up to 98 Farenheit in the shade! But in distinct opposition to the conditions prevailing during the heat wave in the United States, the humidity of the air was very low. Thus, perspiration was not interfered with, and we have had only a few cases of heatstroke up till now. The thirst of the population, however, is growing as the temperature is increasing. With us the iced drinks are not favored much, but from other reasons the daily use of ice has gone up from 100,000 bars—each weighing about 25 kilos—to 170,000 bars; at the same time the sale of milk, which generally diminishes in summer time to 600,000 liters, has gone up to 750,000 liters a day. The main reason for this is the extensive use of a favorite beverage, iced buttermilk, during the heat. As fruit is again very plentiful, this food has been used in enormous quantities, followed as usual by gastro-intestinal disturbances. Contrary to the expectations, the morbidity and mortality of infants and children has not been very high, at least up to the present. This is perhaps due to the dry heat which did not interfere with metabolism. It is a particular feature of our heat period this year that even the health resorts situated in the mountains did not escape its effects.

A Monopoly on Saccharin

The government has just presented to the parliament a bill which will make the manufacture of saccharin a monopoly of the state, like tobacco and salt. The monopoly shall comprise all artificial sweetening substances, except beet sugar or cane sugar. The sale of these articles will be licensed and the apothecaries will be the only persons who will obtain such a retail license. All articles of food containing saccharin will have to show it on the label and will thus be under special control. For persons who must not use sugar (diabetics) a special license may be granted and they will be able to obtain under it larger quantities of the substance at a reduced price, for their own use solely.

Marriages

Robert Lee Payne, Jr., M.D., Norfolk, Va., to Miss Mary Elizabeth Harmon of the University of Virginia, August 2.

Allen C. Beetham, M.D., Baltimore, to Miss Bertha Hewlett, at Merrick Long Island, N. Y., July 6.

Surgeon Lewis Morris, U. S. Navy, to Mrs. Ella Bingham Duffy of New York City, August 1.

Lisle W. Neiswender, M.D., Columbus, O., to Miss Mary Dennison, of Briggsdale, O., July 29.

George Baldwin Kroeger, M.D., to Miss Bertha Fay, both of St. Louis, July 27.

Lee E. Bransford, M.D., to Miss Blanche Royer, both of Baltimore, recently.

Deaths

Frank Pierce Foster, M.D., for more than thirty-one years editor of the *New York Medical Journal* and dean of the medical journalistic profession, died at Chadwick, N. J., August 13, from cancer of the throat, aged 69.

He was born in Concord, N. H., received his preliminary education in the public and high schools of that city, and graduated from the College of Physicians and Surgeons, New York City, in 1862. After a two years' internship in the New York hospital, he established himself in general practice in New York City where he has since resided, excepting for a short time when he served as surgeon on steamers running between New York and San Francisco, and in the fall of 1864 when for a few months he was contract surgeon in the United States Army. He engaged in general practice, but paid special attention at first to dermatology and later to obstetrics and gynecology. In 1870 he introduced the preparation and use of bovine vaccine virus into the United States under the auspices of the New York Dispensary and wrote a series of articles advocating the use of bovine as compared with humanized virus.

In January, 1880, he assumed the editorship of the *New York Medical Journal*, then a monthly published by the Appletons. Dr. Foster's energy and ability so improved the status of the journal that three years later it was made a weekly publication, and rapidly obtained its position as one of the leading medical weeklies of the United States. In the early eighties, Dr. Foster became editor and co-author of the illustrated "Encyclopedic Medical Dictionary" which bears his name and which occupied a large part of his attention for twelve years. He was also the editor of the "Reference Handbook of Practical Therapeutics" and a member of the editorial staff of the "Standard Dictionary."

Dr. Foster was a member of the American Medical Association and chairman of the Committee on Revision of Medical Nomenclature and prepared the reports presented by the committee at the sessions of 1909, 1910 and 1911. He was a member of the New York Academy of Medicine and the New York Gynecological Society, a member and once librarian of the Medical Journal Association, and secretary and president of the New York Dermatological Society.

Frank Wilfred Page, M.D. University of Vermont, Burlington, 1866; a member of the Boston Medical Library Association; from 1878 to 1880 assistant physician and superintendent of the McLane Hospital for the Insane, Somerville, Mass.; from 1897 to 1899 superintendent of the Vermont State Hospital, Waterbury; professor of nervous and mental diseases in the University of Vermont from 1898 to 1900; died at his home in Boston, August 2, aged 67.

Charles H. Brothers, M.D. University of Nashville, Tenn., 1872; a member of the Kentucky State Medical Association; formerly president of the Board of Health of Paducah; city health officer, and at various times president, secretary and treasurer of the Southwestern Kentucky Medical Association; died at his home in Paducah, August 3, from tuberculosis complicating nephritis, aged 61.

Charles Oliver Green, M.D. Bellevue Hospital Medical College, 1890; local surgeon at Hornell for the Erie Railway; captain and assistant surgeon, N. G., N. Y., assigned Third Infantry; a member of the staff of St. James (Mercy) Hospital; health officer of Hornell; was struck by an automobile while alighting from a street car, August 3, and died a few hours later from his injuries, aged 52.

Lawrence W. Hollis, M.D. University of Louisville (Ky.), 1883; formerly president of the Taylor County (Tex.) Medical Association; one of the board of examiners for the Thirty-Ninth Judicial District; proprietor of the Hollis Sanitarium, Abilene, Tex.; was struck by a falling timber during a wind storm in Abilene, July 31, and died soon after from his injuries, aged 49.

Thomas Crozier, M.D. Harvard Medical School, 1863; of Arlington, Mass.; a medical cadet during the Civil War; a member of the Massachusetts Medical Society; who was taken ill while at his summer home at Edgecomb, Boothbay Harbor, Me.; died in the Gregory Sanitarium at that place, July 25, from cerebral hemorrhage, aged 74.

John Baker Atchison, M.D. Long Island College Hospital, Brooklyn, 1867; a member of the American Medical Association; a Confederate veteran; a Montana pioneer and for the last twelve years a practitioner of Lewistown; died in St. Joseph's Hospital, Lewistown, August 2, from senile debility, aged 72.

John Beverly Warwick, M.D. Medical College of Ohio, Cincinnati, 1858; a veteran of the Civil War; for many years a member of the Hempstead Academy of Medicine, Portsmouth, Ohio; a member of the local pension examining board; died recently at his home in Lucasville, and was buried July 31, aged 77.

John Howard Crippen, M.D. Hahnemann Medical College, Philadelphia, 1872; a member of the American Medical Association, and Austin Flint-Cedar Valley Medical Society; attending physician at Presbyterian Hospital, Waterloo, Ia.; died at his home in that city, August 3, from nephritis, aged 60.

Arvid E. Osell, Medico-Chirurgical College of Kansas City, Mo., 1903; formerly assistant to the chair of clinical ophthalmology in the Medical Department of the University of Kansas; physician to the El Tigre Mining Company, near Douglas, Ariz.; died suddenly at his home, July 25, aged 43.

George John Schaller, M.D. Rush Medical College, 1881; a member of the American Medical Association; died at his home in Chicago, August 10, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent, while despondent, aged 51.

John Jacob Wuerth, M.D. College of Physicians and Surgeons, Chicago, 1898, of Chicago; a member of the American Medical Association; died at the home of his parents in Lawrence, Kan., August 3, from an accidental overdose of strychnin, aged 43.

William Richards, M.D. Long Island Hospital College, Brooklyn, 1862; University of Pennsylvania, Philadelphia, 1871; a member of the Massachusetts Medical Society; died at his home in Natick, July 27, from cerebral hemorrhage, aged 87.

James Marion Henry, M.D. College of Physicians and Surgeons, Baltimore, 1888; a member of the American Roentgen Ray Society; of Sioux City, Ia.; died at Hot Springs, S. Dak., July 26, from cancer due to *x*-ray burns, aged 51.

Lex Donald Wadley, M.D. College of Physicians and Surgeons, Little Rock, Ark., 1908; of Little Rock; a member of the American Medical Association; died in the Pulaski County Hospital, August 3, from uremia, aged 31.

Henry Albert Kirchner, M.D. Washington University, St. Louis, 1872; for twenty-five years physician to the German General Protestant Orphans' Home; died at his home in St. Louis, July 30, from nephritis, aged 61.

George Washington Fertich, M.D. Medical College of Indiana, Indianapolis, 1886; for twenty years local surgeon for the Panhandle System; died at his home in Dunkirk, Ind., August 3, from cerebral hemorrhage, aged 69.

Gregory Phelan, M.D. Cooper Medical College, San Francisco, 1880; for thirty years vice consul and deputy consul of the United States at Bordeaux, France, and Brussels, Belgium; died in the latter city, July 7.

Daniel Ayres Yarnell, M.D. Beaumont Hospital Medical College, St. Louis, 1889; died at his home in Eldon, Mo., July 29, from the effects of an accidental overdose of laudanum, aged 44.

Samuel P. Mitchell, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1875; died at his home in Mt. Etna, Ind., July 28, from the effects of an overdose of medicine, aged 64.

John W. Primm, M.D. Hahnemann Medical College, Chicago, 1878; for many years a practitioner of Woodstock, Ill.; died at his home in Pasadena, Cal., July 26, aged 60.

James Dunn, M.D. Tufts College Medical School, Boston, 1910; of Winthrop, Mass.; died at Boston City Hospital in December last from double pneumonia, aged 26.

William V. Anilosky, M.D. Medico-Chirurgical College of Philadelphia, 1907; died at his home in Lansford, Pa., July 29, from hemorrhage of the stomach, aged 27.

Milton A. Piper, M.D. Jefferson Medical College, 1871; a widely-known practitioner of Kensington, Philadelphia; died at his home in that place, July 26, aged 64.

William Cullen Bryant, M.D. New York Homeopathic Medical College, New York City, 1871; died at his home in Brooklyn, N. Y., July 22, from nephritis, aged 62.

Henley Boyd Newell, M.D. Rush Medical College, 1867; a member of the Racine County Medical Society; died at his home in Waterford, Wis., July 30, aged 66.

J. S. Gunn, M.D. University of Tennessee, Nashville, 1894; a member of the American Medical Association; died at his home in Adairville, Ky., August 1, aged 48.

George W. L. Hynds (license Tenn., 1889), a practitioner ever since the Civil War; died at his home in Hyndsver, Tenn., August 2, from heart disease, aged 74.

Edward L. Tracy, M.D. Chicago College of Medicine and Surgery, 1905; of Little Rock, Ark.; died at a sanitarium in Battle Creek, Mich., July 19, aged 37.

Jacob Bieger, M.D. Chicago Homeopathic Medical College, 1899; died at his home in Forest Park, Ill., August 6, from aortic aneurysm, aged 42.

James William Polhill, M.D. Medical College of Georgia, Augusta, 1908; died suddenly at his office in Hawkinsville, Ga., July 23, aged 37.

Louis P. Engleman, M.D. Louisville (Ky.) Medical College, 1897; was found dead in his office in La Fayette, Ind., August 7, aged 40.

Miscellany

Custody of Feeble-Minded.—Neither the prison nor the asylum is the right place for feeble-minded criminals, says G. A. Auden (*Jour. Crim. Law and Criminology*). There is no place for their custodial care in our present scheme of social polity, and we are driven to the strange conclusion that the best chance for the individual and for the society at large is, under existing circumstances, the commission of some serious crime, such as murder or arson, which will remove him for a lengthy period from further opportunities for antisocial action. By the removal from our penal establishments of the admittedly feeble-minded prisoners (on whom punishment and prison discipline are recognized as having no deterrent effect), the opportunities for greater specialization and classification of the same prisoners by the Borstal system, and by the recent regulations for the provision of humanizing influences, will be greatly increased. It is evident that an indeterminate sentence with statutory power to transfer to some form of institution which shall be substituted for the prison, affords the only satisfactory solution to the question.

Campaign Against Malaria.—A very effective campaign against malaria is reported by R. Ross in his book on "The Prevention of Malaria" as having taken place in Ismailia, a town founded by M. de Lesseps as headquarters of the Suez Canal Company. Since 1877, this town of 10,000 has been the scene of annual epidemics, the number of cases culminating in 1902, with more than 2,500, or 25 per cent. of the population! In 1902 a mosquito brigade was organized and the work directed chiefly toward the extermination of the mosquitoes, by draining a marsh near the town, filling up holes, visiting every house once a week and treating the cesspools with petroleum, in order to kill the mosquito larvæ, clearing all irrigation channels of reeds, so the water could flow swiftly, and by imposing penalties on the inhabitants if they did not cooperate in certain ways, the campaign was carried out to a magnificent success. While the number of cases annually during the years from 1885 to 1902 was seldom below 2,000, the years following the campaign showed the following reduction: 300 cases reported in 1903; 90 in 1904; 37 in 1905 and since then not one case has occurred! This campaign cost the town of Ismailia a trifle of $10,000 for the first year and $5,000 for the subsequent years. In the crusades against the diseases which swell the death-rate of the United States—diphtheria, scarlet fever and tuberculosis, to mention only the principal groups—the social-economic character of these problems has repeatedly been pointed out, but it has very often been difficult to convince taxpayers that preventive medicine is a paying proposition in the end. The report referred to above makes the problems a matter of simple bookkeeping; in 1902 the community of Ismailia transferred from the assets to the expense account the sum of $10,000 (or $4 per case of malaria) and the next year this community cleared a profit of 2,200 human lives redeemed from the disease. Does this look like a "business proposition" to our American taxpayer? Of course, it all depends on our standards of valuation!

The Human Air Sterilizer.—Every additional person present in the operating room is one more purifying machine for its air; is yet another means of lessening the possibility of germs from the air falling on the open wound in serious numbers as to the maintenance of surgical asepsis. The inhaled air, with its myriad impurities, is steadily filtered, as it were, and deprived of them during its passage from the nostrils to the pulmonary air-cells. Within the nose are the moist and sticky hairs; within a portion of the larynx, all of the trachea, and the bronchi and bronchioles are the cilia, active in our defense, first catching our little enemies and then (the cilia) continually lashing upward, carrying them away from our lungs the region of danger. Of course, additional persons breathing means just so much more carbon dioxid present in that room, also various more or less poisoned animal effluvia excreted by the breath. Poisons of this kind do not, however, affect the wound adversely regarding its asepsis. Microbes alone do this, and it is a well-known fact that, however dusty may be the air inhaled, when exhaled it is found to be practically sterile. In a well-kept operating room just prior to operation the floor is mopped with some antiseptic solution. Otherwise, particularly in dusty seasons and in dirty towns, each pair of shuffling or applauding feet may cause more trouble than that person's respiratory sterilizing plant can quell.—Dawbarn in *Medical Record.*

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

MAYR'S WONDERFUL STOMACH REMEDY

Another Fake Gall-Stone Remedy

The fake "gall-stone trick" and "tapeworm trick" have long been worked by itinerant medical swindlers. As every physician knows, the administration of large doses of some bland oil, such as olive oil, especially when followed by a saline cathartic, results in the passage of a number of greenish concretions from the bowels. The victim is made to believe that these concretions are gall-stones, and he feels that he is getting his money's worth in proportion to the number of these "stones" that are passed.

This method of defrauding the public is now being worked by "patent medicine" venders as well as by traveling fakers. In The Journal, Sept. 24, 1910, one of the most widely advertised of these fake gall-stone cures—"Fruitola"—was discussed. A number of inquiries have been received regarding the composition of another preparation of the same type, "Mayr's Wonderful Stomach Remedy," made by George H. Mayr, a Chicago druggist. One correspondent submitted a number of pseudogall-stones passed by one of his patients who had taken Mayr's nostrum. With the specimen the physician sent the following letter:

> "The accompanying specimen was brought to me by a patient whom I have been treating for membranous colitis. One of her symptoms is pain in the left side of the abdomen. There have been no attacks of biliary colic nor has the physical examination afforded any data on which to base such a diagnosis. On the advice of a friend the patient had taken 'Mayr's Wonderful Stomach Remedy,' which appears to be similar to 'Fruitola' recently exposed by you. I have found on a superficial examination that the masses which closely resemble gall-stones consist of a soap, part of which is insoluble. I would like to know whether the base of the insoluble portion of the soap consists largely of magnesia. If so, is it probable that this base is furnished by the saline cathartic given after the remedy or is a sufficient amount of earthy base excreted by the intestine to cause the formation of so large an amount of these pseudocalculi?"

To be able to answer this question intelligently, the Association's chemists analyzed not only the nostrum, but also the "gall-stones." The laboratory report follows:

LABORATORY REPORT

"Mayr's Wonderful Stomach Remedy" consists of a bottle of oil and two powders contained in a red carton on which appears the following:

> "Mayr's Wonderful Stomach Remedy for Stomach Troubles, Indigestion, Gases in the Stomach and Intestines, Dizziness and Fainting Spells, Colic Attacks, Torpid Liver, Constipation, Gastritis, Yellow Jaundice, Appendicitis, Gallstones, etc.

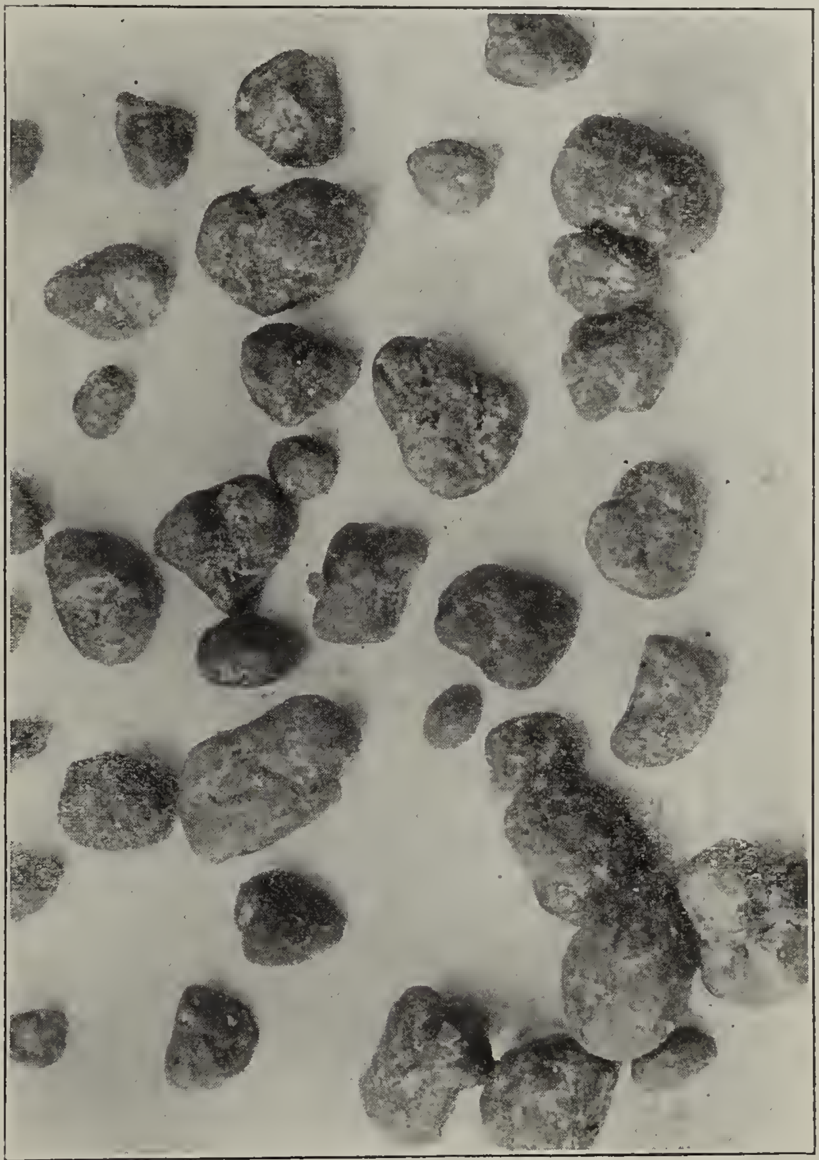


Fig. 1.—Photographic reproduction (actual size) of some of the supposed gall-stones passed by a victim who had taken Mayr's Wonderful Stomach Remedy. Anybody can perform the same trick by drinking a pint of olive oil and following it up with a seidlitz powder.

> "The above ailments are mainly caused by the clogging of the intestinal tract with poisonous accretions—which are caused by a catarrhal condition of the gall-bladder and duct, liver, stomach and intestinal tract—backing up poisonous fluids into the stomach, and otherwise deranging the digestive system.
>
> "This remedy painlessly removes these accretions without surgical operation, takes out inflammation from the entire intestinal tract and renders the same antiseptic."

A pamphlet comes with the bottle consisting chiefly of that sheet anchor of the patent medicine faker—testimonials. Of course, fraudulent claims are made.

> "Price $1.00 per bottle; worth $100.00."
>
> "A positive remedy for appendicitis."
>
> "It is composed of nothing but strictly pure food vegetable ingredients."
>
> "Unsurpassed for liver complaint."

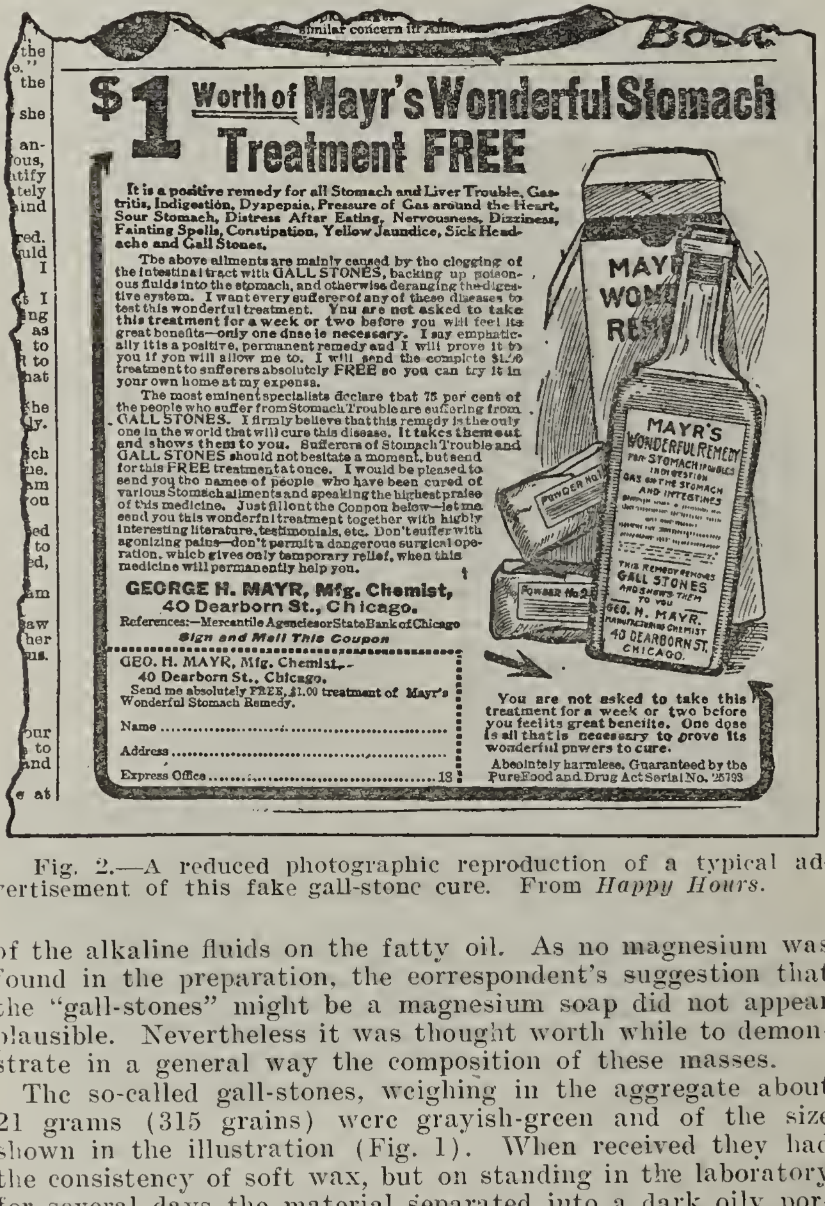
> "Those who believe that they have gallstones we implore you—*Don't submit to a dangerous surgical operation.* . . . The full course of Mayr's Wonderful Stomach Remedy not only painlessly removes this accretion, but allays the inflamed or catarrhal condition that causes them . . ."

The instructions for taking this nostrum directed the patient to take one powder at 3 o'clock in the afternoon; at bedtime the entire contents of the bottle (about a half-pint) was to be taken at one dose. The next morning the second powder was to be taken. The patient was told:

> "When the bowels operate use a vessel and note the poisonous secretions removed by this remedy, in some cases dark green or yellow lumps varying in size from a fine bead to an olive—in severe cases even larger. In other cases quantities of thick tenacious slime or mucous [*sic*]. These accumulations are weakening and poisonous."

The bottle contained about six ounces of a bland yellow oil, which from the results of analysis[1] appeared to be olive oil. The powders, each of which weighed about one ounce, appeared to be ordinary Rochelle salts one disguised by the addition of about 6 per cent. compound licorice powder and the other by the addition of about 4 per cent. powdered licorice root.

From the composition of the nostrum, as determined by analysis, it was expected that the concretions, which the physician had submitted for examination would be found to consist of a sodium soap formed in the intestinal canal by the action of the alkaline fluids on the fatty oil. As no magnesium was found in the preparation, the correspondent's suggestion that the "gall-stones" might be a magnesium soap did not appear plausible. Nevertheless it was thought worth while to demonstrate in a general way the composition of these masses.


similar concern in Ameri
Boo
MAYR'S WONDERFUL REMEDY
FOR STOMACH TROUBLES
INDIGESTION
GAS ON THE STOMACH
AND INTESTINES
POWDER NO 1
POWDER No 2
THIS REMEDY REMOVES
GALL STONES
AND SHOWS THEM
TO YOU
GEO. H. MAYR.
MANUFACTURING CHEMIST
40 DEARBORN ST.
CHICAGO.

$1 Worth of Mayr's Wonderful Stomach Treatment FREE

It is a positive remedy for all Stomach and Liver Trouble, Gastritis, Indigestion, Dyspepsia, Pressure of Gas around the Heart, Sour Stomach, Distress After Eating, Nervousness, Dizziness, Fainting Spells, Constipation, Yellow Jaundice, Sick Headache and Gall Stones.

The above ailments are mainly caused by the clogging of the intestinal tract with GALL STONES, backing up poisonous fluids into the stomach, and otherwise deranging the digestive system. I want every sufferer of any of these diseases to test this wonderful treatment. **You are not asked to take this treatment for a week or two before you will feel its great benefits—only one dose is necessary.** I say emphatically it is a positive, permanent remedy and I will prove it to you if you will allow me to. I will send the complete $1.00 treatment to sufferers absolutely **FREE so you can try it in** your own home at my expense.

The most eminent specialists declare that 75 per cent of the people who suffer from Stomach Trouble are suffering from GALL STONES. I firmly believe that this remedy is the only one in the world that will cure this disease. **It takes them out and shows them to you.** Sufferers of Stomach Trouble and GALL STONES should not hesitate a moment, but send for this FREE treatment at once. I would be pleased to send you the names of people who have been cured of various Stomach ailments and speaking the highest praise of this medicine. Just fill out the Coupon below—let me send you this wonderful treatment together with highly interesting literature, testimonials, etc. Don't suffer with agonizing pains—don't permit a dangerous surgical operation, which gives only temporary relief, when this medicine will permanently help you.

GEORGE H. MAYR, Mfg. Chemist,
40 Dearborn St., Chicago.
References:—Mercantile Agencies or State Bank of Chicago

Sign and Mail This Coupon

GEO. H. MAYR, Mfg. Chemist,
40 Dearborn St., Chicago.
Send me absolutely FREE, $1.00 treatment of Mayr's Wonderful Stomach Remedy.
Name ....
Address ....
Express Office 13

You are not asked to take this treatment for a week or two before you feel its great benefits. One dose is all that is necessary to prove its wonderful powers to cure.

Absolutely harmless. Guaranteed by the Pure Food and Drug Act Serial No. 25793

Fig. 2.—A reduced photographic reproduction of a typical advertisement of this fake gall-stone cure. From *Happy Hours.*

The so-called gall-stones, weighing in the aggregate about 21 grams (315 grains) were grayish-green and of the size shown in the illustration (Fig. 1). When received they had the consistency of soft wax, but on standing in the laboratory for several days the material separated into a dark oily portion and an amorphous gray part. Analysis[1] demonstrated the presence of both free and combined fatty acids as well as of considerable sodium and some potassium. Lack of material made it impossible to determine whether the combined fatty acids existed in combination with sodium or potassium or in the original condition as oil; for the same reason, it was impossible to determine in what form the sodium and potassium were present. As the amount of sodium found was in itself more than sufficient to account for all the combined fatty acids, it is probable that the masses consisted essentially of free fatty acids and soap (sodium salt of fatty acids).

In short, the so-called gall-stones are principally a mixture of fatty acids and soaps produced by the action of the alkaline intestinal fluids on the large amount of oil taken.

Correspondence

Purgation in Delirium Tremens

To the Editor:—After reading the article in the Therapeutics Department on "Delirium Tremens" in The Journal, August 5, I was struck by the omission of any reference to purgation. In the treatment of this condition, the incitement of an early and active purgation has seemed to me in the great majority of the cases the most important factor at our command. The thickly coated tongue, foul breath and unhealthy condition of the skin of many of these patients indicate that to the toxicity of the alcohol there is added the autotoxicity of faulty elimination. There is commonly a history of constipation and at times of inactive kidneys. An initial dose of from 3 to 5 grains of calomel followed in six hours by a saline has seemed to me so satisfactory that it has become my routine practice and is rarely contra-indicated. In severer cases I give from 3 to 5 compound cathartic pills and a cleansing enema on admission to the hospital and follow this with a saline. There are cases in which I employ immediate full doses of Epsom salts or even small doses of croton oil after 1/6 gr. of morphin hypodermically to obviate vomiting. Such measures, I believe, render the frequently required hypnotics less dangerous and more effectual. Such thorough elimination seems to cut short the course and severity of any delirium present and often to prevent the occurrence of a delirium which appears imminent. Further, the use of these hydragogues relieves congestions of cerebrum and other organs and may thereby avoid the incidence of an always dangerous edema of meninges or lungs. I believe the above an important addition to the very helpful measures outlined in The Journal for the treatment of delirium tremens.

C. C. Wholey, Pittsburg.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SERIAL DILUTION OF KOCH'S TUBERCULIN FOR THERAPEUTIC USE

To the Editor:—Please publish the method of serial dilution of Koch's new tuberculin for therapeutic administration; also, some references in the literature. J. J. Zaun, St. Paul, Minn.

Answer.—The dilution should be made with normal salt solution plus 20 per cent. of glycerin.

The original solution constitutes solution No. 0. If 0.1 c.c. of this solution be mixed with 0.9 c.c. of the diluent we get solution No. I; 0.1 c.c. of solution No. I mixed with 0.9 c.c. of diluent gives solution No. II; 0.1 c.c. of solution No. II mixed with 0.9 c.c. of the diluent gives solution No. III. The dose to be administered at first should be so small as not to produce a reaction. It should be gradually increased by using fractions of a cubic centimeter of the solution until 1 c.c. is given at a dose. The transition is then made to the next stronger solution, 0.1 c.c. of which is equivalent to 1 c.c. of the weaker. The increase of dose by advancing by 0.1 c.c. of this stronger solution is usually too abrupt. This is avoided by giving 0.5 c.c. of the weaker solution with 0.1 of the stronger, the dose thus given amounting to 0.15 c.c. of the stronger solution. The doses are thus gradually increased until 1 c.c. of solution No. II is used when the transition is made to No. 1 and finally to No. 0 in the manner described. It is not advisable to make up more than 1 c.c. of tuberculin solution at one time.

The literature of tuberculin therapy is so extensive that it is not practicable to publish references to it.

SODIUM CHLORID IN EPILEPSY, GASTRIC ULCER, ETC.

To the Editor:—Please give me references to articles on the following topics:

1. The effect of the ingestion of sodium chlorid in epileptics.
2. The effect of the ingestion of sodium chlorid in hyperchlorhydria and ulcer of the stomach.
3. The effect of the ingestion of sodium chlorid in dropsy of renal or cardiac origin.
4. The effect of the ingestion of sodium chlorid as causing chronic interstitial nephritis, and incidentally arteriosclerosis, by increasing blood-pressure and inhibiting osmosis through the renal capillaries.

T. I. O'Drain, Philadelphia.

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[1] The details of analysis will be published in the annual report of the chemical laboratory.

Answer.—1. Ceconi, A.: Salt and Uremia, *München. med. Wchnschr.*, March 9, 1909; abstr. in The Journal, April 17, 1909, p. 1301.

Long, E.: Prolonged Treatment of Epilepsy with Bromid and Deprivation of Salt, *Rev. de méd.*, October, 1909; abstr. in The Journal, Dec. 11, 1909, p. 2041.

Ulrich, A.: Salt as Antidote in Bromid Intoxication, *München. med. Wchnschr.*, May 31, 1910.

Le Play, A.: Salt in Treatment of Eclampsia, *Semaine méd.*, Aug. 3, 1910; abstr. in The Journal, Sept. 3, 1910, p. 893.

2. Higgins, H.: Blood-Pressure, Chlorin Retention and Dechlorination, Hyperacidity and Variations in the Starch Ration, *Lancet*, London, April 18, 1908.

Martinet, A.: Salt and the Gastric Secretion, *Presse méd.*, July 1, 1908; abstr. in The Journal, Aug. 8, 1908, p. 537.

Floresco, N.: Action of Salt in Gastric Digestive Disturbances, *Presse méd.*, Jan. 23, 1909; abstr. in The Journal, March 6, 1909, p. 804.

Benezur, G. v.: Influence on Gastric Secretion of Salt Solutions Introduced Into the Intestines, *München. méd. Wchnschr.*, May 11, 1909.

3. Gruner, O.: Influence of Salt on Dropsy in Children. *Jahrb. f. Kinderh.*, lxiv, No. 5; abstr. in The Journal, Jan. 26, 1907, p. 374.

Peabody, G. L.: Salt-Free Diet in Chronic Parenchymatous Nephritis, *Med. Rec.*, March 9, 1907; abstr. in The Journal, March 23, 1907, p. 1062.

Hadfield, C. F.: Treatment of Dropsy by Deprivation of Salt, *Practitioner*, June, 1907.

Martinet, A.: Indications and Restrictions for Deprivation of Salt in Chronic Nephritis, *Presse méd.*, Dec. 11, 1907.

Birnbaum, R.: Elimination of Chlorids During Pregnancy, Especially in the Dropsy of Pregnancy and Albuminuria, *Arch. f. Gynäk.*, 1908, lxxxiii, No. 3.

Cramer, H.: Deprivation of Salt in Pregnancy Dropsy, *München. med. Wchnschr.*, Dec. 31, 1907; abstr. in The Journal, Feb. 1, 1908, p. 412.

Zangemeister, W.: Elimination of Chlorids in Pregnancy, Especially in Pregnancy Nephritis, *Arch. f. Gynäk.*, lxxiv, No. 3; abstr. in The Journal, May 9, 1908, p. 1572.

Gluzinski, L. A.: Elimination of Chlorids in Urine and Kidney Affections, *Wien. klin. Wchnschr.*, April 2, 1908; abstr. in The Journal, May 16, 1908, p. 1660.

Bittorf, A.: Pathology and Metabolism of Water and Salt, *Deutsch. Arch. f. klin. Med.*, xciv, Nos. 1-2; abstr. in The Journal, Oct. 31, 1908, p. 1559.

Jackson, H. C., and Elting, A. W.: Salt Elimination in the Urine of an Individual with General Edema of Obscure Origin, Followed by Cure, *Arch. Int. Med.*, October, 1908.

Mendel, F.: Salt-Poor Diet as a Systematic Method of Treatment, *München. med. Wchnschr.*, March 9, 1909; abstr. in The Journal, April 17, 1909, p. 1301.

Fleischer, M. S., and Loeb, L.: Influence of Addition of Adrenalin to Solutions of Sodium Chlorid and Calcium Chlorid on Production of Urine, Ascites and Intestinal Fluid, *Jour. Exper. Med.*, May, 1909; abstr. in The Journal, June 12, 1909, p. 1956.

Fleischer, M. S., and Loeb, L.: Influence of Myocarditic Lesions on Production of Ascites, Intestinal Fluid and Urine in Animals Infused with Solutions of Sodium Chlorid and Calcium Chlorid, *Jour. Exper. Med.*, May, 1909; abstr. in The Journal, June 12, 1909, p. 1956.

Jaeger, O.: Restriction of Salt in Urinary Disturbances During Pregnancy, *Deutsch. med. Wchnschr.*, Oct. 14, 1909; abstr. in The Journal, Nov. 20, 1909, p. 1784.

Manshardt, C.: Elimination of Salt in Nephritis and Edema of Renal Origin, *Arch. f. Kinderh.*, lii, Nos. 1-3; abstr. in The Journal, Jan. 22, 1910, p. 327.

Alwens, W.: Salt-Poor Diet in Treatment of Tuberculous Ascites, *Therap. d. Gegenw.*, March, 1910; abstr. in The Journal, April 9, 1910, p. 1243.

Strauss, H.: Importance of Salt for Metabolism, *Berl. klin. Wchnschr.*, Dec. 12, 1910.

Leva, J.: The Salt-Poor Diet, *Med. Klinik*, May 15, 1910, p. 93; abstr. in The Journal, July 2, 1910, p. 93.

4. We have no articles whose titles indicate that they treat of this subject.

EPIDEMIC PNEUMONIA—A QUERY FROM INDIA

To the Editor:—As a regular reader and admirer of The Journal, I am particularly struck with the wealth of references which you and your contributors always muster. I shall therefore be most grateful if you will answer, or cause to be answered, the query below; up to date my search for literature bearing on the subject has been most disappointing. Please give me references to literature on epidemic pneumonia, especially as regards its etiology.

C. B., Meerut, U. P., N. India.

Answer.—Pneumonia occurs in epidemic form under various circumstances. The following factors may be noted as contributing to its epidemic character: 1. Unusual virulence of the pneumococcus. 2. Occurrence in connection with another disease of epidemic character, such as influenza, plague, etc. 3. Marked opportunities for conveyance, as in institutions like jails, asylums, etc. 4. Circumstances that lower resistance of a number of people. It is impossible from this distance to say what are the special circumstances which make possible the epidemic of which our correspondent writes, but it is to be hoped that a thorough investigation will be made resulting in a valuable contribution to medical science.

The following references to literature on epidemic pneumonia may be consulted:

Spaet, F.: Epidemic Pneumonia, *München. med. Wchnschr.*, l. No. 39 and 40; abstr. in The Journal, Nov. 14, 1903, p. 1238.

Southgate, L.: Prevalence and Mortality of Epidemic Pneumonia, *Virginia Med. Semi-Month.*, June 10, 1904.

Fink, G. H.: Epidemic of Infectious Pneumonia, Plague, and Influenza in India, *Jour. Trop. Med.*, Oct. 16, 1905.

De Blasi, A.: Epidemic Pneumonia, *Gazz. d. osp.*, xxvii, No. 36; abstr. in The Journal, Aug. 25, 1906, p. 644.

Woldert, A.: Epidemic of Grippe Followed by Pneumonia, *Med. Rec.*, Jan. 5, 1907; abstr. in The Journal, Jan. 19, 1907, p. 261.

Recchi, G.: Epidemic Pneumonia, *Gazz. d. osp.*, xxviii, Nos. 12-18; abstr. in The Journal, July 6, 1907, p. 95.

Fabyan, M.: Epidemic Pneumonia, *Bull. Johns Hopkins Hosp.*, November, 1907; abstr. in The Journal, Dec. 21, 1907, p. 2121.

Oreste, T.: Epidemic Pneumonia, *Gazz. d. osp.*, Oct 11, 1908.

Shuter, R. E.: Epidemic Pneumonia, *Australas. Med. Gaz.*, March, 1909.

Mann, S.: Epidemic Pneumonia, *Virginia Med. Semi-Month.*, Aug. 13, 1909; abstr. in The Journal, Sept. 4, 1909, p. 815.

Powell, A. J.: Pneumonia, *Dublin Jour. Med. Sc.*, March, 1911; abstr. in The Journal, April 1, 1911, p. 1008.

Rondet, H.: Analogies between Epidemic Pneumonia in Institutions and Pneumonic Plague, *Lyon Med.*, April 9, 1911; abstr. in The Journal, June 24, 1911, p. 1908.

STRONGYLOIDES STERCORALIS

To the Editor:—Please outline for me a satisfactory treatment for an enteritis resulting from an infection from *Strongyloides stercoralis*. Thymol has been tried in various methods for a considerable length of time without appreciable results.

F. H. Stibbens, U. S. Navy, San Francisco.

Answer.—The results obtained in the treatment of infection by *Strongyloides stercoralis* have been unsatisfactory for the reason that the parasites burrow into the mucous membrane of the intestines and thus render it difficult for a drug to reach them.. Thymol has been much used, but, while it seems to be as efficient as any drug, it is often of little or no value. In case of failure with thymol, aspidium (male fern) might be used. The administration of glycerin has been recommended by Preti, the patient receiving 50 gm. (1⅔ oz.) of pure glycerin by the mouth and 30 gm. (1 oz.) by the rectum, two hours later. After two days, the procedure is repeated.

STRANGULATED HERNIA WITHOUT VOMITING

To the Editor:—In The Journal, June 24, 1911, page 1882, Dr. Judd reports a case of strangulated hernia without vomiting. I note, however, that his patient was a Chinaman. During my service in China I operated on a man in Peking for a left inguinal strangulated hernia; the tumor was about the size of a quart jar and had been strangulated between twenty-four and thirty hours. This man had not vomited at any time nor had his bowels moved since the strangulation. Operation and recovery were uncomplicated. I saw about two such cases among the Chinese, but have never seen one case in an American in which vomiting did not occur.

This recalls a case I had in Peking. A man, aged 30, came to the hospital for relief. The one thing he needed was to have his stomach unloaded. I gave him 20 grains of zinc sulphate. He lighted his pipe and began to smoke. There were no results. I then gave him, hypodermically, 1/10 grain of apomorphin. He continued to smoke. I tried several vaunted emetics on him. He retained them with complacency. Finally, I washed out his stomach. It needed it badly.

John Inglis, Denver.

The Public Service

Medical Department, U. S. Army

Changes for the week ended Aug. 5, 1911.

Baily, Howard H., captain, detailed for service assigned Major C. R. Reynolds, Medical Corps, as inspector and inspector Ambulance Company, D. C. Militia, Frederick, Md., Aug. 18-27, 1911.

Boehs, Clrarles J., M.R.C., ordered to Fort Porter, N. Y., for temporary duty.

Fisher, Henry C., lieut.-col., left Columbus Barracks, Ohio, en route with recruits to Fort McDowell, Cal.

The following-named officers will proceed at the proper time to the camp of organized militia for duty as inspector instructors of militia and on completion of this duty will return to proper stations.

Wilcox, Charles, lieut.-col., is ordered to Springfield, Ill., August 12 to September 2.

Fuller, Leigh A., major, is ordered to Nevada, Missouri, August 20-27, to Ottumwa, Iowa, August 28 to September 6.

Skinner, George A., major, is ordered to camp near Morristown, Colo., September 12-16.

Van Pool, Gideon McD., major, is ordered to Dixon, Ill., August 12-26.

Van Dusen, James W., major, is ordered to Fort Riley, Kansas, August 7-16.

Grissinger, Jay W., captain, is ordered to Des Moines, Iowa, July 20-29, to Vinton, Iowa, August 7-16, and to Shenandoah, Iowa, August 21-30.

Blanchard, Robert M., captain, is ordered to Sparta, Wis., September 1-30.

Jones, Percy L., captain, is ordered to Wheatland, Wyo., August 13-21.

Owen, Leartus J., captain, is ordered to Elgin, Ill., July 29 to August 26.

Williamson, Llewellyn P., first lieut., is ordered to Jimmie Gulch, Colorado, September 19-23.

Clarke, Howard, first lieut., is ordered to camp near Omaha, Neb., September 27 to October 6.

Buck, Carroll D., major, is granted leave of absence for one month to take effect about August 15.

Norman, Seaton, first lieut., is granted leave of absence for one month and twenty days, to take effect on his relief from duty Fort Leavenworth, Kan.

Halliday, Charles H., M.R.C., is granted leave of absence for two months.

Williamson, Llewellyn P., first lieut., is ordered to Camp Perry, Ohio, to report to executive officer of National Matches for special duty August 12-30, and on completion to return to proper station.

Poust, Luther R., M.R.C., is assigned to permanent duty at Fort Du Pont, Del.

Chilton, Frank N., lieut., left San Antonio, Texas, with Third Field Artillery, en route to Fort Myer, Va.

Darnall, Carl R., major, left Washington, D. C., on one month and ten days' leave.

Dickinson, C. F., M.R.C., left Fort Duchesne, Utah, with troops on practice march.

Walkup, Joseph O., lieut., left San Antonio, Texas, en route to Army General Hospital, Fort Bayard, N. Mex.

Lake, George B., lieut., reported for duty at Fort Sheridan, Ill.

Etter, Harry B., lieut., reported at Camp Fort Bliss, Texas, from duty in field Novia, N. Mex.

Van Kirk, Harry H., M.R.C., is ordered to report to the president of the Army Medical School for duty as a student.

Moncriel, William H., captain, ordered to proceed from Fort Leavenworth to Fort Sheridan, Ill., for duty with troops from latter post at encampment at Port Huron, Mich.

Flynn, Thomas J., lieut., ordered to proceed from Fort Snelling to Fort Brady, Mich., for duty with troops from latter post at Camp Perry, Ohio.

Ingalls, Raymond E., dental surgeon, now at Fort Apache, Arizona, will proceed to Whipple Barracks, Arizona, for temporary duty.

Miller, Edgar W., captain, is granted fourteen days' leave of absence.

Leary, Thomas J., first lieut., is granted leave of absence for three months on his arrival in the United States.

Smith, Allen M., lieut.-col., is relieved from duty at Fort Sam Houston, Texas, when no longer needed at Base Hospital, and will proceed to Fort Snelling, Minn., for duty.

Ragan, Charles A., major, promoted to, with rank from July 14, 1911.

Medical Corps, U. S. Navy

Changes for the week ended Aug. 5, 1911.

Nash, F. S., medical inspector, orders of July 27 revoked.

Bishop, L. W., surgeon, commissioned surgeon from Aug. 24, 1910.

Strine, H. F., surgeon, commissioned surgeon from June 2, 1911.

Elliott, M. S., surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to duty in connection with the *Utah* and to duty on board that vessel when placed in commission.

Huff, E. P., P. A. surgeon, commissioned P. A. surgeon from July 12, 1910.

Schmidt, L. M., P. A. surgeon, commissioned P. A. surgeon from December 28, 1910.

McDowell, R. W., P. A. surgeon. commissioned P. A. surgeon from May 18, 1911.

Whiteside, L. C., and Thomas, G. C., P. A. surgeons, commissioned P. A. surgeons from June 15, 1911.

Brown, E. W., asst.-surg., ordered to duty at Quincy, Mass., in connection with submarines.

Traynor, J. P., surgeon, commissioned surgeon from July 11, 1911.

Gill, J. E., P. A. surgeon, detached from the navy recruiting station, Cleveland, Ohio, and ordered to the *Wabash*.

Parham, J. C., asst.-surg., commissioned asst.-surg. from July 7, 1911.

Shepard, G. W., asst.-surg., ordered to the navy recruiting station, Cleveland, Ohio.

Nohle, H. D., asst.-surg., detached from the *Villalobos* and ordered home to wait orders.

Ledbetter, R. E., surgeon, detached from the bureau of medicine and surgery and ordered to the naval hospital, Washington, D. C.

Dunn, H. A., surgeon, detached from the naval hospital, Washington, D. C., and ordered to duty in connection with fitting out the *Florida* and to duty on board when commissioned.

Rhodes, G. C., P. A. surgeon, detached from the naval hospital, Port Royal, S. C., and ordered to the *South Carolina*.

Bunker, C. W. O., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the navy recruiting station, Los Angeles, Cal.

Hoyt, R. E., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the navy yard, Mare Island, Cal.

Jones, E. L., P. A. surgeon, detached from the navy recruiting station, Dallas, Texas, and ordered to duty on the Asiatic station.

Brown, H. L., P. A. surgeon, detached from the navy recruiting station, Los Angeles, Cal., and granted leave for one month.

Bacon, S., asst.-surg., detached from the *Wheeling* and ordered to command of the naval hospital, Port Royal, S. C.

Riddick, W. J., asst.-surg., detached from *South Carolina* and ordered to the *Wheeling*.

Boland, M., asst.-surg., detached from the naval hospital, Philadelphia, Pa., and ordered to the navy recruiting station, Dallas, Texas.

Sanborn, C. F., acting asst.-surg., ordered to the marine recruiting station, Denver, Colo.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE EVILS OF THE CONTRACT-SYSTEM

Report of the Committee Appointed by the Erie County Medical Society to Investigate Unethical Contract-Practice

(Presented at Regular Meeting, held at Buffalo, N. Y., June 19, 1911)

The committee appointed to investigate contract-work wishes to report the result of its investigation up to date, and the remedy which it deemed proper that this society should adopt in order to eradicate this evil. We found it to be so widespread as to necessitate careful and close analysis, making it impossible for the committee to hand in a complete report at this meeting. From the data which came under our observation, we estimate conservatively that at least 150,000 people in this city alone are securing professional services under unethical contracts. I say that our work is incomplete, made so by the magnitude of the evil and the length of time at our disposal in which to cover it. But in justice to this society, we cannot offer any report without giving a specimen of the despicable, penny-contracts held by many of the physicians of Buffalo. The following section relative to the duties of the physician, taken from the by-laws of an organization known as the Fraternal Order of Eagles, is self-explanatory.

Section 1. It shall be the duty of the Aerie physician to attend, prescribe for, and perform such surgical work as may be necessary, on all members of the aerie in good standing and their respective families, also all visiting members and their families without extra charge, except in cases of confinement and primary venereal or chronic diseases, or disabilities existing at the time the member made application for membership.

There are two other organizations which offer contracts similar to the above that came under our notice. These organizations are known as the Loyal Order of Moose and the Fraternal Order of Orioles. All these organizations exist throughout the country. We found that there are a number of other fraternal insurance organizations which offer contracts of a like nature operating in this city. Among these are the American Order of Foresters, the Order of Red Men, the Maccabees and various other societies with peculiar appellations. We found that certain liability insurance companies have physicians under contract to care for their policy-holders in case of injury. These physicians are paid a miserable pittance, primarily, to cooperate with the insurance companies against the poor unfortunate who unknowingly gets into the web which the greedy, cunning, and malicious spider has so craftily and slyly woven around him. This insectivorous professional cooperates with the liability insurance company at the expense of his innocent and trusting patient to prevent liability. This, in my opinion, is an offense which should be punishable by law.

We found that a number of the large corporations of this city have fostered a movement of their employees to form associations which are supported by regular weekly assessments, primarily for their own benefit, and secondarily for the benefit of their employees. The employee is the actual supporter of this association while the employer receives the greater part of the benefit. By this arrangement the employer undergoes no inconvenience. The association supports itself. It hires a physician not only to care for its members when injured while at work, but also arranges to have the physician care for any of them for any physical disturbance which may arise during the time of the contract. In some cases they have hired the physician at a regular monthly salary to care not only for themselves, but for their families as well. They have had no difficulty in securing the services of a physician to engage in this admirable, lofty, and sublime work. Of course, the corporation sees to it that one friendly to its interests secures the position. It is absolutely necessary for the corporation to secure the services of an "honorable man" to perform the duties of this high office. He must work for the interest of the corporation and against the interests of the employees. Whenever there is an injury to any of the employees, the actual supporters of the physician, he must have the welfare of the corporation at heart, and do his best to prevent litigation. What a fine clock-wheel arrangement this is!—the corporation works its employees, the employees work the doctor, the doctor works the corporation, and they all work one another.

We found that practically the entire Italian male population of Buffalo is entitled to medical services under cheap contract, and that the doctors holding these contracts, in some cases, are caring for the families at cut rates, and a few are giving medicine free of charge. This system has grown from bad to worse. As the field of competition increases, the younger graduates are taking up the work more cheaply than their predecessors. What is the result of this mad competition? The physician has thrown off the dignity of his profession and has stooped to the acceptance of a mere pittance as compensation for his professional services. Of course, the number of patients he must call on is great, and he cannot, therefore, render to each individual the medical attention required, for he must "be up and doing," as he must utilize every minute to the best of his personal advantage. Under such a system there is no incentive to do good work. The people do not realize their danger, and something must be done to educate them to the fact that, far from gaining any salutary advantage, they are committing the greatest folly. The doctors of Italian origin who are holding these contracts realize their mistake, and have given the committee to understand that they would be only too willing to give up their contracts were it not that they fear that some of the American doctors would only too readily take up the work which they should abandon. Such is their plight, and, if these men sacrifice their penurious positions, this society must do all in its power to prevent the niggard and avaricious medicaster from taking their place. Among the Polish population the same system is in vogue, but we are not prepared to state the extent of it in this report.

Another phase of this work was brought to our attention. We learned that a large number of the department stores and other business places have associations which contract with the physician in the same manner. Indeed, this system has become so wide-spread that even a number of the labor organizations have adopted it as "a good thing."

A certain institution which advertises itself as a hospital, engages in wholesale contracts for an infinitesimal amount, to care for its policy-holders, who may be individuals or families, for any illness of any nature whatsoever. This institution has a dispensary where colored solutions under alphabetical labels are dispensed by an undergraduate. We have learned of still another method of securing "the almighty dollar." We learned that a certain Dr. Richardson, whoever he may be, with some twenty others, have prepared a very grandiose and elaborate work which they are handing out at the rate of $10 per copy, and charging $2 extra which entitles the holders of the certificate to free consultation for a period of two years. There is a cooperative plan of procedure between the local representative agent of this erudite organization and a certain leading drug-store which enables them to complete the chain of their depredations most thoroughly. While this very idea smacks of the rankest quackery, yet it is no worse than some of the other cheap contracts held by supposedly regular men. The only difference between them is that one is direct while the other is an indirect mode of procedure.

Another form of contract considered by your committee is one which will tax our efforts to obtain evidence. It was said that some physicians are in the habit of contracting with their patients prior to their illnesses for sums varying from ten to one hundred dollars annually. If such practice is in vogue, it must be most heartily condemned. This gambling game deserves the severest criticism. The physician who practices it is unscrupulous and mercenary. It is an imposition upon society, and, like all other unethical contracts, must be stigmatized with the utmost opprobrium.

We found that each railroad entering Buffalo has its surgeon under annual contract to care for its employees, or any one except a trespasser who may happen to be injured. We do not know the salary paid to these surgeons, but we understand that it is comparatively small for the services required. The action of the committee in attacking the contract-system must not be misunderstood. We do not care whether the physician is overpaid or underpaid. We are attacking it because the principle underlying it all is unethical, unjust, and, in every case, injurious to the profession in general. The surgeon who holds a railroad contract holds it with the proviso that he cooperate with the railroad and work against the interests of the poor unfortunate who happens to come under his charge. This is, of course, a good thing for the railroad, a nice thing for the surgeon, since it nets him a yearly salary, but a very bad thing for the public. We found that, undoubtedly, this particular form of contract is the grandparent of the rest. In justice to our sense of fairness, we could not possibly take any action against the small offenders without attacking these polished violators of the ethical laws who are seemingly responsible for all the others.

We believe that the above covers concisely the whole of the contract-system. The causes of these existing evils were offered by the committee, and are as follows:

1. Lack of knowledge of the ethics of medicine.
2. Professional jealousy.
3. Indifference of the older practitioners.
4. The example set by some of the older practitioners.
5. Overcrowding of the profession.
6. The tolerance of this state of affairs by all medical societies.
7. The commercialism of the age. The professional struggle not only for the almighty dollar but also for the mite(y) cent.
8. The chief cause of all, however, we found to be the complete disorganization of the medical body. This is the phase of the question to which we must give our attention, namely, the disorganization of the medical body.

This evil has been growing insidiously in all its various forms for some time, and has been passed unnoticed by the powers which should have throttled it in its infancy. It may be that the older members of the profession have been swollen with false pride, deeming such considerations beneath their dignity, or it may be that they have had no idea of the extent or character of this pernicious evil. Be that as it may, our investigation has disclosed a state of affairs tolerated or disregarded by the medical fraternity which should never have been permitted to exist. When the true state of affairs was brought to the notice of your committee, some were in favor of adopting extreme measures, but the more conservative element prudently advised the adoption of persuasive measures. The first action of the committee was to send out return postcards to every member of this society. In the short interval of ten days, 225 cards were returned—all save three of which were in favor of this movement. The three cards against it bore no signatures. At the subsequent meeting of the committee, such returns as this showed us that the profession was alive, and, from the remarks on some of the cards, heartily willing to cooperate with the committee. The cards against this movement were without signatures, so that, whatever opposition there is to it, comes from those who have not the courage of their convictions. A second notice was sent to all those members who had not returned the card, reminding them that they had either overlooked or misplaced it, and up to the present date, we have 320 members of this society pledged to support this movement. We are aware of some few men who are opposed to it, but only one of them has had the courage to sign himself against it. The committee charitably refrains from mentioning his name.

In the short time that this committee has had to act, it is sorry to say that it cannot offer a more complete report. Your committee shall not spare its efforts until every man is located who has the audacity to stand for such a system as has been brought to your notice. While almost two-thirds of the members are pledged to this movement, there yet remain about two hundred who have not stated their position, and the committee shall continue its investigation until every member has taken a definite stand. We believe that after every one who has not answered has been interviewed, there will be very few in the opposition. As the committee has been very conservative in the measure it proposes to adopt, it hopes that it will be heartily approved by this society. Many radical suggestions were offered, but, after much deliberation, it resolved to adopt the following:

Resolved, That the proposed amendment, if adopted, shall not apply to present contracts, but shall prohibit any extension or renewal of the same—except by action of the society, at a regular meeting, upon request of the interested physician.

Add a section to Chapter II of the Constitution and By-Laws to be known as section 13, and to read as follows: No one shall become a member of this society or continue as such who engages in contract-work, unless it be governmental in character, but this shall not prohibit an agreement for a particular case nor apply to examinations for an adequate fee.

We further recommend: 1. That the President appoint from time to time at his own discretion, special committees to use their influence on any man who continues this unethical practice whether he be a member of this society or not.

2. That a special committee be appointed to confer with the membership committee to devise ways and means to get all desirable men in this society.

3. We recommend that the proper authorities of this society bring this matter to the attention of the State Society for the purpose of gaining its support.

4. That this society meet more frequently, that its members become more united, and that self-interests be put aside for the common good of all.

We feel that the above resolution, amendment, and recommendations are not too radical. The various faddists, quacks, pseudoscientists, and charlatans are the sins of our neglect. Are we going to commit more sins of omission? The evils dealt with in this report and practiced by the supposedly regular members of the profession should not be tolerated any longer. We must separate the unethical from the ethical practitioner. We must ostracize him as we have the advertising quack. Nay, we must do more. We must use antagonistic measures if persuasion fails to convince him of his error. The methods of antagonizing him have been discussed by the committee, but it is not our purpose to speak of them in this report. We address ourselves so strongly because we feel sure that after all the cards have been returned, there will be very few offenders left. To these men we offer fellowship not only in this society, but, through it, also to the society of the state and nation. The membership of this society consists of practically all the physicians of Erie county. Many of the men who do not belong to this society are those who have graduated in medicine within the last few years, and most of these can be easily induced to become members.

The above is the situation which is now confronting us. It is high time for us to separate the sheep from the goats. If medicine is a profession, if it stands for something more than mere commercialism, if it possesses every quality that is honorable and noble, then we should do nothing to degrade it. We should rather raise it until it has reached the climax of ethics, and its standard has become the highest obtainable. But this can never be accomplished by suffering the contaminating presence of men who engage in degrading work to remain within this or any other medical body. If there be any set of men who wish to continue this debasing practice, let them be separated from those who have enough principle and honor to deem such work beneath the dignity of the medical profession. We therefore recommend that this society use every possible effective measure to bring this about, and purge itself of all those who are unworthy to be regarded as its members. We have not been guided by animosity or actuated by malice in arriving at our conclusion. We have no feeling of resentment toward any man. We have consistently considered big and little offenders alike. We believe in the utmost charity to all, for even your committee has among its members men who are or have been violators. Yet, in justice to our profession, besmeared in the mire of commercialism, we have been compelled to suggest the proposed amendment. With the confidence of honesty, we submit it for your consideration, knowing that the urgency of the situation demands every honorable man's support.

Committee on Contract-Practice,
Edward E. Haley, Chairman.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

Massachusetts: State House, Boston, September 12-14. Sec., Dr. Edwin B. Harvey.

Missouri: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

New York: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

New Jersey June Report

Dr. H. G. Norton, secretary of the New Jersey State Board of Medical Examiners, reports the written examination held at Trenton, June 20-21, 1911. The number of subjects examined in was 9; total number of questions asked, 135; percentage required to pass, 75. The total number of candidates examined was 77, of whom 66 passed and 11 failed. Twenty-one candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Johns Hopkins Univ....(1901) 83.3; (1908) 85.6;	(1910)	81.8
University of Maryland	(1906)	75.
College of Physicians and Surgeons, Baltimore	(1910)	75, 76.3
Woman's Medical College of Baltimore	(1910)	83.1
Harvard University Medical School	(1910)	82.3, 85.3
Long Island College Hospital	(1910)	80.5, 81.1, 83.5
University and Bellevue Hosp. Med. College	(1911)	76.7, 78.2, 83.6
New York Homeopathic Med. College and Hospital	(1910)	79.1
Columbia University, College of Physicians and Surgeons, (1906) 78; (1909) 84.6; (1911) 79.3.		
Albany Medical College	(1911)	81.5
Jefferson Medical College, (1900) 75; (1909) 80.6, 85.7; (1910) 79.2; (1911) 79.5, 80.5.		
University of Pennsylvania. (1896) 82.5; (1902) 85.5; (1909) 77.8; 82.5; (1910) 79.8, 81.1, 83.3, 84.5, 84.6, 84.9; (1911) 76.6, 78.5, 78.7, 82.8, 83.7, 84.5.		
Medico-Chirurgical College of Philadelphia, (1896) 84.9; (1904) 87.3; (1906) 79.6; (1907) 79.2, 81.6; (1908) 75.5; (1909) 78.1; (1911) 76.5, 84, 85.4, 85.7, 86.1.		
Hahnemann Medical College and Hospital, Philadelphia, (1911) 78.5, 79.1, 85.4.		
Woman's Medical College of Pennsylvania	(1911)	81.3
University of Texas	(1911)	85.9
University College of Medicine, Richmond	(1908)	78.2
McGill University, Quebec	(1908)	86.1
Queen's University, Kingston, Ontario	(1901)	80.7
University of Naples, Italy....(1896) 76.5;	(1909)	77.8
University of London, England	(1905)	86.8
University of Berlin, Germany	(1910)	76.3

FAILED

College	Year Grad.	Per Cent.
Kentucky School of Medicine....(1892) 59;	(1906)	65.3
University of Michigan. Dept. of Med. and Surg.	(1880)	66.6
St. Louis College of Physicians and Surgeons	(1906)	73.1
Long Island College Hospital	(1908)	65.
Hahnemann Medical College and Hospital, Philadelphia, (1908) 71.1; (1910) 73.3.		
University Medical College, Richmond	(1910)	72.9
University of Naples, Italy, (1895) 68.8; (1905) 70.4;	(1910)	73.3

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College....(1904)	(1910)	Illinois
University of Louisville	(1908)	Kentucky
Cornell University Medical College....(1903)	(1910)	New York
University and Bellevue Hosp. Med. College	(1909)	New York
New York University Medical College	(1885)	Illinois
Long Island College Hosp...(1899) New York;	(1910)	Maine
New York Homeopathic Medical Coll. and Hosp.	(1897)	New York
Woman's Medical College of Pennsylvania	(1908)	Colorado
Jefferson Medical College	(1906)	Delaware
University of Pennsylvania, (1900) New York; (1906) Delaware; (1908) New Hampshire; (1910) Maine.		
College of Phys. and Surg., London, England	(1910)	Vermont
University of Palermo, Italy	(1906)	New York
University of Geneva, Switzerland	(1896)	New York
University of Naples, Italy	(1898)	Colorado
Owens College, Manchester, England	(1895)	Delaware

The following questions were asked:

ANATOMY

1. Describe the endocardium. 2. Give origin, branches and parts supplied by the musculo-spiral nerve. 3. Name five muscles of the shoulder and arm. Give origin, insertion and action of any *one* of the five. 4. Name the muscles attached to the great trochanter of the femur. 5. What are the functions of the superior mesentery vein? 6. Mention an anastomosis between the portal and systemic veins. 7. Name, locate and describe the largest of the cranial ganglia. 8. What nerves supply the knee-joint? 9. In what respect do the pulmonary differ from other veins? 10. Describe the facial vein. Name its tributaries. 11. Describe the long saphenous vein. 12. What muscles (*a*) elevate, (*b*) depress the os hyoides and the larynx? 13. In fracture of the shaft of the radius near its center, what muscles are involved in displacement of the fragments? 14. Name and describe the different glands of the stomach. 15. In what way do the axillary and deep cervical glands communicate with each other.

HISTOLOGY

1. Give composition of human blood. 2. Mention different leukocytes and derivation of names. 3. What are thrombocytes? 4. Give structure of the mucous membrane of the stomach. 5. What cells line the larynx, trachea, bronchi and bronchioles?

PATHOLOGY

6. Give rôle of white blood-cells in infection. 7. What is hemolysis? 8. Define agglutination. How produced? 9. Define atelectasis; give causes and effects. 10. What will cause and what are the effects of exclusion of bile from the intestines?

BACTERIOLOGY

11. Give chemical composition of bacteria. 12. What are proteid bodies? Name varieties and describe them. 13. What substances must be supplied to bacterial cells for their food? 14. Mention other bacterial functions besides disease production. 15. What are the fermentations of milk? Which are innocuous and which harmful? State effects of pasteurizing and boiling.

PHYSIOLOGY

1. What chemical change is necessary for blood coagulation? 2. Is the alkalinity of the blood increased or diminished by exercise, lactation or digestion, and why? 3. State the normal amount of blood in a man weighing 160 pounds. How is it renewed after hemorrhage? 4. What is absorption, and by what process is it accomplished? 5. What conditions favor, and what conditions retard, absorption? 6. State the origin and function of lymph. Is it coagulable, and why? 7. What tissues and organs are developed respectively from the ectoderm, mesoderm and entoderm? 8. What are the Wolffian bodies, and what becomes of them? 9. Discuss the corpus luteum. Does it indicate pregnancy? Explain. 10. What principal centers are located in the medulla? 11. What are the functions of the brain membranes? 12. Compare the functions of the white and gray matter in the encephalon. 13. Name, *in order of importance*, the organs in which animal heat is developed. 14. What variations of temperature are found in different parts of the body? Why? 15. Can a man live on an exclusively meat diet? Why?

CHEMISTRY

1. (*a*) How does uric acid form in the system? (*b*) Of what are gout stones principally composed? (*c*) What is the solubility of uric acid? 2. (*a*) State the origin of tartaric acid and other tartrates. (*b*) Give chemical formula of cream of tartar. (*c*) Rochelle salt. 3. (*a*) What are fats chemically? (*b*) What becomes of the fats ingested and what is the province of adipose in the body? (*c*) Under what condition does fat occur in the urine? 4. (*a*) What is nitroglycerin? (*b*) How is it used in medicine and what is its effect on the vascular system? 5. (*a*) What is chloral hydrate? (*b*) How does chloral act as a poison? 6. (*a*) What is the difference between ferrous and ferric salts? (*b*) Give examples by formulas. 7. (*a*) What is potassium permanganate? (*b*) Give formulas and its action as a disinfectant. 8. (*a*) Which are the two iodides of mercury? (*b*) Give formulas. (*c*) What is the difference in action of the "ous" and "ic" compounds of Hg? 9. (*a*) Define the term hardness as applied to a potable water? (*b*) What does the presence of an abnormal quantity of chlorides in a drinking water indicate? 10. Name three pigments normally present in human urine. 11. (*a*) Name three univalent elements. (*b*) Name a monobasic, a dibasic, and a tribasic acid radical. 12. (*a*) Give source, symbol, valency and atomic weight of bromin. (*b*) What is acidum hydrobromicum dilutum (U. S. P.). 13. (*a*) What is oxalic acid? (*b*) For what salt is it liable to be mistaken? (*c*) Give treatment for poisoning by oxalic acid. 14. (*a*) What are the principal constituents of cow's milk? (*b*) Give chemical explanation of the souring and curdling of milk. 15. Name the alkaloids of belladonna, aconite, nux vomica and opium.

PRACTICE OF MEDICINE

1. Describe bubonic plague. 2. Differentiate tonic and clonic spasms. 3. Describe the different stages of syphilis. 4. Differentiate cystic and renal hematuria. 5. Give the causes and symptoms of cholelithiasis. 6. Give the causes and symptoms of edema glottidis. 7. Give four physical signs present in consolidation of lung tissue. 8. How would you determine high blood-pressure? What is its significance? 9. What, how much and how often should a four-months-old bottle-fed baby be fed? 10. Differentiate ataxia and aphasia, and give the location of the lesion in each. 11. Where is bronchial breathing heard normally? What does it indicate when heard elsewhere? 12. What is the significance of (1) epithelial; (2) granular; (3) fatty and (4) waxy casts in the urine? 13. Describe the prodromal symptoms, giving the duration of each in (1) scarlet fever; (2) measles, and (3) small-pox. 14. Give three causes for specific gravity of the urine (1) under 1010, and (2) over 1030, and the significance of each. 15. Describe vesicular, papular and pustular inflammation of the skin and name a disease of which each is characteristic.

SURGERY

1. Diagnosis and treatment of perforation of intestine in typhoid fever. 2. Give etiology, diagnosis and treatment of empyema of the frontal sinus. 3. Give symptoms and treatment of ischiorectal abscess. 4. Treatment of compound fracture of tibia and fibula. 5. Describe tertiary syphilis of the pharynx. 6. Diagnosis of embolism of the mesentery. 7. Mention the causes of incontinence of urine. 8. What are the symptoms of cerebral compression? 9. Describe in detail lumbar puncture. 10. Diagnosis and treatment of papilloma of the bladder. 11. Give indications for drainage. 12. Mention the causes and symptoms of stricture of the rectum. 13. Give treatment of tubercular peritonitis. 14. Give diagnosis of lipoma of the neck. 15. Give diagnosis and treatment of aneurysm of the femoral artery.

OBSTETRICS AND GYNECOLOGY

1. What are the characteristics of the female pelvis and how does the male pelvis differ therefrom? 2. Describe the vulva (*a*) of a virgin, (*b*) of a multipara. 3. Describe (1) the process of fecundation, and (2) the uterine changes resultant. 4. Describe pelvimetry and name the five most important measurements. 5. Describe Walcher's posture and its uses. 6. What precaution as to the urine should be employed in the case of a pregnant woman? 7. Differentiate accidental hemorrhage, placenta prævia, postpartum hemorrhage. 8. Describe fully the treatment you would use in postpartum hemorrhage. 9. How should asphyxia neonatorum be managed? 10. Cause, preventative treatment and curative treatment of ophthalmia neonatorum. 11. What causes puerperal infection? How may it be prevented? 12. How do you prepare a patient for an operation which is to involve both the abdominal surface and the vagina? 13. What are the causes of pelvic abscess? Outline treatment. 14. Describe the menopause and name the diseases common to that period of life. 15. Differentiate vaginitis and vaginismus and give treatment of the latter.

MATERIA MEDICA AND THERAPEUTICS

1. What remedies may be used to induce emesis? Give dose of each. 2. Name three mineral acids with therapeutic properties of each. 3. State uses and doses of salol, guiacol and heroin. 4. Give the source and physiological action of opium; name four preparations with adult dose of each. 5. Define alteratives; name five used in medicine with the therapeutic properties of each. 6. Compare the physiological action of aconite and digitalis; give adult dose of each. 7. Describe symptoms of ptomain poisoning; outline the treatment. 8. Differentiate the effects of strychnin, nitroglycerin and strophanthus on the arterial system. 9. Mention three vegetable and three mineral astringents with adult dose of each. 10. Specify the precautions to be used in administering chloroform; give reasons therefor. 11. Diagnosticate uremic poisoning; outline an eliminative treatment. 12. Explain the action and effects of phenacetin; give adult dose. 13. Prescribe in proper form for chronic bronchitis in an adult; explain the action of the ingredients used. (Candidates must not sign name or initials.) 14. Enumerate the official praparations of arsenic; state the dose of each. 15. Give three examples of animal extracts with indications for the use of each.

HYGIENE

1. Define hygiene. 2. What would you advise a person to do that fears pneumonia, rheumatism, nephritis, insomnia? 3. What is absolutely necessary for the maintenance of the healthy functions of the body 4. What is an antiseptic? What is meant by the term disinfection? 5. Name five disinfectants. 6. Why does a heated atmosphere charged with moisture render sunstroke liable? 7. State the time that quarantine should be imposed in (*a*) diphtheria; (*b*) small-pox. 8. What instructions should be given a nurse respecting the prevention of the spread of scarlet fever from the sick room?

MEDICAL JURISPRUDENCE

9. State the difference between criminal and civil malpractice. 10. Name some of the violent causes of death. 11. Give in detail the condition which would warrant the induction of abortion by the practitioner. 12. Define the word "insanity." 13. Name the post-mortem signs external and internal of recent drowning. 14. When is induced abortion lawful and what are the conditions in which it is called for? 15. In a case of suspected infanticide, what are the evidences of live birth?

HOMEOPATHIC MATERIA MEDICA AND THERAPEUTICS

1. Compare arsenic, camphor and ipecac in measles. 2. Compare china, rhus, and bryonia in bilious fever. 3. Compare secale, belladonna, and crocus, in uterine hemorrhage. 4. Compare nitric acid, hepar, and hyoscyamus in cough. 5. Compare phosphorus, arsenic, and antimonium tart., in edema of the lungs. 6. Prescribe for chill and fever, thirst, quick pulse, hot, dry skin, nervous excitement, piercing pains in chest and dry cough. 7. Prescribe for idopathic intercostal neuralgia in anemic subjects, with deranged uterine function. 8. Prescribe for constant thirst, nausea, prostration, burning in stomach, violent belching, vomiting. 9. Prescribe for sick headache from wine, study, sedentary habits, beginning in the morning and increasing all day, worse after eating or from noise. 10. Prescribe for delirium with incoherent muttering, furious, loquacious, small quick pulse, skin cold and clammy. 11. Give treatment for apoplexy. 12. Give treatment for gall-stone colic. 13. Give treatment for mastitis. 14. Give treatment for acute articular rheumatism. 15. Give treatment for earache.

Book Notices

MEDICAL DIAGNOSIS. By W. Mitchell Stevens, M.D., M.R.C.P., Fellow of University College, London. Cloth. Price, 25 shillings net. Pp. 1571, with 177 illustrations. London: H. K. Lewis, 136, Gower St., 1910.

The plan of this book is to give an outline of the symptoms and signs of a disease and then to state under the head of differential diagnosis the other diseases from which, because of close or superficial resemblance, it is to be differentiated. This plan has been consistently carried out and the salient points in medical diagnosis and differential diagnosis are well set forth. It is of value, therefore, to the student who is preparing for examination and who wishes to have these facts in tabular form. It may also prove of service to the physician who, when confronted by a puzzling case, wishes to fortify himself in his tentative diagnosis by excluding other possible confusing diseases. He will here find listed the conditions which might cause error.

There is a lack of consideration of the subject from the standpoint of physiology and pathologic anatomy, which would enable one to see more clearly the reasons for symptoms and signs. The book is too much on the order of the quiz-compend, which has its place, though not a very honorable one. And the same character of the book makes it for the practitioner, while not an unsafe guide, yet one that helps him very little, for it does not make him think and reason enough. Diagnosis should be the result of a logical mental process and not a search through the index to see if perchance the right name may be found.

There are numerous good illustrations. The text is seldom ambiguous; in fact, the sentences, and even paragraphs, are at times little more than lists of symptoms or of diseases. Most of the facts, as stated, are such as one would agree with. In a book of this kind it is inevitable that there should often be omission of what seems to the reader an important symptom—perhaps his pet symptom—or an emphasis laid on what he would regard as a feature of minor importance. But on the whole one can endorse what is said, and the criticism is rather on the plan of the work, as already stated.

HANDBOOK OF DISEASES OF THE EYE. A Text-Book for Students and Practitioners. By Harry Caldwell Parker, M.D., Clinical Professor of Ophthalmology, Indiana University School of Medicine, Indianapolis, Ind. Cloth. Price, $2 net. Pp. 303, with 116 illustrations. Philadelphia: F. A. Davis Co., 1910.

Now that the general practitioner has been urged, in view of the activity of the "doctor of optometry," to inform himself concerning the elements of ophthalmology—and in particular the practice of refraction work so as to be ready to "fit glasses"—one looks with more than ordinary lenience on the multiplication of undergraduate text-books dealing with ophthalmic science. While Parker's manual is no better and no worse than the dozen other compends that are accessible to the student, undergraduate and postgraduate, yet it lacks in the section given over to the determination of the refraction and dismisses in less than thirty pages what might well occupy fifty. Doubtless, this is due to the restricted character of the book; perhaps, after all, the various problems that confront one in "fitting glasses" are not to be solved by reading school-books but by actual practice and instruction in clinics and elsewhere.

Although few of the illustrations are original, they are better than one sees in the average manual of ophthalmic practice. The descriptions of diseases and of operations are, as a rule, lucid and effective.

UNSOUNDNESS OF MIND. By T. S. Clouston, M.D., LL.D., F.R.S.E., Formerly Lecturer on Mental Diseases in the University of Edinburgh. Cloth. Price, $2.50 net. Pp. 360, with 14 illustrations. New York: E. P. Dutton & Co., 1911.

This book was written for the intelligent layman. The author has long been known as England's foremost asylum superintendent, whose writings, especially his clinical lectures on mental diseases, have for many years been considered classic. Having due regard for the difficulties attending the popularization of such an all-embracing subject as that included under the title "Unsoundness of Mind," we think that the author has executed his task most satisfactorily. The book is written in an easy and semipopular style, and the views expressed are in general up to date. In our opinion, not only the layman, but also the busy practitioner, will find something of value in this treatise.

MENTAL MECHANISMS. By William A. White, M.D., Author of "Outlines of Psychiatry," Superintendent Government Hospital for the Insane, Washington, D. C. Nervous and Mental Disease Monograph Series No. 8. Paper. Price, $2. Pp. 151. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

In eight chapters, mostly reprints from medical journals in which each chapter had been published as a complete article, the author gives a real insight into Freudian psychology. The author does not merely show the results of Freud's influence—he is entirely submerged in the mental mechanisms of the latter's psychology. Irrespective of the fact that "Mental Mechanisms" contains the views of only one school, and that the youngest and most vehemently opposed, the book is worth reading. The author possesses the happy faculty of being able to restate his teacher's opinions in a more interesting and entertaining style than the teacher himself could bring to bear on the subject.

Medicolegal

Tracing Cause of Cold

(Crawford vs. Maine Central Railroad (N. H.), 78 Atl. R 1078).

The Supreme Court of New Hampshire holds that where there was evidence that a woman's illness which terminated in her death, was a natural and probable result of the condition created by the railroad company's negligent failure to keep one of its stations properly warmed, it was no defense to say that colds are contagious, and that she might have contracted her cold by exposure to contagion as well as from exposure to the low temperature of the station. The difficulty with that contention in this case was that there was no evidence of exposure to contagion; either that colds of any description were generally prevalent, or that any person with whom the woman had come into contact suffered in that way. The only cold in the evidence was the one she had. Whatever the truth may be as a matter of science, there was competent evidence in the case that colds might be produced by such exposure as befell this woman through the company's failure to properly warm the room provided for waiting passengers. The possibility of other sufficient causes of which there was no evidence did not preclude the jury from ascribing the cold to the cause of which there was evidence, if the connection, in the light of all the evidence, appeared to them sufficiently clear and definite. The possibility that something else might have been the primary cause thereof was not an answer as matter of law. It was for the jury to determine the probable cause on all the evidence. If a person were at the same time exposed to two sources of contagion equally liable to infect him with disease, whether, if so infected, the infection were due to one cause or the other would be mere speculation or conjecture. But, if there were proof of exposure to one source of infection sufficient to cause the disease, the possibility of other sources of infection, without proof of exposure, would not render the conclusion that the disease was due to the known exposure a guess or conjecture. The latter case would present a question of probability for the jury; the former would not. If the cold in question was a "grip cold," solely due to exposure to a germ, and not due to the exposure in the company's station, it was entirely immaterial where it was contracted.

Death During Administration of Chloroform Accidental—Not Within Exceptions to Accident Insurance Contract —"Surgical Treatment"

Beile vs. Travelers' Protective Association (Mo.), 135 S. W. R. 497

The St. Louis Court of Appeals reverses here an order setting aside a verdict for the plaintiff on an accident benefit certificate issued to her husband, who died while chloroform was being administered to him by a physician preparatory to performing a surgical operation on him for fistula, his death occurring after from 20 to 30 drops of the chloroform had fallen on the mask, without having had the knife applied to him and without surgical treatment having been begun, unless administering chloroform was "surgical treatment."

One of the defenses was that the insured did not die by "accident," within the meaning of the contract; but it is held that it was error to hold as a matter of law that the death was not by accident. In order for the dilatation of the heart to have been the natural and probable consequence of the administering of the chloroform, and therefore not an accident, it must have been a result which was expected, or one which ought to have been expected, and this could not be without the insured knew of the defects in his heart and other organs, or they were so apparent to the ordinary powers or means of perception that he ought to have known of them.

Nor does the court consider that it was a defense that the benefit certificate provided that the benefit did not cover injuries "fatal or otherwise, resulting from any poison or infection, or from anything accidentally or otherwise taken, administered, absorbed or inhaled," because the Supreme Court of Missouri has held that "such exceptions do not cover medicine (even though it contain poison) or anything taken or administered in good faith to alleviate physical pain, even though it results in unexpected and unintentional death."

With regard to a special exception of the contract of death caused "wholly or in part by a bodily or mental infirmity or disease," the court thinks this clause meant nothing more than that, in order for the plaintiff to recover, the administering of the chloroform, and not bodily or mental infirmity, must have been the proximate cause of the death.

Lastly, the court is unable to agree with the contention that the death did result from "surgical treatment," within the meaning of another exception of the contract. The court gathers from reading certain definitions that "surgical treatment" means treating a disease or a patient by means of surgery, which in turn means applying manual operations or instrumental appliances to the affected part for the purpose of curing or relieving the bodily disease or ailment. Administering chloroform as was done in this case does not come within any of these definitions or meanings. It was not a manual operation or the application of an instrumental appliance, and was not resorted to as a remedy or for the purpose of curing or relieving the insured's ailment. It was administered as preparatory to the surgical operation; but so might have been his bath, and if he had died in his bath it would not be seriously contended that he died as a result of a surgical treatment. The most that might be claimed for the defendant was that the language of the exception was so vague and general, not identifying the subject-matter, that oral evidence was admissible to identify it, to show just what was comprehended within the term "surgical treatment," and that the jury should have been left to decide the matter as a question of fact. The jury found that "surgical treatment" did not include the administering of chloroform under the circumstances here disclosed, and the court is of the opinion that its finding was in accordance with the usual and ordinary understanding of the term.

Paralysis of Hand is Paralysis of "Either Extremities" and a Permanent and Total Disability

(Brotherhood of Locomotive Firemen and Enginemen vs. Aday (Ark.), 134 S. W. R. 928)

The Supreme Court of Arkansas says that it was contended that if the plaintiff Aday had permanent paralysis of his hand, that it was not "permanent paralysis of either extremities," and that he was not thereby "permanently and totally disabled or incapacitated from performing all manual labor" and entitled to the amount of his beneficiary certificate in the brotherhood. But the extremities of the body are four in number and "either" is one indifferently, any one of them; and the permanent paralysis of a hand resulting from a cut on the arm brought the plaintiff within the meaning of the term "permanent paralysis of either extremities." Moreover, the court can see no difference between the total incapacity of the beneficiary member by the loss of a hand by actual separation and its absolute loss of usefulness by paralysis thereof, and holds that the latter was such a permanent and total disability as was in the contemplation of the parties in the making of this contract. The undisputed testimony showed that his left hand was paralyzed, that the four fingers of it were atrophied or "dead—no feeling in them at all," as he expressed it; that he was unable to grasp anything; that he had very little grip in his thumb, and that his hand was getting worse all the time; and that because of it he was unable to perform, and compelled to retire from, any further railroad service whatever. Two of the three experts employed by the brotherhood to examine him testified that the left hand was paralyzed and the disability permanent, and the other that without an operation it was permanent paralysis; and the proof was undisputed that his condition was such that he could not procure the services of such an eminent specialist as would be able to perform the operation that might result in preventing the disability from continuing permanent. There was no conflict in this testimony. It was undisputed that his left hand was permanently paralyzed, unless, as one expert thought, it might possibly be cured by an operation by such an eminent specialist as the undisputed testimony showed he had no means to employ. Under such circumstances, there was no question for the jury, and the court did not err in directing a verdict in favor of the plaintiff.

Society Proceedings

COMING MEETINGS

American Electro-Therapeutic Association, Philadelphia, Sept. 6-7.
Medical Society of the Missouri Valley, Omaha, Neb., Sept. 7-8.
Washington State Medical Association, Spokane, Sept. 5-7.
Wyoming State Medical Society, Thermopolis, Sept. 4-5.

AMERICAN OPHTHALMOLOGICAL SOCIETY

Forty-Seventh Annual Meeting, held at New London, Conn., July 11-12, 1911

The President, DR. E. GRUENING, New York City, in the Chair

Officers Elected

The officers elected were named in THE JOURNAL, August 5, p. 490. The society will meet next year June 11-12, probably at Hot Springs, Va.

Four Cases of Acute Disseminated Myelitis, with Retrobulbar Degeneration of the Optic Nerves

DR. WARD A. HOLDEN, New York City: All these patients (adults) had sensory disturbances in the trunk and limbs, and more or less complete paraplegia. These conditions continue to the present time in two patients, while the other two are dead of respiratory paralysis. The fields of vision in the three cases in which they could be determined were peculiar. In one there was excessive eccentric contraction of the field with fair central vision, and in two there was hemianopia for certain test objects in one eye alone. No autopsy material was obtained other than a portion of the cervical cord in two cases. Photomicrographs of sections of these cords show characteristic foci of degeneration, and also the arteries, with cellular infiltration about them, running from the uninfiltrated pial sheath to the areas of softening.

A Case of Periodic Fugacious Episcleritis

DR. ALBERT C. SNELL, Rochester, N. Y.: A woman, 42 years old, had recurring superficial episcleritis at each menstrual epoch. There was a history of attacks extending over a period of five years and still recurring. The season does not appear to have anything to do with the occurrence of attacks.

Serum Treatment of Sympathetic Ophthalmia

DRS. GEORGE S. DERBY, Boston, and H. N. PRATT, Louisville, Ky.: The patient developed severe uveitis of the right eye following injury to the left. There was no improvement under inunctions and massive doses of salicylate. The injection of serum from a patient recovering from sympathetic disease was followed by marked improvement. A subsequent recurrence necessitated further injections of serum at intervals during eight weeks. The patient was discharged with useful vision. The same procedure was attempted in several other cases with different serums but without marked results.

DISCUSSION

DR. R. N. RANDOLPH, Baltimore: It really looks as if we had in this serum a powerful remedy for sympathetic ophthalmia, but the difficulty that exists in getting the serum makes it doubtful whether we are justified in changing our attitude toward injured eyes. There are more cases of this disease reported than there used to be and I think that this is largely due to the existence of a more venturesome spirit in treating diseased corneas by means of salicylate of soda. In the cases of children, particularly, I believe that we should take no risk.

DR. J. H. CLAIBORNE, New York City: Six or eight years ago Dr. E. B. Coburn and I pursued a number of investigations along these lines. The results of these experiments were absolutely negative. Our conclusion was that one cannot influence in rabbits a sympathetic ophthalmia by the injection of a corresponding serum into the venous system.

Dystrophia Epithelialis Corneæ (Fuchs); Report of a Case

DR. ARNOLD KNAPP, New York City: My patient was a woman, aged 81, who, after a successful cataract operation, without signs of inflammation or glaucoma, developed these curious corneal changes. The other eye was operated on twelve years ago and presents similar, but more pronounced, changes in the cornea.

A Protest Against the Indiscriminate Use of the Organic Compounds of Silver in Ophthalmic Practice

Dr. Samuel Theobald, Baltimore: These compounds are unquestionably more liable to produce conjunctival argyria than is silver nitrate. Before their introduction, this was a rare condition, being practically never seen except in old cases of trachoma. Now it is relatively common. For this reason, they should not be used when other remedies are really efficacious. An observance of this rule would very nearly limit their employment to gonorrheal and trachomatous conjunctivitis. Especially are they contra-indicated in catarrhal conjunctivitis, in which they are now so generally prescribed, because in a collyrium of zinc sulphate and boric acid we have a remedy that is more surely and promptly efficacious.

DISCUSSION

Dr. Lucien Howe, Buffalo, N. Y.: A very excellent report on this subject was made by a committee of the Section of Ophthalmology of the British Medical Association. It contained the statement that the proportions of silver in these compounds vary greatly. If they are as efficacious as some think, this is evidently not due to the amount of silver that they contain. Before adding to the amount of advertising that we have given to various proprietary compounds, it would be well for us to examine our records to see whether we do get the results that we think we get from them and whether we could not obtain as good results from some other remedies that we have known of for a long time.

Dr. Alexander Duane, New York City: The only antiseptic that has a practical value in the limits of time that a solution in the eye can act is nitrate of silver. Therefore, we are thrown back on detergent solutions. In this capacity some of the silver compounds have an important value.

Dr. Walter B. Johnson, Paterson, N. J.: In employing nitrate of silver, one knows the strength of the solution in each instance, and there is very little danger of argyrosis. These proprietary medicines are not what we have been led to believe they are.

Excision of the Tarsus and Conjunctiva (Heisrath) in Old Trachoma

Dr. J. H. Claiborne, New York City: Expression has been considered as indicated for trachoma in the florid stage and for trachoma that is marked by cicatrization with abundant granulation. In the latter stages of the disease, however, the results of expression are disappointing. In the first patient, the result of the more radical procedure in both eyes was an entire cure. The result was the same in other cases. I consider this operation indicated in all cases of trachoma in which cicatrization has commenced, and in which pannus and keratitis are present. It should be done, however, only as a last resort. In cases in which expression will answer, this should be employed. My experience convinces me that the tarsal cartilage in a cicatricial state is the cause of all our woe in old trachoma. In the operation as performed by me, the hands of the operating surgeon alone are around the eye. The clamp used is the result of a number of experiments. The operation is practically bloodless, and can be done in from ten to fifteen minutes, thus differing from other methods.

A Case of Ring Sarcoma of the Ciliary Body

Dr. A. N. Alling, New Haven, Conn.: The region of the ciliary body was occupied by a flat, black, slightly prominent mass, which in part involved the iris, and at several points extended through the sclera, forming irregularly rounded prominences on the anterior surface. The growth was a sarcoma, composed of large endothelium-like cells and spindle cells.

DISCUSSION

Dr. E. Fuchs, Vienna, Austria: I have seen four cases of ring sarcoma, in all of which the eye showed merely a swollen condition and a changed color. It is often impossible to make the diagnosis of sarcoma in these cases, because one finds the eye too intensely fixed.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Philippine Journal of Science, Manila

April

1 *Action of Tropical Sun on Men and Animals. H. Aron.
2 *Eradication of Beriberi From the Philippine (Native) Scouts by Means of a Simple Change in Their Dietary. W. P. Chamberlain.
3 *Case of Dysentery Caused by Balantidium Coli with Coincident Filarial Infarction of the Spleen. F. B. Bowman.
4 Some Observations on So-Called Flagellates, Ciliates and Other Protozoa Encountered in Water and in Human Stools. E. H. Ruediger.

1. **Action of Tropical Sun.**—Experimental research by Aron showed that under climatic conditions, even during the cooler seasons of the year in Manila, animals, such as rabbits and monkeys, which by nature have only a limited power of physical heat regulation, or animals the physical heat regulation of which is artificially inhibited (tracheotomized dogs) die if exposed to the sun, the body temperature rising to febrile heights. If the same animals are protected from the rays of the sun, or if the increase of heat due to radiation from the sun is compensated by an increased loss such as would be brought about by a strong wind, then the animals suffer no discomfort. Insolation of the skull alone is without effect if the body temperature is kept within normal limits. The postmortem findings on the animals dying as a result of insolation show decided hemorrhagic lesions of the meninges in the brain, and in monkeys, in the heart. In animals without sweat glands the subcutaneous tissues are heated by the radiated heat from the sun to temperatures above those compatible with life. The human skin if exposed to the sun is warmed to about 3 to 4 C. above the normal skin temperature. An increase, even to the normal body temperature, is prevented by evaporation of sweat. The cooling effect of the sweat secretion causes a fall of the skin temperature even if insolation is continued during longer periods. The brown skin of Malays, while theoretically absorbing more heat in the sun, shows a smaller rise in temperature in the tropical sun than the skin of white men under similar conditions. As an explanation, it is believed that an earlier and better water evaporation by sweat secretion takes place. The air in the human hair, especially in black hair, under the influence of the tropical sun acquires temperatures far above those compatible with life. It was demonstrated by Aron that in the tropical sun a man witn a colored skin is in a better position as regards heat regulation than is a man with a white skin.

2. **Eradication of Beriberi.**—The real factors in the eradication of beriberi from the Scout organizations have been a reduction in the amount of rice consumed and the addition of a legumen. The result was accomplished without the use of undermilled rice.

3. **Dysentery Caused by Balantidium Coli.**—During the past three years Bowman has seen ten cases of infection with *Balantidium coli*. Two of the ten cases terminated fatally, but the others have had no symptoms other than an occasional diarrhea. Even in the severe infections, the diarrhea was more or less intermittent in character, the parasites being found in the feces only during these attacks. This phenomenon is explained by Bowman in the following manner: The organisms, moving along in the submucosa, become so numerous as sometimes to form "nests" from which low inflammations develop, and which, proceeding to ulceration, cause erosion of the mucosa and set free the balantidia. At this time the organisms are found in the feces. In some areas the blood-vessels appear practically to be occluded by the number of balantidia present and this fact in itself is sufficient to initiate an inflammatory process by lowering the tissue resistance.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

July 15

5 German Measles, Measles Proper, and Scarlet Fever: The Official View. H. W. Hill, Minneapolis.

New Orleans Medical and Surgical Journal

August

6 *Surgical Treatment of Amebiasis. W. Seaman, U. S. Navy.
7 Public Health Problems Concerned in Amebiasis. J. A. White, New Orleans.
8 Lipomatosis of the Knee-Joint. P. A. McIlhenny, New Orleans.
9 Hypertrophy of Prostate: Its Surgical Treatment. C. W. Allen, New Orleans.
10 Infantile Diarrhea, Fermental Diarrhea; Causes, Symptoms and Treatment. J. W. Gregory, Texas.
11 Onion for Dropsy. E. M. Dupaquier, New Orleans.
12 Tympanotomy, Its Indications and Technic. H. Dupuy, New Orleans.

6. **Surgical Treatment of Amebiasis.**—The surgical treatment of intestinal amebiasis is advocated by Seaman. It is simple, free from danger and not beyond the skill of a surgeon of reasonable ability. It should, therefore, be maturely considered whenever a fair trial of other procedures has lead to no improvement of the patient's condition. Medical treatment and intestinal lavage *per vias naturales* is often unproductive of benefit.

New Mexico Medical Journal, Las Cruces

July

13 Glioma of the Retina. J. G. Holmes, Alamogordo.
14 Diagnostic Significance of Blood-Pressure Estimations. C. F. Beeson, Roswell.
15 Diet in Tuberculosis. L. S. Peters, Silver City.

American Journal of Medical Sciences, Philadelphia

August

16 *So-Called Larval Hyperacidity. J. Friedenwald, Baltimore.
17 *Amyotonia Congenita; Clinical and Pathologic Study. J. P. C. Griffith and W. G. Spiller, Philadelphia.
18 *Toxic Actions of Digitalis on Heart. H. C. Bailey, New York.
19 *Pathologic and Experimental Data Derived From Study of Acute Infectious Disease of Unknown Origin. N. E. Brill, New York.
20 *Intramuscular and Intravenous Injections of Antimony in Trypanosomiasis. C. N. B. Camac, New York.
21 Maculocerebral Degeneration (Familial). E. L. Oatman, New York.
22 Dystocia Due to Ventrosuspension of Uterus; Fetal Death; Cesarean Section. W. R. Nicholson, Philadelphia.
23 *Use of Ascitic Fluid for Nutritive and Other Purposes with Therapeutic Indications. H. S. Carter, New York.
24 Leukocytes in Early or Pre-Agglutination Diagnosis of Typhoid and Paratyphoid. J. F. Hultgen, Chicago.

16. **Larval Hyperacidity.**—Friedenwald's observations with this condition extend over a series of six cases. Of these, there are four males and two females. The ages vary between 26 and 58 years. The symptoms are largely those of a neurasthenia, evincing at the same time special manifestations of hyperchlorhydria, consisting of pain and pressure in the region of the stomach one hour after meals, and extending over a period of from one to one and one-half hours, and usually relieved at the end of this time, or at any time, by the ingestion of food. Acid eructations, nausea and occasionally vomiting of acid material are most prominent. The appetite is usually increased, though on account of the pain induced by the ingestion of food there is usually fear of eating. In not one of Friedenwald's cases could an epigastric painful area be detected, and occult blood was always absent in both gastric contents and in the stools. In all instances general nervous symptoms were manifested, as headaches, insomnia, lassitude, irritability and depression, with periods of discomfort alternating with accountable periods of well-being, the periods of discomfort often being induced by nervous influences, such as shock or anxiety. The quantity of gastric contents obtained is always large, varying between 214 and 368 c.c., always a most significant feature of this condition. The appearance of the contents is also characteristic, consisting largely of a watery secretion containing but little sediment. On standing, two layers are formed—a lower, slight in amount, but with solid sediment, and above a clear layer, larger in quantity. After centrifugalization the amount of solid sediment in proportion to the total sediment is constantly under 22 per cent., while the fluid content ranges as high as 90 per cent. Under normal conditions the amount of the solid sediment is as 40 to 60 to the total sediment; the variation from the normal is an additional evidence, therefore, of the presence of larval hyperacidity. The specific gravity of the gastric secretion varies between 1010 and 1014, reduced from the normal of between 1015 and 1020. The total acidity as well as the percentage of free hydrochloric acid is always normal, the former varying between 38 and 56, the latter between 30 and 44, though in the earlier period of digestion a high total acidity as well as a marked hyperchlorhydria is always manifested. The amidulin reaction is present in all instances. Numerous examinations were made on all the patients.

The treatment of the condition should be largely directed toward the management of the nervous system. In emaciated individuals the best results are obtained by means of a systematic rest-cure treatment. The diet should consist largely of three meals a day, together with intermediate feedings of liquid food. The dietary should contain an excess of proteids and fats, and but a moderate quantity of carbohydrates. Of the various proteid foods, milk, eggs and fish are to be preferred. Fats have a tendency to decrease the gastric hyperacidity, and are to be recommended. Of these, butter, cream and olive oil are especially useful. The carbohydrates are only permissible in the most digestible forms, and vegetables should be mashed and strained and taken in the puree form, free of all cellulose. Water is usually well borne, and may be administered in large quantities with benefit. All acid food, as well as stimulants, should be avoided. The alkalies, together with belladonna, are of great service in the treatment of this disorder. Good results are usually obtained from the use of hydropathic measures, as well as from massage.

17. **Amyotonia Congenita.**—From a review of the few cases yet reported with necropsy, the authors conclude that in the lighter cases the alteration may be confined to the muscles, and possibly, therefore, the disease is primarily muscular, but this inference is not fully warranted. In the intense cases the nervous system is affected in marked degree. The relations to muscular dystrophy are as yet undetermined. The points of resemblance to both these diseases cannot be ignored.

18. **Toxic Actions of Digitalis.**—The observations on which Bailey's paper is based were made on ninety patients under treatment with digitalis or digitalis bodies. The administration of the digitalis to these patients was conducted with great care, and improvement in the character and condition of the pulse, with relief from the symptoms, was the accepted indication for either stopping the drug or reducing the dosage. About 25 per cent. of the patients showed some form of toxic action. These observations were made during the course of another research, and many of them do not cover the entire period of the toxic action. Bailey says that the toxic effects of digitalis and related bodies may be divided into three periods with regard to their occurrence and severity. These toxic symptoms may usually be discovered in their earliest stages by careful and frequent sphygmographic observations. (1) Period of vagus stimulation; (2) period of depression of conductivity with masked vagus action; (3) period of marked muscular irritability with depression of contractility. Digitalis heart-block may be differentiated from ordinary heart-block and from vagus influence as a causative factor. Muscular irritability may be the first symptom observed, the other stages being short in duration and easily overlooked. Irritability from digitalis must be differentiated from the progress of the disease by careful observations of the different functions as evidenced by combined tracings. With therapeutic doses the rise of blood-pressure due to vasoconstriction is so slight that it may be disregarded, but with toxic doses it becomes of extreme importance. Cumulation occurs with digitalis and may last for a considerable period. Vomiting is probably a central effect of digitalis and is a sign that absorption is occurring. Pulsus alternans may be relieved by digitalis in some cases.

19. **Acute Infectious Disease of Unknown Origin.**—To supplement the clinical study of an acute infectious disease of unknown origin, which was published in the *American Journal Medical Sciences* for April, 1910, and abstracted in THE JOURNAL, April 30, 1910, p. 1476, Brill records his observation of a fatal case of the disease. This case opened the way to supply the lacking necessary pathologic data which would carry the study nearer completion, and at the same time to furnish additional evidence that the disease has no relationship with any of the typhoidal group infections. A solution

of the mystery, of what the disease really is, is no nearer completion than before. From this report the conclusions may be reached that the organs showed congestion and general parenchymatous degeneration such as would obtain in any intense infectious disease. It is noteworthy, in consideration of the fact that many believe this disease to belong to the typhoidal group infections, that the intestines showed none of the lesions which are characteristic of typhoid. The presence of *Staphylococcus albus* and *S. citreus* and unidentified bacilli, Brill believes, were most probably due to agonal or post-mortem invasion, and were non-pathogenic. The appearance of the patient on the last day of her illness was the clinical picture of coma, petechial eruption, carphology, paralysis of the sphincters and the rapid elimination of the heart action.

20. Abstracted in The Journal, August 12, 1911, p. 591.

23. **Ascitic Fluid for Nutritive and Therapeutic Purposes.**—The ascitic fluid used by Carter in these experiments was obtained from patients with cirrhosis of the liver, free from toxemia of any kind. The nitrogen content should be determined, as this is found to vary within fairly wide limits, 0.17 per cent. to 1 per cent. of nitrogen or more (blood-serum contains about 1 per cent. of nitrogen), and first tappings are apt to be higher in nitrogen content than subsequent ones from the same case. A few important points have been suggested by Carter's experiments on two dogs. In both instances the dogs remained well throughout the experiment, and showed no evidences of serum sickness, except when on large amounts of serum they were occasionally a little less lively, when also a transient edema about the site of injection might occasionally be seen for a few hours; this was, however, an exception. Carter says that it is apparently not advisable to attempt to give the full protein requirement by hypodermic, particularly if the nitrogen content of the fluid is low, as it necessitates injecting excessive volumes of serum, and under such circumstances a considerable portion of the liquid may be retained in the tissues as edema, and the urine temporarily decreased in amount, thus interfering, for a time, with the necessary elimination of toxins in an infection. While apparently the excessive volumes do not cause a true nephritis, it is, nevertheless, a serious matter to hamper the filtration power of the kidneys. This does not take place when moderate amounts are given for short periods. It is quite essential to give a fair amount of extra water to the system during the use of the hypodermic method, either by the mouth, rectum or hypodermically. It is best to begin with a single moderate dose and gradually increase to two doses daily, twelve hours apart, the actual amount depending on the nitrogen content of the fluid.

Judging from a limited clinical experience, Carter is led to believe that probably one or two doses only may be required to bridge over a desperate period. Probably also the daily dosage should not exceed 10 c.c. to 15 c.c. per kilo, depending on the nitrogen content. For any possible stimulating effect on growth (as in marasmus) the dose should be small, perhaps 2 to 10 c.c. per day. The theoretical indications for its use are suggested as follows: 1. In any condition in which there is need of protein which the organism cannot make use of when given in the ordinary way as food, but probably only for a short time. 2. In conditions in which the tissues are, so to speak, dried out; the percentage of fluid in the organs being lowered, as in intractable vomiting, diarrhea (acute), gastro-enteritis, in children especially, cholera, etc. 3. When the organism is being overdone by an infection for which we have not a specific antitoxin. 4. When for some reason the growth of the body is interfered with by unknown causes, as in marasmus. 5. In blood conditions, such as hemophilia, hemorrhage, melena neonatorum, where the hypodermic use of normal human serum has already been shown to be valuable, with the added advantage that ascitic fluid is easily obtained in large quantities.

In order to demonstrate any possible usefulness of ascitic fluid as a food when given by the hypodermic route, a series of nine children (eight suffering from the most extreme grade of acute gastro-enteritis or enterocolitis, and one from bronchopneumonia and enteritis) were treated by this method. It was thought best to use it only in patients who had been treated unsuccessfully by the usual methods, and which, consequently, were in the terminal stages of the disease, in order that the test should be the most severe; so too that any improvement might, perhaps, fairly and justly be attributed to the treatment under trial. The plan adopted was to give one injection and to watch the results, stopping at that point if definite improvement was shown. When the improvement was not so marked, repeated doses were given daily in increasing amounts. The nitrogen content of the fluids used varied from 0.34 to 0.4 per cent. nitrogen. Of the nine patients treated, two recovered absolutely, and one showed almost immediate improvement, which lasted for a week, at the end of which the child died, although the improvement had been continuous up to the day of death and the patient actually gaining in weight. No discoverable cause of death was found post mortem, although the autopsy was not done by an expert pathologist. In all three cases the action of the ascitic fluid was apparently perfectly definite, and showed itself within a few hours of the time of injection. Even allowing that only two patients were helped, a percentage of 22 per cent. possibly cured in the face of such desperate conditions as existed in all these cases makes it at least worth further investigation.

American Medicine, New York

July

25 Kathareuousa and Scientific Medical Nomenclature. A. Rose, New York.
26 Artificially Cooled Hospitals. C. E. Woodruff, Manila, P. I.
27 Laboratory Investigations of Antiseptics and Germicides. N. Sulzberger, New York.
28 Therapeutic Nihilism. O. L. Mulot, Brooklyn, N. Y.
29 Arsenic. J. J. Sheridan, New York.
30 Capsules That Do Not Dissolve in the Stomach and Consequently Prevent Gastric Disturbance. E. G. Ballenger, Atlanta, Ga.
31 Fatal Gunshot Injury of Abdomen. H. Crutcher, Roswell, N. Mex.
32 Rectal Polypi in Children. M. L. Bodkin, Brooklyn.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

July

33 *Bromatotherapy. H. W. Wiley, Washington, D. C.
34 *Treatment of Chronic Universal Perihepatitis. R. W. Wilcox, New York.
35 *Physician and Infant Mortality. S. W. Newmayer, Philadelphia.
36 Surgical Diseases of the Stomach. L. J. Hammond, Philadelphia.
37 Delusion of the Tonic and Stimulant Effects of Alcohol. T. D. Crothers, Hartford, Conn.
38 Pen Palsy and Other Occupation Cramp Neuroses: Their Successful Treatment Made Possible by Psychoanalytic Measures Followed by Reeducation. T. A. Williams, Washington, D. C.
39 *Action of Animal Extracts on Bladder. I. Ott and J. C. Scott, Philadelphia.

33. Abstracted in The Journal, June 3, 1911, p. 1676.

34. **Treatment of Chronic Universal Perihepatitis.**—After considerable study, and more experimentation, it was found that antipyrin salicylate, in 10-grain doses, given every two to four hours, would relieve the symptoms and limit the duration of the exacerbations to a very few days or sometimes hours. Usually at the expiration of thirty hours the patient regains his normal condition.

35. **Physician and Infant Mortality.**—To remove from an annual loss of 150,000 deaths in the United States among infants under 1 year those deaths which are preventable, Newmayer says, requires the state and municipal authorities to educate the poor in the proper care of infants and the hospitals furnishing sufficient and intelligent medical and nursing care of the sick infant. There is also required of the medical profession a similar responsibility to those who can afford to pay for and need such medical service.

39. **Action of Animal Extracts on Bladder.**—In the experiments conducted by Ott and Scott on the exposed bladder of forty-five cats it was observed that thyroid extract produced strong contractions of the bladder, with the pelvic nerves intact. Prostate (¼ to 1 grain) increased the contractions of the bladder and also augmented their frequency. Parathyroid (½ grain) increased the tonus and height of contractions of the bladder. Epinephrin relaxed the bladder. Mammary gland (½ to 1 grain) had no action on the bladder. Pancreas (1 to 2 grains) produced strong contractions of the

bladder; in one case it caused a tetanic contraction four days after section of the nervi pelvici. Ovary (½ grain) increased the contractions of the bladder to a slight extent. Orchitic extract increased the contractions. Parotid (1 grain) considerably increased the extent and frequency of the contractions. Thymus (½ grain) increased the extent of the contractions. Brain extract increased the extent of the contractions.

Old Dominion Journal of Medicine and Surgery, Richmond

July

40 Comparison of Some Diseases Transmitted by Blood-Sucking Insects. W. McCaw, Washington, D. C.
41 Modern Management of Pneumonia. S. Baruch, New York.
42 Function of Government in Relation to Public Health. R. E. Byrd.
43 Dangerous Surgeons. W. K. McCoy, Gum Springs, Va.

Pennsylvania Medical Journal, Athens

July

44 *Typhoid in Pennsylvania—Past, Present and Future. S. G. Dixon and B. F. Royer, Harrisburg.
45 Can the County Society Help Members to be Better Business Men and How? F. E. Ross, Erie.
46 What is Needed to Make Non-Members Desirous of Joining County Medical Society. J. P. Strickler, Scottdale.
47 Dead-Beat List, Its Importance, and How We Established One in Lawrence County. W. A. Womer, New Castle.
48 *Spina Bifida and Its Surgical Treatment with Description of an Efficient Osteoplastic Operation. W. W. Babcock, Philadelphia.
49 Clinical Diagnosis of Laryngeal Neoplasms. C. P. Grayson, Philadelphia.
50 Histologic Diagnosis of Laryngeal Neoplasms. D. B. Kyle, Philadelphia.
51 Systemic Tests in Cases of Laryngeal Neoplasms. J. W. Boyce, Pittsburg.
52 *Gall-Bladder Dyspepsia. J. A. Lichty, Pittsburg.
53 *Gastric Manifestations of Nongastric Disease. C. R. Jones, Pittsburg.
54 *Diagnosis and Treatment of Chronic Constipation of Colonic Origin. J. Daland, Philadelphia.
55 Dysuria Due to Hyperacidity of the Urine. H. D. Jump, Philadelphia.
56 Surgical Treatment of Hyperthyroidism. J. D. Singley, Pittsburg.
57 Dr. Beaumont's Experiments on St. Martin. T. L. Hazzard, Pittsburg.
58 Early Operation for Psoas Abscesses. J. K. Young, Philadelphia.

44, 52, 53 and 54. Abstracted in The Journal, Oct. 29, 1910, p. 1580.

48. **Surgical Treatment of Spina Bifida.**—In the operation employed successfully in four cases by Babcock the edge of the dura where it blends with the inner surface of the lamina is incised on either side and stripped from the bony canal for the entire distance of the defect. The dura is then sutured over the cord by a continuous fine chromicized catgut suture, thus restoring the dural canal. The margins of the bony canal are freely exposed and with a pair of Satterlee's bone forceps the laminæ are divided the entire length of the defect. This is repeated on the opposite side, forming two ribbons of bone and fibrous tissue, each consisting of a chain of imperfect spinous processes and laminæ, having attachments above and below. These bony bridges are then united to the median line by sutures of chromicized catgut, thus restoring the bony canal and the position of the rudimentary spinous processes. A knife is then passed through the erectorspinæ group of muscles, splitting off on either side a broad strip of muscle with its overlying aponeurosis. This likewise is left attached above and below and these two musculo-aponeurotic bridges are slid to the median line reinforcing the bony canal. Thus there is placed immediately over the cleft a solid mass of firm tissue.

Journal of Michigan State Medical Society, Battle Creek

August

59 Surgery of the Pancreas. H. E. Lewis, Chicago.
60 Early Recognition and Treatment of Hyperthyroidism. F. Y. Cronk, Kalamazoo.
61 Two Types of Gastric Surgery. S. C. Graves, Grand Rapids.
62 Practical Value of the Psychoanalytic Method in the Treatment of the Neuroses. T. Klingmann, Ann Arbor.
63 Problems in Infant Mortality. F. Duffield, Detroit.

Boston Medical and Surgical Journal

July 27

64 Stiff and Painful Shoulders as Explained by Subacromial Bursitis and Partial Rupture of the Tendon of the Supraspinatus. E. A. Codman.
65 Experimental Pneumectomy. W. C. Quinby and G. W. Morse, Boston.
66 *Interlobar Pulmonary Exudates. A. K. Stone, Boston.
67 *Hemolytic Skin Reaction in Carcinoma. E. H. Risley, Boston.
68 *Chemical and Microscopic Findings with Reference to Gastro-Intestinal Tract in Pernicious Anemia. A. E. Austin, Boston.
69 Diagnosis and Treatment of Breast Abscess. W. P. Coues, Boston.

66. **Interlobar Exudates.**—The signs of an encapsulated interlobar exudate of considerable size as enumerated by Stone are: A zone of dulness, more or less high pitched and tympanitic in character, with presence of bronchovesicular breathing over the dull area, often accompanied with friction sounds, if the condition is acute; below the dull zone the resonance and respiratory sounds are more nearly normal; on the left the tympanitic area of the stomach (Traube's space) is retained and on full inspiration the more normal area below the zone of dulness increases in size; the dull triangle, the paravertebral triangle, in the opposite thoracic cavity is not present as is usual in large, free exudates. If the exudate is on the right side, the heart is apt to be extremely displaced to the left (A. Fraenkel); if on the left, the displacement is not so marked as with free fluid (Stone); the radiograph will show a shadow extending from the apex of the heart towards the head of the humerus, or from the sternal junction of the fourth rib on the right outward to the head of the humerus; the fluoroscope will show the same shadow band and also the diaphragm in motion.

If the exudates are serous, they can entirely disappear, as can other serous exudates in the chest or abdominal cavity. The small interlobar exudates which come to clinical notice are practically all purulent. After severe pleuritis usually accompanying a pneumonia, small encapsulated collections of fluid are left in depressions along the sulci between the lobes. These are frequently infected with the offending organism and become purulent. Such collections of pus, of a tablespoonful or two, are to be found by careful percussion and by the presence of tender spots. Remembering the lines of the interlobar spaces, one presses in each intercostal space with the tip of the finger along these lines, until a tender spot is discovered. This and the percussion note and the exploring needle will usually serve to locate the small empyema immediately beneath the thoracic wall. Similar inclusions of exudate take place between the lobes of the lung during the course of a pneumonia. They become infected and consequently purulent. Very frequently these small interlobar collections of pus become foul and gangrenous and empty themselves spontaneously through the bronchi, and they frequently are considered as lung abscesses, and for the most part very properly belong in that category.

One of the practical conclusions that one comes to after experience and study of thoracic exudates is that, if a short exploring needle does not find fluid, the concealed exudate is usually in the interlobar spaces surrounded by lung tissue and the needle will have to penetrate this lung tissue in order to reach the exudate. Therefore, one should consider carefully the dangers of lung infection from the needle which may possibly be dipped in pus in the cavity which it enters. If it seems necessary to use the long needle, it is to be borne in mind that the axillary region, a little below the normal position of the interlobar sulcus, is to be chosen as the most probable place for immediately entering the cavity and that here the intervening layer of lung tissue will have the least thickness. The same region is likewise the point of election for the removal of ribs and the exploration of the interlobar spaces.

67. **Hemolytic Skin Reaction in Carcinoma.**—This paper is an analysis of the results obtained from a series of 100 patients on whom skin reaction test used by Elsberg for the diagnosis of carcinoma was done. The technic used by Elsberg was followed in every detail in order that the results might be thoroughly reliable. It consists, in general, in injecting 5 minims of a 20 per cent. solution of washed normal red corpuscles into the subcutaneous tissue of the forearm of the patient. Within from three to twelve hours a definite reaction takes place, which is evidenced by the appearance of a slightly raised, slightly tender area about 2 by 3 cm. in area, which takes on a slightly brownish tinge, which may change to a maroon or a dirty greenish-yellow. This lasts eight to

twenty-four hours and then gradually fades. The cases tested were divided as follows: Of twenty-seven cases of (1) cancer in various stages; (2) patients in whom cancer had just been removed; and (3) cases in which the diagnosis was not determined pathologically, a positive reaction was obtained in nine cases, a negative reaction in sixteen cases, doubtful in two cases. Of seventy-three non-malignant cases the reaction was positive in fifteen cases, negative in fifty-five cases and doubtful in three cases. Risley believes that the test is only suggestive and is rendered practically valueless as a diagnostic aid because of the fact that there are undoubtedly present in the blood of many patients other lysins of unknown nature which bring about hemolysis of varying degrees. This test, therefore, as the test done *in vitro*, fails to be of any practical value in the diagnosis of malignancy. It is highly significant, but will require further investigation or a more refined technic before becoming of value.

68. **Chemical and Microscopic Findings.**—Austin agrees with A. Schmidt that the atrophy of the intestinal glands does not cause pernicious anemia nor conversely does pernicious anemia cause any changes in the intestinal mucous membrane which are not produced by many other agencies.

Long Island Medical Journal, New York

July

70 Pathologic Aspects of Primary Tumors of the Spleen. R. H. Fowler, Brooklyn.
71 History of St. Peter's Hospital of Brooklyn. E. J. Morris.
72 Cumberland Street Hospital. M. D. Jones, Brooklyn.
73 Progress Made in Ophthalmology During the Past Year. J. C. Hancock and H. M. O'Reilly.

New York Medical Journal

July 29

74 *Prostatic Suggestions. V. C. Pedersen, New York.
75 *Largest Volunteer Life-Saving Corps in the World. J. Sobel, New York.
76 Routine Examination of Milk. J. A. Roddy, Philadelphia.
77 Case of Infestation with Necator Americanus in a Native of Madras, India. R. C. Rosenberger and W. Brinton, Philadelphia.
78 Hospitals for Inebriates. T. D. Crothers, Hartford, Conn.
79 Overdoing in Prophylaxis and Early Diagnosis of Pulmonary Tuberculosis. C. Rayevsky, Liberty, N. Y.
80 Prevention of Myopia in School Children. W. H. Bates, New York.
81 Resistance of the Street Virus to Antiformin. F. Proescher, Pittsburgh.

74. **Prostatic Suggestions.**—That there is a period in prostatic disease which is being more definitely recognized than previously which rests on the condition of the bladder mucous membrane due to the disease, is the principal point made by Pedersen. He says that if the mucosa is in good condition and the prostate gland has begun to obstruct, the best time for operation is at hand. Delay until the mucosa is greatly injured will mean hazard and likelihood that the injury will be permanent and beyond repair. When the mucosa of the bladder has begun to suffer, it is often because the obstruction by the prostate gland and the cystitis have reached a degree which soon leads to serious results on the kidneys and ureters above. The mere removal of an enlarged and obstructing prostate gland may be mechanically possible and performed without death, but if a bladder is left behind so badly damaged from chronic cystitis as to render functional restoration impossible and as to leave the symptoms proceeding from the bladder virtually unchanged, then the operation has failed of its ideal success. If the prostate gland is merely enlarged, obstructs none or very little, and the bladder is in good condition, operation is not justifiable. If the bladder is changed from inflammation beyond recovery, and if the catheter may be successfully passed, in most cases irrigation is preferable and more conservative than operation.

75. **Largest Volunteer Life-Saving Corps in the World.**—The origin and work of the Little Mothers' League of New York are described by Sobel.

Lancet Clinic, Cincinnati

July 29

82 The Thorax. B. M. Ricketts, Cincinnati.
83 Life-Insurance Companies as Factor in Progress of a Great Nation; Problem of the Uninsured. L. H. Montgomery, Chicago.
84 Repair of the Torn Pelvic Floor. A. P. Cole.
85 Scientific Versus Amateur Psychotherapy. R. Reed.
86 Destruction of Surface and Cavity Neoplasms by Desiccation. A. W. Nelson, Cincinnati.
87 Gall-Bladder and Bile-Ducts. W. D. Haines, Cincinnati.

Ophthalmology, Seattle

July

88 Industrial Education of the Blind. W. H. Taft, Washington.
89 *Hitherto Undescribed Term in Skiascopy. J. H. Claiborne, New York.
90 Intra-Ocular Irrigation After Cataract Extraction. C. Lukens, Toledo, Ohio.
91 Recurring Corneal Erosions. J. S. Wyler, Cincinnati.
92 Treatment of Granular Ophthalmia and Its Complications by the Sub-Conjunctival Injections of a Solution of Cyanid of Mercury. R. H. Elliot, Madras.
93 Native Gun-Powder Injuries of the Eye. R. H. Eliot, Madras.
94 Traumatic Paralysis of the Orbicularis Palpebrarum; Retinitis Proliferans. W. B. Weidler, New York City.
95 Simple Bacteriologic Examination of the Conjunctival Sac. H. S. Gradle, Chicago.
96 *Does Cutting of Optic Nerve Elicit Perception of Light? L. Emerson, Orange, N. J.
97 *Mydriatic Ozena. J. N. Rhoads, Philadelphia.
98 Relation Between General Arterial Sclerosis and Increased Tension in Eye-Ball. W. H. Snyder, Toledo.
99 Smith Operation for Cataract. A. J. Timberman, Columbus, Ohio.
100 Total Blindness from Toxic Action of Wood Alcohol, with Recovery of Vision Under Negative Galvanism. S. L. Ziegler, Philadelphia.

89. **New Term in Skiascopy.**—The sign to which Claiborne refers and which is characteristic of spherical errors (the behavior of the shadow in spherical errors), he says, is to be seen only when the mirror is turned in a circle, or rotated on an anteroposterior axis. He uses the concave mirror, and employs skiascopy for the purpose of qualitative, approximately quantitative, estimates of refraction and the proving of the functional examination. When the mirror is rotated on the anteroposterior axis, either in spherical myopia or hypermetropia, the shadow moves in the circle, and ultimately always in the same direction with the movement of the mirror. It resembles the turning of a wheel on an axle, or a revolving circle. The shadow chases itself around the pupil. In hypermetropia, speaking from the standpoint of the concave mirror, as the circular movement commences, the shadow is observed to creep from the opposite side of the pupil and chase itself in a circle from left to right, when the mirror is moved from right to left; or, from right to left, when the mirror is moved from left to right. The movement in this case is against the movement of the mirror, and yet each shadow chases the other in the same direction. In the case of myopia, the shadow moves with the movement of the mirror, and starts from the quadrant in which the circular movement of the mirror starts and chases itself around the pupil as in hypermetropia. The movement in both cases, therefore, is purely circular, and the shadow appears to move always in the same direction, though in the two cases it starts from opposite directions. The degree of the error is indicated by signs which are well known to all those conversant with this method—a gray slow shadow indicating high error, a black rapid shadow low error.

96. **Cutting of Optic Nerve.**—This question is answered by Emerson in the affirmative. In a case of glaucoma he cut the optic nerve and the patient stated that he saw "lightning." There is no doubt in Emerson's mind that the cutting of the optic nerve elicited the sensation of light.

97. **Mydriatic Ozena.**—For a few years back Rhoads has noticed that some of his patients emanate a fetid nasal odor a short time after the first instillation of a mydriatic. Cases that had the slightest trace of ozena before the instillation of drops were not recorded. The odor diminishes with the effect of the drops, consequently four hours after the last drops have been put in many patients have very little if any odor, and when they come back for "syne myd." examination, or to have their glasses verified there is not the slightest trace of it. The odor comes and goes with the mydriatic.

Medical Record, New York

July 29

101 Case of Pellagra Which Had Its Origin in Pennsylvania, Probably in Philadelphia. M. B. Hartzell, Philadelphia.
102 Elephantiasis Non-Parasitica. W. G. Thompson, New York.
103 Case of Ostitis Deformans (Paget's Disease). K. M. Vogel, New York.
104 Scrofula. S. Ehrenreich, New York.

105 Flat-Foot in Women and Children. S. Epstein, New York City.
106 Gastric Ulcer Perforating into the Colon. M. Gross, New York.
107 Habit, the Jaw and Character. J. J. Walsh, New York.

Bulletin of Johns Hopkins Hospital, Baltimore

July

108 *Stereoscopic Roentgenography of Chest with Special Reference to Diagnosis of Pulmonary Tuberculosis. K. Dunham, W. W. Boardman and S. Wolman, Baltimore.
109 *Paroxysmal Hemoglobinuria; Blood Studies in Three Cases. W. L. Moss, Baltimore.
110 *Calcification of the Costal Cartilages, the Cardiothoracic Index and Other Signs of Pulmonary Tuberculosis. W. W. Boardman and K. Dunham, Cincinnati.
111 *Experimental Studies on Tuberculo-Protein Hypersensitiveness and Their Possible Applications. A. K. Krause, Saranac Lake, N. Y.
112 *Variations in the Leukocyte Count in Normal Rabbits, in Rabbits Following the Injection of Normal Horse Serum and During a Cutaneous Anaphylactic Reaction. W. L. Moss and G. L. Brown, Baltimore.
113 *Use of Antiformin in the Examination of Sputum for Tubercle Bacillus. W. W. Boardman, Baltimore.
114 *Serum Treatment of Hemorrhagic Diseases. W. L. Moss and J. Gelien, Baltimore.
115 *Concerning the Much-Holzmann Reaction. W. L. Moss and F. M. Barnes, Washington.

108. **Stereoscopic Roentgenography of Chest.**—The object of this paper is to call attention to the principles and technic of stereoscopic *x*-ray examinations, and to describe the alterations in the normal chest shadows, which the authors believe to be characteristic of pulmonary tuberculosis. The shadows within the chest cavity are divided into three main groups: first, the "heavy central shadow," extending irregularly from the upper boundary of the chest cavity to the diaphragm; second, the "hilus shadow," radiating irregularly to a distance of four or five centimeters on either side of the fifth, sixth and seventh dorsal vertebræ; and third, the "linear markings" seen in the lung fields. The "heavy central shadow" is cast by the vertebræ and the mediastinal contents; the heart, aorta and other large vessels, trachea, esophagus, lymphatics and connective tissue. The hilus shadow is cast by the primary branches of the pulmonary vessels with their contained blood, the walls of the primary bronchi, and the lymphatic and fibrous tissue surrounding these structures. The shadows in the lung fields are subdivided into two groups; the heavy trunks and the fine linear markings. The heavy trunks are the shadows of the large branches distributed to separate lobes of the lung, the linear markings are the shadows cast by the smaller branches distributed to the various lobules of the separate lobes. In cases of pulmonary tuberculosis, changes are noted in the hilus shadow, the heavy trunks and especially in the linear markings. The hilus shadow shows usually an irregular increase in area and density with here and there small irregular shadows of very marked density. These bright areas of great density are due to the presence in the chest of calcified caseous or fibrous glands, while the increased area and density of the hilus shadow is due to a general increase in the fibrous and lymphatic tissue which accompanies a local or general mediastinitis. Such changes alone are regarded by the authors as of very slight diagnostic value as regards the presence of active tuberculosis, since other infections may produce the mediastinal changes and the calcified glands, although probably of tuberculous origin, indicate an old process more or less healed. In fact the presence of calcified glands, the other conditions being favorable, may be taken as a good prognostic sign. The heavy trunks extending toward the involved area usually appear broader, denser and less regular in outline than in the normal. Here again this change in the heavy trunks is not necessarily tuberculous in origin, so that too great importance must not be attached to this change alone. The fine linear markings appear broader, denser and less regular in outline. frequently their course is studded, sometimes almost to obliteration of the lines; they appear to cross and interweave, producing a delicate network of varying-sized mesh. The anatomic explanation of this altered shadow picture the authors are not at this time ready to discuss, but they firmly believe that the increase in the hilus shadow, the thickening of the trunks, together with the alterations in the linear markings, increase in density and breadth, studding, interweaving and extension to the periphery, constitute a shadow picture characteristic of early pulmonary tuberculosis. As the lesion progresses the alterations become more marked, the linear markings are more and more broken up and irregular, the studdings become larger and denser and the interweaving closer, until eventually the whole area appears as a more or less homogeneous shadow of increased density, due to the presence of gross areas of consolidation within the lung.

109. **Paroxysmal Hemoglobinuria.**—The serum of patients suffering from paroxysmal hemoglobinuria, Moss found, contains a complex hemolysin, of amboceptor-complement nature, which is capable of bringing about the solution of the patient's own corpuscles, corpuscles of other paroxysmal hemoglobinuric patients, and of all other individuals, as far as tested. Patients suffering from paroxysmal hemoglobinuria are not confined to one group, as determined by the iso-agglutination reaction, and their serum may contain normal isohemolysin in addition to the hemolysin characteristic of their disease. The auto-amboceptor may be absorbed from patient's serum, leaving the iso-amboceptor and conversely the iso-amboceptor may be absorbed, leaving the auto-amboceptor, thus enabling each to be tested separately on any given set of corpuscles. Only the amboceptor component of the hemolysin of paroxysmal hemoglobinuria is peculiar to the disease. The complement differs in no way, so far as tested, from that present in normal serum. The amboceptor peculiar to paroxysmal hemoglobinuria differs from other known hemolytic amboceptors in that it will unite with the red blood-corpuscles only at a low temperature in the presence of complement, and furthermore, in that it is capable of bringing about the solution of the patient's own cells (auto-hemolytic action) and those of other members of the group to which the patient belongs, as well as the cells of members of other groups. Hemolysis due to the autohemolysin of paroxysmal hemoglobinuria, unlike normal isohemolysis, may occur entirely independently of agglutination. The red cells of three cases reported by Moss showed a variable and usually increased resistance to hypotonic salt solution, never a resistance less than that of normal corpuscles. All three cases gave a positive Wassermann reaction.

110. **Signs of Pulmonary Tuberculosis.**—The small pendulous heart, calcified cartilages, narrow interspaces and excessive sloping of the ribs, are held to be not only valueless, by the authors, but as absolutely misleading, if considered as positive signs in the radiographic diagnosis of pulmonary tuberculosis.

111. **Tuberculo-Protein Hypersensitiveness.**—Hypersensitiveness to tuberculo-protein, Krause believes, is most likely never handed down to the third generation. This conclusion is based on tests made on nine animals, the grandchildren of sensitized females through the female line. The fact that a number of animals were born sensitive over 100 days, and several 379 days, after their mothers' last injection Krause regards as direct evidence that the transmission may be one of anaphylactic antibody and not of the antigen. He says that the possibility of maternal inheritance is more or less irregular and inconstant. It depends largely on the degree of sensitiveness of the mother at the time of pregnancy. The degree of sensitiveness of the offspring as a rule varies directly with that of the mother. The mother's sensitiveness is heightened by repeated applications of antigen, and, conversely, tends to die out with time unless renewed by subsequent injections. The degree of sensitiveness of the offspring accordingly varies, depending on the time that has elapsed between the mother's last dose and the birth of the offspring. The degree of sensitiveness that an animal inherits tends to diminish as it increases in age and size. Animals of the same litter may vary greatly in the degree of sensitiveness which they inherit.

112. **Leukocyte Count in Normal Rabbits.**—The normal variation in the total leukocyte count taken at the same hour each day of rabbits kept as nearly as possible under constant conditions, Moss and Brown found to be very great, at times reaching nearly 100 per cent. They observed quite regularly a diurnal cycle in which they are inclined to ascribe the increase in the number of leukocytes to the influence of digestion. They observed that an increase in the total leukocyte count was participated in, as a rule, by both the polymorphonuclear

and small mononuclear leukocytes, but usually by the latter to a greater extent than by the former. The relative values (percentage values) of the polymorphonuclear and small mononuclear leukocytes bear a reciprocal relation to each other; that is, an increase in the percentage of one is accompanied by a decrease in the percentage of the other. They were unable to observe that the intravenous injection of normal horse serum in doses varying from 0.1 c.c. to 5 c.c. or the intradermal injection of 0.01 c.c. normal horse serum in either sensitized or non-sensitized rabbits had any definite or constant influence on the total or differential leukocyte counts, three hours or longer after injection.

113. **Antiformin in Examination of Sputum for Tubercle Bacillus.**—Boardman recommends the use of sodium hypochlorite solution (antiformin) in the examination of sputum for tubercle bacilli not only in hospitals and dispensaries, but in the laboratory of every private physician. He holds that the general adoption of this method, combined with repeated examinations, will do much towards reducing the percentage of cases clinically diagnosed as definite pulmonary tuberculosis, in which, however, an absolute diagnosis cannot be made. Of far greater value than the finding of tubercle bacilli in the sputum of cases clinically diagnosed as definite pulmonary tuberculosis, is the possibility which this method offers of demonstrating bacilli in the cases still classed as only probable or doubtful, thereby enabling us to enforce a vigorous and systematic treatment at a time when such treatment is of most avail.

114. **Serotherapy of Hemorrhagic Diseases.**—The authors point out that the use of serum injections, the injections of defibrinated blood, and direct transfusion seem to have yielded better results in the treatment of hemorrhage than any other measures. As to the choice between these three procedures, doubtless direct transfusion would be the ideal method were it not for the technical difficulties.

115. **Much-Holzmann Reaction.**—The authors concur in the prevalent conclusion that the Much-Holzmann reaction has no diagnostic significance.

Chicago Medical Recorder

July

116 Case of Blood Transfusion for Postoperative Anemia. H. N. MacKechnie, Chicago.
117 *Abuse of Local Treatment in Gynecology. H. T. Byford, Chicago.
118 Tuberculosis of the Kidney, Ureter and Bladder. S. Dahl, Chicago.
119 Dissertation on Calomel. J. C. Warbrick, Chicago.

117. Abstracted in The Journal, June 17, 1911, p. 1842.

Washington Medical Annals, Washington, D. C.

July

120 *Cutaneous Lesions Associated with Leukemias. H. H. Hazen, Washington, D. C.
121 Psychotherapy and Its Limitations. E. E. Mayer, Pittsburg.
122 Need of Neurologic Training in Psychotherapeutic Practice. T. A. Williams, Washington, D. C.
123 Acute Pancreatitis; Operation, Recovery. H. H. Kerr, Washington, D. C.
124 *Influence of Pregnancy on Diseases of the Eye. D. K. Shute, Washington, D. C.
125 Three Cases of Placenta Prævia. J. J. Mundell, Washington, D. C.
126 School Laggards. H. C. Macatee, Washington, D. C.

120. **Cutaneous Lesions and Leukemias.**—In the review of about sixty cases occurring in the literature Hazen says it can be seen that they can be divided into (1) acute lymphatic leukemia, (2) chronic lymphatic leukemia, (3) splenomyelogenous leukemia, (4) chloroma, (5) multiple myeloma, (6) lymphodermia perniciosa, to which grouping Dr. Strobel's case belongs, and (7) mycosis fungoides. In relation to the last it is interesting to note that Pardee and Zeit have recently reported a case of mycosis fungoides which later turned to a lymphatic leukemia. The lesions consist of pigmentation, edema, vesicles, papules, nodules, tumors, especially of the face, urticaria, diffuse erythrodermia, macules and pruritus. Histologically, the lesions are probably infiltrations of cells escaped from the blood, and not proliferation of preexisting lymphoid tissue. Treatment should be directed towards the general condition and towards the relief of itching and the prevention of cutaneous infection. The Roentgen ray would probably do more to help the skin lesions than any other therapeutic agent.

124. **Influence of Pregnancy on Diseases of the Eye.**—This paper is essentially a plea for systematic and careful examination of the eyes of pregnant women by obstetricians, with the view of safeguarding the vision and even sometimes the lives of these women.

American Journal of Urology, New York

July

127 Rational and Efficient Method of Treating Acute Gonorrheal Urethritis. F. Kreissl, Chicago.
128 Control of Prostitution and Venereal Diseases in Country and Abroad. F. Bierhoff, New York.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 22

1 Some Latter-Day Intrusions of Surgery on the Abdomen. C. P. Childe.
2 Primary Sarcoma of the Vermiform Appendix. G. Wright.
3 Importance of Drainage in Septic Conditions of the Uterus. J. T. Maclachlan.
4 Adeno-Papilloma of the Rectum. R. Parker.
5 *Surgical Interference in Cancer. A. Paine and G. W. Nicholson.
6 *Influence of Calcarous Drinking-Water in Health and Disease. P. G. Lewis.
7 Congenital Deficiency of Speech Areas. A. E. Tait.

5. **Surgical Interference in Cancer.**—Experimental study has convinced Paine and Nicholson that the behavior, after operation, of two tumors in contiguity lends support to the view that the increased virulence of the recurrence is mainly due to increased blood-supply. It is occasionally stated that this increase is due to the heightened general metabolism of the body called forth by the neoplasm, which, on removal of its main mass, is made use of by such portions as have remained undisturbed. That this is not so was demonstrated by the behavior of two tumors on opposite sides of the body, whose blood-supply is quite independent. In such a case, of which the authors had six, removal of one tumor, even if large, produced no difference in the rate of growth of the other, though this be small. Furthermore, a tumor of a slowly growing series often recurs rapidly after operation; such rapid recurrence may even take place during a negative phase; and the transplantations from an operated tumor (which has recurred rapidly) into healthy mice do not show an increased rate of growth in any way proportionate to that of the recurrence. In eleven out of forty-eight operations—that is, in 23 per cent.—the recurrence was both early and virulent, its rate of growth being in some instances two or three times as rapid as that of the primary tumor or as of the tumors of the remaining mice of the series. This increase in the virulence, the authors claim, is mainly due to the remaining fragments having a very rich blood-supply and not to relief of tension or pressure.

6. **Influence of Calcareous Drinking-Water.**—Lewis claims that there is no evidence that hard water has any bad effect; on the contrary, all the evidence is the other way.

Lancet, London

July 22

8 Clinical Study of Cardio-Vascular Degeneration. J. M. Bruce.
9 *Differential Diagnosis of Over-Distention of the Lung and Pneumothorax. H. Walsham.
10 Permanence of the Cure of Syphilis by Salvarsan. J. McIntosh and P. Fildes.
11 *Acute Dilatation of the Stomach. C. R. Box and C. Wallace.
12 *General Subcutaneous Non-Renal Edema as a Familial Affection. F. H. Edgeworth.
13 Sarcoma of the Penis. H. M. Galt.
14 Case of Anterior Dislocation of the Semilunar Carpal Bone. W. R. Bristow.
15 Case of Plus-Pressure Anesthesia for Exploratory Thoracotomy. F. H. Wallace.
16 *Infarct of the Transverse Colon. H. T. Gillett.
17 Cases of (1) Chronic Pancreatitis and (2) Carcinoma of the Pancreas. G. Y. Thomson.
18 Feeding Experiments in Fowl Spirochetosis. A. Balfour.
19 Fatal Case of Phlegmonous Inflammation of Duodenum Following Impaction of a Fish-Bone. G. Taylor and C. E. Lakin.

9. **Overdistention of Lung and Pneumothorax.**—In pneumothorax, Walsham says, the shadow of the collapsed lung can always be seen, while in the overdistended lung it is never so seen.

11. **Stomach Dilatation.**—Six new cases are cited by Box and Wallace to support in the main their former contention that the pressure exerted on the duodenum by the dilated stomach is an important factor in the production of obstructive symptoms. Beyond reiterating the importance of combining lavage with the prone position nothing new is offered as regards treatment.

12. **General Subcutaneous Non-Renal Edema as Familial Affection.**—Six children born to healthy parents developed a subcutaneous edema at ages varying from 1 to 15 weeks. In one case it was slight and confined to the face, and the child recovered; in the other five, death ensued after a period of from one to sixteen weeks. In three, at least, of the cases no albumin was present in the urine. In the two cases examined post mortem no evidence of nephritis was found. All the patients suffered from a more or less marked diarrhea shown by green liquid motions before, in some instances only a few hours before, the occurrence of the dropsy. The children thus suffered from an intestinal catarrh and the dropsy was a related phenomenon. Edgeworth suggests that the edema may have been due to a damage to the walls of the capillary blood-vessels by poisons absorbed from the alimentary canal without the occurrence of any change in the excretory capacity of the kidneys. Thus in one of the cases it was found that the administration of calcium chlorid diminished the edema. The occurrence of intestinal dropsy in six successive children suggests to Edgeworth the possibility of an inborn defect in the walls of capillary blood-vessels whereby they may be more suceptible to poisons circulating in the blood than are the capillaries of normal individuals.

16. **Infarct of Transverse Colon.**—A woman, aged 49, had been troubled with hemorrhoids for some time, but was otherwise well, till she woke in the night with severe sense of pain in the epigastrium and flatulence. She blamed the cocoa she had had for supper. The next day diarrhea began and the pain in the abdomen increased. On the second day the diarrhea continued and there was nausea. Blood in the stools was first noticed in the afternoon. During the following night she had two actions of the bowels; both were practically pure blood, bright in color, and only very little fecal matter (perhaps ½ ounce in weight). Some clots were present of the size of half a hazel-nut—about 5 ounces of blood in each stool. This condition lasted for several days with vomiting, abdominal rigidity, no distention, pain below the navel and across the abdomen. The pulse and temperature were normal. A distinct thickening could be made out between the navel and the ensiform cartilage; it was tender and moved slightly on respiration. At the operation the transverse colon for the greater part of its extent was found to be of a dark purple color; the walls were greatly thickened. It did not look gangrenous. The ascending colon was anastomosed to the lower part of the descending colon. The patient did well for the first twelve hours. Then she had tetanic spasms, which continued at intervals of a few minutes for nearly twelve hours when she died. There were minute hemorrhages in the walls of the colon which were microscopically shown to be in a condition of infarct. The branches of the colica media were empty; no emboli were found; there was no peritonitis, but there were hemorrhages in the transverse mesocolon. There was a small amount of blood-stained fluid in the peritoneal cavity. Microscopic examination of the mesenteric arteries did not show any sclerotic changes. There was an old mitral lesion, with some narrowing of the orifice, and a few vegetations on the edges of the valve.

British Journal of Children's Diseases, London

July

20 Ateleiosis: Progeria. H. Gilford.
21 Suppurating Ovarian Cyst in Girl, Aged 10 Years, Probably Infected from Hairpins Impacted in the Vagina. H. J. Paterson.
22 Epidemic Anterior Poliomyelitis. N. P. Marsh.
23 *Early Cardiac Paralysis and Hemiplegia in Diphtheria. C. Burrows

23. **Cardiac Paralysis and Hemiplegia in Diphtheria.**—On the eighth day of an attack of severe faucial and nasal diphtheria the earliest suggestion of the coming cardiac trouble presented itself; the first sound of the heart, which up to this time had been quite clear, was noted to be "distant" in quality. For this reason the child was given epinephrin by mouth—m x of a 1 in 1,000 solution—every four hours. For the next three days the first sound of the heart retained the same distant quality, the pulse keeping quite regular. On the twelfth day vomiting occurred. The face was pallid, and the pulse was small but regular. The quality of the heart-sounds remained as before, but the rhythm of the beats was beginning to be disturbed, the short space being shortened, and it was evident that cardiac paralysis had set in. There was still albumin in the urine. All nourishment by mouth was withheld and the patient given rectal feeding, consisting of peptonized milk every four hours, to each of which m xx of the epinephrin mixture was added. Nothing was given by mouth. During the next twenty-four hours the child vomited twice. On the thirteenth day the cantering rhythm or the *bruit de galop* was observed. The pulse was rapid but not irregular. For the following four days the vomiting and retching were very frequent, and continued for eight days altogether, but with lessening frequency. On the fifteenth day the cantering rhythm was still present, the apex-beat being within the nipple line at this time. The sounds were fairly strong. On the seventeenth day there was frequent vomiting, and the heart was much dilated, the apex-beat being ½ inch outside the nipple line. The pulse was very rapid, as were also the heart-sounds, but the cantering rhythm was not heard.

At this time tincture of digitalis, m v, was added to each rectal feeding. Before the administration of the digitalis in the rectal feedings the pulse-rate was 124. The next day the pulse-rate was 132, and the day following the pulse remained small and very irregular. On the third day of the administration of digitalis, the pulse-rate fell to 72. The tincture of digitalis was then only given in every second rectal feed. The following day it was given only in every third feed, and the pulse-rate keeping at 72 to 80 the digitalis was omitted altogether three days afterwards. The pulse-rate kept the same for a week when it slightly increased in rapidity (88-100) and remained much the same until the child's discharge from the hospital. The patient thus appeared to benefit from administration of the digitalis. The nasal twang of the voice continued until the fifty-ninth day of the disease. On the forty-second day the knee-jerks were found to be absent. On the forty-third day paralysis of the left upper limb occurred, the child lifting and moving this arm about with the right arm, which was quite normal. A few days after the paralysis of the arm was noted the left leg was also found to be paralyzed. There was no aphasia. No knee-jerks were present on either side, although the right leg was quite readily moved by the patient. On the fifty-sixth day some difficulty in swallowing presented itself with some dribbling of saliva from the mouth. The diaphragm was not affected. Left internal paralytic strabismus was still present. Thirty days after the onset of the hemiplegia, the left arm and leg had both almost recovered their normal state, the only paralyzed muscles being the extensors of the left thumb and the peronei muscles of the left leg. This condition remained unaltered up to the time the child was discharged from the hospital. Six months afterward the extensors of the left thumb were still weak, and the flexors overacting drew the thumb towards the palm. The child consequently picked up objects with this hand awkwardly. The hand-grip was weak, but seemed to be a trifle stronger than it was four months previously. The muscles of the left arm and forearm seemed a little stiff, but all the movements were free. She could walk better than when she left the hospital, there being almost imperceptible dragging of the left foot; the peronei muscles were, however, still weak, so that the foot could not be thoroughly everted. No knee-jerks were obtainable on either side. The child's health was good and her mental condition excellent. The right arm and leg were quite normal; the heart appeared to be quite sound.

Clinical Journal, London

July 12

24 Common Affections of the Genito-Urinary System in Childhood. R. Hutchison.
25 Treatment of Some Fractures. J. J. Clarke.
26 Anesthetics in Abdominal Operations. J. Blumfeld.

July 19

27 Suppurative Antrum, Acute and Chronic. S. Hastings.
28 *Fourteen Consecutive Successful Laparotomies for Acute Intussusception in Infants. E. W. Roughton.

28. **Laparotomies for Acute Intussusception in Infants.**—There was no mortality in this series of fourteen cases reported by Roughton. The patients were all operated on with the least possible delay and without any previous treatment by inflation or injection. In all the cases the invagination occurred during the first year of life. The oldest was 12 months and the youngest 4 months. Ten of the children were males and four females. One case was enteric, the lesion being a few inches above the ileocecal valve; one was ileocecal ileocolic, i. e., after reducing the common ileocecal invagination a few inches of ileum which had prolapsed through the valve had to be drawn out. The other twelve cases were of the ordinary ileocecal variety, and in nearly all of them it was noticed that the caput ceci was the last part to unfold; in other words, the apex of the intussusception must have been formed by the invaginated caput ceci, and not by the ileocecal valve itself as is often stated in text-books. Roughton thinks that in nearly every case of intussusception the trouble arises from what might be called want of tact on the part of the ileocecal valve. If the child's bowels are disordered, unduly active peristalsis hustles the contents of the small intestine along so fast that it tries to pass the valve before it has been sufficiently digested. In four of Roughton's cases there was a definite history of diarrhea, vomiting or constipation preceding the onset of the intussusception, and he believes that the more often one inquires for a history of previous gastro-intestinal disturbances the more often will it be found that intussusception occurs in children whose bowels are already disordered by flatulence or diarrhea. In one case no tumor was palpable even under the anesthetic, the reason being that the tumor was very small and soft; it was of the enteric variety. The absence of a lump, therefore, must not deter the surgeon from opening the abdomen. Roughton is strongly of the opinion that when efficient surgery is available, distention of the colon with wind or water is a method of treatment which should no longer be employed. If he were so situated that an abdominal section was impossible or unjustifiable, he would employ injection, but in no other circumstances would he do so. Roughton's contention is that if the cases are diagnosed early and treated by laparotomy without wasting precious time over injection or inflation, recovery would almost always follow.

Medical Press and Circular, London

July 12

29 Conical Cornea. S. Stephenson.
30 Chronic Headache: Neurologic Advances Regarding Its Diagnosis and Treatment. T. A. Williams.
31 Some Possible Dangers Connected with Use of Electricity in Every-Day Practice. F. Hernaman-Johnson.
32 Typhoid Fever. L. Drum.

July 19

33 *Asthma in Children. R. O. Moon.
34 Gout and Rheumatism in Relation to Chronic Arthritis. M. Ricklin.
35 Water-Supply and Enteric Fever. G. C. Jones.
36 Harrogate: Its Waters and Its Baths. J. Rutherford.

33. **Asthma in Children.**—For preventing the recurrent attacks of asthma there is no drug, in Moon's experience, so effective as arsenic. Beginning with liquor arsenicalis, m. ii, t.d.s., it may gradually be increased; but there is no object in pushing it to large doses. Moon has found it most satisfactory to give the arsenic alone, and if the attacks are recurring rather frequently to prescribe also at bedtime:

℞	Gm. or c.c.	
Potassii iodidi	2	gr. iii
Vini ipecacuanhæ	33	m. v
Syrupi tolutani	66	m. xx
Aquam	ad 30	ad ℥ j

M. S.: To be taken at bedtime.

Moon says other remedies which may at times prove useful are lobelia in the form of the tincture, 10 minims every half hour, till the paroxysm is allayed, or the physiologic effects—nausea and a feeling of faintness—disappear. Similarly, belladonna may be given at frequent intervals till the paroxysm ceases or the physiologic effects are present. The liquid extract of grindelia, m. 10-15, every three hours, flavored with syrup of orange peel to conceal its unpleasant taste, will often cut short an attack of asthma. Moon cautions that we must always remember that most of the patent powders and medicines which claim to be cures for asthma are in the nature of depressants, and are therefore quite unsuited in most cases, for children. Apart from this, they only attempt to deal with the paroxysm, and therefore no effort is made to brace up and harden the nervous system, which in Moon's opinion, is the most important thing to do if we wish to treat asthma scientifically.

Australasian Medical Gazette, Sydney

June

37 *The Intestinal Flora and Its Work. C. Reissmann.
38 Pain in Right Side. E. T. Thring.
39 Nasal Administration of Nitrous Oxid, Coleman's Nasal Apparatus. W. R. Parker.
40 Administering of Anesthetics. M. C. Lidwill.
41 Three Cases of Hysteria. A. G. Salter.
42 Pathology and Symptoms of Movable Kidney. C. MaeLaurin.
43 *Case of Congenital Heart-Block. J. M. Gill.
44 Operation for Epiphora Due to Eversion of the Lower Punctum. W. O. Maher.
45 Case of Tetanus Treated by Subdural Injection of Antitoxin. R. J. Millard.

37. **Intestinal Flora.**—Reissmann states emphatically that the lactic acid treatment of intestinal putrefaction is not a panacea for all ills, but its value in cases of excessive intestinal putrefaction has been proved. Neither is its efficacy to be called in question, because a large number of so-called preparations of the lactic acid bacillus are marketed which on examination have been found not to contain the living bacillus. Also we should not attribute to the action of the lactic acid germ results which may have been produced by special dieting.

43. **Congenital Heart-Block.**—The patient, 3 years old, though small for her age, was fairly well nourished. She could stand, but not walk. She had a purplish-red color in her cheeks. The abdomen was full, and the liver uniformly enlarged, but not tender. The pulse was perfectly regular; the rate as counted for the full minute by the stethoscope was 50, the net count being 49. No pulsation visible in the veins in the neck; precordial pulsation not unduly noticeable. Percussion showed increased dulness upwards. The heart sounds were normal. The respiration rate was 50; but the heart rate and respiration rate though almost always coinciding, occasionally deviated a little. Now and then there would be a deep sighing inspiration, followed by a longer pause than usual, but during this pause the heart would continue to beat as before. Growth took place very slowly, her general condition showing a gradual improvement. She never had any epileptiform seizures. The pulse rate varied between 47 and 60, but was generally about 50 or a little more. About two years after Gill first saw the girl, he made a pulse tracing. There was no murmur or thrill. The heart was evidently hypertrophied as shown by the protrusion of the chest-walls. He could not be sure of any pulsation in the jugulars, and could get no record of any with the polygraph, but the neck was very short. Five months later she had a slight attack of tonsillitis, the temperature being 101, the pulse rate was 64, heart beat and respiration corresponding as before, except when she coughed; the interruption in the breathing caused thereby did not interfere with the heartbeat, which would continue at the same regular rate as usual. In the morning she seemed to be better, and was running about. Death took place quite suddenly in the afternoon. No post-mortem was allowed.

Australian Medical Journal, Melbourne

June

46 Suggestions Concerning Visceroptosis. R. R. Stawell.
47 Studies on Muscular Factor in Infantile Paralysis. W. Mackenzie.
48 Case of Tetanus Treated with Intraspinal Injections of Magnesium Sulphate. M. C. Gardner.
49 Embolism of Abdominal Aorta. H. A. S. Newton.

Annales de Médecine et Chirurgie Infantiles, Paris

June 15, XV, No. 12, pp. 369-396

50 Ultraviolet Rays Inadequate for Sterilization of Milk, Etc. Foveau de Courmelles.
51 Insufficiently Fed Infants. (Les nourrissons hypoalimentés; leurs vomissements, leur réalimentation.) J. Lemaire.

Archives des Maladies de l'App. Digestif, Paris

June, V, No. 6, pp. 289-348

52 *Secondary Cancer of the Umbilicus with Gastric Cancer. W. Oettinger and P. L. Marie.
53 Too Perfect Digestion as Cause of Constipation. (La "surdigestion" chez les constipéz.) R. Goiffon.
54 *Tardy Gastric Pains from Spasm of the Pylorus in Winter with Chronic Gastric Ulcer. H. Boschi.

52. **Cancer of the Umbilicus Secondary to Cancer of the Stomach.**—The patient in the case reported was a woman of 34 who applied for relief for pains in the stomach first noted three months before in the midst of apparently perfect health. The pain appeared with symptoms of indigestion and was transiently relieved by vomiting, and she was losing constantly in weight. There was no pain before breakfast but it came on an hour and a half to three hours after meals and woke her at night. The umbilicus was found slightly protruding with a hard, stem-like tumor extending backward to a primary cancer at the pylorus. In the sixty-three cases of cancer of the umbilicus on record, forty-four of the patients were women. Oettinger and Marie emphasize the importance of examining the umbilicus to detect cancer in its incipient phase; there may be merely partial retraction of the umbilicus, the folds a little protruding, a minute lump palpable, not knobby and projecting, but hard, asymmetrical, drawing the umbilicus inward or there may be a small, hard border below the umbilicus. In a few cases the cancer early developed a fistula. Primary cancer requires, of course, prompt removal, but a secondary cancer at the umbilicus generally contraindicates operative treatment unless hemorrhages or pain compel it. If a palliative operation is done, such as the gastro-enterostomy in the case reported, it is advisable to resect the umbilical tumor at the same time for obvious reasons.

54. **Tardy Gastric Pain with Chronic Ulceration.**—Boschi has encountered five cases of chronic gastric ulcer in which during the winter there were recurring attacks of painful spasm of the pylorus. Konchew has reported four similar cases of trouble only in the winter and Murri has called attention to the gastric disturbances during the winter which sometimes accompany chlorosis. The explanation seems to be that the action of the cold on the nerve terminals and vasomotor nerves causes contraction of the superficial vessels, expelling the blood and forcing it inward to the viscera, causing congestion in the abdominal vessels. The weakest of the viscera—the stomach with a chronic tendency to ulcer in his cases—feels the effect of the congestion most severely. The congestion in the stomach causes the old ulcer to flare up anew, with irritation of the local nerves and reflex pylorospasm. The kidneys are liable to suffer by the same mechanism in winter if a predisposition exists.

Lyon Médical, Lyons

June 18, CXVI, No. 25, pp. 1101-1140

55 *Advantages of Massage of the Eye in Treatment of Parenchymatous Keratitis. E. Grandclément.
56 Gastro-Intestinal Hemorrhages Simulating Gastric Cancer with Retention from Enlargement of the Prostate. Bouchut and Magdinier.

June 25, No. 26, pp. 1141-1200

57 Diastolic Hypotension and Hypertension. (Chute et pente diastoliques de la tension artérielle.) L. Gallavardin.

55. **Massage for Parenchymatous Keratitis.**—Grandclément has been advocating for nearly thirty years vigorous massage of the eye-ball applied for fifteen minutes ten or fifteen times a day, lubricating with a little salve so the eyelids can slide easier over the eye-ball. Done in this way he has been able to cure parenchymatous keratitis in seventy days unless there were pronounced Hutchinson teeth, in which cases the course required from ninety to a hundred days to accomplish the same results. If the leukocytes that have invaded the cornea in such quantities are left in peace, there is more or less blindness for months or years. But if with vigorous, constantly repeated massage the leukocytes are kept stirred up and mobilized, they are easily swept along by the circulating blood and the massage aids in developing the blood-vessels that flush out the leukocytes. During the entire course of treatment he keeps the pupil dilated with atropin to prevent any complications on the part of the iris, especially posterior synechia. The course may be completed or hastened by a few conjunctival injections of a 1 or 2 per cent. salt solution. He has never witnessed any benefit on the keratitis from iodid or mercury.

Berliner klinische Wochenschrift

July 10, XLVIII, No. 28, pp. 1265-1312

58 Breast Nursing During the Puerperium. (Stillen der Wöchnerinnen.) K. Franz.
59 Capacity for Breast Nursing. (Stillfähigkeit der Frau während der ersten Monate nach der Entbindung.) O. Heubner.
60 Volvulus of Cecum in Umbilical Hernia. M. Cohn.
61 Prophylactic Appendectomy? H. Wolff.
62 Spontaneous Rupture of Infected Spleen and Case of Perforating Abscess in the Spleen. (Zwei seltene milzchirurgische Fälle.) S. Johansson.
63 Value of Chlorophyl as Stain in Histologie and Other Research. (Ueber einen neuen Fettfarbstoff.) I. Boas.
64 Reinfection with Syphilis. (Reinfectio syphilitica oder Pseudoprimäraffekt?) C. Gutmann.
65 Syphilitic Anterior Poliomyelitis in Two Adults. A. Zadik.
66 Theory and Practice of Tuberculin Treatment of Tuberculosis. (Theoretische Grundlagen und praktische Ergebnisse der spezifischen Tuberkulosetherapie.) A. Wolff-Eisner.
67* Hour-Glass Stomach with and without Gastric Ulcer. (Ueber Ulcus penetrans ventriculi und Sanduhrmagen.) H. Strauss and S. Brandenstein.

67. **Hour-Glass Stomach With and Without Gastric Ulcer.**—Strauss and Brandenstein report three interesting cases to show the important information in regard to hour-glass stomach and other forms of spastic contraction in the digestive tract to be learned from examination with the Roentgen rays. In the first case a penetrating ulcer had entailed a slight perigastritis which had resulted in adhesions, drawing up the stomach and forming a loose fold projecting into the interior and producing the effect of an hour-glass stomach, although not actually obstructing the passage. The condition was suspected before the operation on account of the short distance to the right of the median line. They urge others to investigate this question as to the displacement to the left of a stomach with motor insufficiency in connection with symptoms of an ulcer as a sign of deforming perigastritis. In the second case the penetrating ulcer was found associated with a carcinoma opposite the protruding fold in the stomach. This case teaches that the Haudek symptom-complex—which was marked in this case—does not exclude cancer. In the third case the constriction in the stomach wall was occupied by a roll of muscle, the size of a pencil, which passed through the entire length of the groove, encircling the stomach, and there were no traces of carcinoma, ulcer or erosion; the trouble seemed to be merely a localized hypertrophy of the muscle tissue. There was no motor disturbance in this case, but the gastric secretion was deficient. The patient was a woman of 48 who had had gastric disturbances two years before and for nearly a year there had been spasms of pain in the stomach region, especially after eating, but sometimes fasting, with vomiting after meals and gradual loss of nearly 90 pounds in weight. The constricting cord of muscle could be palpated and it was resected with a strip of stomach wall. These cases suggest further that the discovery of the hour-glass stomach is just the beginning of the diagnosis.

Deutsche medizinische Wochenschrift, Berlin

July 13, XXXVII, No. 28, pp. 1297-1336

68 Tuberculin Free from Albumose in Treatment of Tuberculosis. (Behandlung der Tuberkulose mit dem Kochschen albumosefreien Tuberkulin.) G. Jochmann and B. Möllers.
69 Criteria of Anaphylactic Intoxication. A. Biedl and R. Kraus.
70 *Diagnostic Importance of Determination of Pepsin in the Urine in Stomach Disease. H. Scholz.
71 Scientific Bases for Training the Left Hand. (Wissenschaflichen Grundlagen der sogenannten "Linkskultur." H. Liepmann. Commenced in No. 27.
72 Case of Pulmonary Tuberculosis Simulating a Heart Defect. H. Rotky.
73 Improved Technic for Making Iodized Catgut. (Vereinfachung der Herstellung des trockenen Jodkatguts.) K. F. Herhold.

70. **Diagnostic Importance of Pepsin in the Urine with Gastric Cancer.**—Scholz reported recently that no pepsin was found in the stomach content or urine in his cases of uncomplicated gastric achylia while with gastric cancer and achylia

there was no pepsin in the stomach content but more or less peptic ferment was found in the urine. His statements, based on sixty-six cases, have been challenged by certain others but he reiterates here that renewed research, which he describes, has confirmed the accuracy of his first statements. Consequently he reaffirms that in dubious cases of gastric cancer strong presumptive corroborative evidence is afforded by the discovery of pepsin in the urine when the gastric juice after a test breakfast, is free from pepsin and this finding is confirmed also after a bouillon breakfast.

Medizinische Klinik, Berlin

July 9, VII, No. 28, pp. 1070-1108

74 *Epidemic Poliomyelitis in Guinea-Pigs. (Nachlese aus der experimentellen Erforschung der Poliomyelitis acuta.) P. H. Römer.
75 Treatment of Gastric Ulcer. (Ulcus ventriculi.) M. Tollkuhn.
76 Exercise of the Eyes in Bloodless Treatment of Strabismus. (Die unblutige Schielbehandlung.) T. Schultz-Zehden.
77 Study of Electric Injury. (Fall von Starkstromverletzung. Die Restitutionsreihe der körperlichen und geistigen Störungen.) E. Bischoff.
78 Roentgenoscope Research on the Heart. (Zur Röntgenuntersuchung des Herzens.) M. Levy-Dorn.
79 Action of Sulphur on the Skin. (Wirkung des Schwefels auf die Haut.) L. Golodetz.
80 Physiologic Catabolism of the Fatty Acids. (Neuere Versuche über den physiologischen Abbau der Fettsäuren.) E. Friedmann.

74. **Experimental Epidemic Poliomyelitis.**—Römer writes from the hygienic institute at Marburg of which von Behring is director to describe research on monkeys which has confirmed the fact that these animals are susceptible to acute poliomyelitis and that it is transmitted by the secretions of the nasopharynx and that a single attack confers immunity. He also states that he has succeeded in inducing a disease in guinea-pigs which strikingly resembles epidemic poliomyelitis in man, both in its clinical, etiologic, pathologic and histologic aspects. (The illustrated description of the affection in guinea-pigs has been published in the *Deutsche medizinische Wochenschrift*, 1911, xxxvii, 1209.)

Münchener medizinische Wochenschrift

July 11, LVIII, No. 28, pp. 1489-1544

81 Motor Functioning of the Colon. (Zur Physiologie und Pathologie der menschlichen Dickdarmbewegungen.) G. Schwarz.
82 Influence on Frog Blood-Vessels of Substances Released by Hemolysis. (Einfluss der bei der Hamolyse-freiwerdenden Substanzen auf überlebende Froschgefässe. (L. Hirschfeld and G. Modrakowski.
83 *Intravenous General Ether Anesthesia. R. Hagemann.
84 *Trypsin in Treatment of Surgical Tuberculosis. M. Brandes.
85 Ophthalmia Neonatorum Resembling Trachoma. (Ueber die dem Trachom des Erwachsenen analoge Bindehauterkrankung des Neugeborenen.) M. C. Wolfrum.
86 *Operative Treatment of Acute Ostitis of the Fibula. (Ueber subperiostale Diaphysenresektion bei Ostitis acuta purulenta fibulae.) M. Sulzer.
87 Intravenous Injection of Salvarsan in Syphilis without Reaction Phenomena. W. Wechselmann.
88 Digalen Poisoning. (Ueber Digalenvergiftung.) F. Heydner.
89 Improved Tests for Mental Capacity and Power of Observation. (Einfacher Auffassungsapparat für den klinischen Gebrauch.) W. Cimbal.
90 Apparatus for Continuous Supply of Fluid at Same Temperature. (Apparat zur Infusion von Flüssigkeiten unter konstanter Geschwindigkeit.) W. Straub.
91 Two Years of the Movement for Infant Welfare. (Zwei Jahre offene Säuglingsfürsorge in Nürnberg.) E. T. J. Zeltner.

83. **Intravenous Ether Anesthesia.**—Hagemann reviews the experiences at the Greifswald surgical clinic, in charge of König, with intravenous injection of ether in a total of eleven cases. The patients submitted to this technic were those requiring operations on the mouth or face or in extreme cachexia. By mixing the ether with cold water and gradually warming over the water bath to 38 C. (100.4 F.) and keeping the fluid at this temperature, all excess of ether evaporates and a 4.68 per cent. solution results. From 1,050 to 3,925 c.c. of the solution were thus infused; there was no sign of thrombosis or embolism and he thinks that the technic is so free from danger that it is justified for the operations in which it offers superior advantages, especially those on the face. The infusion of such large amounts of fluid is also of advantage in much debilitated patients; the pulse was never weaker but often stronger after the anesthesia and there was no thirst.

84. **Trypsin in Treament of Surgical Tuberculosis.**—Brandes reports from Kiel considerable experience in this line. The results were not sufficiently promising to render the clinic disloyal to the old tried and tested 10 per cent. iodoform-glycerin treatment. This really is an indirect ferment therapy as it attracts the leukocytes to the spot.

86. **Subperiosteal Resection of Shaft for Ostitis of the Fibula.**—Sulzer has been comparing the ultimate outcome in a number of cases of acute purulent ostitis of the fibula treated by various methods. Seven cases are reported in detail as typical of the various experiences. In the cases in which treatment by subperiosteal resection of the shaft, the lesion healed promptly and permanently, while with the more conservative measures the affection dragged on tediously or recurred again and again. This resection of the shaft does not interfere with normal growth or functioning, while the prompt removal of the focus removes all danger of sepsis.

Therapeutische Monatshefte, Berlin

July, XXV, No. 7, pp. 405-464

92 *Organotherapy. C. Hirsch.
93 *Calcium Salts in Treatment of Tetany of Pregnancy. E Meyer.
94 Clinical Availability of Predigested Albumin. (Ueber die klinische Verwertbarkeit von tief abgebautem Eiweiss.) F. Frank and A. Schittenhelm.
95 *The Wassermann Reaction as Guide in Treatment of Syphilis. J. Citron.
96 Fatal Lysol Poisoning. (Lysolvergiftung mit Aspiration in die Luftwege und konsekutivem Empyem. Karbolverätzung der Luftwege mit tödlichem Ausgang.) A. Cahn.

92. **Organotherapy.**—Hirsch reviews the history of this branch of medicine from the days of Hippocrates and Celsius to the latest catalogues of the manufacturing chemists. While doing full justice to the achievements in this line, he thinks that in some respects now organ preparations are being carried to extremes, suggesting the absurdities of medieval apothecaries. He concludes with the remark that an effectual remedy against quackery is to be found in regulation of advertising, saying that the advertising of untested or nonsensical remedies and methods of treatment should be prohibited.

93. **Lime Salts in Treatment of Pregnancy Tetany.**—Meyer's patient was a small woman with signs of old rachitis who had had severe tetany during each of her three pregnancies; in the last it persisted a week after delivery. Meyer ordered a milk diet, abstention from salt, and a tablespoonful three times a day of a 4 per cent. solution of calcium chlorid, $CaCl_2$, with vegetables and fruit rich in the lime salts. Improvement was evident at once and in three days the woman was transformed. Recurrence of trouble after return to ordinary diet was again cured by resumption of the lime treatment. In a fourth pregnancy the same measures had to be resumed again and the effect was equally successful. All the woman's children showed signs of severe rachitis. Meyer gave the calcium merely in the hope of reducing the excitability of the nervous system and the results surpassed all his anticipations, as also in another case of tetany in the course of a nephritis. Curschmann has also reported the successful treatment of tetany in two cases with calcium lactate. Meyer adds that the harmlessness of this method of treating tetany justifies a trial of it in all cases of pregnancy tetany regardless of whether the parathyroid bodies are responsible for the trouble or not.

95. **The Wassermann Reaction as Guide to Treatment in Syphilis.**—Citron regards the Wassermann test as supremely important for determining the necessity for treatment, permitting individualization in each case and thus filling a long felt want. The test must be made with the original technic and should be repeated at intervals. Every return of a positive reaction should be regarded as a sign of active syphilis. He has made a point of testing the wives and children of syphilitics free from symptoms except a positive reaction, and he has found that they give a positive reaction in a surprisingly large proportion of the apparently healthy. This asymptomatic syphilis in many cases runs into an aortic affection, aneurysm or aortic insufficiency, tabes or paralysis. He comments on the remarkably large proportion of patients whose primary manifestation escapes their attention, his

experience confirming Fournier's that fully 50 per cent. of the tertiary syphilitic have no knowledge of any primary sore. The aim of treatment should be to transform a positive into a negative Wassermann reaction; the later specific treatment is commenced, the harder it is to accomplish this. The Wassermann reaction permits an estimate of the therapeutic effect of drugs, and salvarsan, while putting an end to other manifestations of syphilis, does not always insure a negative reaction. Mercury should still be the main reliance, possibly associated with salvarsan.

Wiener klinische Wochenschrift, Vienna

July 13, XXIV, No. 28, pp. 1003-1042

97 *Serodiagnosis of Cancer. (Ueber neuere serologische Methoden zur Diagnose maligner Tumoren.) R. Kraus, E. v. Graff and E. Ranzi.
98 Splitting of Glucosids by the Brain. (Glykosidspaltung durch Gehirn.) L. Hess.
99 Experimental Tricuspid Insufficiency. S. Bondi and A. Müller.
100 *Salvarsan in Syphilis. V. Mucha. Commenced in No. 27.

97. **Serodiagnosis of Cancer.**—The extensive research here reported emphasizes the biologic interest of the newer serologic methods of diagnosis but does not indicate that they have much practical importance. The meiostagmin reaction, however, proved misleading in only two out of the twenty-six parallel tests. The Freund-Kaminer reaction, that is, the absence of the property of destroying cancer cells which is always observed with normal serum, is not peculiar to cancer cases, and the same may be said of the test by activation of cobra venom.

100. **By-Effects from Salvarsan in Syphilis.**—Mucha reports from the clinic for skin and venereal diseases at Vienna, in charge of Finger, forty-four cases of neurorecurrences in 500 syphilitics given salvarsan treatment. He describes them in detail, commenting that the disturbances involving the auditory nerve since salvarsan has been introduced far outnumber all the cases that have been recorded in international literature during the last twenty years. The fact that continuing the treatment sometimes cures the auditory disturbance sustains the assumption that the salvarsan injures the nerve in question, thus inducing a point of lesser resistance where the syphilis virus makes its influence felt more intensely. When the auditory disturbances subside spontaneously or persist rebellious to renewed treatment of the syphilis, the assumption seems plausible that the trouble was predominantly the result of the toxic action of the arsenic, and that after elimination of the drug the changes were so slight that complete restitution followed or so severe that this was no longer possible. An argument in favor of this view is the benefit obtained in two cases by sweats and injection of pilocarpin to promote elimination of the arsenic, without further specific treatment. There is still a further possibility, namely, that the salvarsan may have sensitized the syphilitic virus. In his experience there were eighteen cases of neurorecurrences in the ear in which the interval since infection was only six to twelve months. The neurorecurrences were observed with both subcutaneous, intramuscular and intravenous injection of the salvarsan. In conclusion Mucha reiterates that these so-called neurorecurrences are serious matters for the patient and frequently entail permanent injury, and the patients seldom care for further medication. Mucha's material includes besides the eighteen ear cases, six with general toxic phenomena, digestive disturbances, intense headache and dizziness, six with disturbances in other cerebral nerves, four with epileptiform attacks, two with cerebrospinal phenomena, five with optic neuritis, one with optic neuritis plus cerebral hemorrhage leaving motor and mental disturbance, one case of fatal meningo-encephalitis, three cases of nonsyphilitic meningitis seemingly aggravated by the salvarsan, and a case of nephritis for which he thinks the salvarsan was evidently responsible, as distinct traces of arsenic were perceptible in the urine nine months after the intragluteal injection of salvarsan and the nephritis showed great improvement under sweating procedures. Twenty-four pages are devoted to the details of the forty-eight cases in which striking symptoms followed the salvarsan treatment out of the total 500 cases. Finger's previous comment on his experiences was summarized in these columns June 10, page 1765.

Zentralblatt für Chirurgie, Leipsic

July 15, XXXVIII, No. 28, pp. 953-984

101 *Tincture of Iodin in Treatment of Surgical Tuberculosis. F. Franke.
102 *Double Opening in Gastro-Enterostomy. (Die neue Ruggi'sche Methode der doppelten Verbindungsöffnung zwischen Jejunum und Magen bei der Gastroenterostomie.) G. Rocchi and U. Stoppato.
103 *Early Diagnosis of Suppuration in and Around the Kidney. (Zur Frühdiagnose der paranephritischen Eiterung und des Nierenabszesses.) E. W. Baum.

101. **Tincture of Iodin in Surgical Tuberculosis.**—Franke states that he has been using tincture of iodin systematically for the last ten years in sterilization of the field of operation for tuberculosis of the soft parts. He fills up the cavity with the concentrated tincture and then removes the excess with a syringe after a minute or two, or if the cavity is small merely tampons with gauze which sucks up the excess. He has never seen any untoward by-effects, except in one case in which a small bone sequester interfered with healing, but as he had used other disinfectants in this case the iodin need not be incriminated. Since adopting this technic he has scarcely ever had to amputate on account of surgical tuberculosis, even in the elderly, and the success of the measure is instructively shown in the case of a woman of 43 finally cured after a series of operations including resection of the right knee and ankle, curetting from the ankle to the hip for ascending tuberculosis of the soft parts of the outside of the leg, with resection of nine ribs and of the lower half of the sternum.

102. **Double Gastro-Enterostomy Opening.**—Rocchi and Stoppato give an illustration of the two openings on the same plane, or nearly at right angles, which Ruggi prefers for gastro-enterostomy, in prevention of the vicious circle. The space between is at least 2 cm.

103. **Early Diagnosis of Suppuration in and Around the Kidney.**—Baum states that bacteria are found in the urine in case of metastatic suppuration in and around the kidney much more regularly than is generally recognized. He obtained positive findings in all but one of seven cases of the kind, while the urine was constantly sterile when the suppuration was retroperitoneal. Staphylococci are generally responsible for the suppuration and their toxins injure the epithelium in the canaliculi, rendering the walls permeable for the germs even when there are no cellular elements in the urine.

Zentrablatt für Gynäkologie, Leipsic

July 15, XXXV, No. 28, pp. 1001-1040

104 Bacteriologic Examination in Febrile Abortions and Deliveries. L. Warnekros.
105 Formation of Vagina Out of Part of Rectum. (Scheidenbildung bei angeborenem Vaginaldefekt.) G. Schubert.
106 Traumatic Vaginal Prolapse of Small Intestine Ten Years After Vaginal Hysterectomy. P. Esau.

Zentrablatt für innere Medizin, Leipsic

July 15, XXXII, No. 28, pp. 689-712

107 *Arteriosclerotic Anomaly of Taste. (Geschmacksparästhesie auf arteriosklerotischer Grundlage.) A. Müller.

107. **Morbid Taste in the Mouth on Arteriosclerotic Basis.**—Müller's patient was a man of 52 who had had an intensely sweet taste constantly in the mouth for three weeks. Signs of pronounced arteriosclerosis were evident, but nothing was found to explain the taste anomaly except the arteriosclerosis. The nervous system seemed normal and no benefit was derived from bromids. Theobromin sodium salicylate (diuretin) was then prescribed and the effect was prompt and complete, the taste becoming normal the same day. On suspension of the drug the disturbance returned, but was again cured in the same way and the patient now takes this drug continuously and has been free from the trouble for a year. Similar benefit was realized in another case in which the patient complained of attacks of pain in the tongue, for which no cause except arteriosclerosis could be discovered.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 21, XXXII, No. 61, pp. 643-658

108 *Gastro-Intestinal Functioning in Pellagra. L. Cecconi.

108. **The Digestive Functions in Pellagra.**—Cecconi describes the clinical and metabolic findings in a dozen patients with pellagra. A striking feature common to all was the total lack

of free hydrochloric acid in the stomach content, while the bile and pancreas functioning seemed to be normal, as was also digestion of fats.

Riforma Medica, Naples

July 3, XXVII, No. 27, pp. 729-756

109 Morphologic Changes in the Blood under Influence of Haloid Salts. A. Chistoni.
110 Chilling in Mechanism of Infections and Immunity. (Il raffreddamento nel meccanismo del processi d'infezione e d'immunita.) D. De Sandro.
111 Influence of Pellagra on Digestive Secretions. (Di alcune azioni fermentative nella pellagra.) L. Preti and L. Pollini.

Norsk Magazin for Lægevidenskaben, Christiania

July, LXXII, No. 7, pp. 753-856

112 *Treatment of Fracture of the Radius. J. Nicolaysen.
113 *Acute Leukemia. K. Thue.
114 *Lumbago. V. Bülow-Hansen.
115 *Tearing Out of Tendon from Patella. (Dobbeltsidig avrivning av quadricepssenen fra patella.) E. Andersen.
116 *Nail Extension in Treatment of Fracture. (Avendelse av nagleextension.) R. Ingebrigtsen.
117 Iridotasis. (Dr. Johan Borthen's "forbedring.") S. Holth.

112. **Fracture of the Radius.**—Nicolaysen discusses the lessons learned from thirty-five cases of fracture of the radius and five of dislocation without actual fracture, emphasizing various points by the aid of twenty-eight radiographs. The outcome, he reiterates, depends on correct reposition of the fragments and on the age of the patients. The result was ideal in all his patients under the age of 50 while it was satisfactory in only three of the ten over this age. The outcome was especially poor in an elderly patient with deforming arthritis.

113. **Acute Leukemia.**—Thue reports three cases with necropsy and compares the findings with the various prevailing theories in regard to acute leukemia and with some similar cases on record. His patients were three boys, 1, 5 and 16 years old. The bacteriologic findings were constantly negative.

114. **Lumbago.**—Hansen warns that persons with a tendency to lumbago should refrain from cold baths and fatiguing exercises. He has encountered cases in which the lumbago developed in connection with a series of gymnasium exercises. The chief characteristic of lumbago, he remarks, is the tendency to recurrence. In some cases the trouble is an unsuspected fracture of the transverse process of some vertebra. In other cases he has been able to discover a tender point in the psoas iliacus muscle on one side, palpating down from the attachment of the muscle on the trochanter. When this is the case, attempts to flex the thigh against resistance are painful. The old lumbago is thus revealed as having its seat not in the back but in the front. This discovery threw retrospective light on a number of puzzling cases in his practice. As with sciatica, the spine frequently shows curvature from the affected side, the affected muscle being relaxed as with rheumatic torticollis. In some cases of lumbago there is accompanying neuralgia in the pelvis, especially in the sciatic nerve, and this should be regarded in treatment. He advises examination during a free interval, seeking for the almost inevitable tender point, and until treatment succeeds in restoring normal sensibility here, there is little prospect of a permanent cure. Rest and warmth are the main factors, and he has the patient apply a hot water bottle to the seat of the sensitive point on retiring, taking internally at the same time 0.5 or 1 gm. acetylsalicylic acid. In very severe cases the patient should stay in bed. An orthopedic corset may be found useful and this or a plaster cast is absolutely necessary in traumatic lumbago; it may save the patient much trouble and discomfort later. Massage of the tender points is a further aid in treatment, but it should be done by skilled hands on a systematic plan, and repeated at intervals during two or three months. It should be commenced very gently, as, done carelessly, it may do more harm than good. The massage is most effectual with the patient reclining or partially reclining, with flexed knees.

115. **Tearing Away of the Tendon from the Patella.**—Andersen has had three cases of this kind in his practice during the last few years, the tendon of the quadriceps being torn smoothly from the patella. The rupture occurred during a backward fall, the muscle pulling the tendon out from its attachment to the patella. Three of the patients were over 70 and he did not venture to open the joint and suture the tendon in all of them, but it proved successful in the cases in which it was done. In each of the cases the patients had suffered the same accident a few years before on the other knee. Two of the patients said they had no pain at the time of the rupture. The outcome is seldom good without suture of the tendon, whether a plaster cast and massage are applied or not.

116. **Nail Extension for Fracture.**—Ingebrigtsen reports excellent results from application of extension in a compound fracture of the leg with the stumps lapping so that the leg was shortened by 1½ inches. A 15-pound weight was suspended from a Becker nail driven through the bones just above the malleoli, and the leg gradually assumed its normal length in three days while there was no pain after the extension was applied.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

OBSTETRICS. Edited by Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School, with the Collaboration of Herbert M. Stowe, M.D. Volume V, Practical Medicine Series. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.25. Pp. 233, with illustrations. Chicago: The Year-Book Publishers.

THE ETIOLOGY OF BERIBERI. By Henry Fraser, M.D. (Aber.), Director, Institute for Medical Research, and A. T. Stanton, M.D. (Tor.), Bacteriologist, Institute for Medical Research. No. 12. Studies from the Institute for Medical Research, Federated Malay States. Paper. Price, 7 shillings. Pp. 84, with illustrations. Singapore: Kelly & Walsh, 1911.

MANUAL OF PSYCHIATRY. By J. Rogues de Fursac, M.D., Formerly Chief of Clinic at the Medical Faculty of Paris. Translated and Edited by A. J. Rosanoff, M.D., Second Assistant Physician, Kings Park State Hospital, N. Y. Third Edition. Cloth. Price, $2.50 net. Pp. 484. New York: John Wiley & Sons, 1911.

MEDIZINAL-BERICHTE ÜBER DIE DEUTSCHEN SCHUTZGEBIETE. Deutsch-Ostafrika, Kamerun, Togo, Deutsch-Sudwestafrika, -Neu-Guinea, Karolinen, Marshall-Inseln, Marianen und Samoa für das Jahr 1909-10. Herausgegeben Von Reichs-Kolonialamt. Paper. Pp. 649. Berlin: Ernst Siegfried Mittler und Sohn, 1911.

TWENTY-SEVENTH ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF THE STATE OF RHODE ISLAND, for the Year Ending Dec. 31, 1904. And Including the Report on the Registration of Births, Marriages and Deaths in 1903. Cloth. Pp. 304. Gardner T. Swarts, Secretary.

ONE HUNDRED SURGICAL PROBLEMS. The Experiences of Daily Practice Dissected and Explained. By James G. Mumford, M.D., Visiting Surgeon to the Massachusetts General Hospital. Cloth. Price, $3. Pp. 354. Boston: W. M. Leonard, 1911.

TRANSACTIONS OF THE FORTY-FIRST ANNUAL SESSION OF THE MEDICAL SOCIETY OF VIRGINIA, Held in Norfolk, Va., Oct. 25-28, 1910. Paper. Pp. 632. Dr. Paulus A. Irving, Secretary, Farmville.

New Patents

Recent Patents of Interests to Physicians

984,879. Invalid bed frame. Joseph A. Bartholome, Baltimore.
984,539. Obtaining soluble and coagulatable proteid composition. Henri L. J. Chavassieu, Lyons, France.
984,756. Surgical forces. Paul Frisch, Berlin, Germany.
984,822. Evaporating solutions. Samuel M. Lillie, Philadelphia.
984,619. Surgical atomizer. Andrew Truesdale and W. S. Virgin, Washington, D. C.
984,722. Composition yielding ozone. Alexander H. Twombly, Summit, N. J.
985,500. Atomizer. Georges Baujard, Paris, France.
985,505. Spray nozzle. Lewis A. Brinkman, Chicago.
985,350. Disinfecting device. James Kneen, Oakland, Cal.
985,354. Poison bottle cork. Robert A. Leet, Oakland, Cal.
985,547. Electromagnetic massage device. Edmund H. Pryce, New York.
985,303. Medicinal powder toller. John Toskov, Little Neck, N. Y.
985,559. Preparing bismuth betanaphtholate. Joseph L. Turner, Philadelphia.
985,306. Cot attachment for invalid beds. John C. Van Slyke, Fort Collins, Colo.
985,307. Attachment for invalid beds. John C. Van Slyke, Fort Collins, Colo.
986,263. Aspirating syringe. Cheves Bevill, Waldron, Ark.
986,618. Medical apparatus. Edmund A. Babler, St. Louis.
986,999. Crutch. Charles E. Kritsch, Washington, D. C.
986,738. Breast evacuator. Hattie F. Milligan, Cambridge, Mass.
986,650. Means for supporting stretchers in ambulances. Jesse T. Sheets, Covington, Ky.

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THE ADVANTAGES OF THE SO-CALLED DECORTICATION OF THE LUNG IN OLD EMPYEMA *

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In operating for an old empyema we are presented with the problem of closing an old, suppurating cavity with stiff, unyielding walls, the inner wall consisting of the lung with its thick covering of fibrous tissue and fibrin, the other wall being the wall of the chest cavity. It is obvious that to enable such an abscess cavity to close, either the bony framework must be removed from the chest wall, so that it may sink in against the lung, or the thick fibrous covering must be removed from the lung and the lung expanded so as to come in contact with the chest-wall, or a combination of these two methods must be affected. The old mutilating process, with which the names of Estländer and Schede are connected, consists of extensive multiple resection of the ribs, with or without the removal of the intercostal muscles, allows the skin of the chest and soft parts to fall in against the lung, and has for many years been known to present grave objections. In the first place, the mutilation was extensive, the operation was accompanied by a good deal of trauma, hemorrhage and shock, features which rendered it especially dangerous in patients weakened and exhausted by the chronic suppuration of an old empyema. In the second place, if it was performed in children during the growing period, the extensive removal of the chest wall would hardly fail to result in a curvature of the spine which, from lack of support of the ribs on the affected side would accentuate itself as the child grew and would be accompanied by increasing deformity.

In 1893, De Lorme in France and Fowler in America both hit on an operation which was designed to substitute for the mutilating operations of Estländer and Schede, and was planned to allow the lung to expand against the chest-wall, instead of letting the chest-wall fall in against the lung; this operation came to be called decortication of the lung. De Lorme noted that in old empyema the shrunken, contracted lung lay in the gully between the ribs and vertebra, covered and bound down by a thick, inelastic membrane consisting of partly organized fibrin and fibrous tissue. He thought that if a sufficiently large opening in the chest were made for the manipulations, and if this membrane were incised and peeled off the lung and removed, the lung might expand and fill the chest cavity, thus obviating the necessity of extensive removal of the chest-wall in order to accomplish his object. He cut a square flap, including the third to the sixth ribs, the base being at the anterior border of the scapula, the upper and lower margins following the ribs, and turned it backward in the soft parts as a hinge. He found the lung lying in the costovertebral angle, the lower surface of the cavity being the vault of the diaphragm, and the cavity extending to the apex of the lung. The parietal pleura was bound down with a membrane 1 to 1.5 cm. thick. He found the position of the lung impossible to define, it was so bound down by this membrane. He incised the membrane a hand's breadth behind the anterior chest-wall, in order to avoid the pericardium, going cautiously to avoid injuring the lung, using first the knife, then blunt scissors. On coming to the healthy lung, he enlarged the incision, peeled off the membrane and as the patient coughed, the middle lobe of the lung protruded through the opening, reached the chest-wall and even projected through the window he had made in it. This was repeated for the other lobes of the lung. After excising the visceral pleura, curetting and excising portions of the parietal pleura, the flap was put back and sutured around a drainage tube in the lower angle. He concludes, (1) that it is possible to free a lung from the membrane, which holds it down even long after an operation for empyema; (2) that the method is applicable not only on the right, but on the left, if one goes far enough behind; and (3) that this is better than Estländer's operation, because it expands and tends to restore the function of an otherwise useless lung. The great deformity and falling in of the chest-wall may be avoided. This, in young patients, might lead to spinal curvature.

At about the same time Fowler[1] of Brooklyn, operated on a woman, 35 years of age, who had a persistent sinus. He removed three and a half inches of five or six ribs and excised a mass of cicatricial tissue surrounding the sinus, and attached to the chest, wall-diaphragm, pericardium and lung. Hemorrhage was stopped by gauze pressure. There was considerable shock after the operation. The cavity was tamponed with gauze. The tampon was removed in twenty-four hours and a lighter one substituted. The cavity was irrigated and the gauze changed every day. The lung expanded and the cavity was closed in twenty-eight days. Thus, Fowler, with no special plan, apparently, of allowing the lung to expand by removal of the tough, fibrous covering, had at about the same time with De Lorme performed this operation. It seems to me that the credit of the operation should belong to De Lorme as he, apparently, had a definite plan to accomplish what he was after. To

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* Owing to considerations of space, the case reports are here omitted. They are given entire in the Transactions of the Section and in the author's reprints, a copy of which will be sent by the author or by The Journal on receipt of a stamped addressed envelope.

[1] Fowler: Med. Rec., Dec. 30, 1903.

this valuable procedure of Fowler and De Lorme, has been applied the clumsy name of "decortication," from the Latin *cortex,* bark, meaning literally, barking or peeling off the bark from the lung. It is not, therefore, as a new procedure that I venture to take up this subject for discussion, but rather for the reason that so little has been written about it that I fear some of us may forget what a valuable resource it is and may, unnecessarily, perform severe mutilating operation when this simple operation would be safer and more effective.

Looking over the literature since that time, comparatively few reports of this operation are to be found. The same is true in regard to the operations of Estländer and Schede. I believe the reason for this to be, that in the primary operation for empyema, resection of the rib and provision of adequate drainage at the proper point has resulted in the cure of so many cases that few chronic cases result. Among the few reports in literature of the results of lung decortication, Charles M. Dowd[2] of New York, reports excellent results from decortication in old empyema in children. Ransohoff,[3] however, finds fault with the results of lung decortication, advising instead of decortication, the making of multiple incisions in the thickened pleura, thus allowing the lung to expand at numerous points. It does not seem to me that this method of multiple incisions can possibly be as efficient as the free and complete removal of the membrane and, as in my hands the free and complete removal of the membrane has been efficient, I thought it worth while to report my experience, which now amounts to seven cases.

Samuel Lloyd[4] of New York, who has had a very large experience in the treatment of empyema, chiefly in children, in a very interesting article given at the twenty-fifth anniversary of the New York Post-Graduate Medical School, states that in the treatment of old empyema it is not necessary to remove the pulmonary pleura, but simply to break up the adhesions at the borders of the cavity between the parietal and visceral pleura. This is undoubtedly true in early cases, and I believe that such adhesions should at the first operation of draining an empyema be so broken up. In the older cases, however, in which the membrane is thick, firm and rubber-like, it will easily be seen that it will be thickest and firmest at the point of attachment to the chest wall, so that it would be more difficult to break it at this point than where I have done it, namely, at a vertical line starting about the middle of the bottom of the cavity and extending upward along the lung. It is possible also that the lung might expand with this great, heavy thick piece of membrane left on it. In the early cases, the lung would probably expand whatever is done to it, but in the old cases with this great, thick, leathery piece of membrane, the expansion of the lung could hardly be as complete and uniform from having its adhesions broken up at the edges, as it would from slitting it up in the middle and entirely separating it. Anybody who has felt with the finger and seen the wonderful expansion of the lung after the removal of this membrane, which is not a difficult procedure, will hardly advocate, in cases in which the membrane has any thickness at all, the method of simply breaking up the adhesions at the edges and leaving it on.

I think Lloyd's contribution to the subject is of great value, in that he emphasizes the point of removing at the primary operation a piece of more than one rib, if necessary, in order to get in more than two fingers to break up adhesions to the pleura, and this procedure was adopted in Case 7 of my series of cases, and I shall adopt it more often in the future. It cannot be said, however, to be absolutely essential in the early cases, and in the late cases I do not think it can be as satisfactory as the removal of the thick, leathery membrane or the old procedure of decortication.

In an experience of eighteen years at the Boston City Hospital, where I have operated in a fairly large number of cases of empyema, mostly, however, acute, although greatly interested in the question of lung expansion in these old cavities, I had no opportunity to operate for chronic empyema until April, 1907. This case, which was, briefly, that of a little girl of 14, who had had a sinus for a year, after the resection of the ninth rib in the posterior axillary line. I carried an incision upward, parallel to the anterior border of the scapula, resected portions of four ribs and found exposed a concave surface of the glistening membrane which bound the lung down in the gutter between the ribs and vertebra, so tightly that it hardly seemed as if there was any lung in the chest at all. On splitting this membrane with the scissors and separating it carefully from the surface of the lung, the lung began to expand and when the child coughed at the close of the operation the red, velvety lung blew up like a soap bubble and came up against the chest-wall, where it remained. The lower angle of the wound was drained. At first there was no discharge, until four or five days after when there was a slight discharge from the breaking down of the blood-clot which ran into the bottom of the chest. I show here pictures (Figs. 1 and 2) of the little girl four years later, after she had grown to be a young lady, and it can be seen that the chest-wall is excellently developed and there is no curvature of the spine.

The second case in which I employed this procedure was an old empyema following an extensive hemorrhage into the chest, hemothorax, resulting from a self-inflicted revolver wound. The patient had a sinus and a chronic discharge ten months after rib resection, for drainage of the infected blood-clot from his chest. In this case the same procedure was followed, the incision running upward and forward from the anterior end of the drainage incision. Five ribs were resected, the thick membrane covering the lung incised and peeled off with the finger, allowing the lung to expand. As the patient coughed, the lung expanded and nearly filled the cavity. A slight discharge persisted, and five months later I found a small cavity two inches in diameter, in the lower part of the chest which was cured by resecting a small portion of the rib. One month later, the wound healed up and has remained in excellent condition since. The patient was a thin, delicate man, who I feel sure would not have survived an extensive operation of the type of Estländer or Schede.

My next cases, 3, 4 and 5, were the result of what I believe to be misguided attempts to cure acute empyema by the method of Thiersch, advocated by Friedrich when he came to this country and spoke before this Association in 1898. He states that rib resection has been abandoned by him in recent, not circumscribed exudates, because, not here necessarily indicated, it requires a longer time and may be more dangerous through the onset of a pneumothorax.

Briefly stated, the method of Thiersch consists of a puncture of the chest-wall, insertion of a large trocar allowing the pus to escape, and the insertion of a Nelaton catheter of the same size as the trocar to which is attached a collapsible rubber tube which leads into a bottle of fluid at the side of the bed. The Nelaton catheter is fixed air-tight to the chest-wall by the use of rubber tissue and adhesive plaster. The theory is, that when the patient expires, the pus runs out through the tube and on inspiration the collapsible walls of the tube are sucked together and prevent the entrance of air and cause negative pressure in the chest, favoring expansion of the lung. This is one of the numerous methods of securing negative pressure in the chest, the first of which, I believe, was adopted by Bülau; the others have been advocated by Perthes, Van Hook, and numerous other writers. In many of them, a current of running water supplied by a Bunsen pump, is employed to cause constant suction of the chest. The use of all these methods is based on what seems a well-founded objection in methods of rib resection and leaving a wide opening, namely, that such an opening allows the free entrance of air into the chest, which tends to press on the surface of the lung to prevent its expansion resulting in chronic pneumothorax and chronic empyema. The last, and probably the most efficient, of these suction methods is that advocated by Robinson of Boston, which consists in trephining the rib and screwing in a threaded metal tube, to which the rubber tube is attached, thus furnishing an absolutely air-tight connection between the chest-wall and the tube. The objection to all these methods, to my mind, is that, while they do provide an air-tight connection for a very short time, the opening made is necessarily small and the masses of fibrin which are so often found in the cavities cannot be removed, and when the tube has finally to be removed, as it always has, the small opening closes over so quickly that a little pus is apt to be left behind, and the case becomes chronic or requires reoperation.

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[2] Clinical News, September 1902.

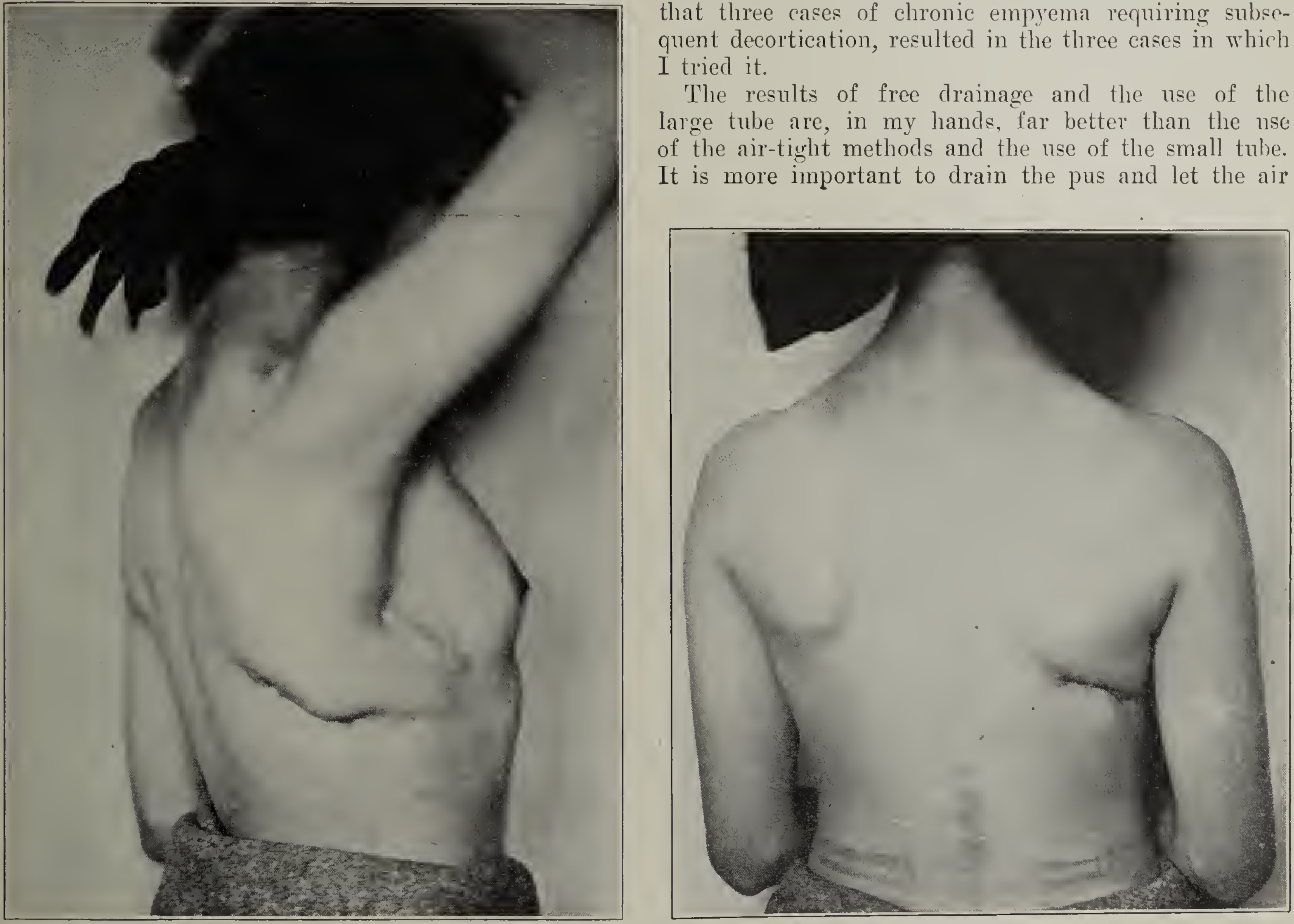
[3] Ransohoff: Ann. Surg., 1906.

[4] Lloyd, S.: The Treatment of Unresolved Pneumonia, in Science of Medicine and Surgery, 1908, p. 177.

As stated above, in an experience covering eighteen years and a fairly large number of cases, I have almost invariably treated empyema by resection of two or three inches of the ninth or tenth ribs in the posterior axillary line and the insertion of a large tube. Doubtless, in some of these cases, the lesions have failed to heal and have become chronic, but at all events, patients have not come back to me for treatment. It is an interesting commentary on Thiersch's method, at least in my hands, that three cases of chronic empyema requiring subsequent decortication, resulted in the three cases in which I tried it.

The results of free drainage and the use of the large tube are, in my hands, far better than the use of the air-tight methods and the use of the small tube. It is more important to drain the pus and let the air take care of itself than to try to keep out the air at the expense of free drainage of the pus and fibrin. No matter if the air does enter the thorax at first, it is frequently soon prevented from entrance by the pressure of the thick pus-soaked dressing over the end of the tube, which in itself provides a very fair valve, and I believe that the expansion of the lung is more frequently prevented from the reaccumulation of pus from insufficient drainage than by the entrance of air through a large opening.

Patient 3 was a man of 34, on whom Thiersch's method of drainage was attempted in January, 1910. Seven weeks later he had a free discharge and a large cavity treated by resection of five ribs and decortication. The cavity was of good size, entirely lined by thick, tough membrane. The membrane was split vertically over the lung and peeled back and the cavity partially filled it. The patient went home one month after the operation



Figs. 1 and 2.—Patient, 18 years old, four years after operation for chronic empyema. Note the development of chest-wall and the fact that there is no curvature of spine.

with a sinus, went to work and worked for nearly a year, but returned January, 1911, with a reaccumulation of pus and a large cavity. I operated again and this time found the membrane very adherent to the surface of the lung which failed to expand after its removal, therefore an extensive resection was done to six ribs allowing the chest-wall to fall in on the lung. A few days later, the patient died of septicemia. Although the decortication in this case was not successful, I feel that, had an extensive rib resection been done in the first place, the patient would have died just one year sooner. The patient had valvular heart disease.

In Case 4 the empyema was drained by Thiersch's method, except that rib trephining was adopted instead of trocar puncture. Six weeks later, after the discharge from the hospital, however, the patient returned with his chest full of pus again and a sinus. In this case, the sinus was on the left side of the chest, and the incision in the membrane for decortication had to be carefully made behind the pericardium. The lung expanded and filled the cavity. Two large tubes, surrounded by gauze, were placed in the lower angle of the wound for drainage. There was very little shock. The gauze and tubes were all removed on the second day, and all the drainage was removed on the eleventh. The patient made an excellent recovery and regained complete expansion of the lung without deformity of the chest or curvature of the spine.

In Case 5, the patient was a delicate man, 20 or 21 years of age. Thiersch's method was applied in a metapneumonic empyema. Three weeks later the patient was running a high temperature; drainage was unsatisfactory and there was a large cavity. Decortication was performed as in the preceding cases. The lung, as in the former cases, came out and filled the cavity. This operation was attended by a good deal of shock. The temperature gradually returned to normal. The lung, however, did not in this case stay up against the chest-wall, and the patient began to have cough and expectoration. He died six weeks after the decortication, apparently of pneumonia of the opposite lung. He was thought by consultants to have tuberculosis, but no tuberculous bacilli were found in the sputum and no autopsy was obtained. In this case, also, although the result was unsatisfactory, I cannot but feel that a more promptly fatal result would have followed an extensive removal of the ribs.

Patient 6 was a middle-aged woman in whom, contrary to my usual custom, a rib resection had been made in the midaxillary line, thus failing to provide adequate drainage in the recumbent and sitting positions. Chronic empyema resulted and decortication was done six months later by the method previously described. The lung expanded well and recovery, though delayed by the slipping in of a drain which was inserted by the physician in charge during convalescence, was complete as soon as this drain was removed at the third operation.

The seventh case was one of abscess of the lung with pyopneumothorax which had existed six weeks and in which, at the primary operation, the lung was found so bound down and covered by the thick membrane that it was thought wise to decorticate it at the time. The operation was completely successful, and the patient made a rapid decovery. A crater-like ulcer on the surface of the inferior lobe was, to my mind, a very interesting finding.

It will be seen that two of these seven cases were fatal. Neither of them, however, was fatal from shock, and I think the same result would have followed any method of treatment.

Beck's method of filling chronic empyema sinuses with bismuth paste has not seemed to me applicable in cases with very large cavities, say two-thirds or three-quarters of the entire pleura and, personally, I have had rather poor results with the insertion of any kind of foreign material in an infected cavity.

In regard to the technic of the operation, the method of the resection of 1½ inches of five or six ribs, through an incision running upward and forward from the anterior end of the old drainage incision, has proved, to my mind, very satisfactory. In slitting up the thickened pleura beneath the ribs, I have had in one or two cases, to grab the intercostal artery, but have been very much surprised to find how little trouble there has been from bleeding. The visceral pleura, which is about a quarter of an inch thick and which is more like the sole of an old rubber shoe than anything else, is carefully incised with a knife over the lower part of the lung. The finger is inserted through the incision and as soon as the soft surface of the lung is felt, is swept to and fro with the pulp of the finger toward the pleura and pressing outward so as to cause the least possible damage to the lung. Then a pair of blunt-pointed scissors is inserted and the membrane slit clear up to the top of the chest, and cleared off from the lung with the finger. A wound of one or two of the air-cells resulted in two or three of my cases, allowing the escape of bubbles of air on exploration, but so small an area of the lung was affected that, apparently, no harm resulted.

In regard to the after-treatment, it is probable that after the patient is put to bed, the lung does retract to a certain extent, but the occasional coughing keeps up the expansion. The thick, pus-soaked dressing, if tightly applied, to my mind, acts as a more efficient valve than any mechanical valve which one could employ. Certainly, in most of my cases, expansion of the lung was marvelously preserved, and in Case 5 I think that failure may have been due to the dressing failing to give us an efficient valve. Change of dressing should be accomplished as rapidly as possible and the tubes removed early; in most instances, I think, on the second or third day.

In the majority of cases, the lung is driven inward so that it extends from the top to the bottom of the chest and at its base is adherent to the diaphragm. This adhesion to the diaphragm, in this class of cases, will have to be broken up in addition to the removal of the membrane covering the lung. In some of the cases, however, the lung, instead of being driven in, is driven both inward and outward, so that it lies contracted along the upper inner wall of the pleura. In these cases, removal of the membrane covering it will be entirely sufficient and there will be no diaphragmatic adhesions to be attended to.

It is possible that an intercostal incision and the use of the modern rib retractor may simplify this operation, but as the incision in the pleura has got to be in the long axis of the lung, it seems to me that multiple rib resection would be better. I have not had an opportunity to employ either positive or negative pressure as an aid in these operations and do not believe that it is necessary if, as should always be done, the ether is taken off as early as possible, and the patient allowed to cough at the moment that the membrane has been stripped off the lung. This facilitates expansion in a wonderful manner. The intratracheal insufflation method of Melzer and

Auer, I believe, will be a distinct aid in these lung cases. One feature which renders it valuable is that it is possible to blow all the ether out of the lung with fresh air at the close of the operation, so that the patient almost immediately comes out. I have not had an opportunity to employ this method myself as yet, but intend to do so at the earliest opportunity. My colleague, Dr. Nichols, has employed this method in one case of decortication and states that he was astonished at the way the lung expanded and filled the cavity when the visceral pleura was removed. His patient made an excellent recovery.

527 Beacon Street.

PLASTIC OPERATIONS ON THE FACE *

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Surgical operations are usually designed to save life or to increase function. Even plastic operations on other parts of the body than the face have as their chief object the restoration of function. Operations on the vaginal outlet are performed for the purpose of correcting malpositions of the uterus or of returning the bladder and rectum to their proper position and so rendering these organs better able to functionate normally. Plastic operations on the hands or feet for deformities, on the bowel or bladder for fistulous openings, or on the throat or mouth for congenital defects, are intended to restore to usefulnss the parts affected. Plastic operations on the face, however, are done chiefly for their cosmetic effect, as the function of no organ is materially altered by the facial deformities which such operations are designed to correct.

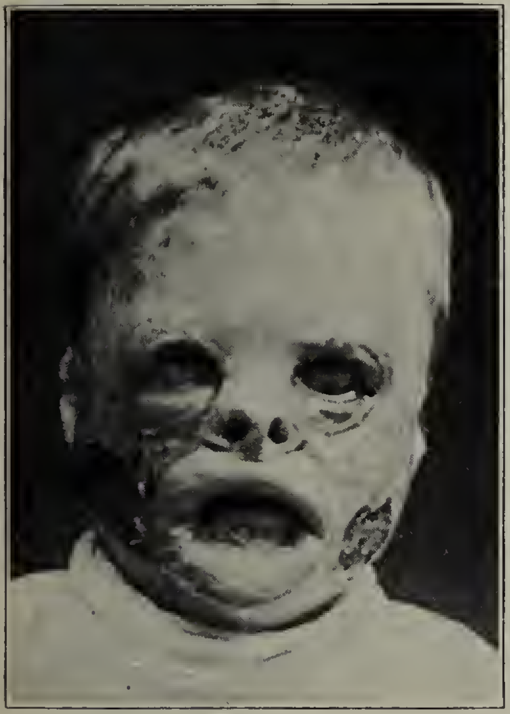

Fig. 1.—J. M., aged 10. Deformity of the face from burn: from photograph taken two days before first operation.

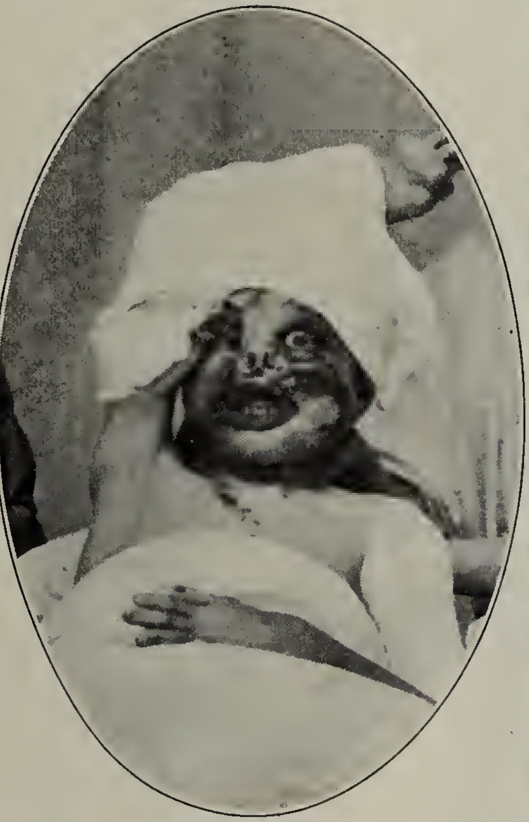

Fig. 2.—J. M., after lower lip and part of the uper lip had been formed from a flap taken from the left shoulder and arm. A flap is now being transferred from his right arm to cover the right eye. The eyelashes have been shaved and the eyelids closed by suture so the flap is transplanted over both lids at one time.

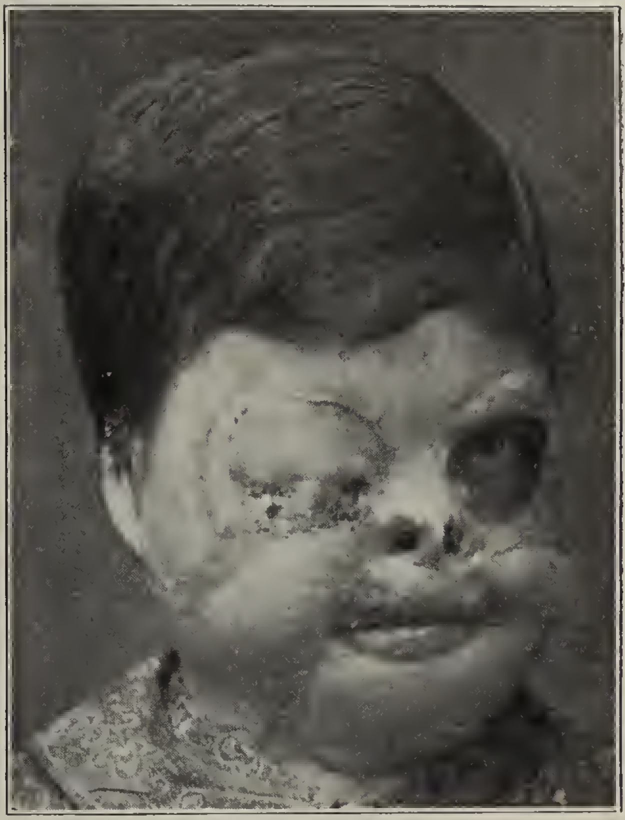

Fig. 3.—Patient J. M. a few days after flap had been cut from its base on the arm.

While the correction of facial deformities cannot be classed as life-saving, such procedures when successful benefit not only the patient, but the community. An operation for appendicitis, for instance, may save an individual life, but usually few outside of the patient's friends and relatives care anything about it. But the surgeon who corrects a cicatricial contraction about the face or operates on a bad double harelip should have the gratitude of every one who has had to see these unfortunate patients, and is at least as much of a public benefactor as the proverbial philanthropist who causes two blades of grass to grow where only one grew before.

This branch of surgery, then, has to do with improving the patient's personal pulchritude, and the length of the incision, the position of the scar, and the coaptation of the skin are of prime importance instead of being as in most operations matters of secondary consideration. Herein plastic operations on the face differ both in technic and in results from other surgery.

Deformities which make plastic operations on the face necessary may be classed under three heads: First, congenital deformities, of which the most common is harelip; second, deformities produced by injury or disease, which may be subdivided into contractions following ulcers or burns and mechanical trauma; third, deformities that result from operations for removal of cancer or lupus. This third group differs somewhat from the second. Though it may be said to occur as the result of disease, the immediate defect is one that has been purposely made by the surgeon under aseptic precautions and, in a manner, he may control the character of the defect. No operation for cancer should ever be done with any other object in view than complete extirpation of the cancerous mass; still at times the incisions may be so shaped as to make a resulting wound that will not leave an unsightly scar while sacrificing nothing to thoroughness.

Without attempting to give a detailed report of cases, I shall describe some operations and results that may serve to illustrate the second two of these three different classes of cases that have been grouped under the heading of plastic operations on the face.

Deformities produced by disease, and particularly by burns, are peculiar from their marked tendency to con-

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* Read by invitation at the meeting of the South Carolina Medical Association, Charleston, S. C., April 19, 1911.

traction. Thiersch's grafts do not prevent contraction after a burn. The effort by Nature to reproduce a corium results in reformation of cicatricial tissue and while the raw surface may be covered by the epithelium of the grafts the contraction recurs in time as bad as it was before. The whole thickness of the skin must be transplanted in places where contraction is to be avoided. This may be done by the Krause or by the Wolfe method of transplanting strips of the whole thickness of the skin taken from the thigh or other portions of the body. As these strips require more nourishment than the thin Thiersch grafts the pieces have to be smaller, as the vessels may enter and nourish a small strip of skin, whereas a larger piece would die. This method cannot be used satisfactorily in extensive deformities produced by burns about the face, as the scars that form between the strips are very unsightly. A boy, whose picture I present (Figs. 1 to 5), was burned by the explosion of a keg of powder about six months before he came under my treatment. Contraction was so great that the mouth could not be closed and saliva constantly dripped over his clothing. There were raw ulcers on the cheeks which would not heal and the eversion of the eyelids from the contraction gave the patient a most repulsive appearance. The lips were freed and the scar tissue dissected away down to the muscles. Care must be taken in such cases to dissect away all of the connective tissue and at the same time not to go deep enough to injure the filaments of the facial nerve. The lips were built up by a flap taken from the arm and shoulder,

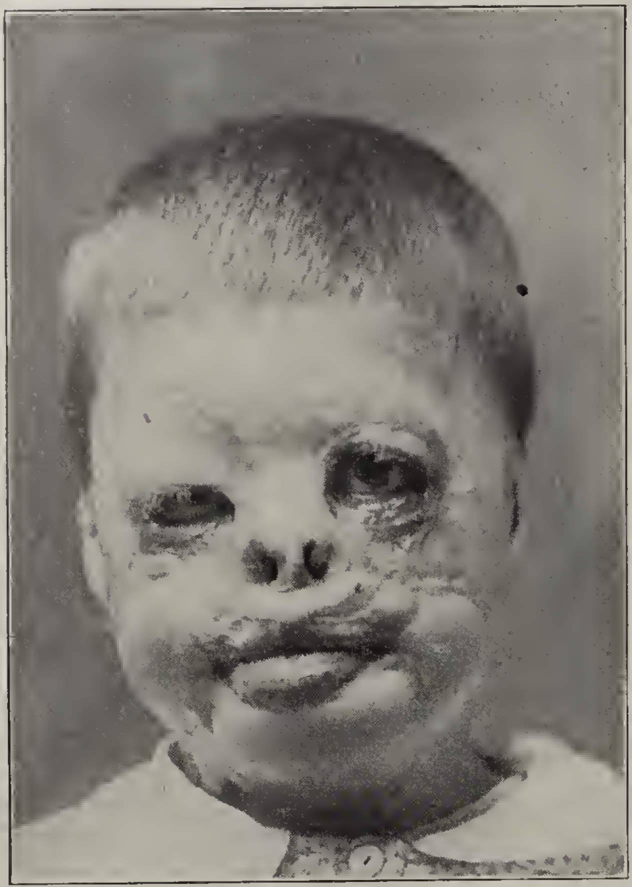
Fig. 4.—J. M.; flap over the eyes has been divided and stitches removed. The upper eyelids were satisfactory, but there was not enough of tissue on lower lid to prevent eversion. Another flap was taken, which is shown in Figure 5.

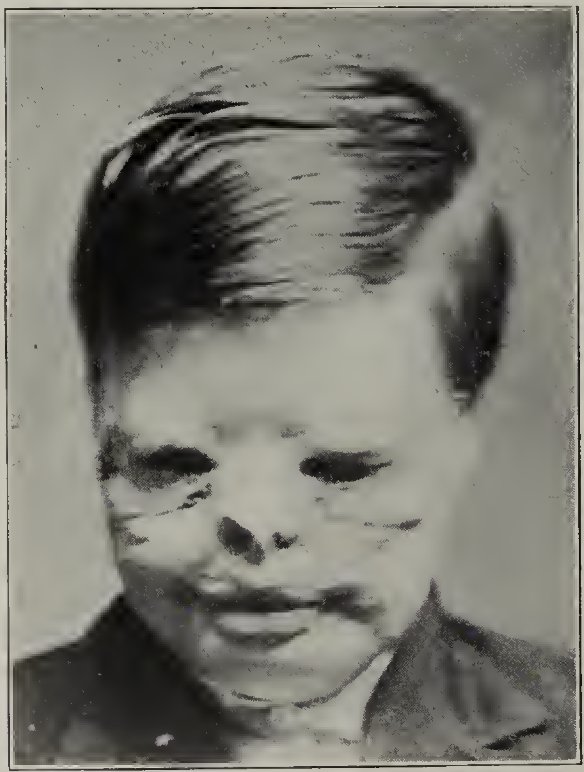
Fig. 5.—Patient J. M. after twenty operations had been performed on him. Both upper and lower eyelids have been satisfactorily built up from flaps from the arm and by Wolfe's grafts from the thigh.

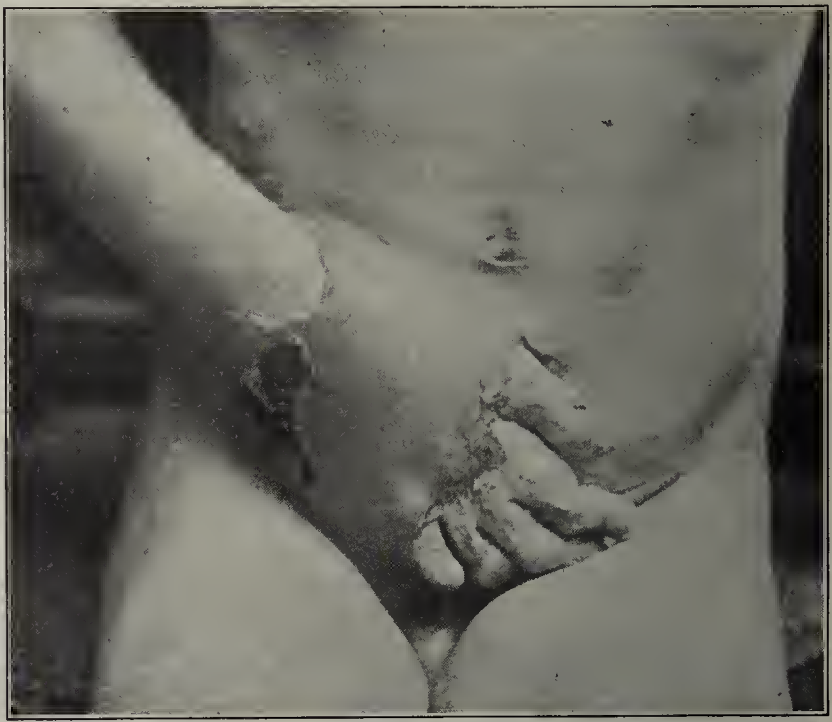
Fig. 6.—Method of using skin from the back of the hand for correcting deformities and remedying defect on hand by replacing whole skin from the abdomen.

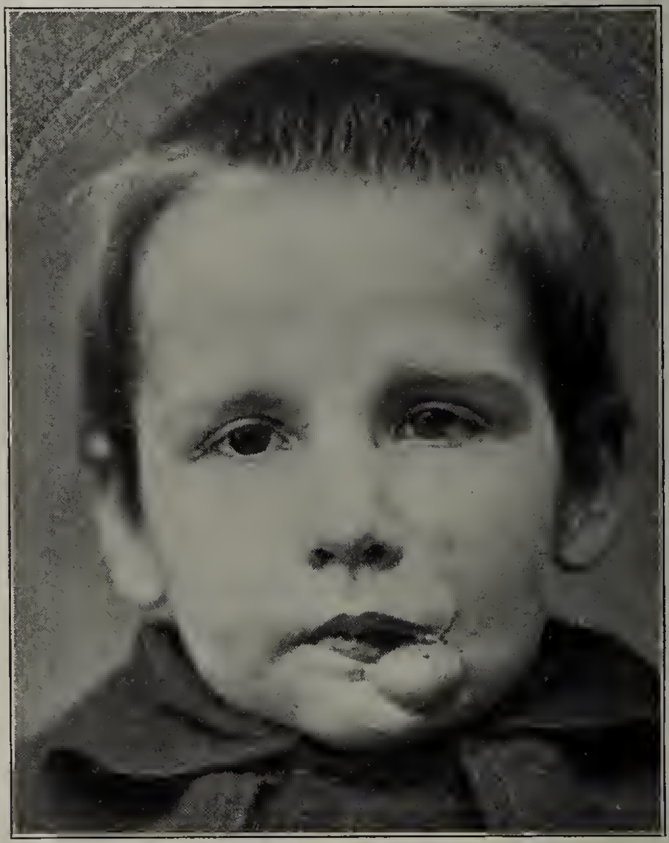
Fig. 7.—R. E. Noma following typhoid fever. The left half of lower lip, mucous membrane and underlying portion of jaw-bone sloughed away, so the under surface of tongue could be seen through defect. The photograph was taken after first operation in which lip was built up by a quadrilateral flap from the cheek which was turned into the defect.

which was sutured in position with the base of the flap attached to the arm and the arm fixed over the head for ten days with plaster of Paris. The base of the flap was then cut away. After a long series of operations the deformities were mostly overcome. They were remedied chiefly by taking flaps from various portions of the arm in the manner just described and partly by transplanting whole pieces of skin to fill out small defects. Flaps of skin may be transplanted from any portion of the body by first attaching them to the hand, then cutting away the flap and transplanting this to the face or by first using the skin on the back of the hand and then covering the defect in the hand with whole skin from the abdomen (Fig. 6).

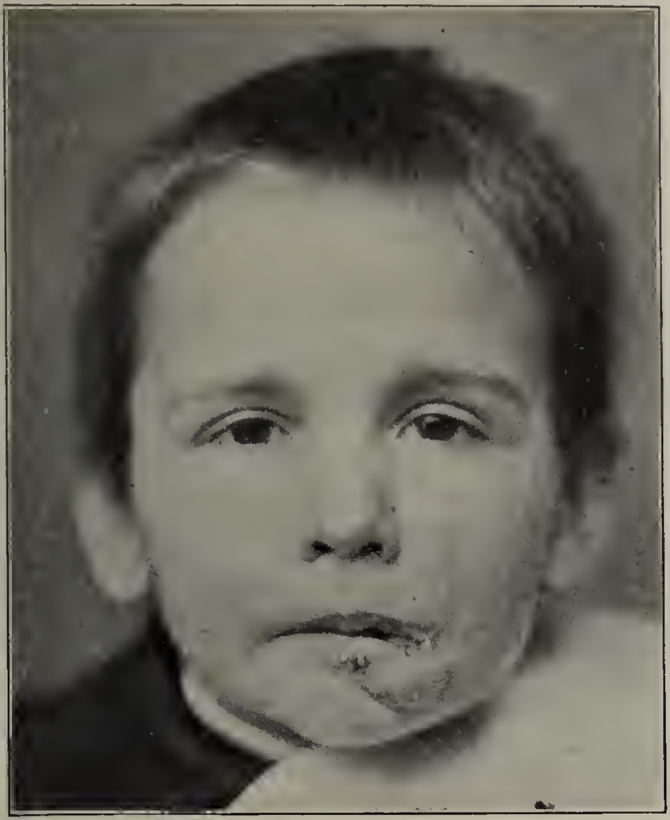

Fig. 8.—R. E., from photograph taken soon after a flap of mucous membrane was raised and attached to the newly constructed lip to form a vermilion border.

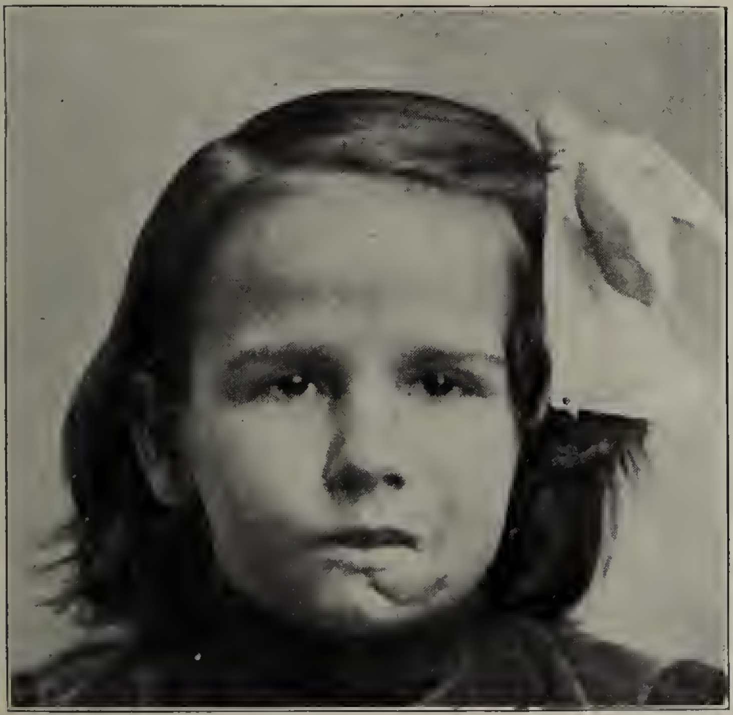

Fig. 9.—R. E., from a photograph taken about one year after second operation.

Diseases such as noma produce very unsightly defects and are best corrected by transplanting flaps from the immediate neighborhood if possible. In one case (Figs. 7, 8 and 9) half of the lower lip with the underlying bone and mucous membrane sloughed away as the result of noma. This was repaired by a quadrilateral flap from the cheek, which was turned into the defect. Later a flap of mucous membrane from the inside of the lip formed a very satisfactory vermilion border. In such instances the problem of contraction does not materially affect the result.

Another case (Figs. 10 and 11) presents a rather unusual deformity which resulted from a fracture of the frontal bone and a sloughing away of the anterior wall of the frontal sinus. This left a marked defect which exposed the frontal sinus and made a deep cavity in the forehead. After finding that the communication between the floor of the frontal sinus and the nose was open, two small flaps were turned in from the margins of the defect so that the skin surface formed the anterior wall of the frontal sinus. This corrected the depression and a U-shaped flap taken from the forehead covered the raw surface of the flaps that had been turned in. The defect left by this flap was corrected by undermining the skin and sliding it over. The result is shown in Figure 11.

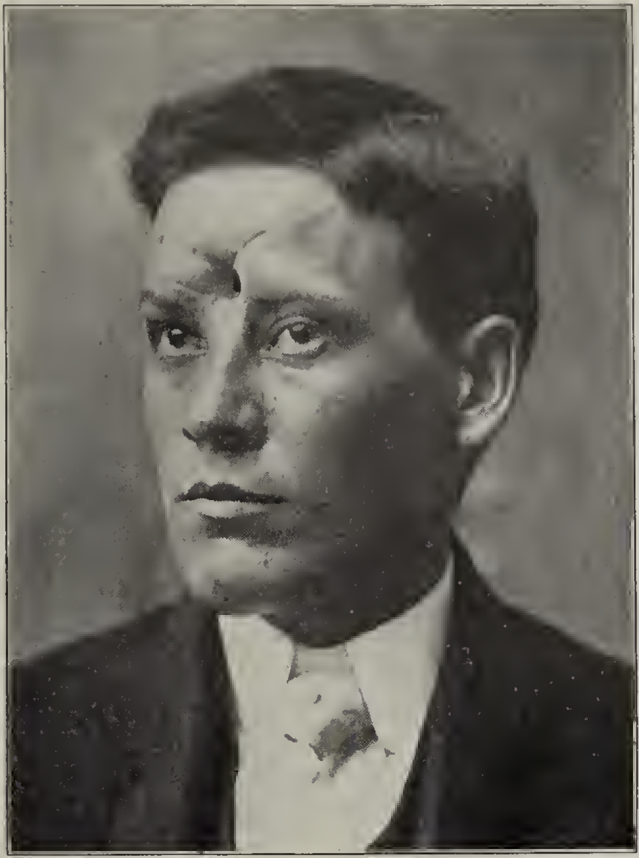

Fig. 10.—E. W. S., from photograph taken before operation, showing defect following fracture of frontal bone and sloughing away of anterior wall of frontal sinus.

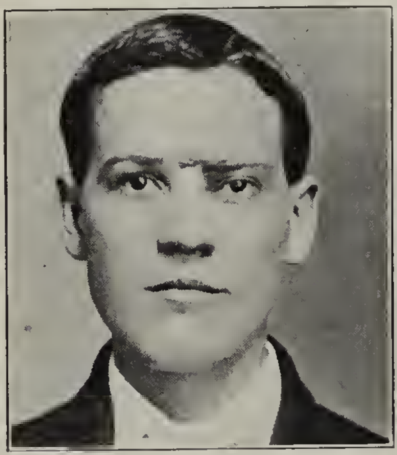

Fig. 11.—E. W. S., from photograph taken about eight months after operation.

The principles which might be said to underlie plastic operations of the face are, first of all, a careful mapping out of the procedures necessary to correct the deformity in each case. Asepsis cannot be maintained and prompt healing will occur only when the tissue is properly nourished and gently handled. Rough handling or lack of consideration for the nutrition of the flaps will result disastrously no matter how accurately the defect is covered. The flaps should always be taken a little larger than seems necessary, particularly in remedying deformities resulting from burns. No dressing should be placed on these wounds unless there is considerable bleeding; in this case a dry compress may be used for twenty-four hours and should then be removed. The raw surface should be dusted with boric acid powder, which forms a scab, and usually quick healing results. If a dressing is put on these wounds the secretion from the nose, mouth or eyes will be absorbed by the dressing and a septic poultice results, whereas antiseptic scabs are formed by incorporation of antiseptic powder into the coagulated serum and the wound is soon sealed and protected from the air. The suturing should be accurate, not tight enough to constrict, but tight enough to approximate the surfaces closely. I use a fine curved reversed Hagedorn needle and fine silk, which leaves the most inconspicuous scar. Where tension is great silkworm-gut is employed as the main suture for harelip operations. Sutures should be removed as soon as possible. In harelip where there is considerable strain on the stitches they have to be left longer than in operations where there is no tension, but here some of the stitches can be removed in six days and all should be out within eight or nine days. In other locations the stitches can usually be removed in five days. No plaster or other dressing should ever be placed on the harelip wound, but relief of tension on the sutures can be secured by two strips of adhesive plaster, which run from the cheek across the nose to the opposite side of the forehead. When these are drawn tightly, complete relaxation of the upper lip is obtained.

421 West Grace Street.

A METHOD FOR GRADUAL AUTOMATIC OCCLUSION OF THE LARGER BLOOD-VESSELS AT ONE OPERATION *

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Stimulated by the work of Halsted and Matas, I and my assistants recently undertook some experiments with the object of working out a method for the gradual automatic occlusion of the larger blood-vessels at one operation.

Halsted used aluminum bands on the arteries for the purpose of permanently occluding their lumina, completely or in part, while Matas employed them for testing the efficiency of the collateral circulation. In neither of these methods, however, nor in any other that we know of, is there any definite and well-directed attempt to bring about gradual automatic occlusion in one operation, the thing above all others needed in arterial surgery for the treatment of aneurysm and tumors involving the great vessels.

It was for the purpose of establishing a principle, which might be at least a step toward the solution of this problem, that we devised the clamp described below. In the larger number of our experiments, we used the clamp called Model 2 (shown in Figures 1, 2 and 3), because of its simplicity of construction and application. It consists of two pieces of sheet aluminum, No. 13 B. & S. sheet metal gauge, hinged at one end as shown in Figure 1. For the common carotid artery of the dog, each blade is 5/16 inch wide and 7/8 inch long. The edges of the opposing surfaces of the blades are carefully rounded off, so that they will not injure the vessel which passes through the space (*c*) of the clamp. The deep groove (*f*) in the end of each blade, is for the catgut which is wound in layers in one or both of them and serves to separate the blades after the clamp is applied to the vessel. The short set-screw (*e*) was incorporated in the clamp in the early part of the work, for the purpose of preventing the blades from coming together, and thus cutting through the vessel after the catgut was absorbed. We now consider the set screw unnecessary and believe that gradual complete occlusion and division of the vessel is the ideal result.

The grooves (*d*) next to those for the catgut are for a rubber elastic band, the purpose of which is to approximate the two blades during the gradual absorption of the catgut. The elastic, therefore, must be of the very best dental ligature material to tolerate encapsulation under tension for a prolonged period of time.

Next to the hinge (*a*) are the shallow grooves (*b*) for a second rubber band. The object of this band is not so much to draw the blades together as to prevent the artery from slipping into the narrow part of the clamp next to the hinge. Figure 2 shows the clamp on the flat with grooves for the rubber bands and catgut.

Figure 3 shows the clamp with artery (*c*), rubber bands (*b* and *d*) and catgut (*e*) in position.

APPLICATION

The application is exceedingly simple. The clamp and rubber bands are sterilized by boiling, and No. 1 plain sterile catgut is wrapped in the end groove of one of the blades. This must be carefully done, three or four layers being placed one on the other in the groove. The ends of the gut are then tied together on the outer surface of the blade. The clamp is now applied to the artery and the blades pressed together as closely as the catgut will permit. If the pulsation distal to the clamp is markedly weakened, the latter is removed and two or three layers of gut wrapped in the end groove of the other blade. The clamp is again applied to the artery (Fig. 3), and two turns of No. 9 dental elastic band (*d*) are placed around both blades in the groove. A section of small-sized rubber tubing or a single turn of No. 9 elastic band (*b*) is slipped over the hinged end, the muscles and fascia then sutured with catgut over the clamp and the operation is complete.

MODUS OPERANDI

The principle underlying the action of the clamp is the gradual absorption of the catgut between the ends of the blades and the consequent gradual automatic approximation of these blades by the elastic bands. The artery in the grasp of the clamp is necessarily gradually occluded as the blades come together, the occlusion taking place so slowly that the collateral circulation has an opportunity to develop. After the catgut has completely absorbed and the blades are together, all tissue in the grasp of the clamp undergoes pressure atrophy and is absorbed. This we consider an ideal result: the vessel cut in two and occluded by the clamp, each of the ends tapering to a point and united by a cord of firm fibrous tissue.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

We have learned from our experiments that the catgut is entirely absorbed in from three to four weeks and that the ideal result mentioned above is obtained in the majority of cases.

We do not know whether the portion of catgut between the blades is actually absorbed or slips out layer by layer, coincident with the absorption of each layer on the surface. The same result, however, is brought about in either case, viz., the gradual approximation of the two blades, by the rubber band as each successive layer of gut is absorbed.

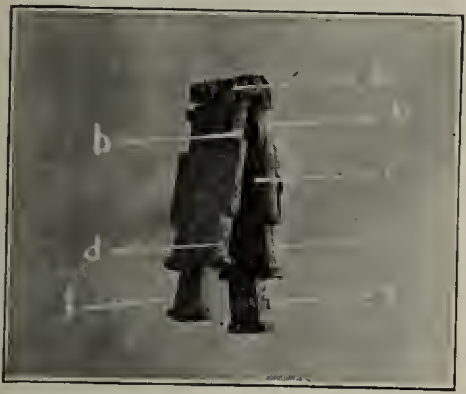

Fig. 1.—Clamp model 2; a, hinge; b, groove for rubber band; c, space for artery; d, groove for rubber band; e, set screw; f, groove for catgut.

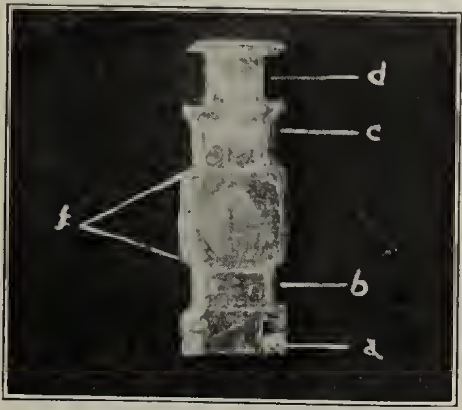

Fig. 2.—Clamp model 2; a, hinge; b, groove for elastic band; c, groove for elastic band; d, groove for catgut; f, space for artery.

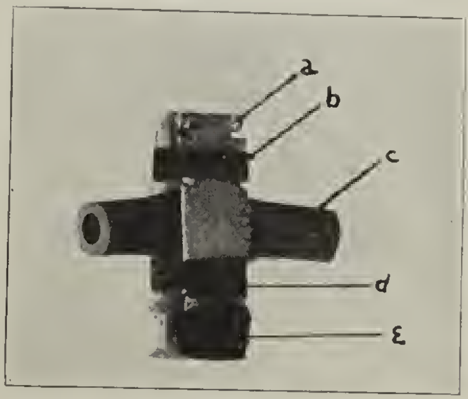

Fig. 3.—Clamp model 2; a, hinge; b, rubber elastic; c, artery; d, rubber elastic; e, catgut wound around one blade.

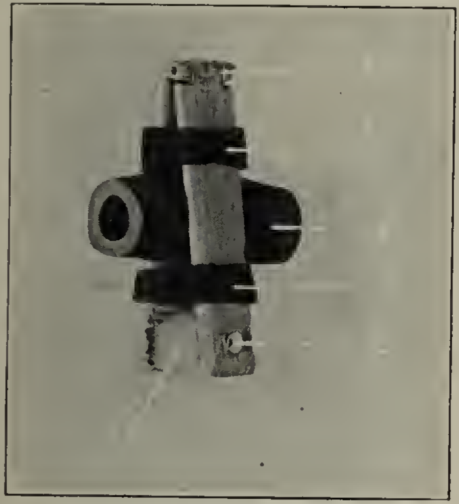

Fig. 4.—Clamp model 1; a, hinge; b, rubber band; c, artery; d, rubber band; e, pin through decalcified bone; f, decalcified bone.

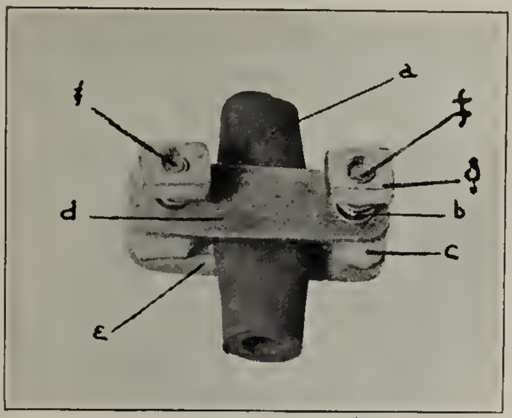

Fig. 5.—Clamp model 3; a, artery; b, spiral spring; c, decalcified bone; d and e, blades of clamp.

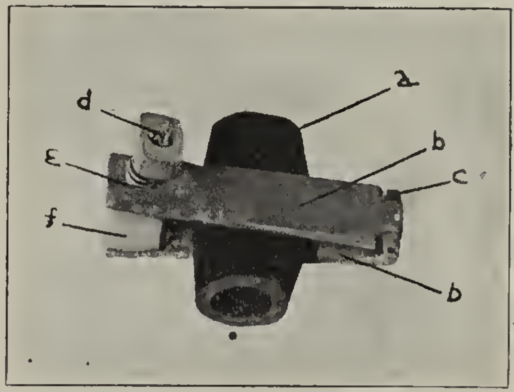

Fig. 6.—Clamp model 4; a, artery; b, blades of clamp; c, hinge; d, curve pin transfixing bone; e, spiral spring; f, decalcified bone.

Model 1 (shown in Figure 4), with catgut wound around the ends of one or both blades, or decalcified bone between the blades, transfixed by a pin to prevent its displacement, was used in most of our early experiments. The rubber elastics have practically the same arrangement as in Model 2, except that there are no definite grooves for them or the catgut. We believe that catgut is superior to decalcified bone as a separating agent, because it can be applied to the blades in layers, thus giving greater assurance of gradual absorption. A decided advantage of Model 2 is the deep groove for the catgut. This deep groove (*f*, Figure 1), with the end flange partly filed off, gives a narrow shank on which to wind the gut, affording a minimum surface between the blades, where absorption is slow and uncertain, and a maximum outer surface where absorption readily occurs.

When decalcified bone is used the underlying principle is exactly the same as with catgut; the bone is gradually absorbed and allows the blades to slowly come together.

Model 3 (illustrated in Figure 5) was used in only one experiment, so we have not had sufficient experience with it to draw conclusions as to its use. It consists of two separate blades (*d* and *e*), the opposing edges of which are rounded off to prevent cutting of the vessel. To the under blade (*e*) are fixed two upright threaded posts (*f*) which pass through two corresponding perforations in the upper blade (*d*). Two pieces of sterile decalcified bone (*c*) of proper thickness, are drilled and placed one on each of the upright posts (*f*) next to the blade (*e*). This blade is now put under the artery so that the latter occupies the position (*a*) shown in the illustration. The upper blade (*d*) is then placed in position and a small spiral spring (*b*) slipped over each of the upright posts (*f*). Now by screwing the nuts (*g*) into position, the upper blade (*d*) is pressed firmly against the decalcified bone (*c*), and as the latter is gradually absorbed, it will be slowly approximated to the blade (*e*). The disadvantages of this clamp are that it is complicated and occupies much more room than Model 2. Catgut can be used on each of the posts instead of decalcified bone.

Model 4 (shown in Figure 6) was used in only one case; it seems to possess no advantage over the simpler models, 1 and 2. A glance at the illustration will show that the working principle is the same, but instead of the rubber bands a spiral spring (*e*) is used to approximate the two blades. Magnesium, which is slowly absorbed by the tissues, can be used in the construction of the clamp instead of aluminum.

We have used the clamps in thirty-four experiments on dogs, twenty-seven times on the common carotids, five times on the aorta and twice on the femorals. Four of the aorta subjects died, one from general peritonitis, one from hemorrhage, one from double pyonephrosis, and one from secondary hemorrhage plus infection. Of the thirty remaining cases, complete occlusion was found at second operation in twenty-two, partial occlusion in seven and none at all in one.

Plain sterile catgut was used on one or both blades of the clamp in twelve cases and was completely absorbed after thirty and one-half days (average) in eleven cases. In the remaining case all of it was absorbed, except a very small fragment between the blades. Iodin catgut, after Bartlett's method, was used in fifteen cases and was found completely absorbed after twenty-eight days (average) in only three. Of the remaining twelve cases, it was in various stages of partial absorption in eleven, and showed no evidences of absorption in one.

Of the fourteen cases of complete absorption there was only one in which the vessel was not entirely occluded, the cause of failure in this one being too great separation of the blades by the set-screw.

In the cases in which the iodin catgut was only partly absorbed, it had been in the tissues, on an average, thirty-three days for each experiment.

Decalcified bone was used in three of the thirty experiments. In two cases it was completely absorbed after thirty-five days and in one, only a small fragment remained after twenty-four days. In only one of the thirty cases was there secondary hemorrhage and that was due to injury

REPORT OF EXPERIMENTS

Experiment 1.—Dog 12. Yellow male, weight 42 pounds. Operation, March 22, 1911. Right common carotid ligated.

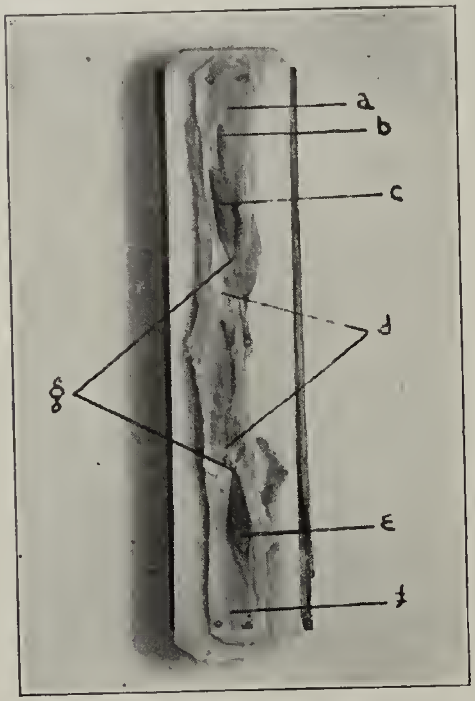

Fig. 7.—Dog 12; left common carotid. Exp. 1; a, above occlusion; b, collateral; c, clot; d, fibrous tissue between occluded ends; e, clot; f, below occlusion; g, occluded ends of artery.

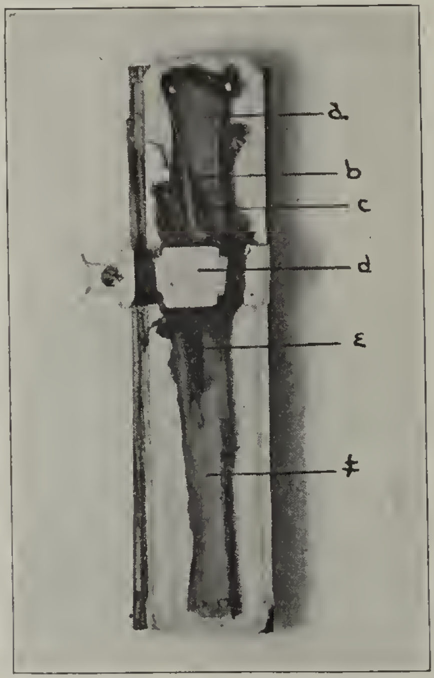

Fig. 8.—Dog 13; right common carotid. Exp. 2; a, artery above occlusion; b, collateral; c, clot; d, clamp in place; e, clot; f, artery below occlusion.

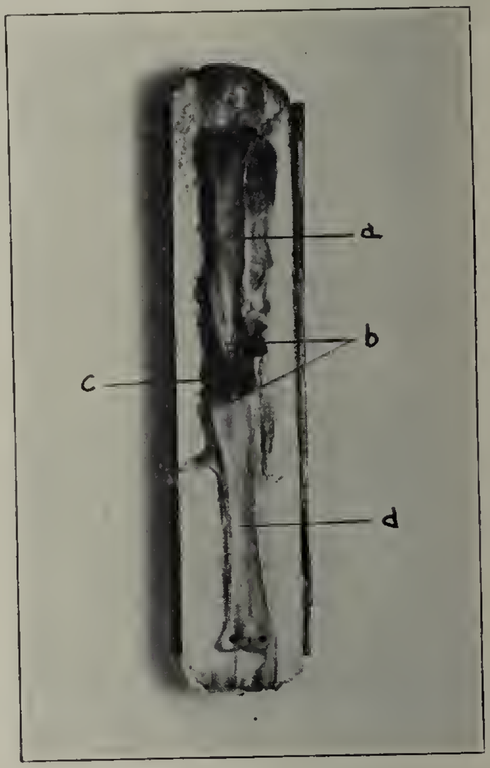

Fig. 9.—Dog 13; left common carotid. Exp. 3; a, above occlusion; b, occluded ends; c, portion of artery in grasp at clamp; d, below occlusion.

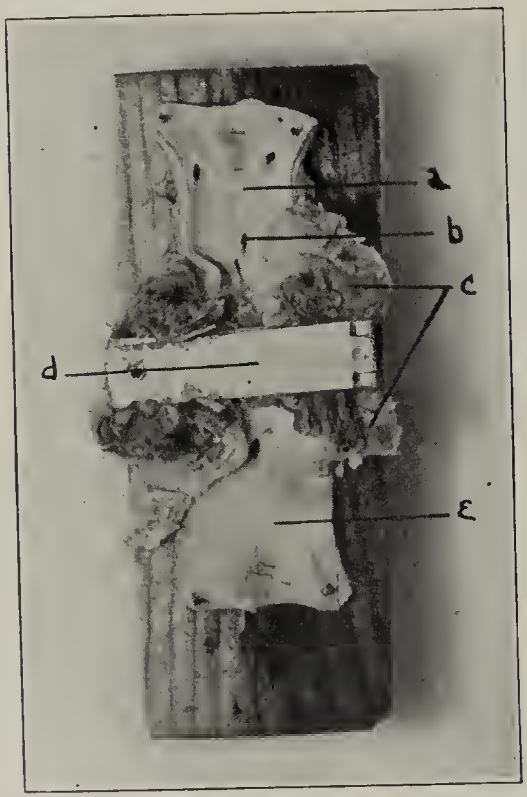

Fig. 10.—Dog 16; aorta. Exp. 6; a, above occlusion; b, collateral; c, fibrous capsule around clamp; d, clamp in position; e, below occlusion.

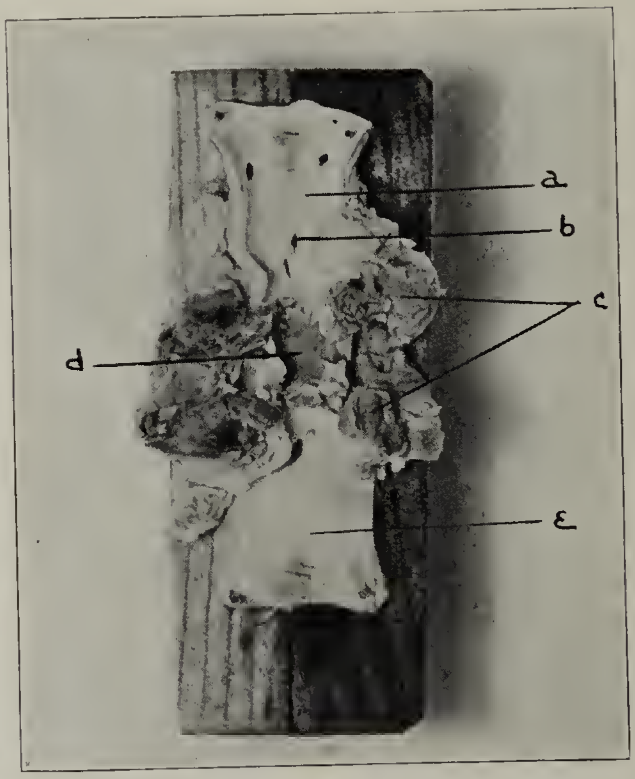

Fig. 11.—Dog 16; aorta. Exp. 6; a, aorta above occlusion; b, collateral; c, fibrous capsule around clamp; e, below occlusion; f, fibrous tissue between occluded ends.

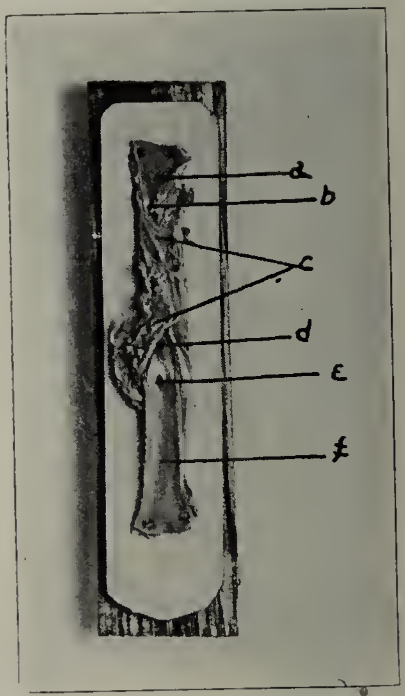

Fig. 12.—Dog 18; left common carotid. Exp. 9; a, above occlusion; b and d, occluded ends of artery; c, fibrous tissue between occluded ends; e, collateral; f, below occlusion.

Clamp Model 1, with plain No. 2 catgut on both blades applied to left common carotid. Second operation, April 20, 1911. Primary union of wound. Clamp found free in connective tissue capsule. Catgut entirely absorbed and blades together. Section of artery removed and split longitudinally from both ends (Fig. 7). Artery completely occluded and ends (*g*) united by fibrous tissue (*d*). A small clot (*c* and *e*) present in each occluded end.

Experiment 2.—Dog 13. Brindle bull, weight 50 pounds. Operation, March 24, 1911. Clamp Model 1, with plain No. 2 catgut on one blade applied to right common carotid. Second operation, April 22, 1911. Primary union of wound. Clamp embedded in fibrous capsule. Catgut entirely absorbed and blades together. Section of artery removed and examined (Fig. 8). It was completely occluded at site of compression (*d*) and ends were united by dense fibrous tissue. A small clot (*c* and *e*) filled each of the occluded ends.

Experiment 3.—Dog 13. Operation, March 24, 1911. Model 1 clamp with plain No. 2 catgut on one blade applied to left common carotid. Second operation, April 22, 1911. Catgut on outside of clamp entirely absorbed, but enough left between blades to prevent complete occlusion of artery. Clamp removed, fresh catgut wound around one of the blades, and reapplied to proximal portion of artery. Third operation, May 26, 1911. Catgut completely absorbed, and blades together. When the clamp was removed, weak pulsation was felt in distal segment. Section of artery removed and examined (Fig. 9). Portion of artery in grasp of clamp (*c*) greatly narrowed almost to the point of obliteration. No intravascular clots.

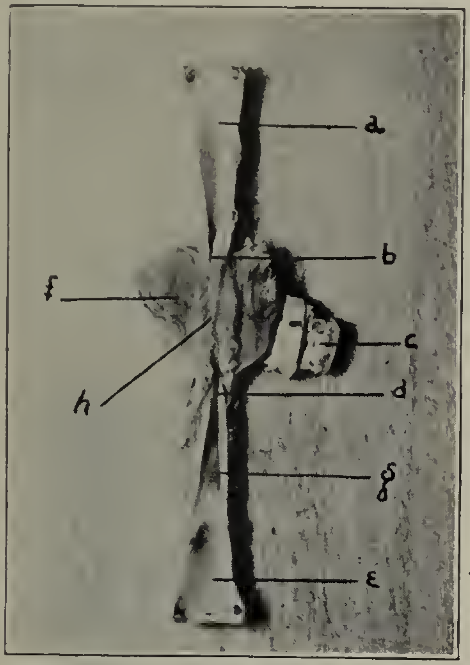

Fig. 13.—Dog 19; right common carotid. Exp. 10; a, below occlusion; b and d, occluded ends of artery; c, clamp in position; e, above occlusion; f, fibrous capsule around clamp; g, clot; h, fibrous tissue between ends.

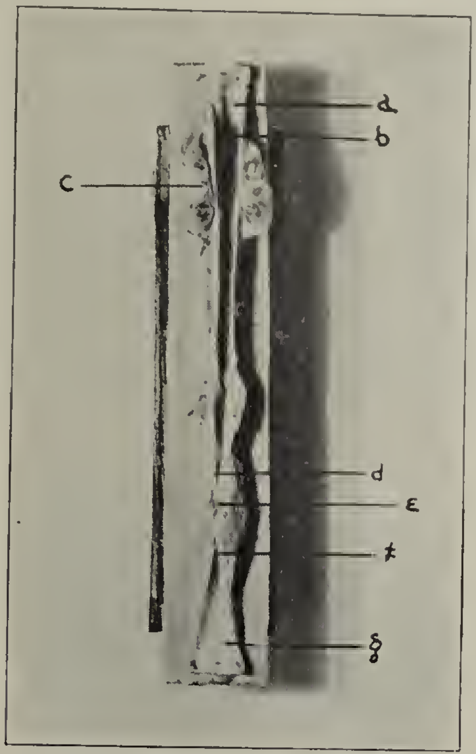

Fig. 14.—Dog 19; left common carotid. Exp. 11; a, above occlusion; b, clot; c, site of previous compression; d, occluded end of artery; e, fibrous tissue between ends; f, occluded end; g, below occlusion.

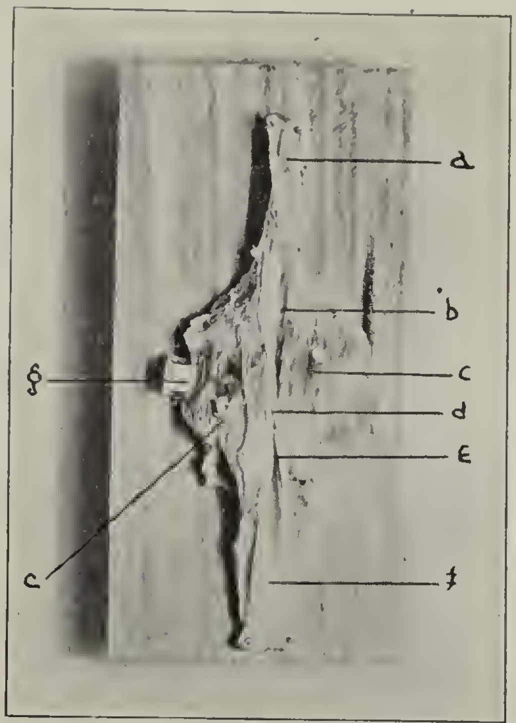

Fig. 15.—Dog 20; right common carotid. Exp. 12; a, above occlusion; b and e, occluded ends of artery; c, fibrous capsule around clamp; d, fibrous tissue between ends; f, below occlusion; g, clamp in position.

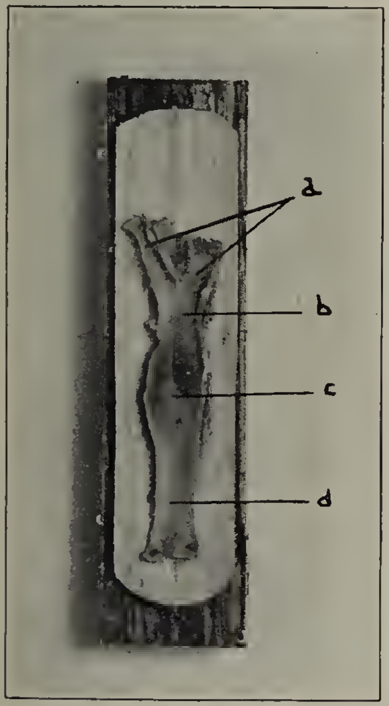

Fig. 16.—Dog 20; left common carotid. Exp. 13; a, ext. and int. carotids; b, above occlusion; c, dilatation at site of compression; d, below occlusion.

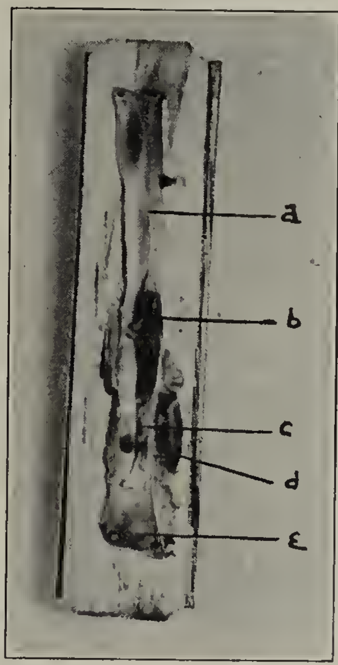

Fig. 17.—Dog 21; left common carotid. Exp. 15; a, below occlusion; b, clot; c, site of occlusion; d, part of fibrous capsule around clamp; e, above occlusion.

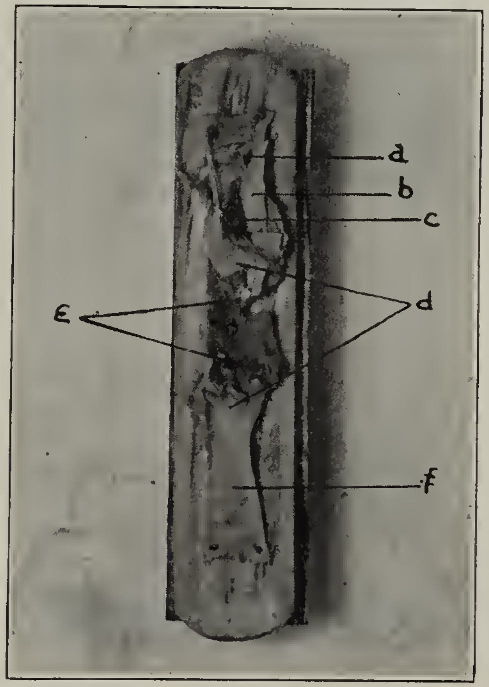

Fig. 18.—Dog 23; right common carotid. Exp. 18; a, collateral; b, above occlusion; c, clot; d, occluded ends of artery; e, fibrous tissue between ends; f, below occlusion.

Experiment 4.—Dog 14. Small puppy. Operation, March 25, 1911. Clamp Model 1, with plain catgut on both blades applied to abdominal aorta below origin of renal arteries. Thoracic duct injured during the application. Dog died March 27 of general peritonitis. No changes found in aorta.

Experiment 5.—Dog 15. White male, weight 28 pounds. Operation, March 28, 1911. Clamp Model 1 with decalcified bone separating blades applied to abdominal aorta. Dog developed a paraplegia, April 5, and died April 8. Necropsy showed general peritonitis, and hemorrhage from a perforation of the aorta beneath the clamp.

Experiment 6.—Dog 16. Female bird dog, weight 40 pounds. Operation, April 3, 1911. Clamp Model 1, with decalcified bone separating blades applied to abdominal aorta. Second operation, May 18, 1911. Primary union of wound. Pulsation in femorals had been absent for three weeks. Aorta exposed, clamp imbedded in fibrous capsule (*c*, Fig. 10), decalcified bone completely absorbed and blades together. Section of aorta removed and examined (Figs. 10 and 11). Artery completely occluded at site of compression (*d*, Figs. 10 and 11) and portion of artery between the blades represented by a thin fibrous ribbon (*d*, Fig. 11). No intravascular clots. The vessel was closed on each side of clamp by fibrous union of its walls. The collaterals on both sides of the occlusion were large and numerous (*b*, Figs. 10 and 11).

Experiment 7.—Dog 17. Small white female. Weight 28 pounds. Operation, April 6, 1911. Clamp Model 3, with two pieces of decalcified bone separating blades, applied to abdominal aorta. Dog died April 16, 1911. Necropsy showed double pyonephrosis, with almost complete destruction of left kidney. Artery unchanged.

Experiment 8.—Dog 18. Small black female, weight 24 pounds. Operation, April 8, 1911. Clamp Model 4, with decalcified bone separating blades, applied to right common carotid. Second operation, May 2. Primary union of wound. Clamp in fibrous capsule. Nearly all of the bone was absorbed but a small amount remained between the blades. Very weak pulsation could be felt in artery distal to clamp.

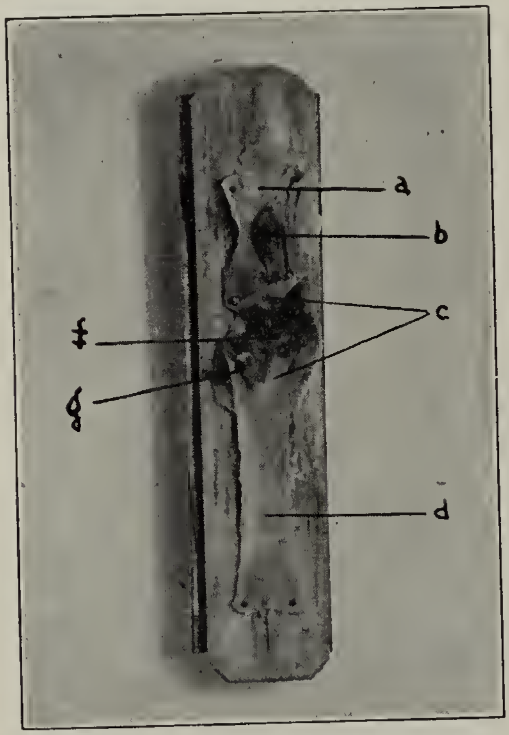

Fig. 19.—Dog 23; left common carotid. Exp. 19; a, above occlusion; b, clot; c, occluded ends of artery; d, below occlusion; f, fibrous tissue between ends of artery; g, point of perforation.

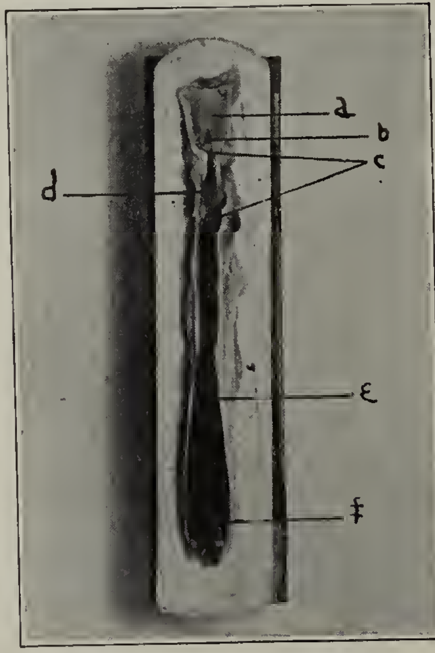

Fig. 20.—Dog 24; right common carotid. Exp. 20; a, above occlusion; b, collateral; c, occluded ends of artery; d, fibrous tissue between occluded ends; e, clot; f, below occlusion.

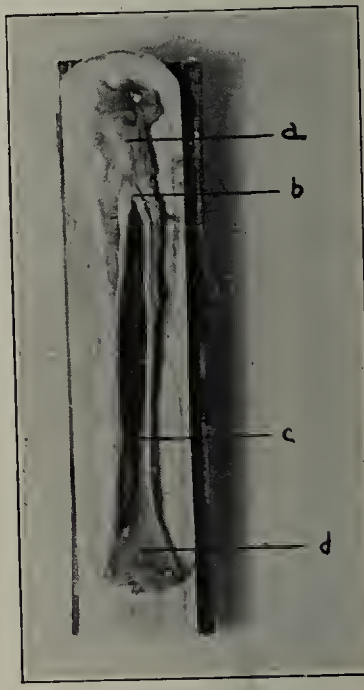

Fig. 21.—Dog 24; left common carotid. Exp. 21; a, fibrous tissue between occluded ends; b, occluded end of artery; c, clot; d, artery below occlusion.

Experiment 9.—Dog 18. Operation, April 8. Clamp Model 1 with decalcified bone separating blades applied to left common carotid. Second operation, May 2. Primary union of wound. Clamp embedded in fibrous capsule, bone completely absorbed and blades together. Section of artery removed and examined (Fig. 12). Artery is perfectly occluded at site of compression and each end tapers to a point (*b* and *d*). Ends united by fibrous tissue (*c*). No intravascular clots.

Experiment 10.—Dog 19. White bull terrier. Weight 32 pounds. Operation, April 13, 1911. Clamp Model 1, with plain No. 1 catgut on both blades applied to right common carotid. Second operation, May 5. Primary union of wound. Clamp embedded in fibrous capsule. Catgut was partially absorbed from both blades but not sufficiently to completely obliterate artery. Clamp removed and reapplied with fresh catgut, No. 1 plain, to proximal portion of artery. Third operation, June 2. Small superficial sinus at upper angle of wound not communicating with clamp. Clamp imbedded in fibrous capsule (Fig. 13, *f*). Catgut completely absorbed and blades together. No pulsation in distal segment. Section of artery removed and examined (Fig. 13). Vessel completely occluded at sight of compression, each end tapering to a point (*b* and *d*), small clot (*g*) in distal segment. Ends united by fibrous tissue (*h*).

Experiment 11.—Dog 19. Operation, April 13, 1911. Clamp Model 1 with plain No. 1 catgut on both blades applied to left common carotid. Second operation, May 5. Clamp in fibrous capsule. Catgut partially absorbed from both blades but not sufficiently to obliterate pulsation. Clamp removed and reapplied with fresh plain catgut to proximal portion of artery. Third operation, June 2. Clamp in fibrous capsule, catgut completely absorbed and blades together. Section of artery removed and examined (Fig. 14). Artery perfectly occluded at site of compression, and each end tapers to a point (*d* and *f*). Ends united by fibrous tissue (*e*). Distal segment contains an organizing blood-clot (*b*) extending from point of occlusion (*d*), to point of previous application of clamp (*c*).

Experiment 12.—Dog 20. White female bull. Weight 28 pounds. Operation, April 14, 1911. Clamp Model 1, with No. 1 iodin catgut on both blades applied to right common carotid. Second operation, May 6. Clamp in fibrous capsule and catgut partly absorbed. Weak pulsation distal to clamp. Clamp removed and one of Model 2 with No. 0 iodin catgut on one blade applied to proximal portion of artery. Third operation, June 3. Primary union. Clamp in fibrous capsule (*c*, Fig. 15). Catgut entirely absorbed and blades together. Section of artery removed and examined (Fig. 15). Artery completely occluded at site of compression and each end tapers to a point (*b* and *e*). Distal segment contains a small organized blood-clot. Ends united by fibrous tissue.

Experiment 13.—Dog 20. Operation, April 14, 1911. Clamp Model 1, with No. 1 iodin catgut on both blades, applied to left common carotid. Second operation, May 6, clamp in fibrous capsule and catgut partly absorbed from both blades. Section of artery removed and examined (Fig. 16). The artery between the blades was not obliterated but instead was considerably dilated when the pressure was removed (*c*, Fig. 16). With the clamp in place the vessel was occluded by approximation of the walls, but when removed it expanded like a fusiform aneurysm. A small clot filling the lumen of the vessel was loosely attached at the site of compression.

Experiment 14.—Dog 21. Female brindle bull. Weight 46 pounds. Operation, April 23, 1911. Clamp Model 2, with No. 0 iodin catgut on both blades applied to right common carotid artery. Second operation, May 26. Pulsation present distal to compression, so clamp was left in place. Third operation, June 9. Clamp in fibrous capsule, pulsation in distal segment almost as strong as in proximal. Practically no absorption of catgut. The iodin catgut was removed from the clamp and one blade wound with No. 2 plain gut.

Experiment 15.—Dog 21. Operation, April 23. Clamp Model 2, with No. 0 iodin catgut on both blades applied to left common carotid artery. Second operation, May 26. Clamp in fibrous capsule, catgut partially absorbed and blades almost together. No pulsation distal to clamp. Section removed and examined (Fig. 17). The portion of artery in the grasp of the clamp (*c*) greatly narrowed, and obliteration of the lumen in progress. In distal segment there is an organizing clot (*b*) filling the lumen.

Experiment 16.—Dog 22. Black and tan male. Weight 18 pounds. Operation, April 24, 1911. Clamp Model 2, with No. 0 iodin catgut on one blade applied to right common carotid. Second operation, May 29. Pulsation present distal to clamp. Catgut partly absorbed but not sufficiently to occlude artery. Clamp left in place. Third operation, June 14. Clamp in fibrous capsule. Catgut almost entirely absorbed but just sufficient of it left between blades to prevent obliteration of artery. Very feeble pulsation distal to clamp. Section of artery removed and examined. Artery was practically occluded, by approximation of its walls in grasp of clamp. On longitudinal section, however, it exhibited practically no change except a darkening of the intima at site of compression.

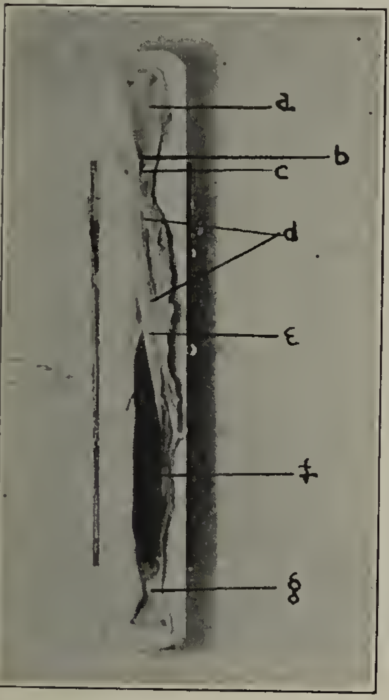

Fig. 22.—Dog 25; right common carotid. Exp. 22; a, above occlusion; b, collateral; c and e, occluded ends of artery; f, clot; g, below occlusion; d, fibrous tissue between ends.

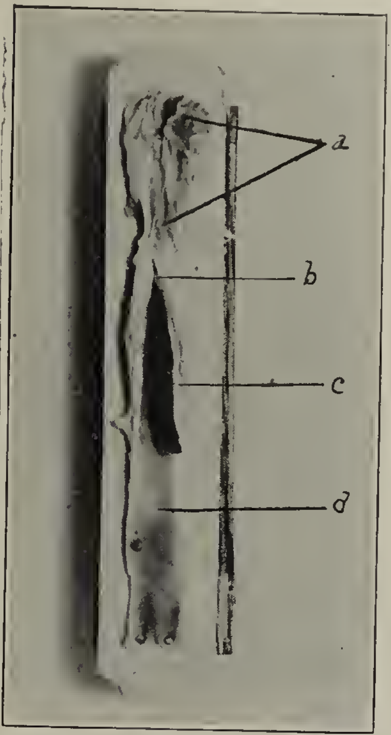

Fig. 23.—Dog 25; left common carotid. Exp. 23; a, fibrous tissue between occluded ends of artery; b, occluded proximal end; c, clot; d, artery below occlusion.

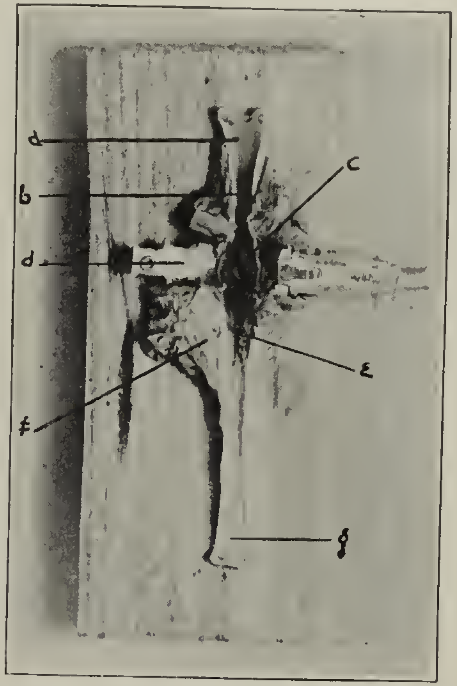

Fig. 24.—Dog 27; right common carotid. Exp. 26; a, above occlusion; b, clot; c, portion of artery in clamp; d, clamp in position; e, clot; f, fibrous capsule around clamp; g, below occlusion.

Experiment 17.—Dog 22. Operation, April 24, 1911. Clamp Model 2, with No. 0 iodin catgut on one blade applied to left common carotid. Second operation, May 29. Catgut partly absorbed but not sufficiently to stop pulsation. Clamp left in place. Third operation, June 14. Primary union of wound. Clamp in fibrous capsule. Catgut almost completely absorbed but enough left between blades to prevent obliteration of artery. Feeble pulsation distal to clamp. Section of artery removed and examined. Same description applies here as to specimen removed from experiment 16.

Experiment 18.—Dog 23. Female bird dog. Weight 40 pounds. Operation, April 27, 1911. Clamp Model 2, with No. 0 iodin catgut on both blades applied to right common carotid. Second operation, May 18. Primary union of wound. Clamp in fibrous capsule. All of the catgut had been absorbed from one blade and most of it from the other, allowing the blades to come together. Section removed and examined (Fig. 18). The artery was completely occluded at site of compression, and the ends (*d*) closed by organic union. Ends united by fibrous tissue (*e*). Small clot (*c*) in distal end.

Experiment 19.—Dog 23. Operation, April 27, 1911. Clamp Model 2, with No. 0 iodin catgut on both blades applied to left common carotid artery. Second operation, May 18. Hematoma, the size of a small orange, present in neck beneath scar. Three days before operation, dog was kicked in neck during a fight, which accounted for the hemorrhage. Left common carotid exposed. Clamp found free from artery. About half of catgut had been absorbed from both blades, permitting them to come close together. Section of artery removed and examined (Fig. 19). Artery was perfectly occluded at site of compression (*f*). Distal end containing a small clot (*b*) was occluded by a fibrous union of its walls (*c*). Proximal end too was occluded by organic union (*c*); except at one point (*g*) in the line of union, from which hemorrhage had taken place. This rupture had evidently been caused by the impact of the clamp against the vessel end when the dog was kicked.

Experiment 20.—Dog 24. White puppy. Weight 25 pounds. Operation, April 27, 1911. Clamp Model 2, with No. 0 iodin catgut on both blades applied to right common carotid. Second operation, May 29. Primary union of wound. Clamp in fibrous capsule. Catgut on both blades was almost entirely absorbed and blades were together. Section removed and examined (Fig. 20). Artery completely occluded at site of compression (*d*) each occluded end tapering to a point (*c*). Ends united by fibrous tissue (*d*). In proximal segment is a clot (*c*) which fills the vessel.

Experiment 21.—Dog 24. Operation, April 27. Clamp Model 2 with No. 0 iodin catgut on both blades applied to left common carotid. Second operation, May 29. Primary union of wound. Clamp in fibrous capsule. All of the catgut on one blade was absorbed and all but one layer from the other. Blades were together. Section removed and examined (Fig. 21). Vessel was completely occluded at site of compression and proximal end tapered to a point (*b*). Beyond proximal end was firm fibrous tissue (*a*). A clot (*c*) completely filled this segment of the artery. The distal end was not included in the excised portion.

Experiment 22.—Dog 25. Yellow male. Weight 45 pounds. Operation, May 3, 1911. Clamp Model 2, with No. 0 iodin catgut, applied to right common carotid. Second operation, May 31. In lower portion of wound a sinus leads down to situation of clamp. Clamp free from artery, catgut entirely absorbed and blades together. No pulsation beyond clamp. Section removed and examined (Fig. 22). Artery completely occluded, each end tapering to a point, (*c* and *e*). The ends were united by fibrous tissue (*d*). In proximal segment a clot (*f*) completely fills the lumen.

Experiment 23.—Dog 25. Operation, May 3, 1911. Clamp Model 2, with No. 0 iodin catgut on one blade, applied to left common carotid. Second operation, May 31. Primary union of wound. Clamp in fibrous capsule and blades together. The catgut was entirely absorbed. Specimen removed and examined (Fig. 23). Vessel completely occluded and proximal segment tapered to a point (*b*). In this portion of the artery was a clot (*c*) which completely filled the lumen. Beyond the occluded end is dense fibrous tissue (*a*). The distal segment is not included in the specimen.

Experiment 24.—Dog 26. Black female, weight 24 pounds. Operation, May 5, 1911. Clamp Model 2, with No. 0 iodin catgut on both blades applied to right common carotid. Second operation, June 2. Weak pulsation felt distal to clamp. Catgut on blades partly absorbed but not sufficiently to occlude lumen. Clamp left in place. Third operation, June 15. Primary union. Clamp in fibrous capsule. Catgut absorbed excepting one layer which was enough to prevent complete occlusion of artery. Feeble pulsation distal to clamp. Clamp left in place.

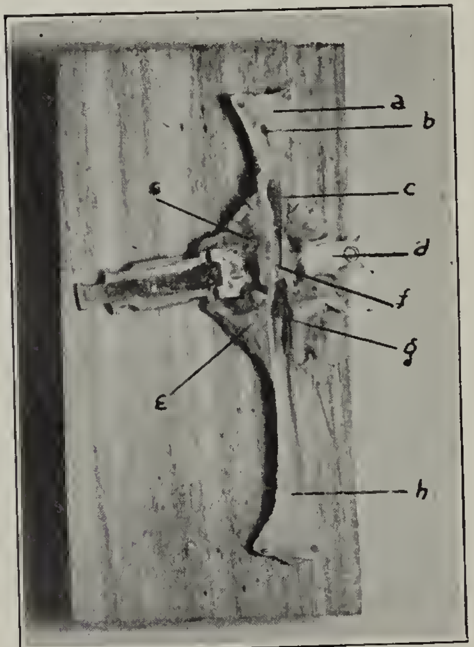

Fig. 25.—Dog 27; left common carotid. Exp. 27; a, above occlusion; b, collateral; c, clot; d, clamp in position; e, capsule around clamp; f, portion of artery in clamp; g, clot; h, below occlusion.

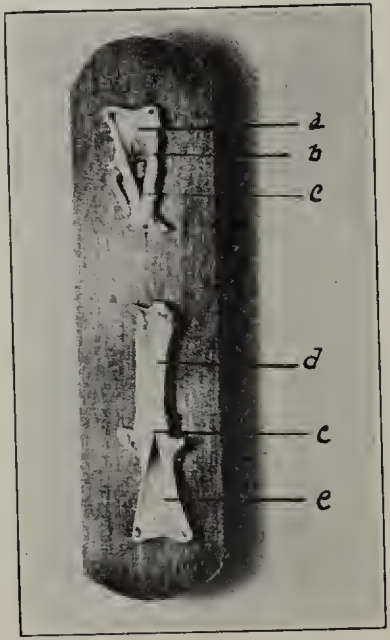

Fig. 26.—Dog 28; right femoral. Exp. 28; a, above occlusion; b, collateral; c, occluded ends of artery; d, fibrous tissue; e, below occlusion.

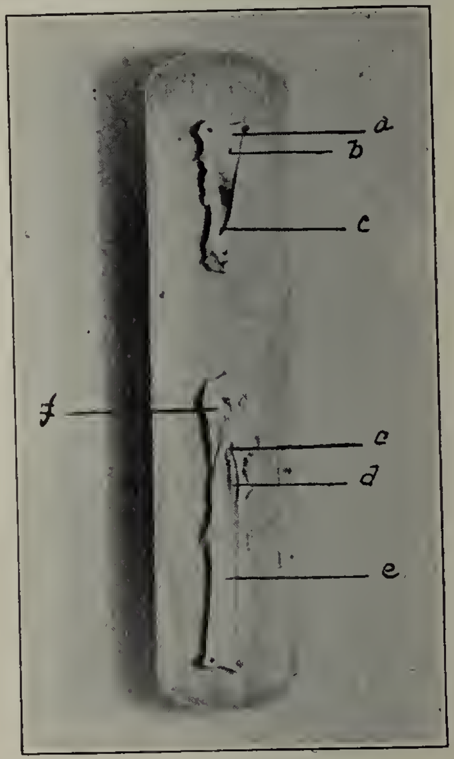

Fig. 27.—Dog 28; left femoral. Exp. 29; a, above occlusion; b, collateral; c, occluded ends of artery; d, small clot; e, below occlusion; f, fibrous tissue.

Experiment 25.—Dog 26. Operation, May 5, 1911. Clamp Model 2, with No. 1 plain catgut on both blades applied to left common carotid. Second operation, June 2. Same description of second operation applies here as in Experiment 24. Third operation, June 15. Primary union. Clamp in fibrous capsule, all of the catgut absorbed and blades as close together as set screw would permit. Feeble pulsation distal to clamp. Section removed and examined. The portion of artery in the grasp of the clamp greatly thinned from pressure atrophy but showing no evidence of obliteration. In this case the set-screw did not permit blades to come together, and pressure atrophy so thinned the vessel wall that the circulation was permitted to go on through the clamp.

Experiment 26.—Dog 27. Brown male. Weight 36 pounds. Operation, May 6, 1911. Clamp Model 2 with No. 0 iodin catgut on one blade applied to right common carotid. Second operation, June 3. Primary union of wound. Very feeble pulsation distal to compression. Clamp in fibrous capsule (*f*, Fig. 24). Catgut partly absorbed but not sufficiently to allow blades to come together. Section removed and examined (Fig. 24). Portion of artery in grasp of clamp was greatly thinned (*c*) and showed evidence of obliterative endarteritis. There is a small clot (*b* and *c*) on each side of the clamp.

Experiment 27.—Dog 27. Operation, May 6, 1911. Clamp Model 2, with No. 0 iodin catgut on one blade applied to left common carotid. Second operation, June 3. Primary union of wound. Clamp in fibrous capsule (*e*, Fig. 25). Catgut partially absorbed but blades not together. Section of artery removed and examined (Fig. 25). Portion of artery in grasp of clamp (*f*) greatly thinned and narrowed and an obliterative endarteritis in progress. A small clot (*c* and *g*) present on each side of clamp.

Experiment 28.—Dog 28. Yellow male, weight 42 pounds. Operation, May 8, 1911. Clamp Model 2, with plain No. 1 catgut on one blade applied to right femoral artery. Second operation, June 8. There was a small sinus in scar which led down to clamp. Clamp was free from artery, catgut all absorbed and blades together. Artery completely divided and stumps separated one inch. Both stumps pulsated. Proximal and distal segments removed and examined (Fig. 26). Each segment tapered to a point (*c*) beyond which was dense fibrous tissue (*d*). No clot in either segment.

Experiment 29.—Dog 28. Operation, May 8. Clamp Model 2 with No. 1 plain catgut on one blade applied to left femoral artery. Second operation, June 8. Primary union of wound. Clamp was free from artery. Catgut entirely absorbed and blades together. The artery was completely divided and stumps separated 1 inch. Both stumps pulsated. Proximal and distal segments removed and examined (Fig. 27). Each segment tapered to a point (*c*) beyond which was fibrous tissue (*f*). Proximal segment contained a small clot (*d*) in the occluded end.

Experiment 30.—Dog 29. Small black female, weight 24 pounds. Operation, May 9, 1911. Clamp Model 2 with plain No. 1 catgut on both blades applied to abdominal aorta. Dog died May 15. For two days before death there was evidence of paraplegia. Post-mortem showed primary union of wound. Profuse hemorrhage in peritoneum and retroperitoneal space. Clamp in position. Catgut had begun to absorb. Section of aorta removed and examined. In anterior wall of artery was a small perforation which had evidently been caused by the pressure of the edge of the clamp. A small intravascular clot covered the perforation.

Experiment 31.—Dog 30. Black male. Weight 38 pounds. Operation, May 10, 1911. Clamp Model 2 with plain No. 1 catgut on one blade applied to right common carotid. Second operation, June 7. Primary union of wound. Clamp in fibrous capsule (*e*, Fig. 28), catgut entirely absorbed and blades together. No pulsation distal to clamp. Section of artery removed and examined (Fig. 28). Artery was perfectly occluded, each segment tapering to a point (*c*). Ends joined

TABLE SHOWING RESULTS OF EXPERIMENTS

Exp. No.	Artery Clamped.	Type of Clamp.	Absorbable Material Used.	Time.	Degree of Occlusion Found at	Absorption of Catgut or Decalcified Bone.	Healing of Wound.	Symptoms After Application of Clamp.
					Second Operation.			
1	Left common carotid	Model 1	Plain catgut	29 days	Complete	Completely absorbed	Primary union	None.
2	Right common carotid	Model 1	Plain catgut	29 days	Complete	Completely absorbed	Primary union	None.
3	Left common carotid	Model 1	Plain catgut	34 days	Complete	Completely absorbed	Primary union	None.
4	Abdominal aorta	Model 1	Plain catgut	2 days	No change. Death		Suppuration	General peritonitis.
5	Abdominal aorta	Model 1	Decalcified bone	11 days	Artery eroded. Hemorrhage. Death.		Suppuration	Paraplegia for 3 days before death.
6	Abdominal aorta	Model 1	Decalcified bone	45 days	Completely occluded	Completely absorbed	Primary union	None.
7	Abdominal aorta	Model 3	Decalcified bone	10 days	No change. Death from pyonephrosis.		Suppuration	No paraplegia.
8	Right common carotid	Model 4	Decalcified bone	24 days	Partial occlusion	Almost complete	Primary union	None.
9	Left common carotid	Model 1	Decalcified bone	24 days	Completely occluded	Completely absorbed	Primary union	None.
10	Right common carotid	Model 1	Plain catgut	28 days	Completely occluded	Completely absorbed	Small superficial sinus not communicating with clamp.	None.
11	Left common carotid	Model 1	Plain catgut	28 days	Completely occluded	Completely absorbed	Same as Exp. 10. Primary union of deep tissues.	None.
12	Right common carotid	Model 2	Iodin catgut, No. 0	28 days	Completely occluded	Completely absorbed	Primary union	None.
13	Left common carotid	Model 1	Iodin catgut, No. 1	22 days	Completely occluded	Partially absorbed	Primary union	None.
14	Right common carotid	Model 2	Iodin catgut, No. 0	47 days	Not occluded	Not absorbed	Primary union	None.
15	Left common carotid	Model 2	Iodin catgut, No. 0	33 days	Completely occluded	Partially absorbed	Primary union	None.
16	Right common carotid	Model 2	Iodin catgut, No. 0	51 days	Partly occluded	Partly absorbed	Primary union	None.
17	Left common carotid	Model 2	Iodin catgut, No. 0	51 days	Partly occluded	Partly absorbed	Primary union	None.
18	Right common carotid	Model 2	Iodin catgut, No. 0	21 days	Completely occluded	All catgut on one blade absorbed and most of it on the other.	Primary union	None.
19	Left common carotid	Model 2	Iodin catgut	21 days	Completely occluded	About one-half of gut absorbed from both blades.	Primary union	None.
20	Right common carotid	Model 2	Iodin catgut, No. 0	32 days	Completely occluded	Most of catgut absorbed from both blades.	Primary union	None.
21	Left common carotid	Model 2	Iodin catgut, No. 0	32 days	Completely occluded	All from one blade absorbed and most of it from other.	Primary union	None.
22	Right common carotid	Model 2	Iodin catgut, No. 0	28 days	Completely occluded	Completely absorbed	Sinus from skin to clamp on right c. carotid.	None.
23	Left common carotid	Model 2	Iodin catgut, No. 0	28 days	Completely occluded	Completely absorbed	Primary union	None.
24	Right common carotid	Model 2	Iodin catgut, No. 0	41 days	Partly occluded	Partly absorbed	Primary union	None.
25	Left common carotid	Model 2	Plain catgut, No. 1	41 days	Partly occluded	Completely absorbed	Primary union	None.
26	Right common carotid	Model 2	Iodin catgut, No. 0	28 days	Partial occlusion. Feeble pulsation distal to clamp.	Partial absorption of catgut from both blades.	Primary union	None.
27	Left common carotid	Model 2	Iodin catgut, No. 0	28 days	Completely occluded	Partial absorption from both blades.	Primary union	None.
28	Right femoral	Model 2	Plain catgut, No. 1	31 days	Completely occluded	Completely absorbed	Sinus leading to clamp.	None.
29	Left femoral	Model 2	Plain catgut	31 days	Completely occluded	Completely absorbed	Primary union	None.
30	Aorta	Model 2	Plain catgut, No. 1	6 days	Artery perforated by edge of clamp. Hemorrhage. Death.	Absorption had just started.	Primary union	Paraplegia for 3 days before death.
31	Right common carotid	Model 2	Plain catgut, No. 1	28 days	Completely occluded	Completely absorbed	Primary union	None.
32	Left common carotid	Model 2	Plain catgut, No. 1	28 days	Completely occluded	Completely absorbed	Primary union	None.
33	Right common carotid	Model 2	Plain catgut, No. 1	28 days	Completely occluded	Completely absorbed	Primary union	None.
34	Left common carotid	Model 2	Plain catgut	28 days	Partially occluded. Feeble pulsation distal to clamp.	Almost complete absorption. Small amount of gut between blades.	Primary union	None.

by fibrous tissue (*d*). Both segments of artery contained blood-clots (*b*).

Experiment 32.—Dog 30. Operation, May 10. Clamp Model 2 with No. 1 plain catgut on one blade applied to left common carotid. Second operation, June 7. Primary union of wound. Clamp in fibrous capsule (*f*, Fig. 29), catgut entirely absorbed and blades together. No pulsation distal to compression. Section of artery removed and examined (Fig. 29). Artery perfectly occluded, each end tapering to a point (*b*). Ends united by fibrous tissue (*c*). Each segment contained a small blood-clot (*d*).

Experiment 33.—Dog 31. Female shepherd. Weight 26 pounds. Operation, May 10. Clamp Model 2 with plain No. 1 catgut on one blade applied to right common carotid. Second operation, June 7. Primary union of wound. Clamp in fibrous capsule, catgut entirely absorbed and blades as close together as set-screw would permit. No pulsation distal to compression. Section of artery removed and examined (Fig. 30). Portion of artery (*d*) in grasp of clamp was perfectly occluded by approximation of its walls. An obliterative endarteritis was in progress as shown by union of the walls on one side (*b*). There was no intravascular clot. This case demonstrates the purpose for which the set-screw was intended; viz., the complete occlusion of the vessel without its division by the clamp.

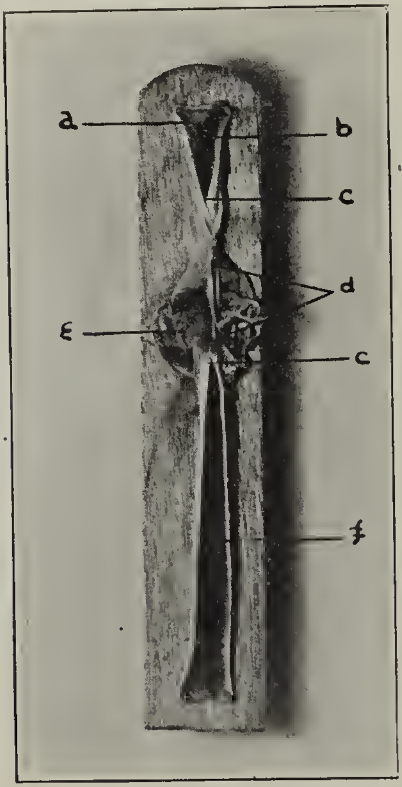

Fig. 28.—Dog 30; right common carotid. Exp. 31; a, above occlusion; b, clot; c, occluded ends of artery; d, fibrous tissue between ends; e, part of capsule around clamp; f, below occlusion.

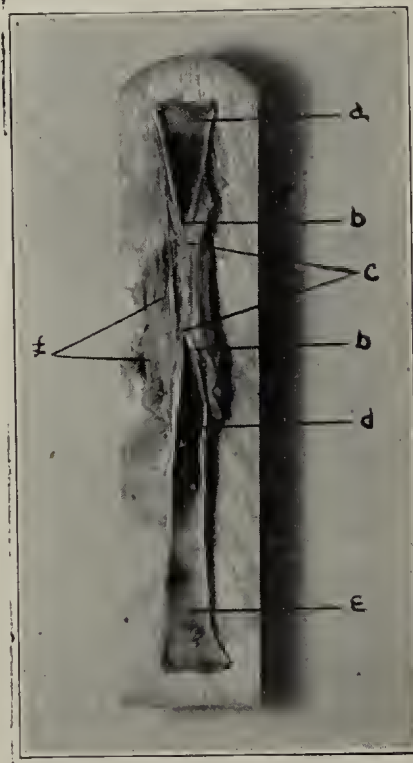

Fig. 29.—Dog 30; left common carotid. Exp. 32; a, above occlusion; b, occluded ends of artery; c, fibrous tissue between ends; d, clot; e, below occlusion; f, portion of fibrous capsule around clamp.

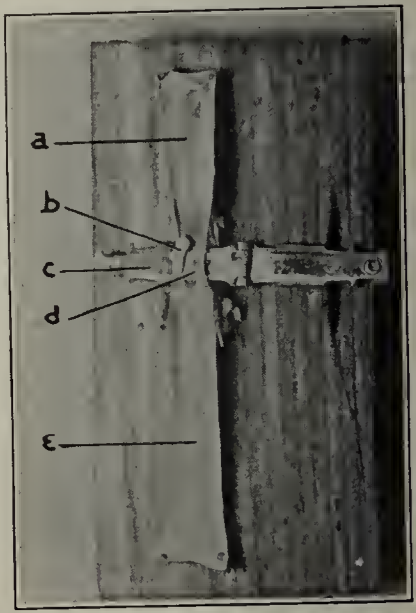

Fig. 30.—Dog 31; right common carotid. Exp. 33; a, above occlusion; b, portion of artery in clamp, where walls have united; c, clamp in position; d, portion of artery in clamp; e, below oclusion.

Experiment 34.—Dog 31. Operation, May 10. Clamp Model 2 with plain No. 1 catgut on one blade applied to left common carotid. Second operation, June 7. Primary union of wound. Clamp in fibrous capsule. All of the catgut on the outer surface was absorbed and only one layer left between the set-screw and the opposite blade. This prevented complete occlusion of the vessel. There was feeble pulsation distal to the compression. Artery not removed but one blade of clamp rewound with plain catgut and left in place.

CONCLUSIONS

1. Gradual automatic occlusion of the larger arteries at one operation can be uniformly produced by the method herein described.

2. Model 2, clamp with plain sterile catgut on one or both blades gives the best results. The absorption of iodin catgut is slow and uncertain.

3. The clamp with its elastic bands and catgut is perfectly tolerated by the tissues. The clamp becomes surrounded by a capsule of dense fibrous tissue, produces no irritation and may remain in place indefinitely.

4. The collateral circulation has an opportunity to develop during the process of gradual occlusion of the artery.

5. The ideal result is complete occlusion and division of the artery with tapering of the occluded ends and little or no clot formation.

6. The danger of secondary hemorrhage is slight: first, because the occlusion is gradually produced, and second, on account of the capsule of dense fibrous tissue which forms around the clamp and unites the two occluded ends of the vessel.

The accompanying table shows the results of our experiments.

I desire to thank Dr. M. M. Patton for very valuable services rendered in the work, also Drs. Jennings, Greenwald, Hamblen and the staff of the Washington State Veterinary College, Spokane, for their assistance.

306 Paulsen Bldg.

ABSTRACT OF DISCUSSION

Dr. Robert C. Coffey, Portland, Ore.: I was recently in Spokane and had Dr. Neff explain all his experiments to me, and I went over them carefully with him. It seems to me from his explanation and from what I have read and know of the previous devices for this same purpose, that Dr. Neff has put the climax on the subject of occlusion of arteries for the treatment of aneurysm. I believe he has solved the question of gradual occlusion which can be so regulated that a good collateral circulation may be established before complete occlusion takes place.

Baldness in Men and Women.—Degenerative changes in the blood-vessels and rigidity of the thorax, both characteristics of senility, are found much earlier in man than in woman. Man dies suddenly much oftener than woman. Men suffer from baldness more frequently than women. This is not confined to civilized races, but is found among savages and semicivilized tribes, as in many of the North American Indians, even where it is the custom for the women, instead of the men to wear their hair short.—Stewart in *Medical Record.*

SENSIBILITY OF THE PERITONEUM AND ABDOMINAL VISCERA *

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Although earlier writers, both physiologists and surgeons, made passing mention of the fact that certain parts of the peritoneum and abdominal viscera are more sensitive than others, Lennander,[1] in 1901, first called attention forcibly to the fact that there is a distinct and constant contrast in the sensibility of the parietal and the visceral peritoneum. His first publication was elaborated by others until the time of his death. By an exhaustive and painstaking series of observations during operations, performed chiefly under local cocain anesthesia, he established the following facts: The parietal peritoneum is intensely sensitive to pain, but not to pressure, heat or cold. The abdominal viscera, on the other hand, possess no sense of pain. In other words, the visceral peritoneum and the abdominal organs, innervated only by the vagus or sympathetic nerves, are not sensitive to pain, and painful abdominal sensations are transmitted only by the phrenic, the lower six intercostals, and the lumbar and sacral nerves, which supply the parietal peritoneum. For the mesentery, his findings are not absolute, though he considered it also insensitive. By the natural application of these facts, Lennander offered hypotheses for the explanation of pain in various abdominal conditions, such as appendicitis, peritonitis or gastric ulcer. These ideas he expressed in a paper before the Section on Surgery of the American Medical Association in 1907, which may be summed up as follows: Pains do not originate within the abdominal organs themselves. Irritation of an abdominal organ first gives rise to pain when it has extended to sensitive tissue outside this organ. Pain then exists through an irritation of the parietal peritoneum. This may be mechanical, as in volvulus; chemical, as in absorption from an ulcer; or infectious, as by means of a lymphangitis in appendicitis, or the direct expulsion of contents from gall-bladder, stomach or intestine. Viscera involved in disease are quite as insensitive as sound ones, while the irritability of the parietal peritoneum is much increased by even a slight inflammation.

Lennander's work acted as a stimulus to investigators and there have appeared many exhaustive papers by surgeons, internists, physiologists and psychologists. Surgeons basing their opinions on findings during operations on human beings have, in the main, upheld Lennander's views. The general tendency is for animal experimenters to oppose them. Psychologists tend to take a middle path, and while admitting that for external stimuli the viscera may be insensitive, assert that nevertheless they possess a certain unlocalized sensibility to internal conditions.

The pain of ileus has been the subject of much discussion. Intestinal colic has been ascribed by Nothnagel[2] to anemia of the intestinal wall and to pressure on the nerves of the bowel wall in consequence of a tonic spasm of its muscular coat. Wilms[3] asserted that all those pains, which we are accustomed to term intestinal colic, are entirely due to the stretching of mesenteric attachments. Lennander found that he could stimulate a loop of human intestine until it became hard and blanched, and still there was no pain unless it tugged on the parietal peritoneum. This explains the fact that we often find dense adhesions between coils of intestine without any discomfort, and yet, when a movable piece of bowel is adherent to the fixed abdominal wall there is always pain. Lennander believed, however, that some forms of colic could not be explained by dragging alone, and these he attributed to a sliding of the parietal peritoneum on its very sensitive subserous tissue. A finger introduced into the abdomen and held firmly pressed against the parietal peritoneum of the anterior wall will not cause pain; but if the finger, while still in firm contact, is moved slightly from side to side, there will be intense pain. This I have often seen demonstrated in the use of a retractor dragged on by an inattentive assistant. We can thus see why a gradual, general distention may not be painful, while unequal distention of an obstructed intestine causes acute pain.

Innumerable tests made by surgeons at the operating table have shown that operative procedures may be painlessly carried out on practically any abdominal organ, provided the parietal peritoneum is avoided. Through gastric or intestinal fistulas the mucous membrane has been tested and has likewise been found to show no perception of touch, heat, cold or pain. Zimmermann,[4] in 1909, reported an extensive series of experiments on himself and on patients, in which the mucous membrane of the stomach and of the rectum was examined without the employment of any anesthetic. Through a stomach-tube or a rectal speculum the mucous membrane was irritated by means of pinching forceps, electrodes and the cautery. In the rectum, above 6 cm. from the sphincter, there was no response to touch, temperature, or electric stimulation; but great differences in pressure were felt. In the stomach likewise, he got no response, and here also there was only a sensation of fulness on great pressure. The esophagus he found sensitive to pressure and temperature, thus accounting for the sensation of warmth on taking hot or alcoholic drinks. This is in accord with the conclusions reached by Hertz, Cook and Schlesinger.[5] Schwenkenbecher,[6] in 1908, described an observation in which he took large doses of menthol, which produces in the mouth a feeling of intense cold. He noted that after the menthol passed the level of the larynx this feeling of cold was not experienced in any part of the intestinal canal until the sphincter ani was reached. He concluded from this experiment that the whole intestinal canal, except its upper and lower ends, is insensitive. Neumann,[7] on the other hand, found the stomach in women very sensitive to differences in temperature. How then can we account for the pain of gastric ulcer? It is well known that gastric ulcers can exist without pain, and their presence first be suspected through perforation or hemorrhage. Lennander asserted that a gastric ulcer remains painless so long as it is not accompanied by a lymphangitis; that the pains of hyperacidity are also due to absorption, by which irritating toxic or chemical substances are carried to the sensitive tissue of the abdominal wall. Mueller,[8] while admitting

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Lennander, K. G.: Centralbl. f. Chir., 1901, No. 8; Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1902, x, 38; 1906, xv, 465; xvi, 19; xvi, 24; see also Tr. Sect. on Surg. A. M. A., 1907, p. 211.

[2] Nothnagel: Arch. f. Verdauungskr., 1905, xi, 117.

[3] Wilms: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1906, xvi, 609.

[4] Zimmermann: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1906, xx, 445.

[5] Hertz, Cook and Schlesinger: Jour. Physiol., 1908, xxxvii, 481.

[6] Schwenkenbecher: München. med. Wchnschr., 1908, No. 28, 1495.

[7] Neumann: Wien. klin. Wchnschr., 1906, No. 30, p. 923.

[8] Mueller: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1908, xviii, 600.

that the stomach shows no reaction to touch, heat or pain, as far as external stimulation is concerned; nevertheless maintains that it does react to internal irritations. . . . He believes that the abdominal organs do possess sensation for necessary protection; as from chemical irritation by increased acidity in the stomach, or mechanical irritation by fulness or distention. This sensibility he attributes to the sympathetic nerves, which, though ordinarily not transmitting pain impulses, may do so under abnormal or diseased conditions. He attributes the pain of gastric ulcer, as well as the distress of hyperacidity without ulcer, directly to the action of the increased hydrochloric acid content on the nerves of the stomach wall; and explains the painlessness of latent ulcers by the probable absence of hyperacidity. Mueller's statement was almost immediately answered by Schmidt,[9] who put into his own stomach as much as 30 c.c. of a 2 per cent. solution of hydrochloric acid with absolutely no unpleasant sensations therefrom. The question thus seems far from settled.

The pelvic organs of women have been frequently tested by surgeons during operations under local anesthesia. Their findings have been mostly in accord with those of Lennander. Sampson,[10] Broese[11] and others are among those who have made observations in this field, Broese stating that the diagnosis of ovarian neuralgia should never be made. Mueller and Godscheider claim that pain impulses may be transmitted from these organs by the sympathetic nerve. Meumann,[12] from the psychologic viewpoint, reaches much the same conclusion as Mueller. He believes that we possess internal sensation, but that it is not accurately localized. The uncertainty of these sensations is nothing but their indefinite localization, which depends on the fact that we cannot see their point of origin.

In 1906 appeared the first absolute contradiction of Lennander's ideas. Kast and Meltzer,[13] then and in later publications, reported the results of their animal experiments, chiefly on dogs. Their principal method of examination was to open the abdomen under ether narcosis, and close the wound by means of temporary sutures, the animal then being allowed to regain consciousness thoroughly, when one or more of the sutures was cut, and tests made through a very small opening. Mechanical, thermic and electric irritations were employed and any possible mesenteric tug was carefully avoided. They concluded that the abdominal organs of dogs, examined through a small opening, are undoubtedly sensitive; that this sensibility rapidly decreases on exposure or withdrawal of the viscera, but increases again after exposure long enough to produce inflammation. In cats and rabbits the sensibility is the same, but even more fleeting, and weak animals show less than strong ones. They see no reason why their findings should not apply as well to human beings. In offering an explanation for the conclusions reached by Lennander and other surgeons, Kast and Meltzer suggested that: First, the examinations were made through a large opening after exposure to the air or withdrawal of the viscera, and second, that they were all made during operations under local anesthesia. They found that a small dose of cocain, injected subcutaneously or intramuscularly, exerts almost immediately a quieting effect on animals and produces a general analgesia, thereby causing the sensibility of the parietal, as well as the visceral peritoneum and of the viscera themselves, to disappear. Their experiments were repeated by Mueller,[8] who obtained exactly opposite results. Ritter,[14] on the other hand, verified the conclusions of Kast and Meltzer; while Hotz,[15] experimenting on dogs under morphin narcosis, reports that manipulations of even strangulated or peritonitic intestines do not cause any expression of pain, and manipulation of the mesentery causes pain only when a tug makes traction on its root. In 1907, before this section, I[16] reported two cases in which I had opened the abdomen in men without the use of any anesthetic, and found that there was the same contrast between parietal and visceral peritoneum as when cocain was used. Haim[17] had a similar experience after opening the abdomen under general anesthesia and allowing the patient to regain consciousness. These observations were given little weight by Kast and Meltzer in their paper of 1909, because they were too few in number and not made on perfectly normal individuals. Ritter's views as to the general effect of cocain have changed with his different papers. At first (1908) he agreed with Kast and Meltzer; then (1909) he stated that cocain is purely local in its action, and later, he reported some interesting animal experiments in which he found that by injecting 5 c.c. of a 1 per cent. solution of cocain into the crural vein of a dog, all painful sensations were wanting in from three to five minutes. Vessels or nerves could be painlessly tied, or the skin burned with the cautery. This general anesthesia lasted half an hour or longer, when the animals gradually became normal.

An interesting communication has appeared this year by Harrison.[18] Into a superficial vein on the back of his hand, he injected slowly, during a period of thirty minutes, 5 grains of cocain in a 2 per cent. solution. Dizziness and palpitation made it seem wise to stop with this amount. Tests were at once made and results corresponded in an incomplete way with those reported by Ritter on animals. Cerebration was normal, except for inability to keep the mind on one subject. Motor power was unimpaired. There was marked analgesia everywhere. A small incision was made on the anterior part of the leg. It could be felt and caused a mere trifle of pain. Two or three small nerves in the fat were cut, each causing a slight twinge of pain. He concludes that the analgesia was probably sufficient for the performance of operative procedures without great pain, but that the relatively enormous dose of cocain necessary for even imperfect results makes it impossible for human surgery. It cannot be conceived then that the small amount of cocain used in an ordinary laparotomy could have any influence on peritoneal sensibility.

Ritter (1909) assails Lennander's findings. He bases his opinion on animal experimentation under morphin narcosis, agrees in general with Kast and Meltzer, and believes that the sympathetic nerves transmit sensory impulses. An entirely new principle is introduced in his experiments, associating visceral sensation directly with the blood supply. The ligation of blood-vessels, he says, is the only means of testing which eliminates all possibility of error. He finds this painful in every instance. Mesenteric tug he eliminates by means of double ligation, the proximal ligature always causing pain, but the distal ligature only when it is applied first. All parts of the abdomen are thus sensitive, non-vascular parts less so than those rich in blood-vessels. The vessels themselves are most sensitive. Cocain acts only as a local anesthetic in the abdomen, and when applied about mesenteric vessels renders anesthetic the viscera supplied by them. Ritter believes the negative findings reported by surgeons to be due, not to cocain, but to the injury which the laparotomy does to the finer sensible nerve fibers in the abdominal cavity. This injury is important in the production of shock. He thinks it therefore wise when working in the abdomen under local anesthesia, to cocainize every vessel of any size before ligating it.

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[9] Schmidt: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1909, xix, 278.

[10] Sampson: Ann. Surg., 1905, xli, 216.

[11] Broese: Zentralbl. f. Gynäk., 1910, xxxiv, 1523.

[12] Meumann: Arch. f. d. ges. Psychol., 1907, ix, 26.

[13] Kast and Meltzer: Med. Rec., 1906, lxx, 1117; Mitt. a. d Grenzgeb. d. Med. u. Chir., 1909, xix, 586.

[14] Ritter: Centralbl. f. Chir., 1908, No. 20; Arch. f. klin. Chir., 1909, xc, 389; Berl. klin. Wchnschr., 1909, xlvi, 1701.

[15] Hotz: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1909, xx, 257.

[16] Mitchell: The Journal A. M. A., 1907, xlix, 198.

[17] Haim: Centralbl. f. Chir., 1908, No. 11.

[18] Harrison: Boston Med. and Surg. Jour., 1911, clxiv, 151

In a paper published in 1910, Nystroem,[19] a former assistant of Lennander, again champions his theories, and discusses in detail opposing contributions. He questions the value of animal experimentation, and calls attention to the opposite results obtained by different investigators in the same experiment, as well as the varying results with animals of different species. He repeated the test of Kast and Meltzer on animals, and was able to get no evidence of pain unless the mesentery was dragged on. He then made the same observation on a man during an operation for hernia. Under light ether narcosis the peritoneum was opened by a small incision. A loop of intestine was found presenting at the opening. The peritoneum was temporarily closed, and the patient allowed to regain consciousness. The parietal peritoneum was then found very sensitive, but the man was not aware of any irritation of the intestine unless the mesentery was pulled on. Nystroem concludes that the contradiction of Lennander's work is not to be unhesitatingly accepted, although he admits that there are many things which cannot yet be accurately explained. He suggests that further investigation of Ritter's idea of the relation between sensibility and blood-supply in the human abdomen is most important. Since reading Ritter's paper I have not had an opportunity of testing this except for the omentum, but I recall many cases in which large portions of vascular omentum have been painlessly excised, or sections of gall-bladder or liver removed for examination without complaint.

Daily experiences at the operating table, and in the after-care of patients whose abdomens have been drained, impress on us the greater sensitiveness of the parietal peritoneum. This is apparent even under ether narcosis. A patient may lie perfectly quiet during the manipulations of a gastroenterostomy, but will show evidence of disturbance when gauze pads which have been in contact with the abdominal wall are withdrawn, or when the viscera are replaced. In the production of shock, too, the greater influence of manipulation of the parietal peritoneum or mesenteric attachments is noticeable. This I have observed, especially in operations about the bile passages. Exposing, opening and draining a gall-bladder causes little disturbance in the patient's condition, but as soon as there is any extensive interference about the foramen of Winslow there is immediate evidence of shock. This region has been shown to be especially rich in spinal nerves, and I have found it most difficult to explore under local anesthesia. Likewise, a woman on whom I was doing a splenectomy for Banti's disease was in excellent condition until a ligature was tightened about the pedicle of the spleen, when she almost immediately passed into profound shock. If Ritter's view of blood-vessel-sensation association holds true, this might here be offered as an explanation. Mummery and Symes[20] have shown that manipulations of the parietal peritoneum and mesenteries in fully anesthetized animals produce shock much more rapidly than the same disturbance of the viscera. With local anesthesia it is very evident that only those procedures are painful which involve the parietal peritoneum or mesenteries.

A drain which lies against the abdominal wall is always more painful in its removal than one which only touches the viscera. We thus learned long ago, in the days of large gauze drains, to protect the peritoneal edges of our wound by tucking in rubber tissue. We can recall the pain resulting from the old method of suturing the gall-bladder to the peritoneum, and the consequent abandonment of this procedure. All these observations, made after opening the abdomen, are subject to the criticism that sensation may have been interfered with by the laparotomy itself.

Kast and Meltzer, in drawing their conclusions, end by stating that "surgical experiences on men offer no proof that the viscera of normal man in the normal closed body can feel no pain." While this is naturally a hard condition to answer, it has seemed to me that much might be learned by the careful analysis of all abdominal pains in patients about to be subjected to laparotomy. It has, therefore, been my custom for the past few years to write down the findings before operation, and make also a written prediction as to what was to be expected on opening the abdomen. A comparison of these predictions with the operative findings has given interesting results in support of the marked contrast between visceral and parietal peritoneal involvement. Many referred pains may be explained by the relation of the involved organ to the parietal peritoneum. Thus the first pain of an acute appendicular attack is most often located in the epigastrium. Time and again I have found with the abdomen open under local anesthesia that this pain could be accurately reproduced by traction on the mesentery of the appendix. The pain is, under these circumstances, accompanied by nausea, just as is so often seen in irritating the neck of a hernia sac. While doing a cocain appendectomy on a physician, Dr. S., I obtained his consent to some tests, the nature of which he did not know. He was anxious to watch the operation and see his appendix in place, and so was allowed to have his head raised for this purpose. The appendix presented readily at the opening in his unusually thin abdominal wall. It was clamped across, and caused no inconvenience. Then, by making traction on the mesentery, I could at will cause him to sink back with marked pallor, nausea, and complaint of violent pain in the epigastrium, which he described as "my old friend." These phenomena disappeared when the mesentery was released, and he was able to watch the completion of the operation. In a case of gall-bladder fistula with total occlusion of the cystic duct, as shown by a later operation, I was able, by injecting into the gall-bladder hydrogen peroxid and placing a finger over the fistula, to cause the typical pain of gall-stone colic. The man complained of agonizing pain about the right shoulder blade, which immediately disappeared when the finger was removed from the opening. I believe this pain to have been caused by traction of the distended gall-badder on the posterior peritoneum, and not by the mere distention itself; for a probe introduced into the gall-bladder and pushed with some force against its walls did not cause discomfort. I have seen the referred pain of ovarian disease, that is, down the inner aspect of the thigh, in an interesting case.

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[19] Nystroem: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1910, xxi, 125.

[20] Mummery and Symes: Brit. Med. Jour., 1908, ii, 790.

This boy (Mr. S., Case 1,034), aged 19, had been operated on eight years before for supposed appendicitis. The appendix was not found, and there was no pus, but apparently after considerable traumatism the wound was drained on acount of oozing from torn surfaces. He came to me complaining of frequent attacks of abdominal pain and nausea, which were not accompanied by fever. A careful analysis of his pains showed that they could be divided into three distinct groups: First, epigastric pain; second, diffuse pain in the region of his scar near the iliac crest, and third, pain down the inner side of his right thigh, simulating referred ovarian pain. It was concluded that there were three sets of adhesions between movable organs and parietal peritoneum; first, about the appendix; second, about the scar, and third, to the pelvic wall corresponding to the outer side of the broad ligament. At operation through a rectus incision there was found an appendix kinked on itself and bound by dense adhesions; adhesions between the cecum and parietal peritoneum about the scar, and a long tongue of omentum adherent to the pelvic wall about the iliac vessels. The appendix was removed, the omentum ligated and divided, and some of the adhesions about the scar separated, but raw surfaces left. The boy has remained well now for two years and has had no return of pain in the epigastrium or thigh, but occasionally some pain in the region of the old scar.

In acute conditions the findings are quite as constant. True muscle spasm is always due to inflammation of the anterior and lateral parietal peritoneum, and it is possible to make out accurately the extent of this involvement. While there may be some resistance to pressure on deep palpation in centrally located lesions, true protective muscle spasm comes only from inflamed parietal peritoneum. By the character and amount of pain and by the resistance to palpation, it is possible to tell before operation whether the lesion will be found deeply situated, as between omentum and intestinal coils, or directly against the parietes. The two following cases, operated on the same day, will serve as illustrations.

Mrs. Y., Case No. 1,086, gave a history of slight pain, referred to the umbilicus, followed by nausea and vomiting, and later by temperature. The pain was at no time very severe and had entirely disappeared on the third day of her illness. Examination showed a mass in the right iliac fossa. This was only slightly sensitive on deep pressure. There was no rigidity of the abdominal wall and no suggestion of muscle spasm. She was running a high temperature and it was predicted that the condition was an appendix abscess, well protected and not involving the parietal peritoneum. At operation there were found several ounces of foul pus, entirely walled in between intestinal coils and covered over by omentum. There were nowhere any adhesions to the parietal peritoneum. The tip of a long appendix, gangrenous and perforated, was lying in the abscess cavity. The base of the appendix was outside and entirely uninvolved.

Mr. F. (Case 1,084) was brought into the hospital with a history of forty-eight hours' illness, starting with violent pain about his umbilicus and in the right side, accompanied by nausea, vomiting and high temperature. His physician stated that the pain was so severe that it was necessary to administer chloroform before bringing him to the hospital. Examination showed respiratory movements on the right side limited and acute tenderness, rigidity and muscle spasm throughout the whole right flank, extending nearly to the costal margin. In this instance it could be definitely stated that the appendix was lying in contact with the parietal peritoneum and that there was involvement of the parietal peritoneum of the whole right flank. At operation, omentum, cecum and ascending colon were found adherent to the parietal peritoneum, limiting an abscess lying directly against the lateral abdominal wall. A gangrenous and perforated appendix was found, running up anterior to the colon, its tip adherent to the edge of the liver, thus lying in its whole length directly against parietal peritoneum.

Mr. S. (Case 977) was seen in an acute illness of several days' duration, which had been diagnosed by the attending physician as cholecystitis. There was no jaundice; but his pain, which had started in the epigastrium, was later most intense high up in the right flank and referred to the right shoulder blade. At operation there was found an abscess between the ascending colon and parietal peritoneum, containing a perforated appendix whose tip was adherent to the gall-bladder.

Another interesting patient came into the hospital with strangulation of a right inguinal hernia, accompanied by a temperature of 103 F. The hernia was reduced by an intern. Two days later the patient still had temperature and high leukocytosis, although his pain had entirely disappeared, and there was no tenderness or rigidity on pressure. Operation was done for the cure of his hernia. Through the internal ring the appendix was palpated and there was found a mass about its tip entirely encircled by a tongue of omentum. The appendix and omental mass were delivered through the ring and removed without separating the adhesions. The specimen showed a small abscess about the perforated appendix tip, which, however, had given no symptoms of pain, because entirely protected from parietal peritoneum by the surrounding omentum.

Our records show numerous similar cases, which, to me certainly, offer an evidence of a definite contrast in the sensibility of the parietal and visceral peritoneum in the unopened abdomen in man. Without denying the usefulness of animal experimentation in this particular field, we must insist that its results cannot outweigh the mass of surgical evidence. We agree with Nystroem that, while there are some weak points in Lennander's hypotheses, they appear to give a more rational explanation of the phenomena of abdominal pain than does the theory depending on an imaginary pain-carrying power of the sympathetic nerves.

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ABSTRACT OF DISCUSSION

Dr. W. LeMoyne Wills, Los Angeles: Through the courtesy of Dr. Mitchell I have read his paper and have found that he has quoted the experimentation and literature of the last ten years, much of which I could not have obtained if I had wanted to; and it seems to me from the reading of the paper that it is the "Lennander theory" against the field, and most of us are willing to accept Lennander, and we must accept his theory until it is contradicted by equally good authority and observations. The German theorists and experimentalists have not gone so far as Dr. Mitchell has in his endeavor to make the experimentation and clinical findings of practical use. He has covered the ground so thoroughly that it is unnecessary to say more than that it is an instance of American ingenuity in turning the theories and experiments of foreign investigators to account in the way of securing the most practical results. If, as Dr. Mitchell has tried to show, he can make the diagnosis by pain more practical and useful, he will do us a great service. The average doctor and surgeon and patient care little about the hair-splitting distinctions as to whether it is this nerve or that nerve, or this traction or that traction, that produces the pain. What they want is practical deductions from these experiments, which will enable the physician and surgeon to make a better diagnosis, and thereby operate more successfully and get better results.

Balsam of Peru or Salvador.—The "balsam of Peru," so much used in medicine and surgery, comes from a tropical tree found in the republic of Salvador, which exports 130,000 pounds of the product yearly, half of which goes to Germany, nearly as much to the United States, with the small remainder to France.—*Daily Consular and Trade Reports.*

THE SANITARY RECORD OF THE MANEUVER DIVISION *

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Since July 10 the most of the organizations composing the Maneuver Division of regular troops at San Antonio, Texas, have been returned to their stations.[1] It is, therefore, an appropriate time to review the health conditions and sanitary administration of this camp, which has established a record that is unique in our Army for the smallness of its sick-list, the excellence of its sanitary arrangements and the completeness in organization of its medical department. The division consisted of eight regiments of infantry, two of cavalry, two of artillery, and the usual quotas of engineers, signal corps, and hospital corps. The latter had in addition to the regiment, four ambulance companies and four field hospitals. These were complete in equipment so far as the Medical Department could supply them, but one ambulance company and one field hospital were never supplied by the Quartermaster's Department with their mounts and draft animals. As regards personnel, although every garrison in the United States was stripped to an irreducible minimum to supply medical officers and hospital corps men for these organizations, there was a deficiency of twenty-one medical officers and 129 men below the authorized strength. This did not seriously impair the efficiency of the medical service of the division for field work, as it was itself much below its tactical strength, having only about 12,000 men instead of nearly 20,000, which it should have at war strength. These facts demonstrated clearly, however, the numerical inadequacy of the medical establishment of our Army, and if a second division had been called out, as at one time seemed probable, the situation in this respect would have been acute. The complete medical equipment and supplies for the division, including a base hospital of 500 beds and two evacuation hospitals of 324 beds each were shipped from the Field Medical Depots at Washington and St. Louis, accompanied by a detachment of the Hospital Corps to prevent loss or side-tracking, and arrived at San Antonio before the last troops were detrained.

SANITARY ARRANGEMENTS

A portable field laboratory was for the first time added to the medical equipment of this division for diagnostic and sanitary purposes. The base hospital was established at the neighboring post, Fort Sam Houston, for the reception of serious cases, but the evacuation hospitals which were intended for use on the line of communications, not being needed, were not manned or opened. The chief surgeon of the Division was Col. H. P. Birmingham, and the sanitary inspector Major Paul F. Straub, both of the Medical Corps, U. S. Army, and the latter a member of the General Staff.

The disposal of wastes is a matter of elementary importance in camp life and new and interesting developments were reached in this camp. In the vexed question of disposal of excreta, the old latrine pit, which had been thoroughly discredited by the better experience of the Spanish war was succeeded by the trough filled with milk of lime and emptied by an odorless excavator wagon and pump which was devised by the distinguished board which investigated the camp epidemics of typhoid fever in 1898 and of which Reed, Vaughan and Shakespeare were the members. This system broke down in rainy or freezing weather and in sandy soils and was gradually displaced by the theoretically perfect, but practically cumbrous incinerators, which did good service in fixed camps and with skilled handling, but were not mobile and were very costly. The mobilization of March 6 was so unexpected and so rapid that no time was given for the purchase and erection of these elaborate constructions and so a system was adopted which has been previously tried on a small scale. A narrow, deep trench, 18 to 24 inches wide, is dug and over it is placed a box seat, entirely fly-proof, with self-closing covers and a urinal at one end. This sink-box, as Harvard terms it in his excellent "Military Hygiene," can be knocked down for transportation, is movable, and is removed once a day, and the pit burned out with hay sprinkled with crude petroleum. The box was at the same time cleaned and then replaced. The contents of the pit were in this way sterilized so as to give no putrefactive odor after even three months of use. Besides the greater simplicity, mobility and quickness of installation of the sink-box as compared with incinerators, the Quartermaster's Department estimated that the cost of the sink-box system was $900 a month for the whole camp, whereas incinerators of an approved type would cost for material and labor $30,000 a month. The kitchen wastes, both solid and liquid, were also consumed by fire, in a kitchen crematory which consisted of a shallow pit a foot deep, 4½ feet long, and 2½ feet wide, filled to the level of the earth with broken stone and surrounded by a wall of clay or stones a foot high. A fire was kept burning on this and consumed all garbage thrown on it while the heated stones quickly evaporated the slops.

Horses in camp were tied side by side to a heavy rope called a picket-line and so their droppings were easily collected and with the straw bedding hauled away and burned. The picket-line areas were also sterilized once a week by burning them over with straw and crude petroleum, thus effectually disposing of the fly larvæ and of all odors. Ten gallons of oil were used for each burning of a picket line. These several precautions effectually kept down the number of flies and afforded no opportunity for their access to infectious material.

The sanitary police of the camp in other respects also was rigidly supervised by the medical officers, so that this crowded camp site, which had been used continuously for four months, when vacated presented nothing offensive to sight or smell.

The water-supply was from the water system of Fort Sam Houston and was artesian in origin and entirely above suspicion.

HEALTH OF THE TROOPS

The health of military commands is usually measured by the constantly non-effective rate which represents the average number constantly sick in each thousand men. This was for the Maneuver Division 22 per thousand up to the first of July, and its smallness can be appreciated when it is stated that this rate was 34 for all troops in the United States for the year 1910. In other words, the health of these soldiers in camp, sometimes living in deep mud and at other times in clouds of dust and under a semitropical sun, was better than in barracks surrounded by the comforts and sanitary appliances of post life.

The largest cause of morbidity was venereal diseases (4 per thousand), and next came measles and mumps (3 per thousand), the latter affecting almost exclusively the

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* Published by authority of the Surgeon-General.

[1] The maneuver division went out of existence on August 7 and the troops remaining comprise a brigade under the command of Brigadier-General Ralph W. Hoyt

newly arrived recruits. The actual number of admissions for the more important camp diseases were: typhoid fever, two; malaria, nine, all benign tertians; simple diarrhea, 119; dysentery, twenty-nine.

TYPHOID PROPHYLAXIS

Perhaps one-fourth of the troops arrived at San Antonio already immunized by voluntary antityphoid inoculations given them at their posts. It was concurrently determined by the Division Commander and the War Department that the time had arrived to make this procedure compulsory for troops taking the field, and it was so ordered and carried out as rapidly as the prophylactic culture could be supplied from the laboratory of the Army Medical School. The technic was simple. The site of puncture, usually the outer side of the left arm, was sponged off with alcohol and a small area sterilized with tincture of iodin, the injection made with a sterile syringe and the puncture sealed with collodion. The first dose is 0.5 c.c., the second and third being 1 c.c. each. An interval of ten days is allowed between doses, the entire procedure thus taking twenty days. The injection is made into the subcutaneous connective tissue and not into the muscles. There was practically no puncture infection, and the reaction was mild or absent in 90 per cent. of the cases treated. In no case was it followed by serious results. There were up to July 1, 8,097 men immunized.

1898

TABLE SHOWING FOR THE REGIMENTS OF THE SECOND DIVISION OF THE SEVENTH ARMY CORPS, ASSEMBLED AT JACKSONVILLE, FLA., THE MORTALITY AND MORBIDITY FROM TYPHOID FEVER

Regiments	Mean Strength	Cases of Typhoid Fever Certain	Cases of Typhoid Fever Certain and Probable	Deaths from Typhoid Fever	Deaths from All Diseases
Second Illinois	1,095	253	341	18	22
First North Carolina	1,164	147	227	16	20
Second New Jersey.	1,153	185	318	29	32
First Wisconsin ...	1,232	209	311	46	48
Fiftieth Iowa	1,097	164	253	33	33
Ninth Illinois	1,288	153	248	18	28
Second Virginia	1,220	105	152	17	20
Fourth Virginia	1,274	135	231	21	28
Forty-Ninth Iowa...	1,236	378	612	50	50
Total.........	10,759	1.729	2,693	248	281

1911

TABLE SHOWING FOR THE ORGANIZATIONS COMPOSING THE MANEUVER DIVISION AT SAN ANTONIO, TEXAS, THE MORBIDITY AND MORTALITY FROM TYPHOID FEVER, MARCH 10 TO JULY 10, 1911*

Organization	Mean Strength June	Cases of Typhoid Cer. and Prob.	Deaths from Typhoid Fever	Deaths from All Diseases
Eleventh infantry	924	..	..	..
Fifteenth infantry	969	..	..	2
Eighteenth infantry	1,022	..	..	..
Thirteenth infantry	929	..	..	..
Twenty-second infantry..	1,033	..	..	..
Tenth infantry	1,016	..	..	1
Seventeenth infantry ...	954	..	..	..
Twenty-eighth infantry..	951	..	..	..
Third field artillery.....	847	..	..	2
Fourth field artillery....	741	..	..	1
Engineer battalion	536	..	..	1
Signal corps	197	..	..	..
Ninth cavalry	744	..	..	..
Eleventh cavalry	1,143	..	..	3
Sanitary troops	795	1†	..	1
Total..............	12.801	1	0	11

* In addition to the above a civilian teamster, not immunized, was admitted for typhoid fever in April.

† This patient, a private of the hospital corps, had not completed his immunization, having taken only two doses. The case was very mild and would perhaps have been overlooked but for the rule that blood cultures were made in all cases of fever of over forty-eight hours' duration. The Widal reaction has no diagnostic value in immunized persons, as all respond to it. Forty-nine cases of typhoid fever with nineteen deaths were reported as occurring in the City of San Antonio during this period.

The immense advance in camp sanitation and particularly the value of this protective measure can be estimated by comparing the typhoid incidence of this camp with that of the Second Division, Seventh Army Corps, which was organized at Jacksonville, Fla., about June 1, 1898, and remained there in camp until October; some of the regiments leaving in September. This division was not conspicuously unfortunate in its typhoid record for that time, and is selected because of the close similarity of its conditions of service to those of the Maneuver Division. The two divisions were encamped in nearly the same latitude and for about the same length of time, and each had a good camp site and an artesian water-supply of unimpeachable purity. While the period in camp of the Second Division, Seventh Army Corps was later in the year, the number of men involved is larger for the Maneuver Division. The accompanying table referring to the former is taken from the celebrated "Report on Typhoid Fever in U. S. Military Camps in the Spanish War," by Reed, Vaughan and Shakespeare, Vol. 1, page 609.

REPORT ON 140 RECENT CASES OF PSORIASIS IN PRIVATE PRACTICE UNDER A STRICTLY VEGETARIAN DIET *

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In spite of repeated communications[1] on the subject the medical profession still does not seem to realize the value of a strictly vegetarian diet in psoriasis; and yet I could refer to many intelligent patients in private practice who have said, "You may quote me as a striking instance of the unquestionable value of this element in treatment."

It occurred to me, therefore, to keep a list of patients in private practice whom I had observed and treated during the past two years, and who have been under a vegetarian diet, and, after studying their records, to present the results obtained; the total number of the cases is 140. Some of the patients have been under observation and more or less treatment for many years; the larger proportion of them were first seen during the past two years; but, as will be mentioned later, the older and the newer cases alike confirmed the value of a strictly vegetarian diet, often in a very striking manner. It should be stated that careful notes were recorded of all these cases, and full entries made at each and every visit; I may add that most of the cases to be analyzed were also watched by my office associate, Dr. Paul E. Bechet, who is equally impressed with myself in regard to the beneficial effect of the plan advocated.

Psoriasis is such an inveterate disease that many patients applying for treatment are often convinced by what they have heard from physicians and others that the disease is incurable, and it is often very difficult to get the patient to submit to the proper dietary treatment for a long enough period to secure perfect results. Moreover, it not infrequently happens that even while maintaining a strictly vegetarian diet, there will be an outbreak of the eruption, more or less severe, and the patient is naturally discouraged, and may drop the diet, not recognizing that there are other causes which may disturb the metabolism and induce the recurrence of the disease. This subject will be more fully considered later.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Tr. First Internat. Congress of Dermatol., Paris, 1889, p. 892; Tr. Med. Soc. New York, 1895, p. 151; Tr. Third Internat. Congress of Dermatol., London, 1896, p. 734; The Journal A. M. A., Nov. 17, 1906, p. 1630.

Whenever I have presented the subject some one has always opposed the vegetarian plan of treatment by referring to the constantly quoted report of a certain Dr. Passavant, who asserted that psoriasis could be cured by an exclusively meat diet. Although I have already exploded this fallacy on a former occasion,[2] I feel that I must briefly state the facts in order that this contention may be set at rest: for the text-books all refer only to this single report, published over forty years ago, and never confirmed by any one since, as far as I can find in literature, whereas many have more or less supported the value of a strictly vegetarian diet in psoriasis.

The facts are briefly these. In 1867 Gustav Passavant of Frankfort, Germany, in an open letter to Prof. F. Von Hebra,[3] reported that having suffered for twenty-five years from psoriasis he was soon free from it after entering on an almost absolute meat diet, including soup, pork, fats, cod-liver oil, milk and bacon, and practically no vegetables or bread; he advised also against wine, beer, coffee and tea, and spices. He cited one case of squamous eczema also relieved by this treatment.

There are a number of points in connection with this brief report which quite invalidate any importance which might be attached to it. Dr. Passavant does not mention if possibly he used any treatment, internal or external, in connection with the diet; then, he does not state if the improvement in his condition lasted any length of time, or if he had any return of the eruption, either under the diet or without it; he does not mention the season of the year, for we know that psoriasis will sometimes disappear spontaneously with the changing season; finally, on analyzing the diet mentioned, it is not really a meat diet, as he emphasizes pork, fats, cod-liver oil, milk and bacon, which contain very little nitrogen. However, he mentions one single other case, and that of eczema, which was benefited by his plan of treatment.

On the other hand, Professor Hebra,[4] to whom Dr. Passavant addressed his open letter, ridiculed the claim made, some years after its publication, and, as far as I can find, there has been no subsequent corroboration in literature of the correctness of the claim of Passavant that psoriasis can be cured by a meat diet. Surely if there were any truth in it, some proof would be forthcoming in the forty-four years which have elapsed since its publication. On the other hand there are abundant, though brief, allusions in literature as to the injurious effect of excessive meat-eating in psoriasis. My experience, dating back, some of it, for twenty-five years, shows conclusively that not only does a meat diet increase psoriasis, but that an absolutely vegetarian diet is of the very greatest benefit in this disease, and in certain cases is capable of alone causing the disappearance of a long-standing eruption, without the use of any internal or external medication whatever. It is sincerely to be hoped that the senseless reference to the Passavant incident will now disappear from our text-books and literature, as they lead only to confusion and misjudgment.

Psoriasis is undoubtedly one of the most rebellious of all affections appearing on the skin, discouraging alike to the physician and patient. While a certain few cases will yield admirably to well-directed treatment, and perhaps remain free for a varying length of time, the disease is pretty sure to return in a very large proportion of instances, under all the forms of treatment which have hitherto been recommended in the text-books and literature. Certain it is that local treatment alone, which is often very effective when properly carried out, can accomplish nothing in the way of a permanent cure.

Psoriasis is not so very common an eruption, as it forms, generally, about 3.5 per cent. of cases appearing in various localities. It is rarely found, however, in the warmer climates, and during a prolonged trip to the far East I could not learn of any cases at all among the natives in various countries who lived mainly on a vegetarian diet, principally rice.[5] The disease affects all ages, and the sexes about equally, as may be seen from Table 1, which represents separate patients, with no duplicates, as far as is known.

TABLE 1.—AGE AT TIME OF CONSULTATION

	Private Practice			Public Practice			
Age (years)	M.	F.	Total	M.	F.	Total	Grand Total
0-5	1	2	3	8	7	15	18
5-10	4	14	18	34	72	106	124
10-15	6	11	17	59	94	153	170
15-20	28	55	83	80	140	220	303
20-25	47	63	110	134	164	298	408
25-30	67	57	124	173	153	326	450
30-35	71	34	105	160	96	256	361
35-40	60	22	82	106	57	163	245
40-45	38	9	47	81	52	133	180
45-50	30	11	41	45	44	89	130
50-55	18	16	34	33	27	60	94
55-60	7	11	18	26	15	41	59
60-65	7	6	13	24	16	40	53
65-70	3	3	6	7	10	17	23
70-75	2	..	2	7	3	10	12
75-80	1	..	1	2	..	2	3
Age unknown	3	..	3	..	7	7	10
	393	314	707	979	957	1,936	2,643

The 707 cases in private practice occurred among 18,705 miscellaneous skin cases, giving a percentage of 3.7, and the 1,936 in public practice among 49,622 cases, making over 3.8 per cent. It will be seen that patients come at all ages for treatment, there being even three between 75 and 80 years of age, while by far the largest proportion were between 20 and 30 years of age, namely 858, or almost one-third of the whole.

The age at which the eruption is likely to develop first is seen in Table 2 taken from patients in private practice.

TABLE 2.—AGE AT FIRST APPEARANCE OF PSORIASIS

PRIVATE PRACTICE

	Number		
Age (years)	Male	Female	Total
1/3	1	..	1
1	3	..	3
1–2	2	3	5
2–3	3	6	9
3–4	1	4	5
4–5	3	8	11
5–10	26	49	75
10–15	41	77	118
15–20	67	53	120
20–25	85	31	116
25–30	43	22	65
30–35	39	12	51
35–40	29	9	38
40–45	14	8	22
45–50	12	12	24
50–55	8	8	16
56	..	3	3
59	..	1	1
60	1	..	1
61	..	2	2
63	..	1	1
64	..	1	1
Age unknown	15	4	19
	393	314	707

From this table we see that the disease may develop very early in life, in one instance at 4 months of age, and that it is not so uncommon in childhood, there being 109 patients or over 15 per cent. in whom it appeared up to 10 years of age; but in the next decade there were 238 cases; it may also develop first quite late in life, as there were twenty-five patients over 50 years of age. The most common period for its first appearance was between 15 and 20 years of age.

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[2] THE JOURNAL A. M. A., Feb. 22, 1908, p. 582.

[3] Passavant, G.: Arch. f. Heilk., 1867, p. 251.

[4] Hebra: Lehrbuch für Hautkrankheiten, 1874, i, 352.

[5] Bulkley: Notes on Certain Diseases of the Skin Observed in the Far East, Jour. Cut. Dis., January, 1910.

As is well known, when once well developed, psoriasis tends to remain indefinitely, and Table 3 shows the duration of the disease before coming under observation, in the patients in private practice.

TABLE 3.—DURATION BEFORE COMING

PRIVATE PRACTICE

Age	Number Male	Female	Total
Under 1 year	51	46	97
1 to 5 years	85	73	158
5 to 10 years	80	85	165
10 to 15 years	62	44	106
15 to 20 years	37	33	70
20 to 25 years	30	17	47
25 to 30 years	12	4	16
30 to 35 years	7	1	8
35 to 40 years	4	3	7
40 to 50 years	10	4	14
Unknown	15	4	19
	393	314	707

Here we see a record of its persistence, twenty, thirty or even fifty years, and undoubtedly these numbers would be much larger were it not that so many patients become utterly discouraged, and relatively few of the many existing cases seek further relief after it has persisted for many years, often in spite of varied treatment.

Table 4 illustrates this point in regard to the patients in private practice. There were 152 who were seen only once, many of them in consultation, but of those who were treated there were 338, or over 60 per cent., who were treated less than one year, which is certainly not long enough to effect a change of system necessary to secure freedom from psoriasis. In many of those who were long under observation the records show that they were often irregular and careless in treatment, and many of them were seen before the strict vegetarian diet was rigidly enforced.

TABLE 4.—DURATION OF OBSERVATION IN PRIVATE PRACTICE

Patients	Number Male	Female	Total
Seen once	102	50	152
1 month or less	60	34	94
1 to 2 months	30	25	55
2 to 4 months	23	35	58
4 to 6 months	20	23	43
6 months to 1 year	47	41	88
1 to 2 years	34	33	67
2 to 3 years	20	17	37
3 to 4 years	9	9	18
4 to 5 years	10	2	12
5 to 10 years	18	22	40
10 to 15 years	10	15	25
15 to 20 years	4	5	9
20 to 25 years	4	2	6
25 to 30 years	2	1	3
	393	314	707

Vegetarian diet for health is no new proposition, and needs no defense or explanation; the literature regarding it is extensive, and its positive value has been frequently demonstrated. All are aware that repeatedly vegetarians have far outstripped meat-eaters in athletic contests, while the reverse is almost unknown. The mass of human kind have always subsisted largely or entirely on the products of the ground, and in animal life all work is done on food from the vegetable kingdom.

On the other hand, the consumption of much meat is of relatively modern date, with some exceptions, and is particularly common in cities, the mass of workers in rural districts subsisting chiefly on vegetarian products.

Nor need we dwell long on the injurious effects of a too highly nitrogenized diet on the human system, which has long been recognized and has had able exponents. All are familiar with the necessity of curtailing meat diet in many conditions of the system, and writers have repeatedly called attention to its influence in the production of cancer; the relative absence of cancer among the natives in rice-eating countries, which I also observed in the far East[5] is striking evidence in this direction.

The relation of meat-eating to psoriasis is also no new observation. Brief mention of it has occurred in literature for some time, and over twenty years ago,[6] at the First Congress of Dermatology and Syphilology, in Paris, in 1889, I stated that "excessive meat-eating will also increase the disease, which will frequently yield with much greater rapidity, under the same treatment as before, when the amount of meat taken is lessened, or when it is entirely cut off," as I had observed in private cases for some years. Since that time I have watched and studied the matter continuously, both in public and private practice, mainly the latter, and have reported favorably in regard to the same repeatedly, with increasing confidence; and this is especially true since I have been enforcing the diet most rigidly during the last two years, during which time I have kept the special record of these cases, as already referred to.

During this period I have observed 140 cases of psoriasis who were placed on a strictly vegetarian diet: there were sixty-eight males and seventy-two females, of all ages from 9 to 70 years. The patients have had the disease for varying lengths of time, though there were only ten who had been affected for less than one year; thirty-three had had it for from one to five years, thirty-six from five to ten years, and many for a great length of time, even up to forty years. I may here say, however, that I have seen quite as startling results in those who have been very long afflicted as in recent cases, provided there has been equal faithfulness to treatment.

In regard to the faithful carrying out of the dietetic treatment there have been, of course, varying degrees of fidelity in different patients, but it is interesting to note how willing those who have suffered from the disease for some time are to accede to the plan which offers them a prospect of freedom from their rebellious complaint; on the other hand, in some of the more chronic cases, the patients from their former experience have become so skeptical as to such hopes that it is often very hard to get them to persist faithfully in the diet; while those who have only begun to suffer from psoriasis find it difficult to believe that such a radical change in their mode of life is necessary.

Of the cases here analyzed, in twenty-one the patients were seen but once and must be excluded from consideration; twenty-five were seen but a month or less, and no ultimate conclusions can be drawn from them. Records show, however, that in some of them the almost immediate improvement in the character and appearance of the eruption indicated the benefit of the treatment, and quite probably some of them may have persisted in the diet and possibly may have become freed from the eruption.

As far as can be learned sixty-one patients or nearly one-half the entire number of those whose cases are analyzed, were wholly faithful to the vegetarian diet during the period while under observation, and twenty-four were recorded as fairly faithful.

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[6] Tr. First Internat. Cong. Dermatol. and Syph., Paris, 1889, p. 892.

In such a disease as psoriasis, and with private patients, who cannot always be controlled or seen as often or as long as desired, it is very difficult to make concise and correct statements in regard to the carrying out of any particular line of treatment, or the results therefrom. But Table 5 will give some idea of the length of time during which a vegetarian diet has been carried out, more or less strictly, by the patients whose cases are under consideration.

TABLE 5.—DURATION OF VEGETARIAN DIET

	Number		
Patients	Male	Female	Total
Seen once	18	12	30
1 month or less	13	13	26
1 to 2 months	5	5	10
2 to 4 months	6	6	12
4 to 6 months	..	5	5
6 months to 1 year	11	10	21
1 to 2 years	5	6	11
2 to 3 years	3	3	6
3 to 4 years	1	3	4
4 to 5 years	1	1	2
5 to 10 years	2	5	7
10 to 20 years	2	3	5
20 to 30 years	1	..	1
	68	72	140

It is actually true that quite a number of these patients have continued a strictly vegetarian diet for months and even years, and I have frequently been told that they would not return to a mixed diet under any consideration. In some instances they have relaxed more or less, with perhaps but little ill-effect on the condition of the skin, when all other elements of treatment were rightly carried out. But time and again patients who have relapsed into free meat-eating have returned with a fresh outburst of eruption, or great aggravation of any that had remained, and they intelligently recognized the cause, and have willingly taken up the vegetarian diet again, because of the great benefit which they had previously experienced from it.

The question arises as to the length of time it is necessary to continue the vegetarian diet. I am accustomed to tell my patients that this may be indefinitely; for if a faulty nitrogenous metabolism and excretion is at the bottom of the eruption, as it seems to be, this may recur whenever the intake of proteids exceeds the power of the system to handle them.

In some instances a return to a moderate mixed diet has not seemed to increase the tendency to the eruption, but in very many cases it has been recorded that any indulgence in a great amount of nitrogenous diet has caused a return of the skin lesions. So that we must infer that with a certain small proportion of human beings the organs are not able properly to assimilate much proteid substance.

It may be asked if the improvement observed to occur on a vegetarian diet bears any relation to the seasons of the year, as it is well known that psoriasis will often disappear at certain seasons. It may be answered that this is not the case. In the cases here analyzed the patients have been treated and watched throughout the year, and the improvement occurs shortly, irrespective of the season.

It may also be questioned as to whether the improvement observed was not due to some medication, internal or external. In reply I may say that this has been tested in a number of patients, over half a dozen, and these mostly inveterate cases, some of whom were very skeptic, owing to long years of unsuccessful treatment elsewhere. Explaining the matter fully, these patients have had absolutely no other treatment, internal or external, and have watched with great interest as certain lesions have ceased to scale, then faded, and finally disappeared entirely, leaving only a stain, which ultimately ceased to exist. This has been verified time and again by my associate, Dr. Bechet.

It is true, however, as remarked before, that there will sometimes be a recrudescence of the eruption to a greater or less extent, even while the patient is supposed to be under a rigid vegetarian diet; but I have never seen an outbreak nearly so severe or so persistent as previous ones; the lesions will be small and much less pronounced, and will commonly yield quite readily to appropriate treatment, dietary and medicinal.

This recurrence of eruption may be accounted for in several ways, and does not at all weaken the argument for a vegetarian diet in psoriasis. First, it is always possible that the patient may not have always adhered to the restricted diet as absolutely as reported. Second, the details of an exactly proper vegetarian diet have not yet been all worked out, and it is quite possible that some articles in the vegetable kingdom may lead to the faulty metabolism which is at the bottom of psoriasis. Third, there may be other causes also at work, as yet unrecognized, which favor the eruption. Fourth, there may be such a wrong action of some of the internal organs that even a purely vegetarian diet does not secure a perfect blood condition. (It will be seen from what has preceded that I regard psoriasis as a constitutional and not a purely local affection, although I recognize that the lesions on the skin may be due, in part, to the action of some of the microscopic organisms which abound on the surface, which operate when the soil has become suitable. It would lead too far from our subject to discuss the matter further, and to present the indubitable proof of this thesis.)

We may now very briefly consider the physio-pathologic basis for a vegetarian diet in psoriasis, and some of the principles underlying its successful treatment.

Perverted metabolism, and hence disordered nutrition, is the basis of much disease, whether it be caused by an erroneous intake of nutritive substances or the faulty disposition of them by the various organs of the system.

If we knew as much about the fluid composition of the blood as we do about its cellular elements, and should analyze it frequently, we could undoubtedly determine more about the true pathogeny of disease. But in the urine we have a most wonderful indicator of the blood-state, and if its oft-changing conditions are minutely studied often enough, and intelligently interpreted, we can know much more of the processes of metabolism than can be learned in any other way. Formed as it is directly from the arterial blood, after this has been prepared by the various organs and finally aërated by the lungs, and is on its way to nourish the tissues, the kidney secretion is to be studied in another light than simply as an excretory product. By the different proportions of its many ingredients it represents to us to a certain degree the composition of the blood itself, as the kidneys have found it, and the result of their efforts to purify it.[7]

Time fails to permit entering at all largely into the interesting subject of the condition of the urine continually found in patients with psoriasis; suffice it to say that the average of a very large number of carefully made, volumetric analyses showed deviations from the normal which were of the utmost importance, all looking towards an imperfect metabolism of nitrogenous elements. The average specific gravity was 1.026, 1.030 to 1.040 being not uncommon, and the acidity was invariably high, often three or more times the normal, uric acid and urates abounding, and the urea increased even to double the normal amount.

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[7] Some Problems in Metabolism Occurring in Patients with Certain Diseases of the Skin, Jour. Cutan. Dis., April, 1911.

Acting on these indications we find psoriasis always benefited by alkaline diuretics, and a strict vegetarian diet, involving a restriction as to the intake of nitrogenous elements, shows alike in the urine, while it produces its beneficial effects on the skin. It is interesting to observe, however, that often for quite a period after entering on a vegetarian diet, the urine may still show evidence of excessive uric acid elimination, thus supporting the view which has sometimes been criticized, that there is at times a retention in the system of waste nitrogenous products which operate harmfully, and which the blood takes up much more readily, in proper combination, when relief is afforded by a non-nitrogenous diet. This is not the place to enter into a further consideration of the chemistry of the body, or to trace where the error of metabolism lies; but it certainly has to do with the functioning of many organs and parts of the system, and medical acumen and skill are required to discover and rectify the faulty actions involved.

Therefore, while a strictly vegetarian diet is strongly advocated in psoriasis, and while under certain conditions it is quite possible for the lesions to disappear under its influence alone, with no other treatment, internal or external, it is to be clearly understood that this is not the only element of treatment to be considered, although undoubtedly the most important one. To obtain the best results there is need of constant medical supervision in order to secure the best working of the economy in all directions, and proper internal and external medication can accomplish very much more in connection with an absolutely vegetarian diet than without it. It is, of course, impossible here to enter into any details regarding these matters.

A few words may be added in regard to the practical working out of the problem of vegetarian diet. When it is first explained that this diet means the absolute exclusion of all kinds of meat, poultry, fish, eggs, etc., and living only on the products of the ground, many patients hesitate and ask, "Well then, what can I eat?" So that it will often require some little patience and thought to aid them in securing a properly nourishing dietary; and it requires some watching to keep them strictly up to it. But with help they soon learn to manage successfully, and I have many who would not return to a mixed diet under any consideration. Many speak of their unusual well-being, and feel most grateful for the improvement in general health and vigor.

There are some articles from the vegetable kingdom, however, that have to be guarded against. Alcohol in any form, even the lightest beer, is prejudicial, and in some instances I have found better results when I excluded coffee, chocolate and cocoa, allowing only weak tea, and water in abundance. Butter is the only non-vegetarian substance which is allowed, unless it be possibly a little very fat bacon, occasionally. I do not allow milk to be used as a beverage, or on cereals, which should be eaten with butter and salt. Care must be taken against indulgence in sweets, and I commonly cut off pastry. Nuts, if well chewed, seem to act well, but much acid fruit seems sometimes to interfere with the treatment; vinegar on salad is harmless.

The question is asked about the ultimate results: "Is psoriasis curable with a perfectly carried out vegetarian diet, and proper other treatment?" This is a difficult question to answer very positively, because of the well-known character of the disease and the uncertainty of patients, as to their again consulting the same physician if there should be a relapse. But from my watching this treatment for more than twenty years, and from my more special study of the subject the last two years, I believe that a very considerable proportion of patients can be cured and remain well under a strict diet.

On study of the records of the cases here analyzed, there were eighty-one who were recorded as strictly faithful to diet, and twenty-four who were fairly faithful. There were thirty-two in whom the eruption was recorded as gone, and sixty in whom it was improved, and only sixteen in whom it was recorded as not improved, but of these, thirteen were not faithful to diet. Some of these patients have been seen later, for one reason and another, and remain free from eruption, but there are quite a number who return now and again, after a period of unfaithfulness to diet, with a greater or less amount of eruption.

Finally, it may be said without equivocation that the results of this plan of treatment, as watched by my several associates in years past and myself, and by physicians in consultation, and by very many most intelligent patients in private practice, far exceed anything which had been previously secured by the best of treatment at the hands often of the best men in the profession.

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ABSTRACT OF DISCUSSION

Dr. D. W. Montgomery, San Francisco: The etiology of psoriasis has always been a riddle to dermatologists, and no theory is satisfying and no line of treatment gives absolutely satisfactory results. Even if it be as Dr. Bulkley maintains, a nutritional disease, yet it certainly is not a disease of degeneration, as the people who have psoriasis are usually the strongest and healthiest of a community. It is rare to find a weakly, sickly individual with this disease. These people are strong and healthy, and have a beautiful white skin and muscles like iron. I knew a man in San Francisco who had psoriasis and whose eruption cleared up every time he went fishing. A ready explanation would be that his nutrition improved with the exercise and fresh air. I also remember that the late Dr. J. Nevins Hyde reported the case of a patient whose eruption cleared up on living naked in the strong sunlight of Arizona. This disappearance of the eruption under the influence of sunlight is interesting, because psoriasis rarely occurs on the exposed skin of the face and hands, and patches of psoriasis may be temporarily cleared up under *x*-rays. Whether light acts in psoriasis as light or as a nutritional agent is not known.

I have never tried Dr. Bulkley's diet, but I should think it a very difficult one to enforce. It is doubtful if a man could feel strong and well on an entirely nitrogen-free diet. It is my habit, however, to regulate the diet of these patients with the view that the eruption is connected with poisons of fermentation generated in the alimentary canal, but in regulating the diet I do not deny them meat.

Dr. Bulkley's observation in regard to the rarity of psoriasis in rice-eating countries is very interesting. I have long had my eye on rice as a most excellent starch. The Chinese have for ages lived, just on the edge of subsistence, with rice as their main food, and yet are a strong vital race. I do not think they could have done this on such a starch as potato. Martinet asserts that rice contains an antiseptic principle, and that under its influence indican disappears from the urine. There may be some connection between this antiseptic principle of rice, and the rarity of psoriasis among rice-eating peoples.

The darker races are very insusceptible to psoriasis. Psoriasis is almost never seen in the negro, although the negro is a heavy meat-eater. The freedom of the negro from psoriasis may be dependent on the peculiar insensitiveness of his skin to light. In fact, the freedom of all the heavily pigmented peoples may rather be due to their peculiar reaction to light than to their lack of carnivorous food.

Dr. J. S. Trewhella, Los Angeles: I would say from personal experience that a restricted nitrogenous diet has been beneficial to me. I would prefer to have psoriasis and have meats than be restricted.

Dr. Lawrence Litchfield, Pittsburgh: Is it not possible that by adding purin-free articles to his nitrogenous diet, Dr. Bulkley might get good results? It may be that the purin metabolism is at fault.

Dr. L. Duncan Bulkley, New York: I have not followed out the point made by Dr. Litchfield, but will take it up and report perhaps next year. In regard to living on that diet and keeping healthy, I have kept patients for weeks on rice, bread, butter and water, with only good effects. Indican disappears from the urine under this diet. If you see the Japanese and Chinese at work you will see what wonders they can do on rice. I have had people suffering from psoriasis for ten or twenty years in whom the eruption has faded away under a vegetarian diet alone. To show how rare psoriasis is among the dark-skinned races, who live on cereals, my son, who is a medical missionary in Siam, sent me recently a photograph of about the first patient with psoriasis that he had seen in six years there.

A REPORT ON THE USE OF CACODYLATE OF SODIUM IN FOUR CASES OF PELLAGRA

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Because pellagra is a new disease in this section of the country, because the number of its victims is increasing rapidly, and because the treatment has been so varied with so small a percentage of success, I am making a report of four cases. So far as I can gather from journals, or any publication on this disease, the profession has not decided what the cause of pellagra is; almost every one suggests a different cause. As we all like to know the cause of any trouble before we begin our treatment, it seems to me that our greatest work is to find out the cause of this disease, but while we are doing this we must not sit still and do nothing for the patient.

Case 1.—*History.*—Mrs. S., aged 23, white, whose husband was murdered in December, 1909, had two children, one born November, 1905, the other, December, 1907. She said that erythema of the hands, and spots on the dorsa of the feet had first appeared during the spring of 1905 and 1906; these attacks she thought were eczema, and they passed off after a few months with local treatment. Erythema did not reappear until the spring of 1909, when it appeared on the hands, feet and elbows; again it disappeared with local treatment. During these times the patient was in a very run-down state of health, but though hardly able to be up, continued to do her housework. During the spring of 1910, there was some appearance of the erythema, but not very much. During the first days of January, 1911, the patient became so debilitated that she was not able to be up, the eruption began to appear on her hands, feet, elbows and a few places on her face. At this time she called in a physician, and after several weeks of treatment she continued to grow worse. February 12, she and her mother, with whom she was living, requested the attending physician to call in another physician with him. This he refused to do and dismissed the case. February 13, I was called to see her, and on examination I found her with a circulation of 110, temperature 101 F., very weak, not able to turn herself in bed, and very nervous. I found an eruption extending from the tips of her fingers along the backs of the hands up the forearm to within three inches of elbow, also spots on the point of the elbow, on the neck, around the alæ of the nose, on the dorsa of the feet, on the knees, and for several inches around the anus. The character of the eruption was scaly, and pigmented around the edges; under these scales was a secretion of serum. All of the eruptions were very red and angry looking. The mucous membrane of the mouth showed a thick, and spongy appearance. The gums were thick and spongy, and would bleed from the least touch. The tongue was red and smooth, and had a velvety touch.

The patient had very little appetite, some nausea, vomiting, diarrhea, with from twenty to thirty bowel movements in twenty-four hours. The irritated condition of the mucous membrane of the mouth seemed to extend through the entire alimentary canal. She suffered with general muscular aching most of the time, slept well during most of the night, but very little during the day. The loss of flesh was very marked. The patient was extremely nervous, and at times had hallucinations and crying spells. For some time she suffered with diplopia; aside from this the eyes seemed to be all right. She had not menstruated for about twelve months.

Treatment.—On February 13, I gave the patient two ounces of castor oil, to clear out the alimentary tract; after this I gave her a combination of bismuth subnitrate and camphorated opium put up in lactated pepsin elixir, also a hypodermic injection of morphin sulphate, ¼ grain several times each day. For the eruption I tried an ointment of phenol (carbolic acid) and zinc oxid. For the mouth I gave an alkaline mouth-wash; for the weakened condition and rapid heart I gave strychnin nitrate, 1/30 grain, every four hours; all of these things I did up to February 24, and none of them seemed to do any good, as the patient gradually grew worse. On the above date, Dr. G. L. Alexander saw her with me and suggested that I give her cacodylate of sodium as an experiment, as it could do her no harm, and she did not look as if she could live but a few days. I gave her a hypodermic injection on that day, of 3 gr. of the sterilized solution of cacodylate of sodium. On the following day, the patient appeared to be very much worse, having all kinds of hallucinations, and talking incessantly for several hours. At this time her pulse was very weak and rapid, and she looked as if every moment would be her last. I gave her at this time a hypodermic injection of digitalin, nitroglycerin and strychnin, and kept her as quiet as I could with an occasional dose of morphin. February 26, she was very much improved. On account of her weakened heart action from the depression of the day before, I continued the digitalin, nitroglycerin and strychnin, giving it every four hours. I kept up the alkaline mouth-wash that I had given her in the beginning, and began using carron oil to soften the scaly eruption on different parts of the body. I continued the cacodylate of sodium injections, giving them every three days. After I had given her ten injections, the eruption had all disappeared and the parts showed only the appearance of new skin. The tongue had lost some of this redness, and the mucous membranes of the mouth had improved a great deal. The bowels began to check up after the third injection, and after the fifth, they did not move more than twice a day. The appetite began improving after the first injection, and temperature and pulse gradually went back to normal. As her appetite improved, the patient began gaining strength and flesh, and by March 1, she was beginning to sit up, and since that time she has menstruated. At the present writing, I give her the injection of sodium only once a week. This patient thinks she is cured, since she has no apparent symptoms, is able to visit her neighbors and to do most of her housework.

Case 2.—*History.*—Mrs. D., aged 22, has no children. For the past two years she has experienced a general physical decline. She has been consulting me during this time, and I could never find anything organically wrong with her, though she continued to lose weight and strength. During the past spring I began to notice that her tongue was spongy, red and very smooth, and would bleed from very little irritation. I did not see her very often, and May 16 she came to me complaining that her hands had been blistered by the sun. On questioning her, I found that she had considerable irritation of the feet. On examination I found the back of her hands and several inches of the forearm in a blistered condition; as if done by the sun. The edges of the blistered parts were very brown. From the above symptoms I made a diagnosis of pellagra, and began giving her every three days hypodermic injections of 3 gr. of the sterilized solution of cacodylate of sodium. The last injection I gave her was on June 8, at which time her condition was very much improved, and she had gained her strength so rapidly that she told me that she was well and did not believe she needed any more medicine, claiming that she felt better than she had felt in two years. All of her symptoms have entirely disappeared, and apparently she is well.

Case 3.—*History.*—Mrs. R., aged 33, has had five children, the youngest of whom is two years old. While under my charge the past two years, she gradually lost flesh and strength, and I could find nothing organically wrong with her. I gave her tonics, digestants and everything I knew that might apply to the case, and failed to help her.

May 25 she called me in to see her; at this time I had not seen her for some weeks. She showed me a scaly eruption, which was all over her face and hands, and which did not look like any I had ever seen in cases of pellagra. Her tongue was red, and velvety to the touch; the gums were red and spongy and would bleed from very little irritation; the temperature and circulation were normal, the bowels were constipated, the feet burned and ached all the time. As the eruption in this case was different from any I had seen, I guardedly made my diagnosis pellagra, and began giving an injection of cacodylate of sodium every three days, also 2-dram doses, three times a day of elixir of iron, quinin and strychnin (U. S. P.). For her constipation I am giving her 1-dram doses of arom. fluidextract of cascara sagrada once a day. The patient has improved gradually since the beginning of the above treatment and the eruption has entirely disappeared.

Case 4.—*History.*—Mr. W., aged 49, farmer, past history negative. May 27, he came to me with back of hands and forearm half way to elbows looking as if they had been blistered by the sun, and told me he had burned his hands.

I had not seen this man for some time and I was very much surprised on weighing him to find that he had lost 32 pounds in the past six months. He told me he was troubled with indigestion and constipation all the time, that he had no appetite, and that he had lost his strength until he was hardly able to work. I found his mouth and tongue in the same condition as reported in the other cases. I began giving him a hypodermic injection of 3 gr. of the sterilized solution of cacodylate of sodium every three days, and in two weeks he had gained one pound, with no other treatment except the sodium.

REMARKS

Since we know very little as to the cause of this disease, I shall give some details as to the origin of these cases.

The patient mentioned in Case 1 lived nine miles from Forsyth during the first four years she had her first symptoms of the disease. Just one quarter of a mile from her home lived a man, 73 years of age, a patient of mine, who died of pellagra two years ago. This man was the father of Patient 4; before the father's death, the two lived in the house together. For the past year Patient 4 has lived in the house where Patient 1 had lived for four years. Near this house there is a small stream of water and a great deal of marshy land.

The mother-in-law of Patient 2 died of pellagra in November, 1906. I did not recognize it as pellagra at that time, but since knowing something of the disease, I realize that is what she died of. Patient 2 did not live near her mother-in-law at the time of the latter's death, but for the past three years she has lived within three hundred yards of the house in which her mother-in-law died, and has been on the decline all the time. Near this place is a stream of water with marshes around it.

The patient mentioned in Case 3 lives within one-eighth of a mile of a running stream of water; there are not very many marshes adjoining this stream.

Since reading an article by Dr. A. Cacini of New York,[1] also an abstract of an article of Dr. L. W. Sambon,[2] I have recalled that all of the patients afflicted with pellagra that I have ever seen have lived near a stream of water, and in the rural district! For these reasons I am beginning to believe the theory of these writers as to the cause of pellagra. From the cases I have seen, I believe it to be an insect-borne disease; I do not believe that the corn-bread theory is worth anything, since a good percentage of these patients have never eaten corn-bread. Patients 1 and 4 in this report have never eaten corn-bread to any extent. I believe that Patient 1 had the typhoid pellagra of which Dr. Cacini speaks. I also believe that her recovery would have been more rapid had I given her the injections of sodium more frequently.

THE PATHOLOGY OF JOINT TUBERCULOSIS*

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It may seem somewhat bold for an orthopedic surgeon to address the members of an august body like this on a matter pertaining to their own specialty, and were there anything like a unanimity among you, I should hesitate.

That the greatest confusion exists as to the pathology of joint tuberculosis, one can easily find by consulting a few text-books and by reading a few articles on the subject. This confusion, of course, is reflected in all the aspects of the disease, and until the exact pathology is laid down in full and comprehensive terms, it is futile to look for any scientific treatment of the disease. In other words, although the cause of the disease has been known for many years, the failure of the pathologist to place the pathology on a sound footing, is responsible for the chaos in the whole subject of joint tuberculosis.

In self-defense, then, I entered on this work, to see what I could find out for myself, and I shall here attempt to set forth as briefly as possible some of my findings. My material consists of about eighty specimens, supplied by various men. Most of the specimens consist of resected joints, some of amputated extremities, and a few of clippings from joints that had been opened for one purpose or another.

The first question to be discussed is, where joint tuberculosis starts and what tissues it affects. It starts in the marrow of the spongy bone ends or in the cellular synovia, and as long as it remains uncomplicated, it is confined to one of these two tissues or to them both. The bone itself, the cartilage and the ligament are damaged simply by interference with their nutrition, and may be said to play a purely passive part in the disease. The tendency in recent years in America has been to regard all joint tuberculosis as of bony origin, and the theory has the attraction of simplicity, but, starting out myself with this view, I have been compelled to abandon it.

A study of our specimens and of the histories of the patients from whom they were taken convinces me that primary synovial disease not only occurs but is quite frequent in adults. In children, disease of the bone-marrow predominates. The reason for this we shall presently see. Synovial tissue is distinctly vulnerable to tuberculosis. It is classed among structures of the lymphatic system. We find the disease rather frequently in tendon sheaths.

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[1] Cacini, A.: Med. Rec., New York, March 11, 1911.

[2] Sambon, L. W.: The Journal A. M. A., July 23, 1910.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

The next point is, why tuberculosis occurs in the extremities of the long bones and not in the shafts. As you know, various explanations have been advanced for this phenomenon, but as you also know, none of them has ever been accepted as adequate. Liability to injury has been said to be responsible, but trauma is no cause of tuberculosis, and if we injured a muscle or a ligament, or if we fractured a bone, we should not expect tuberculosis to ensue, and we must not forget that the tissues of a joint are adapted generally to the traumata to which they are exposed. Some say that the vulnerability is due to the arrangement of the blood-vessels, to the lack of anastomosis in the end arteries of the epiphyses in childhood, but the anastomosis is present in adults, and the lack of anastomosis in the blood-vessels of the brain, for instance, does not predispose to cerebral tuberculosis. To congestion has been ascribed a causal rôle, but congestion has been advanced as a means of curing the disease.

About a year ago, I proposed an explanation which appeared to me quite adequate, and I see no reason as yet to change my opinion. Bone tuberculosis is simply a question of red or lymphoid marrow. Wherever in bone we find lymphoid marrow, there we find the bone vulnerable to tuberculosis, and where we do not find it, there we do not find unmixed tuberculosis. This might be regarded as a coincidence, but the argument is reinforced by the fact that after a resection of a joint, the knee for instance, if bony union and primary healing be attained, the structure of the bone at that site changes from spongy to dense, and the disease disappears, whether or not we have removed all the infected tissue. There is no difference between dense and spongy bone except the arrangement of the lamellæ, the amount of bone, and the quality of the marrow, and we have already seen that the bone itself is never affected.

In the spongy bone we find the red or cellular, or lymphoid marrow, and where we find lymphoid tissue there tuberculosis can get a foothold. There is more red marrow in the bones of children than in those of adults. Hence, bone tuberculosis is more frequent in the former than in the latter. Primary tuberculosis of the shafts of the long bones has been described, but almost always, or invariably, of the shafts of children's bones alone, and red marrow exists in them. Joint tuberculosis is rare in children under 1 year of age. Their bone ends are composed almost exclusively of cartilage, and Rovsing has said that the joint tuberculosis of infants was probably always purely synovial. The yellow marrow appears to be invulnerable, but if a secondary infection be added then the disease may spread here also, as well as to other tissues also previously immune.

When we find a tissue subject to tuberculosis in a certain region and find further that when this tissue disappears, the disease dies out, we are certainly justified in regarding these facts as having some sort of a causal relation to the disease.

König has attached great importance to the precipitation of fibrin from the exudate in the joint. By means of this fibrin he has asserted that the cartilage is eroded and destroyed from the joint side, and that the synovia is infected from the exudate. In fact, he seems to assign to the exudate a very important part in the spread of the disease. I am forced to the conclusion that his examination of joints must have been almost exclusively macroscopic. I assign to the exudate a minor rôle and regard it more or less as a mere symptom, and quite unimportant in the pathology. I think the synovia is invaded by the primary tubercle in its substance, or else by a spread of the disease from the bone, where the synovia is attached at the margin of the cartilage.

The "layers of fibrin" which König describes on the cartilage, I think, are simply the evidence of the fibrillation of the superficial layers of the cartilage, caused by the interference with its nutrition and by the immobilization of the joint. The fibrillation can be plainly seen in sections. The cartilage may be perfectly smooth in joints which have been for years the seat of a tuberculous exudate. I have the joints to prove this. On the other hand, the fibrillation (or "layers of fibrin") may not be in evidence in a cartilage that has been lifted off the subjacent bone. If this bone is in good condition, that is, if the nutrition of the cartilage has not been involved, the cartilage will usually be found in pretty good condition. I believe that it is never damaged except from below.

The subject of rice bodies has also attracted some attention. Two theories have been held in regard to them: that they were the result of the precipitation of fibrin, or of a degenerative process. I consider them as the product of an effective attempt at repair, as the walling off of the tuberculous granulations and subsequent condensation and shrinking. One of our specimens (a knee-joint) contained a collection of them in a fibrous capsule. I think that the slide of this specimen is unique. The joint also contained a small encapsulated hematoma. Both are rare—one may be the later stage of the other.

PYOGENIC MEMBRANES

In almost all text-books tuberculous abscesses and sinuses are described as being lined by a pyogenic membrane; that is, by a wall of granulation tissue, filled with tubercles. The walls of these abscesses or sinuses, *if they are not infected secondarily with pus germs,* are composed of the necrotic tissue of the structures in which they lie. If the tissue is vulnerable to pure tuberculosis, then tubercles may be found in the walls of the abscesses or sinuses, otherwise they will not be found there. In a cross-section of the walls of a secondarily infected tuberculous sinus, tubercles will be seen, in one not secondarily infected they will not be seen. The importance of this fact to the subject of treatment is at once obvious.

What is the result of an old healed tuberculosis of a joint or of a tuberculosis thought to be healed? One hears the term "ankylosis" used somewhat at random, and more or less vaguely. In children, one may occasionally get a bony ankylosis, but only after a secondary infection. In not one of our specimens of adult tuberculous joints was a bony ankylosis present. I believe that it never occurs except after a resection.

As to healing, what may one expect? In a child, anything from good function and a practically complete cure, up to a bony ankylosis. In an adult, I believe that if the bone be involved, painless and useful function in that joint is at an end forever, and permanent healing under conservative treatment is very doubtful. In one of our resected adult knees, we found an old healed tubercle in the bone, just beneath the cartilage, buttressed off with fibrous tissue and bony trabeculæ, and yet, the disease must have broken out afresh or the joint would not have been excised. In another case, an ankle, we found an old tubercle buried in fibrous adhesions. In some of our cases, the history runs back for years.

Finally, let me mention the unreliability of the examination of a clipping from a joint for diagnosis. Tuberculosis may exist in one part of the synovia and not in another. The reports of different laboratories from sections of the one joint will often differ. If tuberculous tissue be found, the report, of course, is final; if not, the joint may still be tuberculous.

Thorough mastery of the pathology of joint tuberculosis by the profession would soon put an end to the diverse, and sometimes fantastic, treatment of the disease, which now prevails.

440 Humboldt Street.

TONSIL INSTRUMENTS

RICHARD J. TIVNEN, M.D.
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CHICAGO

TONSIL HEMOSTAT

During a tonsil operation, it frequently occurs that after one tonsil has been removed a considerable period of waiting is necessary to control the resulting hemorrhage before the operator obtains a clear operative field and may, without annoyance from the hemorrhage, proceed to the removal of the remaining tonsil. In such cases my tonsil hemostat (Fig. 1) has proved efficient.

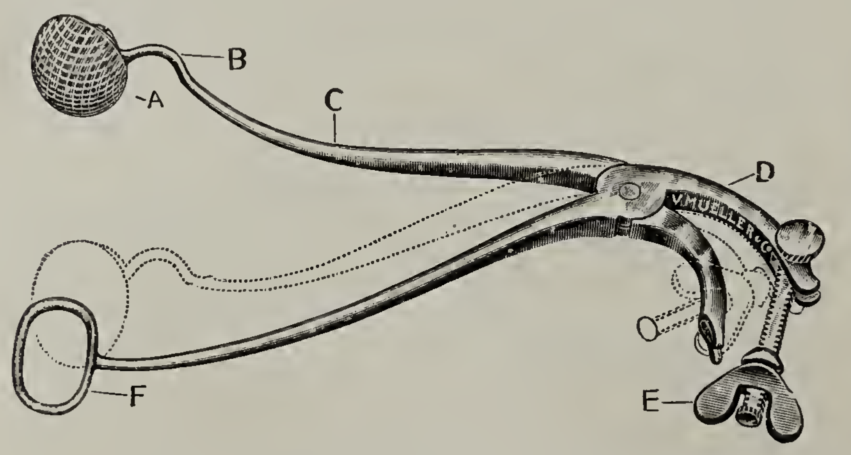

Fig. 1.—Tivnen's tonsil hemostat. A, serrated aluminum tonsil pressure bulb, oval in form to conform to tonsillar fossa. B, curve, which overrides the anterior pillar. C, arm, curved to rest, external to the teeth, between the alveolar process and the cheek. D, portion projecting from mouth. E, thumb-screw and swinging arm lock for securing instrument when closed and applied. F, the external fenestrated counter-pressure plate. The unbroken heavy lines indicate instrument when open. The dotted lines indicate its appearance when closed.

It arrests the hemorrhage promptly, eliminates the delay usually incident to its control, secures a clear operative field and thereby shortens the period of anesthesia, the time of operation and minimizes greatly the danger of subsequent hemorrhage. The special application of this hemostat is for the control of hemorrhage *during* the operation. It may be used, however, equally well for postoperative tonsillar hemorrhage.

Its application is expeditious and simple; it can be used for either tonsil without change or adjustment and being constructed entirely of metal, may be boiled without injury.

The clamping arms of the instrument are thin, light in weight, and, when in position, the inner arm and pressure bulb adapt themselves snugly to the tonsillar fossa and anterior pillar; beyond the pillar, the arm is so curved as to rest between the alveolar process and the cheek; while the portion of arm and lock protruding from the mouth is short, curved abruptly to the outer side, and entirely out of the way of the operator.

The field of operation is not in the least obstructed by its use and neither the subsequent introduction and manipulation of the necessary instruments for the removal of the remaining tonsil nor the technic of the operator need be curtailed, modified or embarrassed by its presence.

In using the instrument, I have found it of advantage to cover the oval bulb with three or four layers of sterile gauze, the ends of which are first trimmed short so they will not project into the operative field, then gathered together and secured just over the base of the bulb by an ordinary rubber band, previously sterilized. This covering is moistened with a 1-to-1,000 solution of epinephrin (adrenalin chlorid).

A pad of gauze is also placed just behind the angle of the jaw to protect it from the slight amount of pressure exerted at this point by the external counter device of the instrument.

The advantages of the instrument summarized are:

1. It arrests tonsillar hemorrhage promptly and is available for either operative or postoperative hemorrhage.

2. It can be quickly applied to either tonsil, without change or adjustment, and when in use does not in the least obstruct the operative field.

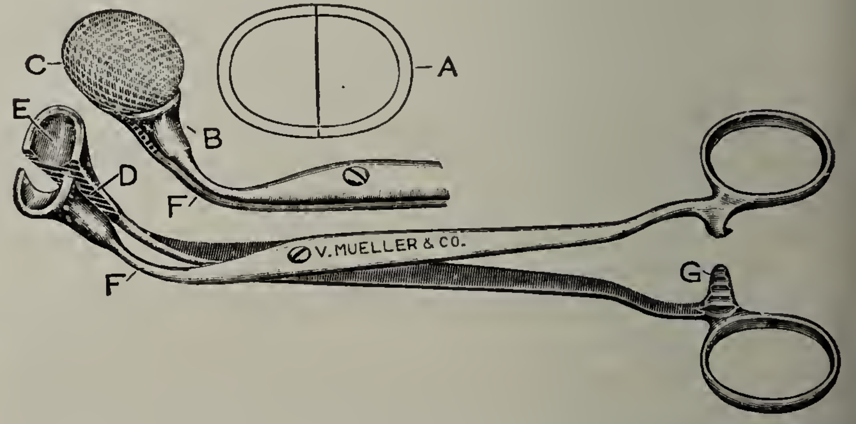

Fig. 2.—Tivnen's tonsil sponge forceps. A, outline of sponge-cup. B, base of sponge-cup. C, sponge in position. D, instrument opened to show serrated portion at inner side of cup base for retaining ends of sponge. E, receptacle for sponge. F, showing angle of sponge-cup to the handle. G, lock.

3. It is simple in construction, light in weight and being entirely of metal may be sterilized by boiling without injury.

4. The amount of pressure necessary to exert in controlling the hemorrhage is slight and when the pressure applied is judiciously graduated and not unnecessarily prolonged, the tissues are not traumatized and the patient is not subjected to additional hazard by its use.

5. By securing a clear operative field, it conduces materially to the carrying out of a satisfactory technic and surgical thoroughness, shortens the anesthesia and operative period, eliminates the hazard and annoyance of operative hemorrhage and minimizes the danger of subsequent hemorrhage.

TONSIL SPONGE FORCEPS

A satisfactory tonsil sponge forceps should be light in weight, simple in design, easily operated, carry securely a sponge of sufficient size and form to serve its purpose adequately and so constructed as to adapt itself readily to the oral cavity and tonsillar region.

My tonsil sponge forceps (Fig. 2) was designed to meet these requirements.

The instrument is provided with a lock to hold the sponge securely; the sponge receptacle is cup-shaped, oval in form to correspond to the general contour of the tonsil and tonsillar fossa; the "cup" in which the sponge rests is sufficiently large to accommodate a sponge of proper size; the edge or "flange" of the cup is overlapped by the sponge, thus presenting a smooth, cushioned surface, which minimizes the trauma to the tissues to which it is applied and in addition provides an even, firm resistance of a solid oval sponge-body, which exerts firm and evenly distributed pressure throughout every area with which is comes in contact.

The two halves of the sponge cup are serrated at their base to engage firmly the base of the sponge, which is inserted between them; the cup itself is placed at a slight angle to the carrying arm of the instrument to permit the operator an unobstructed view of the tonsillar area when applied and to promote facility of application to the depths of the tonsillar fossa. The sponges for the instrument are prepared by taking a small square of gauze, filling with cotton to the required size, and then gathering the ends of the gauze together over the cotton filling—much as a pouch is made.

The gathered ends of the gauze are twisted together and are then easily inserted between the open halves of the cup, which is closed and locked. Before operation, a sufficient number of such sponges are thus prepared and sterilized. From four to six sponge forceps should be at hand for the operation and during the operation the assistant is entrusted with the arming and disarming of the instrument.

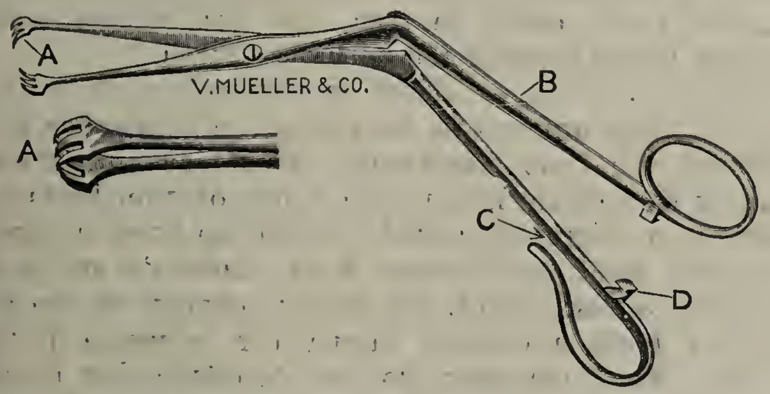

Fig. 3.—Tivnen's tonsil-grasping forceps. A, tonsil grasping portion. B, showing angle of handle to grasping arm. C, opening in finger ring for introduction of snare. D, lock.

ADENOID HEMOSTAT

The amount of blood lost in the removal of adenoids is usually considerable.

While the hemorrhage is not ordinarily considered of serious moment, occasionally, however, it is accompanied or followed by serious consequences to the patient. It is therefore the manifest duty of the operator to safeguard his patient in every possible way and to eliminate every factor which may endanger the patient's life or prolong his period of invalidism.

Viewed from this standpoint, the control of hemorrhage incident to the adenoid operation becomes a matter of importance and merits thoughtful consideration.

My adenoid hemostat is designed for the control of hemorrhage during or following adenoid operation.

In design and construction, this instrument differs in only one essential particular from the tonsil sponge forceps above described. In the adenoid hemostat, the sponge-cup is placed at nearly right angles to the carrying arm in order to accommodate itself easily to the nasopharynx, the angle of the sponge-cup to the handle, marked F in Figure 2, approaching more nearly a right angle in the adenoid hemostat.

The sponge used is previously prepared and its size is regulated from an estimate of the size of the patient's nasopharyngeal space.

After removal of the adenoid, the sponge is moistened in epinephrin (adrenalin chlorid) solution (1 to 1,000) and is quickly but gently applied to the nasopharynx, being introduced in the same manner as the adenoid curet. It is then pressed firmly against the vault of the pharynx and retained in this position until the hemorrhage has ceased, and is then slowly and gently withdrawn.

TONSIL-GRASPING FORCEPS

The advantages of this instrument (Fig. 3) are:

1. It is thin, light in weight and delicate in construction, thus permitting facility of operation and an unobstructed view of the tonsil and tonsil area.

2. The grasping portion is curved to adapt itself to the tonsil contour; the teeth, three in number, are edged, curved, spaced and approximate snugly to engage the tonsil easily and securely. This arrangement is of especial advantage in dealing with the so-called "submerged" variety of tonsil.

3. The handle of the instrument, being nearly at right angles to the grasping portion, the hand of the operator is situated out of the line of vision and thus presents an unobstructed view of the field of operation at all times.

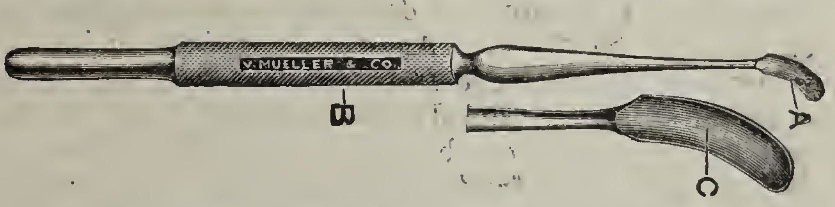

Fig. 4.—Tivnen's tonsil-pillar separator. A, cutting edge of blade. B, handle. C, showing oval form of blade from side to side.

4. When the tonsil is once engaged the instrument is locked, and the tonsil remains secured until removed.

5. The snare is applied without releasing the tonsil, by entering the loop at the opening in the finger ring, sliding it over the instrument down to and over the tonsil.

TONSIL PILLAR SEPARATOR

The advantages of this instrument (Fig. 4) are:

1. It is of sufficient weight to impart a comfortable sense of resistance and balance to the operator's hand.

2. The length of the handle enables the operator to perform the necessary manipulation without obstructing the view.

3. The handle is round to permit rotation of the instrument and is serrated throughout so that it may be held firmly and securely.

4. The blade is placed almost at right angles to the handle; it is slightly oval from side to side to conform to the tonsil contour and is thinned and rounded at the point; and the cutting edge may be made sharp or dull.

32 North State Street.

THE INFLUENCE OF THE THYROID AND PARATHYROID GLANDS ON THE HEALING OF FRACTURES *

R. L. THOMPSON, M.D., and J. L. SWARTS, M.D.
ST. LOUIS

Since skeletal disturbances are so striking a feature in athyreosis, it is easy to conceive that a fractured bone in an animal deprived of thyroid gland would suffer delay in healing. That this is true seemed to be proved by Steinlen in 1900, who, using young rabbits, observed a definite delay in the time of fracture healing in animal operated on. The same was explained as a result of the delay in callus formation and lack of calcium deposit, so that there was a persistence of uncalcified cartilage beyond the period when normal animals showed unmovable solid bone.

While the results of Steinlen seemed conclusive, they were attacked by Pezzolini (1903) who asserted that it was not the thyroid removal, but the general cachexia of the animal that retarded healing and regeneration.

Still more recently (1909) Canal, and also Morel, basing their assumptions on the theory of the relation of the parathyroid glands to calcium metabolism, found that fractures healed more slowly after complete parathyroid removal than in control animals. Jovane and Vaglio, however, dispute their results.

In our experiments we have attempted to observe the results of both thyroid and parathyroid removal on the time of fracture healing as well as a few attempts at the production of thyroid hypertrophy during the course of fracture healing. This work we consider incomplete, for, although over fifty dogs were used, so many factors enter into the cause of delay in fracture healing that much more work must be done before any definite conclusion can be drawn. Among the points to be considered are age, size and individual susceptibility in the different animals. Considerable variation (even to absolute lack of union) can be obtained by variations of the technic with which fractures are performed. It is needless to say, also, that slight inexactness in the apposition of the fractured fragments may give considerable differences in the size of the callus, and that the animal must be carefully watched throughout the whole course of the recovery to prevent injuries that might retard healing.

Aside from all this, the greatest difficulty which we encountered in this work was the complete removal of all thyroid tissue. Anyone who has worked with dogs knows how infrequently myxedema symptoms occur in these animals, even when all visible thyroid tissue is removed. We were able to account for this by the finding of pericardial thyroid tissue in 80 per cent. of our animals, as we have described elsewhere.

Taking all these varying factors into account, then, we give the following results of our work. The malar bone was selected in most instances for fracture. In some cases the femur was fractured. Most of the experiments were following complete thyroidectomy. One series was following mass ligation of the parathyroid glandules, since it has been shown that these organs may be gradually destroyed in this way without the sudden tetanic death which follows complete parathyroidectomy.

After the removal of all visible thyroid tissue and the attempt to leave behind at least two parathyroid glandules to prevent tetany, the animal was left for from two to eight months and watched for the development of signs of myxedema. Out of twenty-one animals thus operated on, only two developed distinct myxedema, as was shown by the increase in size, the thickening of the skin and subcutaneous tissue, and the falling out of hair. (Several animals in this series died from sepsis and tetania parathyropriva.)

By experiments on control animals, it was found that healing of the malar bone, when chiseled through and the fragments carefully approximated and covered with periosteum, showed practically complete healing in about forty days. While a number of animals were examined at shorter and longer intervals, it was decided to use the myxedematous animals for study of the bone thirty days after the fracture. Several of the thyroidectomized animals not showing myxedema were also examined thirty days after fracture, and normal animals with thirty-day-fractured malar also were used for control.

While differences were found in the amount of union that had taken place, these differences were greatest between different animals in the control series and not between the control animals and the thyroidectomized animals. For instance, there were two cases of lack of union and both were in control animals. In general, in the control animals and in the thyroidectomized animals, both with and without myxedema, practically identical pictures were obtained.

Macroscopically, the fractures were well united with little or no visible callus. When the bone was removed, fibrous union could be seen, and the section showed fibrous tissue between the bone fragments.

Microscopically, considerable difference is to be noted in individual animals in the amount of connective tissue between the bone fragments. This may vary from a hardly discernible line to the width of two-thirds of a low-power microscopic field. When the bone is fixed in Zenker's fluid and stained with Mallory's anilin-blue connective tissue stain, the calcium content of the bone usually takes a distinct brown (or brownish yellow) color. With this stain, no lack of ossification is to be observed in the thyroidectomized animals that is not shown in the control animals.

Following the negative results obtained in this series of experiments, a method was sought whereby the influence of the parathyroid glandules on the healing of fractures might, in some measure, be ascertained. Canal states:

> In my experiments on animals completely parathyroidectomized, I have observed that there is a delay in the healing of the fracture when compared with the animal of control under the identical condition of feeding and living. However, in experiments on animals partly parathyroidectomized, I have found that there is not the least delay in the healing.

While we do not know how Canal's results were obtained, one of us has shown in a previous article that dogs may be kept alive for some time even after complete destruction of the parathyroids if this is brought about by gradual destruction of the glands by mass ligation. The animal finally dies, but from cachexia instead of tetany, sometimes remaining in a state of torpor for several weeks.

Our experiments were carried out on only six animals in this series. The femur was the bone selected for fracture. Control animals show complete repair in one month after fracture of this bone. No comparative results that we care to record were obtained with the animals operated on. The extreme cachexia which these animals suffer, when successful operative results are

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* Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Department of Pathology, St. Louis University School of Medicine.

obtained, makes comparison with normal animals impossible.

In conclusion, we find that, in the limited amount of material which we have studied, the lack of thyroid tissue has no influence on the healing of fractures of the malar bone of the dog. We see at present no exact method of studying the results of complete parathyroid removal on the healing of fractures.

A TUBULAR SOFT RUBBER NASAL SPLINT THROUGH WHICH THE PATIENT CAN BREATHE *

MARK D. STEVENSON, M.D.
AKRON, OHIO

The nasal cavity is narrow, quite long anteroposteriorly and varies in height. Each cavity has two openings, one in front and one behind, of about the same size and nearly on the same plane. To prevent escape of blood from either side of the nose and thus to stop a nasal hemorrhage, it is only necessary to obstruct the two nasal outlets. This can be accomplished by various means, several of which I described in a former paper.[1] The 3-inch-long and ½-inch-wide solid cotton tampons therein described, which swell on absorption of moisture, effectually prevent hemorrhage and are sufficiently flexible to adjust themselves to the more or less tortuous nasal cavity, but nasal breathing and drainage are entirely prevented.

The hard rubber and metal nasal splints now on the market are open to the following objections:

1. They are not flexible and unduly press against certain parts of the nasal structures.
2. Their ends vary too much in size. The smaller end permits so little drainage that the secretions dry and form crusts before being discharged from the large outer end.
3. The smaller end is usually too nearly circular in shape, the nasal cavity is narrow but not vertically shallow.
4. A short splint or tampon tends to slip out of the anterior naris. The posterior end, usually near the part operated on, is pressed upward and outward by the congested tissues until the splint or tampon readily slips downward out of the nostril. This defeats the purpose of the splint, requires the surgeon's attention, or its replacement may be effected by dirty fingers with consequent danger of infection.
5. Only the anterior naris and the front part of the nose can be influenced by these short splints.

The splint or tampon which I am presenting to the Section has the following advantages:

1. It is sufficiently strong but soft and flexible, adjusting itself to any curves in the septum or outer wall of the nasal spaces, therefore causing no pressure necrosis and little or no distress.
2. It is of uniform size throughout, corresponding to the more or less uniform width of the nasal fossa and size of the anterior and posterior openings.
3. It may be cut any desired length. When used to prevent nasal hemorrhage it should be about 3 inches long, blocking both anterior and posterior nasal openings. When the tissues swell after the effects of the astringents used have disappeared, pressure is made against the splint, effectually retaining a clot within the nose.
4. Openings may be readily punched or cut with scissors in any part of the tampon to promote drainage or aeration. The remainder of the surface remains smooth, making removal painless.
5. When sufficiently long, 2½ or 3 inches, there is no tendency for the splint to escape from the nose. The pharyngeal constrictors push it forward sufficiently in the act of swallowing so that it does not press against the Eustachian tubes from which it is held medianward by the projecting turbinate. Its posterior end cannot tip upward sufficiently to permit the splint to slip from the nostril.
6. The anterior end of the splint can be cut at an angle to correspond to the opening of the nostril.
7. The splint may be used readily in the inferior part of the nasal cavity. When the upper part of the nose requires drainage or blocking, depending on whether there are openings or not in the sides of the splint, it may be cut a little shorter and the posterior end placed upward against or near the sphenoid or under the middle turbinate.
8. It is impossible, for lack of space, to place the metal or hard rubber splints far enough forward in the anterior part of the nasal space to support the nasal bones in case of fracture. These soft rubber splints can be placed well forward on either side or on both sides of the septum so as to support the nasal bones and septum. They can be prevented from slipping out of the nostril by adhesive strips from the cheeks across the nostrils.
9. These splints are useful to hold the septum in any fixed position after septal operations. If the septum tends to press to one side a splint on that side only will support it until fixed; in some cases a splint may be placed on each side of the septum.
10. With proper care, antiseptic or alkaline washes may be gently poured from an irrigator or fountain syringe through this splint cleaning it and the nasal fossa.
11. Very little distress is caused while introducing or removing the splint.
12. Air can readily pass through it, making the patient more comfortable.

The tampons or splints may be obtained in various widths and thicknesses and can be kept sterile, ready for use, in a weak dilution of liquor formaldehydi. Before they are introduced, a mildly antiseptic ointment, e. g., zinc oxid or 2 per cent. calomel ointment should be wiped over the outer surface of the splint. It may usually be removed within twenty-four or forty-eight hours, but if its use is required for a longer time its reinsertion is easy and painless. Ordinarily in inserting such a splint it should first be directed upward and backward until well within the nostril, then it should be gently pushed straight backward along the floor of the nose. If a long splint is pushed upward instead of directly backward it will come in contact with the middle turbinate or sphenoid causing distress instead of painlessly entering the posterior choana. The splint may be readily introduced by means of an alligator forceps passed nearly through it. The jaws of the forceps should be opened widely near the distal end of the splint to hold it from slipping farther on the forceps. If any part of the septum requires temporary support, which the first splint does not afford, a second short splint may be placed above the other or gauze packing may be inserted above any part of the splint. Clean air is the most healing balm to the inflamed or injured nasal mucous membrane and any solid substance in the nose acts more or less like a foreign body. Occasionally in nasal surgery, however, mechanical means to aerate, drain or hold certain parts in position are useful if not absolutely necessary.

165 East Market Street.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Stevenson, Mark D.: A Modified Simpson's Tampon to Prevent Nasal Hemorrhage, The Journal A. M. A., June 4, 1910, p. 1864.

LYMPHANGIOMATA OF THE OMENTUM AND OMENTAL CYSTS *

STANLEY STILLMAN, M.D.
SAN FRANCISCO

The two cases that form the basis of this paper are of interest, not so much on account of their rarity as for the corroboratory evidence they furnish of the correctness of the theory of Jacobi, that true serous cysts of the omentum all have their origin in the lymph-vessels of the omentum. The reported cases of lymphangiomata of the omentum are limited to very few. Only two have been actually reported as such—one by Dewitzsky and Morosow in 1895, who reported a case of "pouch-shaped lymphangioma of the great omentum," the other by Wakefield of San Francisco in a paper read before the American Gynecological Society on May 7, 1907. In 1903, Schramm reported a case in a female infant 1 year old which he characterized as "cystic degeneration of the omentum." Besides my own case, the only other is reported by Reginald H. Fitz of Boston in the course of the Lane lectures in San Francisco in 1910. It was a case of enormously dilated lymphatics of the omentum, occurring in a woman who also had a fibroid of the uterus to which the omentum was attached. It had been noticed first three years previously and since, had slowly increased in size. The omentum was reduced to a web of connective tissue supporting the tremendously dilated lymphatics. The case was one of Dr. G. W. Brewster's of Boston, and the patient was operated on in the Massachusetts General Hospital in 1910.

My own patient was operated on September 1 of the same year; the case was almost identical with that of Dr. Brewster.

The patient was a woman of 42, married, with one child. She came to me on account of an abdominal tumor, which she had discovered herself four or five years previously, and which had steadily increased in size. Within the last few months, she had suffered considerably from pain and dragging, more referred to the epigastrium than to the pelvis. Examination disclosed a tumor the size of one's head attached to the uterus but quite freely movable. Diagnosis was made of pedunculated myofibroma of the uterus. During operation, it was found that the pedunculated fibroid was also attached to the lower border of the great omentum by a pedicle, as thick as one's thumb, and containing many large blood-vessels. When the omentum was pulled down, it was found to contain between its peritoneal surfaces numerous elongated, tortuous, exceedingly thin-walled cysts, which were in many cases from 1½ to 2 inches in diameter toward the free border of the omentum, and some tapered off almost to a point as they approached the lower border of the transverse colon. They were distributed throughout the omentum and varied in size and length. The gastrocolic omentum was similarly affected but to much less extent, and none of the tortuous dilatations were larger than a lead pencil. The total bulk of the affected omentum was very considerable, and while feeling certain at the time that we were dealing with a condition due to enormously dilated lymph-vessels, I was uncertain what course to take, but finally removed the entire omentum after ligating along the lower border of the colon. The blood-vessels, particularly the veins, were enlarged, many to the size of a lead-pencil. In the gastrocolic omentum, there was considerable fat, and the dilatations were much fewer, varied in diameter at different points of their course, and were unmistakably dilated and tortuous lymph-vessels.

Below the transverse colon, together with the large cysts, were others identical in appearance with those just described in the gastrocolic omentum, and it was plain that all, even the largest, were cysts formed by more or less enormously dilated lymph-vessels.

The cystic dilatations all presented the same general characteristics. The thin, transparent walls were lined with endothelium as well as covered by it. The fluid was clear, amber-colored in some and rose-colored in others, and the specimen presented a strikingly beautiful picture as it was withdrawn from the abdomen. Many of the elongated cysts closely approximated each other at their distal, expanded extremity and were only separated by an exceedingly thin membrane. The fluid was neutral in reaction and coagulated on boiling. Microscopically, it contained lymphocytes, multinuclear leukocytes and red blood-corpuscles in varying proportion in the different cysts. The intervening omentum contained little or no fat.

The cysts in both these cases all showed a characteristic lobulation or sacculation comparable to that of the distended colon, as can be seen in the photograph of Dr. Brewster's case. This is an important point, for it was noted in the case of Gairdner in 1851, the first reported case of cyst of the omentum, and proves his case to have been also really a cystic lymphangioma. The case was that of a woman who died unexpectedly and on autopsy was found to have a large fibroid uterus; in addition, a cyst was found, between the folds of the great omentum, measuring between 3 and 4 inches in length and from ½ inch to 1½ inches in diameter. "It was lobulated externally like that of the distended colon but in no part subdivided by complete septa, the fluid was a transparent colorless serum containing numerous flocculi." This case is unquestionably one of cystic dilatation of a single lymph-vessel. Whether in these two cases just reported, the adhesion to the fibroids bore any causal relation to the dilated lymph-vessels, I cannot believe, for the reason that such adhesions of the omentum are very common, but a resulting condition of the lymph-vessels, such as occurred in these cases, has never before been recorded. On the other hand, serous cysts of the omentum have formed adhesions at times to the parietes and other viscera, as might be expected, and very likely would form adhesions to a fibroid. That both these almost unique cases should have had so many other points in common, only goes to substantiate the doctrine of duality in rare affections.

The chief points of interest in these two cases are: first, the fact that the elongated cysts were unquestionably dilated lymph-vessels; second, that in many cases they were only separated by an exceedingly thin wall or septum; and third, that the blood-vessels between them and over them were in many cases greatly dilated.

Passing now to the consideration of cysts of the omentum, I am of the opinion after a critical review of the literature on the subject, that there have been twenty cases of serous cysts recorded, including one about to be recorded by me. To these, the cases of Brewster and myself may be added as multiple cystic lymphangiomata of the omentum, making a total of twenty-two cases. The case just referred to was seen some years ago in consultation with the late Dr. Brigham of San Francisco. The patient was a woman of 30, who had

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

herself discovered a tumor in her abdomen five years previously. It had never troubled her but had slowly increased in size. On examination, a firm but elastic tumor about the size of the closed fist and movable in all directions was found a little to the left of the middle line of the abdomen just below the umbilicus. Apparently it was not attached to the uterus or ovary, both of which appeared to be normal. A diagnosis of either omental cyst or an ovarian cyst with a very long pedicle was made, on account of the absence of symptoms and the very free mobility. Operation was advised, but the patient declined to submit. A year later, however, the tumor was removed by Dr. Brigham, who found it was a unilocular cyst containing a pint of clear straw-colored fluid. Its walls were thin and covered with endothelium on both external and internal surfaces. It had no pedicle but was within the omentum, a considerable portion of which was removed with the tumor. The fluid was not examined.

Hasbrouck,[1] in 1907, collected reports of all the cases of cysts proper of the omentum up to that year, and placed the number at twenty, including his own. He did not, however, include a typical case of serous cyst reported by Schwarzenberger and operated on by Czerny in 1894, but he included several cases that, like his own, were malignant growths of the omentum with cystic degeneration and hemorrhages, and one that was due to perforation of a traumatic ulcer of the stomach, which had been protected by the omentum within the folds of which was a collection of sour-smelling fluid, containing particles resembling stomach contents, and which does not deserve to be called a cyst at all. Since his very complete abstract of cases in 1907, there have been cases of true cysts of the omentum reported by Wakefield in 1907, Seefisch in 1909, Rodman in 1909 and Gifford in 1910.

From this record, it is evident that true cysts of the omentum are of rare occurrence. Of reported cases of omental cysts in general, a few are hydatids, primary in the omentum (as is certainly possible) or cysts which, originating in the liver, have become attached to the omentum and in time become entirely separated from the liver, as is believed to be always the case by some observers. Several of the tumors are dermoid cysts, others are cysts decidedly of an ovarian character, either attached to the omentum or enveloped in it. These are believed to have had an ovarian origin in the first place, and subsequently gaining their blood-supply from the omentum, through adhesions, have gradually become detached from the ovary until they are at last entirely free from it and nourished by the omental vessels alone. In one such case reported by Ormsby,[2] the fimbriated extremity of the Fallopian tube was attached to a large cyst which was entirely free in the abdominal cavity except for an attachment to the omentum. It is not improbable that some of the solid tumors of the omentum originate in the same way. In my case, the pedicle connecting the fibroid with the uterus was considerably smaller than the one connecting it with the omentum, and was much less vascular. It seems very reasonable that in time it might have been entirely separated from the uterus. Chylous cysts of the omentum are not found in the omentum at all but in the mesentery, and not a single one is recorded in spite of the statements of some writers that they occur. Degeneration of lymph-glands, giving rise to semi-cystic growths in the mesentery, are recorded, and Rokitansky attributed the origin of some cysts of the omentum to this source, but I cannot find any record of such. Primary malignant disease of the omentum is not so infrequently met with, and may undergo cystic degeneration, and from hemorrhage give rise to enormous cystic tumors containing blood, as described by Hasbrouck. In some of the cases, it has been difficult to make out from the records whether they were of malignant origin or not, and these I have classed as doubtful; particularly is this the case where the cysts were multilocular and the contents greatly altered as a consequence of ancient hemorrhages into them. Secondary involvement of the omentum in malignant disease is quite common and of no particular interest whether cystic in character or not. Altogether there are recorded up to January of this year forty-three cases of cysts of all kinds, within or dependent from the omentum, which number the cases of Dr. Brewster and myself bring up to forty-six. Of the twenty-two which I believe to be true serous cysts, nine occurred at ages from 1 to 4 inclusive; six occurred from 5 to 11; the ages of the other patients were 17, 19, 22, 30 and 42, the remaining two were adults, age not stated; sixteen were females, six males.

If, however, one arranges these cases according to the ages at which the abdominal swelling was first noticed, we find that four and possibly five occurred between 1 and 2 years, six between 2 and 4 years, five between 4 and 10 years, three between 10 and 20 years, and only four above 20. In one of the last-mentioned cases the patient noticed the tumor six years before operation, at which time she was 21. In the remaining three cases the trouble was discovered by accident either at operation or autopsy

Abstracts of the histories of these cases are as follows:

CASE 1 (GAIRDNER[3]).—Woman, age not stated, died unexpectedly. At autopsy she was found to have a large fibroid uterus. In addition, a cyst was found between the folds of the great omentum measuring between 3 and 4 inches in length, and from a half an inch to 1½ inches diameter. It contained a transparent colorless serum, containing numerous flocculi.

CASE 2 (GOODING[4]).—Girl, aged 18, noticed a lump about the size of a hen's egg low down in the right iliac fossa, which was painful, chiefly at menstruation. At time of operation, four years later, it was the size of a cocoanut. It was diagnosed as an ovarian cyst with a long pedicle. Operation disclosed a cyst in the gastrocolic formation firmly adherent to the parietal peritoneum and imbedded in the folds of the omentum. There was no pedicle.

CASE 3 (SPENCER WELLS[5]).—Girl, aged 5, had had a large abdomen since infancy, growing steadily for past two years. On operation a single cyst of the omentum was found attached to the abdominal wall and cecum. It contained four pints of a clear, watery fluid. In the upper part of the omentum were a few small cyst-like collections of fluid resembling grapes. Some were removed, others simply pricked. A specimen was examined by Ransom, who found it to consist of three very thin-walled cysts, the largest holding a quart, the next half a pint, the smallest the size of an egg. There was no endothelium on the inner surface. He states that it was not hydatid; but he thought perhaps it was inflammatory.

CASE 4 (ERDHEIM[6]).—Woman, aged 22, had a tumor, first discovered five years before, without known cause; according to the patient's account it reached its present growth in fourteen days. Operation disclosed a bluish, transparent cyst wall adherent over a wide area and covered with omentum. The tumor reached from the transverse colon to the bladder and had no conection with any of the pelvic organs.

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[1] Hasbrouck: Ann Surg., 1908, xlviii, ii, 206.
[2] Ormsby: Brit. Med. Jour., 1883, i, 578.
[3] Gairdner: Tr. Path. Soc. London, 1851-52, 374.
[4] Gooding: Lancet, London, 1887, 311.
[5] Wells, Spencer: Brit. Med. Jour., 1890, 1362.
[6] Erdheim: Wien. klin. Rundschau, 1896, x, 131.

Case 5 (Marfan[7]).—The patient was a girl, aged 2½ years. Her mother had noticed that the abdomen had always been large and at the age of 15 months the enlargement began to increase and continued to do so steadily for the succeeding year. The general health was not affected until a few weeks before operation, when the child began to emaciate. An aspirating needle was inserted and about two liters of black hemorrhagic fluid evacuated. This gradually reaccumulated, and it was decided to operate. Operation revealed a multilocular cyst within the folds of great omentum. It had a pedicle and contained a large quantity of bloody fluid.

Case 6 (Hearn[8]).—The patient was a boy, aged 8. At birth, his physicians noted that the abdomen was markedly distended. This disappeared after a few weeks and was not again noticeable until he had become 6 years of age, when the abdomen began to distend. In the meantime, he enjoyed good health. Although the abdomen increased rapidly in size, the only difficulties he experienced were those due to distention and pressure. The abdomen was enormous, measuring 44 inches in circumference, and an omental cyst was suspected, owing to lack of symptoms of other troubles. Operation disclosed a cyst containing a dark yellowish-brown, turbid fluid and many other cysts. After evacuating a number, the mass was drawn out and found to be attached to the great omentum, between the folds of which it had developed. The fluid was alkaline in reaction and contained a large amount of albumin. Jacobi regarded this as a case of hydatid cyst and instanced it as a warning of the care and circumspection required in making an accurate diagnosis in cases of cysts of the omentum. From the history, however, I cannot see why this statement should have been made.

Case 7 (Braithwaite[9]).—Girl, aged 4, measured 22¾ inches at level of umbilicus; this had increased during two months. The tumor was found to be entirely within the folds of the great omentum and with the exception of adhesions to the intestine was easily removed. It contained 3½ pints of fluid.

Case 8 (Jacobi[10]).—The patient was a girl, aged 7. Four years previously the abdomen began to swell and the child lost weight. A diagnosis of tuberculous peritonitis was made, the abdomen tapped and two quarts of a clear, slightly bloody serum was drawn off. After two years the swelling returned and was tapped a second time. Subsequently it was operated on. Operation disclosed a large cyst, containing about 2 quarts of fluid, with a number of recesses communicating with the main cyst. It involved the greater part of the great omentum and narrowed into two pedicles as it approached the colon. The cyst was lined externally and internally with endothelium. The contents were gelatinous and finely granulated, and consisted of coagulated serum with multinuclear and eosinic forms of leukocytes, endothelial cells and a few red blood-cells. Staining by Weigert's method showed absence of fibrin.

Case 9 (Marsh and Monsarratt[11]).—The patient was a girl, aged 1 year 8 months, whose abdomen was noticed to be enlarged about four months previously, but there was no complaint of pain. It was tapped four times. Operation showed a thin-walled multilocular cyst springing from the gastrocolic omentum and entirely enveloped in it. It contained about 10 pints, and consisted of one large cyst and many independent smaller ones, and it had an attachment to the right iliac fossa. The external surface was covered with endothelium; internally it was lined by a coat of fine connective taissue containing numerous blood-vessels. The walls of the smaller cysts were better defined and afforded better support for the blood-vesels than in the large cyst, where the vessels were large and thin-walled.

Case 10 (Schramm[12]).—Female, aged 1 year. Swelling of the abdomen noticed four months before. Operation disclosed the fact that the entire omentum was made up of a conglomeration of cysts, varying in size from that of a nut to twice the size of the fist. About 3 or 4 cm. of the omentum, next the transverse colon, was quite normal. The cysts contained a clear rose-colored fluid.

Case 11 (Boyd[13]).—The patient was a boy, aged 11, whose health was excellent until a few months before operation, at which time his abdomen began to swell and the swelling steadily increased. He had constant pain in the lower abdomen, but never of a severe character, and he had become much emaciated. Operation disclosed a large, thin-walled cyst covered by and occupying the cavity of the great omentum and containing a large amount of greenish-brown fluid. The cyst was attached to the pancreas, but did not spring from it.

Case 12 (Schwarzenberger[14]).—Girl, aged 4¾ years, was operated on by Czerny. The cyst contained 3 liters of a clear serous fluid, and was multilocular. It was diagnosed as a lymph-cyst of the great omentum.

Case 13 (Young[15]).—Girl, aged 9½ years, had a swelling, noticed for more than a year previous. There was no pain. At operation, a thin-walled cyst was found containing many other cysts. It involved the anterior layers of the great omentum, part of which was normal and adherent to the stomach. It contained 32 pints, besides 5 or 6 that were lost on the floor, of a dark brown fluid, which was evidently broken-down blood and serum. The fluid in the cyst was not examined.

Case 14 (Matthews[16]).—Boy, aged 8, nine months previously he had complained of pain in the left side, following which there was a gradual distention of the abdomen. This continued till the abdomen measured 27 inches. On operation a cyst was found containing 6 pints of a dark brown fluid. It was attached to the transverse colon by a thick pedicle, made up of omentum.

Case 15 (Fort[17]).—Girl, aged 2½, had an abdominal enlargement, noticed eighteen months previously. At the time of operation the abdomen measured 28 inches. There were no symptoms other than dyspnea. Operation disclosed a cyst between the layers of the great omentum containing an enormous collection of fluid. There was an absence of distinct capsule other than the peritoneal covering of the omentum, the fluid being between the folds of the omentum.

Case 16 (Wakefield[18]).—Boy, aged 4, had an enlargement of the abdomen; noticed at least two years before. At the time of the operation, the abdomen was enormously distended. Operation disclosed a tumor larger than a man's head, consisting of a number of various sized thin- and clear-walled cyst chambers, the bulk of the mass being made up of a single cyst. The fluid contained in the cyst was clear, straw-colored and neutral in reaction. It coagulated on heating with a drop of acetic acid.

Case 17 (Rodman[19]).—Patient was a girl, aged 17. On operation, a cyst which, together with its contents, weighed 60 pounds was found beneath the parietal peritoneum, covered by another layer of peritoneum. It had no pedicle, was unilocular and contained a clear fluid. It shelled out like a walnut, only one small vessel being tied.

Case 18 (Seefisch[20]).—Patient was a boy, aged 4, whose mother had noticed a swelling in the abdomen a short time before. On operation, an enormous cyst was found dependent from the hepatic flexure of the colon by a pedicle the thickness of a lead-pencil. The contents measured from 2½ to 3 liters. The wall of the cyst was very thin and consisted only of the web of the great omentum.

Case 19 (Gifford[21]).—Boy, aged 6, had a swelling, first noticed six months previously, when the patient complained of pain in umbilical and hypogastric regions. On operation, a cyst the size of a cocoanut was found in the substance of the omentum and was adherent to the anterior abdominal wall. The omentum was ligated and divided and the cyst easily removed. It was multilocular and contained a clear straw-colored fluid. The interior of the cyst wall was lined with a smooth membrane.

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[7] Marfan: Presse. méd., 1896, p. 133.
[8] Hearn: Ann. Surg., 1897, xxv, i, 703.
[9] Braithwaite: Lancet, London, 1898, ii, 1472.
[10] Jacobi: Tr. Assn. Am. Phys., 1901, xvi, 232.
[11] Marsh and Monsarratt: Brit. Med. Jour., 1901, i, 511.
[12] Schramm: Zentralbl. f. Chir., 1903, xxx, 564.
[13] Boyd: Clin. Jour., 1903, xxi, 306.
[14] Schwarzenberger: Beitr. z. klin. Chir., 1894, xi, 713.
[15] Young: Lancet, London, 1905, i, 157.
[16] Matthews: Brit. Med. Jour., 1905, ii, 1642.
[17] Fort: Ann. Surg., 1907, xlv, iii, 382.
[18] Wakefield: Surg., Gynec. and Obst., 1907, v, 227.
[19] Rodman: Ann. Surg., 1909, xlix, 427.
[20] Seefisch: Deutsch. med. Wchnschr., 1909, xxxv, 1790.
[21] Gifford: Brit. Med. Jour., 1910, 1289.

There are three cases that I regard as doubtful. One is a case reported by Simon[22] in 1858. The patient was a man, 44 years of age, who had a large tumor of the abdomen, which had been present to his knowledge for twelve years. It had never pained him. He died five days after admission to the hospital, and at autopsy a thick-walled cyst was found in the omentum, full of coagulated blood. It might have been an endothelioma or some other malignant growth with cystic degeneration. Another case was reported by Cazin,[23] in 1893. The patient, a man aged 48, had a tumor which had developed without known cause and had gradually enlarged. It was diagnosed as a cyst of the pancreas, but operation showed it to be a cyst of the great omentum adherent to the large intestine. The third case was reported by Edebohls,[24] in 1893. The patient, a woman aged 37, had noticed the enlargement eight months previously. On operation, a cyst containing a chocolate-colored fluid, was found attached to the lower border of the omentum by a pedicle 10 cm. wide and 2 cm. thick. A large circular area opposite the pedicle was gangrenous. The case was probably originally a cyst of the ovary with a pedicle, which had become attached to the omentum and subsequently separated from the ovary.

There are several cases to the histories of which I have been unable to gain access. Dewitsky and Morosow[25] in 1905 reported a case of "pouch-shaped lymphangioma of the omentum." Giannettasio[26] in 1907 reported a case of blood-cyst of the omentum. Karas[27] reported a case of multilocular cyst of the omentum in 1907. Holleman[28] reported an omental cyst in 1908. Costa[29] reported a case of cyst of the great omentum in 1908. Villar[30] reported a case of cyst of the lesser cavity of the omentum in 1908. These, however, I do not think would affect the general conclusions arrived at in this paper.

As to the etiology of the conditions of the omentum with which this paper is principally concerned, Jacobi stated in his paper on "Cysts of the Omentum" read before the Association of American Physicians in 1901, that he believed most, if not all, of them had their origin in the lymph-vessels of the omentum. Hasbrouck believes most of them to be endotheliomata and disbelieves that many have a congenital origin. Wakefield believes most of them to be lymphangiomata. Many express their belief in a congenital origin of their own particular cases.

It is exceedingly significant that the swelling of the abdomen was first observed at some period between 1 and 10 years of age in fifteen of the twenty-one patients operated on, and in ten of these, or nearly one-half of all the cases, the swelling was noticed between 1 and 4 years of age. This, I think, must speak for a congenital origin.

We find congenital cystic lymphangiomata in other parts of the body, notably in the tongue and root of the neck, and I think the condition in question comparable to the latter—the so-called "cystic hygroma of the neck" which may attain a very considerable size.

The two cases that form the basis of this paper were in adults and were unquestionably cystic lymphangiomata—so also was Gairdner's case.

In Hearn's case the abdomen was noted to be enlarged by the patient's physician at birth, but as the child grew the swelling disappeared, to be noted again at 6 years, from which time it increased till operation two years later. Spencer Wells' patient had three large cysts and many independent smaller ones, some of which were pricked and others removed. This case was in a child of 5, whose abdomen had slowly increased in size since infancy.

In Jacobi's case, the swelling of the abdomen was noticed when the child was 3 years of age. A large cyst was found, which had many recesses communicating with it through large openings.

In Marsh and Monsarratt's case, in an infant in whom swelling of the abdomen was noticed at 16 months of age, a large cyst was found and many independent smaller ones.

Schramm's case was in an infant of 1 year. Operation disclosed the fact that the entire omentum was made up of a conglomeration of cysts varying in size from that of a nut to twice the size of the fist. The 3 or 4 cm. of the omentum next the transverse colon was quite normal. This description might very well be applied to either Dr. Brewster's case or mine.

Wakefield's case had a tumor consisting of a number of various-sized thin- and clear-walled cyst chambers, the bulk of the mass being made up of a single cyst. The swelling of the abdomen was noticed first at 10 years of age and the child was operated on two years later.

In most of these cases the cyst contents were similar to those found in the three cases in adults that were discovered accidentally.

It would seem that the variations in the individual cases can be readily explained as follows:

In some there was but a single lymphangioma, as in Gairdner's case; in others, many of them. As these increased in size, the delicate septum between some of them broke down forming a large cyst around or within which were others in which the septum was intact; thus a multilocular cyst would be formed of various-sized cysts around a large one.

Jacobi's case would seem to bear out this idea, for in his case portions of the septa were left between the cysts and the cyst narrowed into *two* pedicles as it approached the colon. In some cases the cyst was lined with endothelium, in others not. The latter would be very likely the case if the cyst or cysts ruptured between the layers of the peritoneum constituting the omentum, and increased in size by simply separating these layers.

It was noted in many of the cases, particularly of the larger cysts, that the blood-vessels were large and thin-walled and poorly supported by connective tissue, and it is reasonable to suppose that these dilated and thin-walled vessels should also occasionally rupture. This admixture of blood at various times and in various amounts, with the original cyst contents, would explain the difference in the character of the fluid found in different cysts and also perhaps the rapidity of growth observed in some of the cases.

These various changes might take place slowly or rapidly—in most cases rapidly, as shown by the fact that operation was called for in so many of the cases within the first ten years of life. In others no inconvenience was occasioned till later in life and in some the condition was only discovered by accident, either at operation or at autopsy.

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[22] Simon: Bull. Soc. anat. de Paris, 1858, xxxiii, 30.
[23] Cazin: Bull. Soc. anat. de Paris, 1893, lxviii, 312.
[24] Edebohls: New York Jour. Gynec. and Obst., 1893, p. 614.
[25] Dewltsky and Morosow: Arch. f. Kinderh., 1905, xlii, 247.
[26] Glannettasio: Gazz. d. osp., 1907, xxviii, 939.
[27] Karas: Virchow's Arch. f. path. Anat., 1907, clxxxviii, 138.
[28] Holleman: Zentralbl. f. Gynäk., 1908, xxxli, 297.
[29] Costa: Gior. internaz. d. Soc. med. Napoll, 1908, xxx, 355.
[30] Villar: Jour. d. méd. de Bordeaux, 1908, xxxviii, 219.

So far as diagnosis is concerned, it has been observed by all writers that this is practically impossible before operation. Most of the cases have been mistaken for tuberculous peritonitis with ascites, or for an ovarian cyst with a long pedicle. In cases of moderate-sized cysts originating below the colon, in which adhesions have not taken place, the free mobility and absence of symptoms referable to any other organ might give rise to a suspicion of the nature of the cyst. In those that fill almost the entire abdomen or are adherent, or originate in the gastrocolic omentum, the diagnosis is practically impossible before operation. All of these patients recovered from operation, although some of the cysts were enormous. In Rodman's case, in a girl of 17, the cyst and contents weighed 60 pounds, and in Young's case, in a girl of 9½, the contents measured 32 pints, besides 5 or 6 that were lost on the floor.

Dr. Fitz stated, in regard to my case of multiple cystic lymphangiomata, that, had I not removed the omentum, there was every reason to believe that in time a large cyst might, could or would have developed. I think there is every reason to believe that in all these cases of true serous cysts, the cysts could, would and did develop from congenital cystic lymphangiomata of the omentum.

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ENDEMIC MEDITERRANEAN FEVER (MALTA FEVER) IN SOUTHWEST TEXAS

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During recent years there have been a few cases of continued fever of long duration, frequent relapses and a low mortality, in the Pecos River country. Four such cases recently occurred in the practice of Dr. R. M. Scott, of Del Rio. The four patients, all young men from 11 to 20 years of age, had worked at a goat camp where they had lived for three months, quartered in a house surrounded by the dusty bedding ground of the goats and were using goat's milk from the herd, some of which were ill of "goat fever." The fact seemed significant and it was suggested by me to Dr. Scott that the fever was possibly Mediterranean fever. After agglutination tests had been made with the *Micrococcus melitensis* on the four cases with positive results, Dr. S. L. Boren mentioned that he too had a patient, a goat ranchman, ill of continued fever with symptoms not unlike those manifested by the four boys. An agglutination test with the *Micrococcus melitensis* was positive in this case also.

The following is a brief history of each case and the result of the agglutination tests. Malaria was excluded in each case by blood-examination. Quinin given in large doses over a period of two weeks had no marked effect on the temperature in any of the five patients.

Case 1.—C. E., aged 12, was a goat herder, whose family and personal history were unimportant, except that the patient had chills and fever three years ago in east Texas. The present illness began May 10, 1911, with slight evening temperature, chilly sensations, headache, especially pains at the back of his neck and in right ear. The patient had general aches and pains, especially in both knees, wrists and arms. He was brought to Dr. Scott at Del Rio for treatment, May 19.

Examination.—The patient was found to have an enlarged spleen, tympanites, profuse sweating, nose bleed and obstinate constipation. Both wrists were painful on pressure. The temperature ranged from 102.5 to 103 F. From June 20 to 23 the patient was free from fever, then it returned to 103 without obvious cause. He had diarrhea for two days followed by obstinate constipation, pains all over the body, tympanites, and profuse sweating as before. July 1, he appeared very emaciated, anemic and severely ill. His temperature ranged from 99 to 102.5 F. daily.

Agglutination tests—macroscopic method: *Bacillus typhosus*, 1-50, negative. *Micrococcus melitensis*, 1-50, positive in 15 minutes. Normal control—negative.

A report from the Maneuver Division Laboratory, San Antonio, Texas, by Lieut. George B. Foster, M.C., and Lieut. Taylor E. Darby, M.C., stated that serum from Case 1 gave positive agglutinations with the *Micrococcus melitensis* in dilutions of 1-80, 1-160 and 1-320 in 10 to 45 minutes by both the microscopic and macroscopic methods. Typhoid control, 1-40 negative; normal controls, 1-20 negative.

Case 2.—L. E., aged 11, was a goat herder, whose family and personal history were unimportant, except that the patient had chills and fever in 1908 in east Texas. The patient became ill May 16 when he began having an evening temperature, headache, ear-ache and pains in the back of his neck. At times he felt chilly, but he had no definite chill. He went to bed May 20, and May 30 he was brought to Del Rio. When the patient arrived, he had a slight temperature, but it soon returned to normal and remained so for five days when it returned to 101 F. followed by diarrhea and two days later by obstinate constipation. The temperature remained at 99-100.4 F. until June 20 when it again became normal for three days. The fever returned and remained at 99-100.2 F. until July 1, when it reached normal. During the last relapse the patient suffered severely with his hip, which was so painful it could not be moved. At present he is somewhat emaciated and very anemic.

Agglutination tests—macroscopic method. *Bacillus typhosus*, 1-50, negative. *Micrococcus melitensis*, 1-100, positive in 20 minutes. Normal control, negative.

Case 3.—K. E., aged 12, was a goat herder, whose family and personal history were unimportant, except that the patient had chills and fever in east Texas in 1908. The patient became ill May 20 with fever at night, headache, pain in the back of the neck and ear-ache. He ached all over, being especially sore in his arms. The bowels were constipated. When brought to Del Rio for treatment, he had some tympanites, enlarged spleen, profuse sweating and nose bleed. His temperature was 100-101 F. June 18, the temperature returned to normal, but June 20 it went up to 104 F. followed by diarrhea, headache, and profuse sweating. The fever then remained at 100-101 F. and July 1 it had again reached nearly normal. He is also anemic and somewhat emaciated.

Agglutination tests—macroscopic method. *Bacillus typhosus*, 1-50, negative. *Micrococcus melitensis*, 1-50 positive in one hour. Normal control, negative.

Case 4.—R. E., aged 20, was a goat herder, whose family and past history were unimportant, except that the patient had pneumonia in 1907. He became ill May 20 with slight sore throat, headache, bone-ache, "dumb chills" and fever, first in the morning, but later it became high at night. The patient had a cough and spit up stringy sputum. The bowels were normal and the appetite good. After the illness began, the patient left home and traveled through Mexico and New Mexico where he consulted several physicians who advised him to go to a hospital. After spending a few days in a hospital in El Paso, he came to Del Rio, June 10. When seen by Dr. Scott, he had tympanites and enlarged spleen. His temperature was 99-99.5 F., but became normal June 15. June 18, he returned home and the fever again appeared with intense pain in his shoulder and knee and later in the elbow. When seen by me, the patient would cry out if any attempt was made to move his elbow or shoulder. He is very anemic and looks decidedly ill. His temperature was 102 F. at the time of the examination. The patient eats heartily and sits around the house taking an interest in everything.

Agglutination tests—macroscopic method. *Bacillus typhosus*, 1-50, negative. *Micrococcus melitensis*, 1-50, positive in one hour. Normal control, negative.

Case 5.—L. H., aged 35, is a goat ranchman whose family and personal history are unimportant. He became ill May 15, 1911, with headache, especially with pain at the back of his neck and general pains all over his body, which he called "rheumatism." The patient had some cough, a slight fever with a chilly feeling and some sweating. He came to Del Rio May 30, riding forty miles for treatment, in a carriage. When he was seen by Dr. Boren, his temperature was 103.5 F. He had slight tympanites, enlarged spleen and had to have medicine to move his bowels. He had one severe nose bleed. In four days the patient was clear of fever and returned home June 7 feeling well, except for weakness. June 11, the fever returned with pains all over his body, the ankles became swollen and painful and he had severe pains in both shoulders and in the back of the neck. The right testicle became swollen to three times its normal size. He then returned to Del Rio June 23 for treatment. Although always rather light in weight, he lost twenty-one pounds and is extremely emaciated. His anemia presented the blood-picture of a severe secondary type. No leukocytosis was present. The spleen is still enlarged and the bowels constipated. His appetite is good. The temperature now ranges from 99.5-101 F. He states that he has never drunk goats' milk, but that he has worked with his goats, feeding and herding them.

Agglutination tests—macroscopic method. *Bacillus typhosus*, 1-50, negative. *Micrococcus melitensis*, 1-50, positive in 15 minutes. Normal control, 1-20 and 1-50, negative.

A report from Major F. F. Russell, M.C., and Captain Charles F. Craig, M.C., of the Bacteriological Laboratory, Army Medical School, on the blood from Case 5 states that agglutinations were secured in dilutions up to 1-640; normal controls 1-20, negative.

It is possible that the goats of the Pecos River country, and doubtless along other sections of the border, are infected with the *Micrococcus melitensis*. The drinking of goats' milk in the Pecos River country is not common except among Mexicans and those located at isolated goat camps. Along some sections of the border I am told as much goats' milk is drunk as cows' milk, this being especially true for the Mexican population.

This endemic occurrence of Malta fever in Texas is now being further investigated by Lieut. Gentry and myself.

THE SURGICAL TREATMENT OF MEGACOLON *

WALLACE I. TERRY, M.D.
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The term "megacolon" is used to include the different forms of chronic dilatation of the colon, whether of congenital or acquired origin. Hirschsprung's disease includes only the congenital, and so far as we know, the idiopathic dilatations of the colon. As it has been impossible in the majority of the reported cases to determine, either at operation or autopsy, whether they were really congenital or acquired, it would seem best to describe them as cases of megacolon. The term "pseudomegacolon" is a misnomer, for if there is a megacolon at all, it can scarcely be called "pseudo."

The etiology of this condition is obscure. There are undoubted cases which show that it is often congenital, such as the cases of Konjetzny[1] in a fetus of seven months and in a child of three days, while the occurrence of cases in individuals from 50 to 88 years of age, would tend to put some of them in the category of acquired megacolon. In a fair proportion of the reported cases there has been obstruction of the bowel by tumors, by strictures, by kinks, by valve formations or by spastic contraction of the rectum or anus, but in the great majority of cases no such obstruction can be found. There are a number of theories to account for the latter group, among which are to be mentioned the following: Abnormal length of the mesosigmoid; abnormal length of the sigmoid; chronic colitis; neuropathic changes in the sympathetic system; and defective development of the muscular coats in some part of the colon. Indeed, it would seem, as Finney[2] and Schmidt[3] have stated, that no one theory yet advanced is a sufficient explanation of the etiology of all the cases.

Pathologically we find a number of interesting features in megacolon: great distention of the abdomen; thinning of the abdominal walls; increase in the length of the colon; dilatation of the colon even up to 10 inches in diameter; hypertrophy of the wall of the colon (in one case, reported by Finney, it was 3.55 cm. or 1⅜ inches, and others have reported a thickness of 2 to 3 cm.); and changes in the mesocolon, generally a hypertrophy. The sigmoid is more apt to be dilated than any other portion of the colon, and in a series of 104 cases analyzed by Puls, it was found that the sigmoid alone was the seat of the disease in 35 per cent., the entire colon was dilated in 27 per cent., and the sigmoid, either alone or with other segments, was involved in 84 per cent. of the cases. Occasionally coproliths of large size are present, as in one of the cases I am about to report.

In a small proportion of the cases a practical cure can be obtained by medical treatment, regulation of the diet, massage of the abdomen, irrigation of the colon and the proper use of laxatives and cathartics. The success of medical treatment will depend in large measure on the tonicity of the colon and the contraction of its lumen to normal or slightly above normal size. When, however, there is a definite obstruction which causes the dilatation, or medical treatment fails after a reasonable time, the condition becomes surgical and operation should not be delayed.

A few cases have been reported in which no further surgery than a dilatation of the rectum or a division of rectal valves was necessary to effect a cure; in others the removal of tumors pressing on the rectum has given good results.

The great majority of cases, however, require some direct interference with the dilated colon, and along these lines a number of different procedures have been advocated. The establishment of a fecal fistula, or an artificial anus, is advisable as a temporary expedient for acute obstruction or as a safety-valve in some of the more elaborate anastomoses or resections. Finney emphasizes the value of making a colostomy in healthy bowel above the dilated segment. As a curative measure it is scarcely justifiable, for few patients would tolerate it as a permanent proposition, unless all other means had failed to cure.

Colotomy with the removal of fecal tumors has been resorted to a number of times, when the masses have been too hard to break up without endangering the bowel. It is interesting to note that the presence of coproliths has often led to errors of diagnosis. In a case reported by Kraske, a segment of the colon containing a coprolith was resected in the belief that it was a true tumor. Puls[4] reports a case in which Delkeskamp removed a coprolith and immediately sutured the opening in the colon. Twenty months later another coprolith had formed and after removing it by a colotomy, he made an ileosigmoidostomy resulting in a cure.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Konjetzny: Deutsch. Ztschr. f. Chir., 1909, xcvii, 224; Beitr. z. klin. Chir., 1911, lxxiii, 155.

[2] Finney: Surg., Gynec. and Obst., 1908, vi, 624. (Full bibliography.)

[3] Schmidt: Beitr. z. klin. Chir., 1909, lxi, 682. (Full bibliography.)

Colopexy, either a high or a low fixation of the bowel, has proved of value in a few cases, but it would ordinarily be contra-indicated because of the bad effects of fixation of a mobile portion of the colon to the abdominal wall.

Coloplasty, based on the principle of pyloroplasty, has been done a few times without notable success.

Longitudinal plication has been done ten times with six successes and four failures. Bastianelli is credited with having first performed this operation and, so far as I am able to ascertain, it was next done in one of the cases I am about to report. I am inclined to believe that, like colopexy and coloplasty, it will not play any important part in the operative treatment of megacolon.

Exclusion of the bowel by various anastomoses is an important procedure and has been successfully used in many of the reported cases. The anastomoses to be made depend on the particular case, but as a rule an ileosigmoidostomy or a colocolostomy are the operations of choice. In a few cases, the anastomosis of ileum and sigmoid has led to severe diarrheal troubles, but the procedure is generally well tolerated. It has also been noted that the short-circuiting operations did not always prevent packing of the excluded bowel with fecal matter. Should, however, an entero-anastomosis fail to give a good result, it does not usually interfere with a resection of the remaining dilated colon.

Resection of the giant colon would seem to be the ideal operation. It is a more formidable procedure than any of the above-mentioned and should not be done as the primary operation in a fair proportion of the patients already much weakened by the effects of a megacolon. I believe, however, that more primary resections will be done in the future, now that we have learned better how to prevent and combat shock. Earlier diagnosis of the disease and further improvement in the technic of intestinal resection, will also be important factors in the successful treatment of megacolon.

The two cases which I desire to report seem to have been true cases of Hirschsprung's disease, generally designated in English literature as "congenital idiopathic dilatation of the colon." The first case is an unreported one of Dr. T. W. Huntington, and it is by his courtesy that I am putting it on record. The original case history was lost in the San Francisco fire of 1906.

Case 1.—Mrs. G., aged 28 years, with unimportant family history, had always been rather delicate and had suffered for many years from chronic constipation, from which she obtained relief by the daily use of enemas or cathartics. She came under the care of Dr. Huntington in the early part of 1901, complaining of a mass in the upper abdomen which had been noticed for two years and was gradually increasing in size. The mass was about 6 inches in diameter, was firm and very freely movable from side to side. The patient was seen by several other physicians, but the correct diagnosis of fecal tumor in a megacolon was not made until the operation. At the operation, in which I assisted Dr. Huntington, an enormous dilatation with thickening and lengthening of the entire colon was found. The hard fecal tumor was in the transverse colon, and by manipulation was broken up and later washed out through the rectum, there being no stricture of any kind in the bowel. Having in mind plication of the stomach for dilatation of that organ, I suggested a longitudinal plication of the colon, which was carried out by means of several rows of sutures. The patient recovered nicely from the operation and is now, ten years after the operation, perfectly well, although she has never obtained a weight above 115 pounds. The bowels are regular without artificial aid.

Case 2.—W. S., aged 20, male, single, good family history, had been feeble-minded since early childhood. Patient never had a natural bowel movement since birth, cathartics or enemas being always necessary, and the services of a physician being frequently required to secure relief. The abdomen had always been large and protruding. April 1, 1909, I was called in consultation by Dr. J. T. Gardner, who stated that the boy had not had a bowel movement for three weeks past and that despite the washing out of a large mass of impacted feces and repeated enemas, the marked distention of the abdomen persisted. Tympany was present all over the abdomen except in the right flank. The abdominal wall was thin, peristalsis visible and violent, and loud borborygmi frequently heard. On auscultation a metallic tinkle was heard over the lower abdomen and in the splenic region. No tumor mass was palpable. I made the diagnosis of megacolon and advised immediate operation on acount of the marked obstruction. At the operation, the same day, a median incision was made and there was found a megacolon involving principally the descending colon and sigmoid. The cecum was considerably larger than normal, while the sigmoid was 19 cm. (7½ inches) in diameter. The walls of the dilated bowel were much thicker than normal. Much fecal matter and gas was emptied out by means of rectal tubes, and a longitudinal plication was then performed by means of several rows of linen sutures. The abdominal wall was very thin, there being practically no panniculus adiposis, and the muscle fibers were widely separated. No satisfactory bowel movement could be obtained after this operation, and as the distention reappeared, the abdominal wound was torn asunder, permitting a loop of small intestine to protrude. An enterostomy was, therefore, made a week after the first operation, utilizing the protruding small intestine for that purpose. The patient now began to improve and four months later (Aug. 17, 1909) an attempt was made to close the artificial anus, in the belief that the colon had contracted, but the sutures failed to hold. On Sept. 3, 1909, an incision was made at the outer border of the right rectus, the ileum cut off and laterally implanted in the sigmoid. The artificial anus was found to be four feet from the termination of the ileum and was closed by a resection and a side-to-side anastomosis. It was found at this operation that the sigmoid was again dilated to its original size, but that the plication of the descending colon had been successful in reducing its caliber. The patient survived the last operation only six days and the cause of death could not be determined, an autopsy not being permitted.

In this second case, I feel that it was an error of judgment to perform a longitudinal plication at the first operation and that a primary colostomy in the cecum or colon, followed later by a resection of the dilated portion of the colon, would have been a better procedure.

I have been able to collect reports of 110 cases of megacolon treated surgically, with eighty-two recoveries and twenty-eight deaths: i. e., 74 per cent. and 26 per cent., respectively. Excluding fifteen cases in which nothing more than an exploratory laparotomy was done, we have ninety-five cases with seventy recoveries (73 per cent.) and twenty-five deaths (27 per cent.). The statistics of Loewenstein, made four years ago, showed a mortality of 48 per cent. out of forty-four cases subjected to operation. It would appear as though the death-rate had either decreased rapidly within the past few years, or else that proportionately more of the successful cases had been reported. The latest statistics regarding the medical treatment which I have been able to procure are those of Loewenstein in 1907, which show fifty-nine patients treated, with 34 per cent. recoveries and 66 per cent. deaths.

240 Stockton Street.

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[4] Puls: Beitr. z. klin. Chir., 1910, lxix, 306. (Full bibliography.)

ABSTRACT OF DISCUSSION

Dr. J. F. Percy, Galesburg, Ill.: I lost one of these patients just a few weks ago, and because the members of this Section are liable to have cases brought under their observation at any time, I think it is well to mention them in connection with the paper.

The patient was a farmer, aged 77; he had a history of what he and his family called dyspepsia, extending over the period really of his whole life; and the attacks of obstruction of the bowels, which were peculiar to this case, were always ushered in after a spell of intoxication. He was a periodical drinker. But he had always been relieved by the use of cathartics. When I saw him a few weeks ago he had been in bed two weeks, he had had 6 drops of croton oil, an unknown quantity of calomel, and a member of the family said he had been given 15 cents' worth of magnesium sulphate at one dose. Most of you can estimate the size of the dose. He was delirious, and the abdomen was moderately and equally distended. Pressure over any part of the abdomen elicited pain, but there was nothing that could be localized. I made an indefinite, tentative diagnosis of twist of the colon. I really did not know what I meant by that, but that was my diagnosis, and I gave a bad prognosis and advised that he be sent to the hospital, which was done.

On opening the abdomen it was found that it was entirely filled with the sigmoid and the descending colon. I made an inguinal colostomy rapidly and put the patient to bed. He died in about thirty-six hours. A feature of the case was the enormous amount of fecal matter, equaling a large water-pail full.

In the diagnosis before operation (and it was peculiarly true in this case) the important point is the history of years of suffering from intestinal pain, which in this instance had been relieved by enormous quantities of cathartics. The history along this line was really quite remarkable. But there came a time when cathartics did not relieve him.

Mr. Harold J. Stiles, Edinburgh, Scotland: I have met with this condition in the children's hospital in Edinburgh and also in my adult service. It is easy to diagnose in children, not only from the physical signs, but from the history which the mother will always give. The child is generally brought to the physician when it is a few years old, because of the obstinate constipation and the relatively enormous enlargement of the abdomen. The mother will tell you that the constipation has been obstinate ever since the child was born, and that it gets gradually worse and worse, and that the abdomen gets bigger and bigger. During this time there is a high degree of fecal obstruction. The bowels sometimes do not move for from two to three weeks, and then a copious and continuous diarrhea occurs with frequent intervals of colicky pains, as the previous speaker has said.

The best thing to do is to open the abdomen and anchor very securely this enormous colon to the abdominal wall, and then open the bowel at once, or a day or two afterward, as the urgency of the case may require. My experience is that some of these patients get along perfectly well with the simple colostomy. In the case of a boy aged 8, colostomy was done five or six years ago; all the distention is gone and the boy is perfectly well. There is only a little leakage when the child's bowels are loose, and the only inconvenience is the passage of wind through the opening, which relieves the tension and prevents the obstruction.

I have tried in a child of 3 the effect of doing a sigmoidectomy. Before the operation is done, care must be taken that the enormous sigmoid flexure and colon are thoroughly well emptied. If they cannot be emptied, preliminary sigmoidostomy should be made before the radical operation. In a little child the small intestine is no bigger than the finger, and the colon may be as large as the lower part of the thigh, and there is danger from the pressure of the large sac against the relatively thin small intestine. In the first case I was very anxious about the patient. For three or four days the child vomited continuously, but at last it got relief and recovered.

In elderly people, with a history of chronic constipation and intermittent obstruction for many years, here, again, the safest thing, I think, is preliminary colostomy. Then at the secondary operation I have done a resection of the sigmoid and as much of the large intestine as was necessary. In one case after doing this the symptoms recurred. Why? Because the distention extends right down to the rectum, and the whole of the sac cannot be resected. Several months after an end-to-end anastomosis it will be found that the same portion of the intestine is again greatly distended at the seat of operation. In that particular case, that of an elderly man, what I had to do was to make a small opening, and ultimately the patient was permanently relieved. There was very little leakage, but enough escape of gas to prevent the patient from getting obstruction.

Dr. Wallace I. Terry, San Francisco: One point suggested by Professor Stiles' discussion is the use of the vermiform appendix as a permanent opening for the escape of gas. The appendicostomy should only be supplementary to some further operation on the megacolon.

THE USE OF SODIUM HYDROXID FOR STERILIZING INSTRUMENTS

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The profession is so busy along scientific lines that some practical points are often overlooked though their value may be unquestioned. Having for two years used sodium hydroxid ($NaOH$) in solution for sterilizing boilable instruments, with great satisfaction, I was somewhat surprised to find no mention thereof in books on operative surgery and gynecology. In looking over fifteen of the representative works, I find that in the majority it is advised to boil the instruments in "soda," or "washing soda," or "sodium carbonate" (Na_2CO_3), in strengths from .5 per cent. to 1.5 per cent. In one book sodium bicarbonate ($HNaCO_3$) is recommended. Instruments, especially if plated, boiled in such a solution come out covered with a white scum, are slippery and unless quickly dried, are liable to turn back, often defying diligent scouring. This is particularly true if there happen to be some blood thereon.

Sodium hydroxid, or hydrate, or caustic soda ($NoOH$), has none of these faults when used in a 0.25 per cent. solution. It comes in pearly sticks the caliber of a pencil and 4 to 6 inches long. A piece ¾-inch long (about 38 grains) to one quart of water gives the approximate strength. Inadvertently, I have left instruments standing in such a solution over night and have been agreeably surprised to find them neither black nor rusted in the morning. Fresh blood-stains disappear as if by magic when rinsed therein, and old dried spots are easily removed with a little rubbing. I have succeeded even in removing dried blood from rubber aprons with some of the solution left after sterilizing instruments, which had resisted previous scouring. It may be used hot and it is well known that plain hot water will clot and harden blood, making its removal the more difficult. It is my custom to have a basin of the solution handy while operating and by rinsing the instruments therein for a few seconds, they are kept always clean. While not able to prove this, I feel convinced that the instruments retain their plate longer and look brighter than before I used the hydrate.

Compared with sodium carbonate, the only disadvantage lies in the cost. The wholesale price of the hydrate is 35 to 40 cents per pound for the pure and about half that for the commercial product. The latter I have never used, so cannot say if it is equally serviceable. The chemically pure carbonate costs 25 cents, while the common grade, full of impurities and extraneous substances, can be obtained in the grocery stores for 3 to 5 cents per pound. The amount used at any one time, however, is so small that the expense can be of little moment to any one, except, perhaps, in large hospitals where sterilization goes on more or less constantly. I am quite sure that the surgeon giving the hydroxid a fair trial will not care to return to the use of the carbonate or bicarbonate. Owing to its high degree of deliquescence, sodium hydroxid must be kept in tightly stoppered glass bottles, preferably wide-mouthed.

I claim no originality for this discovery, for Mr. H. Leiter, the instrument manufacturer of Vienna, brought it to my attention.

Another little "stunt" worthy of mention is to rub lightly those metal instruments to be left in the case for some time with a stick of cocoa butter so that a thin film is deposited. This has the advantage over petrolatum, so generally recommended, that it is not disagreeably greasy to the touch and shelves, does not attract and hold dust, while it is equally effective in preventing rust.

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PERFORATION OF PREGNANT UTERUS IN AN UNSUCCESSFUL ATTEMPT TO PRODUCE ABORTION

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The question of the amount of trauma to which the pregnant uterus may be subjected without aborting is one which frequently comes up before us in many phases, particularly as regards the matter of operating during the term of pregnancy. I report the following case as being unique, so far as I can find, in the amount of damage done to the uterus without producing a miscarriage.

July 11, 1910, I was called by Dr. A. F. Kober, of McConnell, Ill., to see with him a patient who was apparently aborting. The patient was a woman of 35; was flowing to moderate extent; temperature, 101; pulse, about 120; and a very rigid abdomen over the uterus. She had been sick about two days before calling Dr. Kober, and delayed assistance as long as she could.

She gave a history of having attempted to bring on a miscarriage by the introduction of a twig of slippery elm. She stated that she had frequently used this means of inducing her menses when over time and had never had any previous trouble with it.

Dr. P. J. Burrell, of Winslow, Ill., was called in, and under anesthesia the patient was more thoroughly examined by introducing a sound and it was then discovered that the posterior wall of the uterus had been perforated through the cervix. On this finding, the patient was immediately hurried to the hospital and the abdomen opened. We found an infected tract extending from the perforation in the uterus along the upper portion of the sigmoid, and lying among the walls of the small intestine a number of small abscesses with a localized peritonitis about. The omentum lay partially in the perforation in the posterior wall of the uterus, whose edges were necrotic, and was about 4 cm. in diameter. The abscesses were evacuated and carefully drained, the omentum was amputated and removed, and also drainage established through the perforation and the cervix to the vagina. Nothing was done with the uterus, as regards emptying, more because of the condition of the patient than because it was considered the best policy to pursue, though it did not occur to us at the time that the ovum might still be present.

After a moderately severe convalescence the woman recovered and came to good health, believing of course, that the attempt at abortion had been successful.

The patient was dismissed from my mind and service, and it was with great surprise that on Jan. 1, 1911, she came in and I found her pregnant about seven months, as I diagnosed it at that time. March 28, Dr. Kober delivered this woman of an 8-pound child after a labor of moderate severity, with no untoward incidence, showing that the woman was probably about six weeks pregnant at the time she attempted to bring on her miscarriage.

INSTRUMENT FOR PASSING A NEEDLE WHERE SPACE IS LIMITED

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For the purpose of passing a needle and ligature where the space is limited, such as the back part of the mouth, the base of the bladder in suprapubic operations, or similar situations, I have devised the instrument shown below.

A thread semicircular needle is lodged in a semicircular overhanging guide at the bottom of the instrument; it is propelled forward by a radius arm and held in place by a compression spring and discharged through an eye in the forward end of the guide. The radius arm is driven by a shaft connected with a right-angle cog movement on the back of the instrument. The cog movement is driven by a shaft connected with a milled head thumb-piece at the top of the instrument. The whole is mounted on a flat frame-piece and can be made any size to suit the necessities of the situation. In the diagram, *g* represents the guide; *a*, the driving arm; *s*, the spring; *e*, the eye in the forward end of the guide; *n*, the needle; *t*, the milled head thumb-piece; *c*, the shaft extending from the milled head to the cogs. The arrow to the left of the instrument shows the course the needle takes after leaving the instrument. The needle is engaged in the instrument by introducing the point into the eye of the guide, when the remainder falls readily into place with the butt end resting against the distal end of the driving-arm. Bringing the arm around 180 degrees, by turning the milled head, discharges the needle and causes it to pass through the remaining 180 degrees of the circle; it is now free from the instrument (*n*). If the driving arm is given a slight backward turn to prevent the thread from catching between the eye of the guide and the arm, the instrument is now withdrawn from the field of the operation, and the forward end of the needle is grasped with an ordinary needle-holder, and by a rotary motion in a manner to complete the circle. When the needle is placed in the holder, care should be taken to see that the thread is not entangled with the spring, otherwise there might be some difficulty

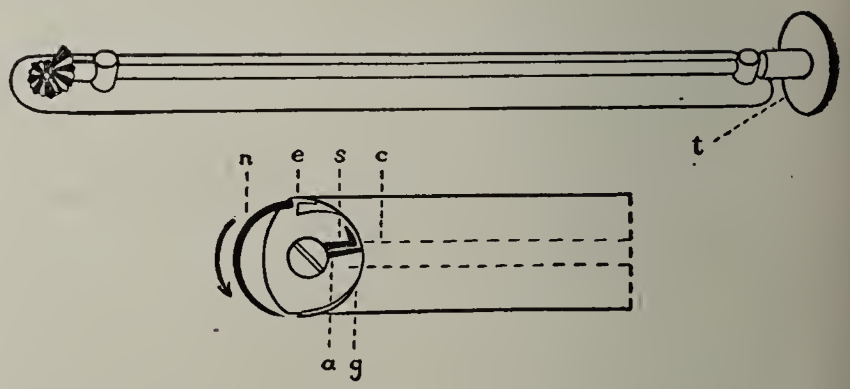

Diagram of instrument for passing a needle where space is limited.

in getting the ligature to slip through the eye of the guide, when the instrument is withdrawn from the wound. The direction kept by the needle is on a plane with the instrument, and it passes through the tissue with much ease. Truax, Greene & Co., of Chicago, have made this instrument for me in a neat and well proportioned manner.

MICROSCOPIC DIAGNOSIS OF RABIES

A MODIFICATION OF VAN GIESON'S METHOD FOR STAINING THE CHARACTERISTIC NERVE CELL INCLUSIONS

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For several years, in the laboratory of the Pasteur Institute of Virginia, a modification of Van Gieson's well-known method of staining for the diagnosis of rabies has been practiced. It consists essentially in the use of acetone as a solvent for rosanilin in the place of alcohol. When the solution of rosanilin in acetone is diluted with water, the stain yields itself so readily to the affinity of the cell inclusions that heat is unnecessary, as when alcohol is employed, and the inclusions are quickly tinted a brilliant rose-red color.

Furthermore, the stain may be very quickly prepared, should no fresh solution be at hand, rosanilin being extremely soluble in acetone. Nor is it necessary to wait till the solution becomes saturated, though it is preferable to keep such a solution on hand if the stain is used often. The concentrated solution is more stable than that in alcohol, and hence need not be freshly prepared so often. In our laboratory it is preserved in the ice-box, and keeps well in hot weather for a month or longer.

As in Van Gieson's original method, alcohol is used as a fixing agent, and methylene-blue for counterstaining. The modification makes no difference in the results obtained, a sharp contrast being presented between the rose-red cell inclusions, the orange-red blood-cells, etc. It is believed that the readiness of the acetone solution to give up the stain, enables one to detect the inclusions more certainly in brains of animals long dead, when post-mortem or other changes render them more difficult to color. This conclusion is based on practical comparative tests of the two methods.

The following technic is commonly employed in our laboratory:

Smears containing pyramidal cells of the hippocampus, or Purkinje cells of the cerebellum, are prepared in the usual manner, allowed to dry, and fixed for two minutes in ethyl or methyl alcohol. They are then dried with blotting-paper and stained.

Two or three drops of a saturated solution of rosanilin in acetone (U. S. P.) are added to 10 c.c. of water, which is agitated with the pipette, and soon becomes a brilliant rose-red color. Then two drops of a half-saturated aqueous solution of methylene-blue are added, and the stain is applied to the smears.

Staining is completed in one or two minutes, without heat. The slide is then washed under the tap, dried, and examined.

Should a weaker than saturated solution of rosanilin be employed, it is only necessary to add more of it, drop by drop, to the water, till the usual brilliant rose-red tint is obtained, when the result will be found about the same as that obtained with the saturated solution.

AQUEOUS SOLUTION OF IODIN IN THE TREATMENT OF ULCER OF THE CORNEA

A PRELIMINARY NOTE

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At the New York Eye and Ear Infirmary we have for a number of years been using, as a routine measure in the treatment of ulcers of the cornea, a solution of mercury bichlorid with a fair amount of success, the patient instilling three to five drops three times daily, and in addition using an ointment of mercury bichlorid once or twice daily. Occasionally a 20 or 25 per cent. solution of argyrol is used in the early stages of the ulcer, especially where the secretion has a tendency to be mucopurulent. In the Morax-Axenfeld infection, with an erosion of the cornea, zinc sulphate is employed. Occasionally phenol (carbolic acid), or other forms of cauterizing, are employed when the ulcer has a tendency to be deep or is spreading. I have also followed practically the same routine in my private practice, but have not been entirely satisfied with it, in spite of additional measures, such as warm bathing, dionin, atropin, etc., except in cases in which syphilis was the principal factor.

Some six months ago, however, I commenced using a watery solution of iodin in these cases, being influenced to do so by the wonderful effect of tincture of iodin in sterilizing raw catgut. The use of iodin in infected lesions of the cornea is not new, but the method heretofore employed was not satisfactory. It was generally used by occasionally touching an ulcer with tincture of iodin, which is extremely painful unless cocain is first employed; and this is sometimes undesirable on account of the desiccating influence of cocain on the corneal epithelium, diminishing the resistance of the corneal tissue to further infection. (Holocain, however, does not have this influence.) I had already used iodin locally in other conditions and obtained very satisfactory results.

The patients suffering from ulcer of the cornea were treated with a solution of iodin 1 grain, sodium iodid 3 grains, and 1 ounce of water. Three drops of this solution were ordered to be instilled into the eye, three or four times daily. No other treatment was used. The cases treated were largely superficial erosions; five of them were ulcers in connection with trachomatous pannus, and several had been previously treated. The instillation of the above mentioned solution of iodin is not very painful, and the duration of the pain is not more than ten or fifteen minutes. Occasionally the conjunctiva becomes congested from its use, but this disappears when the application is stopped. After twenty-four or forty-eight hours of this treatment, the patient will tell you that his eye is less painful and more tolerant to light, and the headache, so common in these cases, diminishes rapidly. The solution can be used for several weeks without causing any further annoyance, even if the ulcer is healed. Altogether, I have treated fifteen patients by this method, and I have been so encouraged by the results that without waiting for the accumulation of further experience I take the liberty of offering it as an addition of great utility to our ocular therapeutics.

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Special Article

NINTH ANNUAL SUMMARY OF FOURTH OF JULY INJURIES

For the ninth consecutive year The Journal this week presents statistics of injuries received during the celebration of the Fourth of July, with particular reference to tetanus resulting from these injuries. Special effort has been made to secure reliable data and all serious cases have been carefully investigated, so that, so far as the statistics go, dependence may be placed on them. In addition to the usual reports, blanks were sent to a large number of hospitals and thousands of letters were sent to health officers and physicians in all parts of the country asking for reports. In fact, unusual effort was made this year to obtain full and complete returns.

In previous years from the hospitals long lists of injured were received, but this year a large majority reported none injured and those which did report cases had comparatively small lists. The reduction in the number of casualties this year was very marked. Our thanks are due to health officers, hospital superintendents, physicians and others for the careful reports which have made these statistics practically complete and the figures reliable. The data are presented in the same manner as heretofore so that comparisons with the figures of previous years may be made.

Sanity vs. Gunpowder —By De Mar
[Courtesy of *Philadelphia Record.*]

FEWER CASES OF TETANUS THIS YEAR

There were only eighteen cases of tetanus this year, fifty-four less than last year, and the lowest number reported during the nine years The Journal has been gathering these statistics. Last year there were seventy-two cases, and 150 in 1909. It is a significant fact that the number of blank cartridge wounds shows a correspondingly large decrease, from 450 last year to 169 this year (Table 6). The most common cause of the wound is the blank cartridge, and the most common site is the hand. Of the twenty lockjaw patients all but one were males, and all but three were under 18 years of age. The youngest was 4 years old, the oldest was 40, and the average age this year was 14 years.

The duration given in the table is the number of days between the time of the injury and death or recovery. Figures are also given (in parentheses) showing the number of days following the injury before active symptoms appeared. This was five to fifteen days, the average for fatal cases this year being about eight days. A longer incubation period probably indicates a less virulent infection and, therefore, a better chance for recovery under treatment. Following the appearance of the symptoms, death resulted in from two to three days; the average of all cases this year, for which this information was given, was two and one-third days. In only one case was the entire time between inoculation and death less than five days, the duration of this case being four days. The average duration for all fatal cases reported was about nine days.

USE OF ANTITOXIN

So far as reports were received tetanus antitoxin was employed in seven of the eighteen cases reported this year, but in no instance, according to the reports, was it employed until after the active symptoms had set in. This is unfortunate, as tetanus antitoxin is so valuable as a prophylactic that very few cases have ever been reported in which active symptoms began after its administration. The list of tetanus cases is given in Table 1.

DISTRIBUTION OF TETANUS

Tetanus occurred in ten states this year, seven less than last year, fourteen less than in 1909, and nine less than in 1908. Three cases each were reported for Illinois and Ohio, and two each for California, Michigan, New Jersey and Wisconsin. Four states, Iowa, Massachusetts, New York and Pennsylvania had one case each. The greatest reduction below last year's record was in Pennsylvania which had 10 cases less than last year followed by Michigan with nine cases less than last year. Illinois had eight cases less and New Jersey seven less. Table 2 allows comparison of the number of cases in each state for the nine years.

THE DEADLY BLANK CARTRIDGE

Blank cartridges continue to be responsible for the great majority of tetanus cases, 15 or 83 per cent. this year being due to that cause as compared with 88.9 per cent. last year, and 86.5 per cent. in 1909. With the full knowledge of the awfulness of the deaths caused by blank cartridge wounds it is certainly inexcusable that the use of these instruments of torture is not absolutely prohibited. Two cases of tetanus this year were due to injuries by fire-crackers and one by a bomb. The causes of the tetanus cases from Fourth of July injuries for each of the past nine years are shown in Table 3.

TABLE 1.—CASES OF TETANUS

Name.	Sex.	Age.	Cause of Wound.	Site of Wound.	Duration in Days*	Day Antitoxin was used.	Termination.
CALIFORNIA							
Domato	M.	14	Bl. ctg.	Hand	8	..	D.
O'Brien	M.	12	Bl. ctg.	Hand	(8) 10	8	D.
ILLINOIS							
Bisso	M.	14	Bl. ctg.	Hand	7	No	D.
Garrett	M.	14	Bl. ctg.	Hand	(7) 39	8	R.
Heligas	M.	9	Bl. ctg.	Hand	(5) 8	5	D.
IOWA							
Porter	M.	15	Bl. ctg.	Leg	7	..	D.
MASSACHUSETTS							
Alezands	M.	18	Bl. ctg.	Hand	12	..	...
MICHIGAN							
McCracken	M.	4	Bomb		(10)	..	...
Perkins	M.	8	Bl. ctg.	Hand	(9) 11	9	D.
NEW JERSEY							
Morris	M.	11	Bl. ctg.	Hand	(6) 8	..	D.
Murphy	M.	13	Bl. ctg.	Hand	(10)	..	...
NEW YORK							
Anesi	M.	11	Bl. ctg.	Hand	(6) 8	6	D.
OHIO							
Bridwell	M.	8	Bl. ctg.	Hand	..	..	...
Knowlton	M.	15	Bl. ctg.	Hand	11	..	...
Malone	M.	40	Firecracker	Hand	4	..	D.
PHILADELPHIA							
Strain	M.	24	Bl. ctg.	Hand	(9)	9	R.
WISCONSIN							
Churchill	M.	10	Firecracker	Hand	(7)	..	...
Schmidt	M.	12	Bl. ctg.	Hand	(15)18	..	D.

* Figures in parentheses show incubation period.

TABLE 2.—TETANUS CASES BY STATES
Comparison with Previous Years

	1903	1904	1905	1906	1907	1908	1909	1910	1911
Alabama	..	..	1	..	..	..	..	..	..
Arizona	..	..	..	..	1	..	..	..	..
California	2	4	4	3	1	..	2	1	2
Colorado	4	..	1	..	..	..	..	..	..
Connecticut	3	..	3	..	4	1	..	..	..
Delaware	..	..	1	1	1	..	2	..	..
Dist. of Columbia	1	..	..	..	..	..	..	..	..
Florida	..	..	..	..	..	..	1	..	..
Georgia	..	..	..	..	1	..	..	..	..
Idaho	1	..	..	..	..	..	1	..	..
Illinois	49	15	20	16	12	12	20	10	3
Indiana	11	6	3	8	2	..	9	6	..
Iowa	14	2	3	4	4	1	1	1	1
Kansas	11	1	..	..	2	1	6	..	..
Kentucky	4	2	..	1	..	1	1	..	..
Louisiana	..	..	..	..	..	..	..	..	..
Maine	2	4	1	1	..	1	1	1	..
Maryland	1	..	1	1	..	..	2	2	..
Massachusetts	16	5	7	3	2	5	8	..	1
Michigan	29	7	9	4	4	2	11	11	2
Minnesota	15	2	2	2	2	..	..	..	..
Missouri	29	1	3	3	1	5	8	2	..
Montana	2	1	1	..	1	..	3	2	..
Nebraska	4	3	3	1	..	1	3	1	..
New Hampshire	2	..	..	1	..	..	1	..	..
New Jersey	8	9	3	10	8	10	19	9	2
New York	36	9	6	8	4	9	11	7	1
North Dakota	..	..	..	..	..	..	..	..	..
Ohio	67	9	5	7	6	7	12	3	3
Oklahoma	1	..	1	1	..	1	..	1	..
Oregon	2	..	..	1	1	1	..	..	..
Pennsylvania	82	17	12	5	7	7	10	11	1
Rhode Island	3	..	..	1	..	...	..	..	..
South Carolina	..	..	..	..	..	..	..	..	..
South Dakota	..	..	..	..	..	1	1	..	..
Tennessee	..	..	..	..	..	..	..	..	..
Texas	..	..	..	..	2	..	..	..	..
Utah	..	1	1	..	..	..	..	1	..
Vermont	3	2	..	2	2	..	..	..	..
Washington	2	2	..	..	2	4	4	1	..
West Virginia	3	..	..	2	..	1	4	..	..
Wisconsin	10	4	13	2	3	5	9	3	2
Wyoming	..	..	..	1	..	..	..	..	..
Total	415	105	104	89	73	76	150	72	18
No. states having cases	30	21	23	25	23	20	25	18	10

THE MORTALITY PERCENT.

Of the eighteen cases of tetanus from Fourth of July injuries this year ten, or 55 per cent., ended fatally as compared with 93 per cent. last year, 84 per cent. in 1909, and 72 per cent. in 1908.

TETANUS FROM INJURIES NOT CAUSED BY FIREWORKS

Besides the cases of lockjaw due directly to the use of fireworks, it is interesting to note also those occurring during the Fourth of July season which were due to penetrating wounds from other causes, such as nails or splinters, to crushing injuries, etc. There was likewise a marked reduction in these cases, only twenty-nine being reported during the Fourth of July season this year, or less than half the number of last year, when forty-seven were reported. Is this reduction due to the prophylactic use of tetanus antitoxin? The cases of tetanus due to other than Fourth of July injuries are shown by states in Table 4. A comparison of this table with Table 2 is interesting.

TABLE 3.—CAUSES OF TETANUS CASES

Year.	Blank Cartridge.	Giant Cracker.	Cannon.	Fire-arms.	Powder, etc.	Total.
1903	363	17	5	3	27	415
1904	74	18	5	1	7	405
1905	65	17	4	5	13	104
1906	54	17	1	7	10	89
1907	52	8	6	4	3	73
1908	58	5	4	3	6	150
1909	130	9	1	4	6	150
1910	64	2	..	5	1	72
1911	15	1	1	..	1	18

TABLE 4.—CASES OF TETANUS FROM OTHER CAUSES

	1908	1909	1910	1911		1908	1909	1910	1911
Alabama	....	....	1	1	Nevada	....	....	....	....
Arizona	....	....	....	....	New Hampshire	....	....	....	....
Arkansas	2	....	....	....	New Jersey	7	8	8	1
California	4	4	1	2	New Mexico	....	1	....	....
Colorado	3	....	....	1	New York	17	12	4	2
Connecticut	2	2	....	....	North Carolina	1	....	....	....
Delaware	2	1	....	....	North Dakota	1	....	....	....
Dist. of Colum.	....	....	....	....	Ohio	23	13	2	....
Florida	2	....	....	....	Oklahoma	....	....	....	....
Georgia	....	1	....	....	Oregon	....	1	3	....
Idaho	....	....	....	....	Pennsylvania	21	21	8	6
Illinois	17	18	7	6	Rhode Island	....	1	....	....
Indiana	6	4	1	2	South Carolina	....	....	....	....
Iowa	2	7	3	1	South Dakota	2	2	....	....
Kansas	4	....	1	....	Tennessee	3	....	....	....
Kentucky	5	5	....	1	Texas	4	1	1	....
Louisiana	1	....	....	1	Utah	....	....	....	....
Maine	....	....	....	....	Vermont	....	....	1	....
Maryland	3	....	2	1	Virginia	4	1	....	1
Massachusetts	3	5	1	....	Washington	2	....	....	....
Michigan	4	5	1	....	West Virginia	....	1	....	....
Minnesota	4	2	....	....	Wisconsin	5	4	1	....
Mississippi	....	....	....	....	Wyoming	....	....	....	....
Missouri	12	5	1	2					
Montana	....	....	....	....	Total	166	28	47	29
Nebraska	..	3	1	1	States reporting cases	29	25	18	15

DEATHS AND INJURIES NOT CAUSED BY TETANUS

Beside the ten deaths due to tetanus, forty-seven persons were killed by various forms of fireworks, making a total of fifty-seven deaths, seventy-four less than last year, and 158 less than in 1909. This is the lowest number of deaths from such causes during the nine years covered by THE JOURNAL'S statistics, and shows a very decided improvement over previous years. This year eleven people were killed outright by firearms, nine by explosions of powder, bombs or torpedoes, five by cannon, two by giant firecrackers and eight by various causes, as blood poisoning, explosions of chemicals, etc. The largest number of deaths due to any one cause was twelve, mostly little girls, who were burned to death by fire from fireworks, in several instances from the so-called "harmless" varieties, including very small firecrackers and sparklers. All accidents not due directly to the discharge or handling of fireworks or other means of noise production and display on or about the Fourth of July have been omitted. Table 5 shows a comparison of the causes of death aside from tetanus for the past seven years.

TABLE 5.—CAUSES OF DEATHS NOT DUE TO TETANUS

Year.	Gunshot.	Fire from Fire-works.	Powder, Tor-pedoes, Etc.	Giant Crackers.	Cannon.	Other Causes.	Total
1905.........	37	23	6	5	7	17	95
1906.........	38	18	18	3	3	3	83
1907.........	20	31	13	13	3	22	102
1908.........	30	22	19	23	7	7	108
1909.........	17	37	16	7	7	6	90
1910.........	19	26	11	2	3	3	64
1911.........	11	12	9	2	5	8	47

DISTRIBUTION OF INJURIES

In Table 6 will be found a summary of all injuries including tetanus and of all causes arranged by states. Beneath the totals at the bottom are given, for comparison, the totals for the eight previous years. The grand totals for the nine years are also given. Table 7 allows of comparisons of the total deaths and accidents for nine years. The decrease in the number of injuries is most remarkable this year and unquestionably is the result of the efforts to secure more intelligent methods of celebration. This is evident from the fact that the most marked decreases are in the states where the agitation for restrictive measures was strongest. Massachusetts this year had less than one-half of the injuries it had last year and only one-sixteenth of what it had in 1909. Connecticut reduced its total to less than one-fifth and Minnesota and New Jersey reduced their totals to one-fourth what they were in 1909. Other states showing marked reductions are Indiana, Iowa and Michigan.

TABLE 6.—SUMMARY BY STATES OF JULY FOURTH CASUALTIES

		Deaths.			Injuries.							Causes of Tetanus Cases.		Causes of all Cases Aside from Tetanus Cases.					
Number.	States.	From Tetanus.	From Other Causes.	Total.	Loss of Sight.	Loss of One Eye.	Loss of Legs, Arms or Hands.	Loss of Fingers, One or More.	Other Injuries.	Total Non-Fatal Injuries.	Total Persons Dead or Injured.	Blank Cartridge.	All Other Causes.	Blank Cartridge.	Fire Crackers.	Cannon.	Firearms.	Powder and Fireworks.	Number.
1	Alabama							1	2	3	3							3	1
2	Arizona								2	2	2							2	2
3	Arkansas							1		1	1							1	3
4	California	2	2	4	1	1		2	35	39	43	2		8	5	4	5	19	4
5	Colorado							1	5	6	6				2			4	5
6	Connecticut		1	1		1	1	1	11	14	15			3	6		5	1	6
7	Delaware								3	3	3				3				7
8	District of Columbia																		8
9	Florida																		9
10	Georgia								10	10	10							10	10
11	Idaho								1	1	1							1	11
12	Illinois	2	10	12		1	4	11	190	206	218	3		45	50	14	36	70	12
13	Indiana		2	2		1	3		47	51	53			7	18	7	5	16	13
14	Iowa	1	4	5	1			2	46	49	54	1		5	29	4	4	11	14
15	Kansas		2	2	1			1	21	23	25			5	4	1	4	11	15
16	Kentucky		1	1					5	5	6			1	1	3		1	16
17	Louisiana								2	2	2				1			1	17
18	Maine		1	1			1		2	3	4				2	1		1	18
19	Maryland		1	1			1	1	10	12	13			1	2	4	2	4	19
20	Massachusetts		2	2			3	1	21	25	27	1			6	2	1	17	20
21	Michigan	1	2	3	1	4	3	4	54	66	69	1	1	3	12	7	7	38	21
22	Minnesota					1		2	14	17	17			1	4	3	2	7	22
23	Mississippi								1	1	1				1				23
24	Missouri					2	1	4	53	60	60			8	14	5	5	28	24
25	Montana																		25
26	Nebraska					3		1	13	17	17				8	1		8	26
27	Nevada																		27
28	New Hampshire		1	1					1	1	2					2			28
29	New Jersey	1	2	3			1	3	36	40	43	2		4	9	7	9	12	29
30	New Mexico																		30
31	New York	1	5	6	1	3	3	11	213	231	237	1		40	60	15	58	63	31
32	North Carolina							1	4	5	5					4		1	32
33	North Dakota								1	1	1				1				33
34	Ohio	1		1		2		5	97	104	105	2	1	7	44	8	9	34	34
35	Oklahoma								9	9	9			3	2			4	35
36	Oregon								3	3	3				2			1	36
37	Pennsylvania		4	4	1	7	8	21	401	438	442	1		21	140	18	27	235	37
38	Rhode Island		1	1					10	10	11			2	4		1	4	38
39	South Carolina		1	1							1							1	39
40	South Dakota								2	2	2				1			1	40
41	Tennessee							1	2	3	3			1			1	1	41
42	Texas																		42
43	Utah								2	2	2				1			1	43
44	Vermont							2	2	4	4			1	2	1			44
45	Virginia							2	1	3	3				2			1	45
46	Washington		1	1	1			1	19	21	22			2	15			5	46
47	West Virginia								2	2	2				2				47
48	Wisconsin	1	4	5	1		1	3	42	47	52	1	1	2	29	3	2	14	48
49	Wyoming								4	4	4				2		1	1	49
	1911 totals	10	47	57	8	26	30	83	1,399	1,546	1,603	15	3	170	484	114	184	633	
	1910 totals	67	64	131	7	33	26	114	2,612	2,792	2,923	64	8	386	1,050	212	229	974	
	1909 totals	125	90	215	16	36	41	176	4,823	5,092	5,307	130	20	1,095	1,614	427	341	1,680	
	1908 totals	55	108	163	11	93	57	184	5,115	5,460	5,623	58	18	816	1,793	399	481	2,058	
	1907 totals	62	102	164	12	75	57	237	3,868	4,249	4,413	52	21	554	1,489	267	502	1,528	
	1906 totals	75	83	158	22	72	56	227	4,931	5,308	5,466	54	35	925	1,690	408	532	1,822	
	1905 totals	87	95	182	25	106	80	221	4,562	4,994	5,176	65	39	744	1,775	474	404	1,675	
	1904 totals	91	60	466	10	75	54	208	3,637	3,986	4,169	74	25	831	1,268	508	406	1,057	
	1903 totals	406	60	466	10	75	54	174	3,670	3,983	4,449	363	29	1,309	1,152	397	236	963	
	Total for nine years	978	741	1,719	130	577	462	1,624	34,617	37,410	39,129	875	198	6,830	12,315	3,206	3,315	12,390	

Pennsylvania has had the largest number each year since 1904, having 442 casualties this year, followed by New York with 237, and Illinois with 217. Note that two years ago the same three states had respectively 986, 897 and 546 injuries. Altogether there were 1,603 injuries this year, a little more than half of last year's record and less than one-third of the totals for 1909.

NATURE OF NON-FATAL INJURIES

There were 1,546 non-fatal injuries this year, a little more than half (55 per cent.) of the total reported last year. Eight persons were totally blinded this year, twenty-six lost one eye each, thirty lost legs, arms or hands, and eighty-three lost one or more fingers. Considering the marked reduction in the total number injured it is surprising to note that the totals of these more severe injuries are about the same as reported last year. The giant firecracker continues to hold the first place as a cause of mutilating wounds and is responsible for most of the losses of eye, hands and fingers. This year 483 injuries including two deaths and two cases of lockjaw were due to the giant firecracker. Firearms caused 184 accidents this year including eleven killed. Of the total number thus injured, eighty were struck by stray bullets from the reckless use of firearms by others, and six deaths resulted. The use of the toy cannon caused 114 injuries including five killed, but this year caused no cases of tetanus. In the nine years a total of 39,129 people—the equivalent of over thirty-nine regiments—were killed or injured in the celebration of the Fourth of July!

TABLE 7.—TOTAL DEATHS AND ACCIDENTS BY STATES DURING NINE YEARS

	1903	1904	1905	1906	1907	1908	1909	1910	1911
Alabama	2	7	1	2	1	1	1	3	3
Arizona	1	......	4	5	2	5	3	......	2
Arkansas	......	......	3	4	......	5	1	4	1
California	100	138	142	96	121	136	89	63	43
Colorado	39	44	26	23	25	13	18	19	6
Connecticut	162	133	132	169	63	105	86	78	15
Delaware	1	5	14	8	16	12	13	8	3
Dist. Columbia	2	10	24	5	12	21	......	......	......
Florida	1	2	2	......	......	......	1	4	......
Georgia	......	......	......	4	2	4	......	5	10
Idaho	4	4	3	3	4	4	2	3	1
Illinois	366	423	542	598	468	558	546	285	218
Indiana	160	211	217	250	......	255	164	167	53
Iowa	168	137	328	255	231	174	91	141	54
Kansas	63	88	56	61	64	72	86	50	25
Kentucky	30	72	17	21	18	33	17	26	6
Louisiana	......	2	3	7	8	4	......	4	2
Maine	31	32	29	15	11	16	22	7	4
Maryland	21	22	13	10	23	21	10	8	13
Massachusetts	637	193	467	329	168	430	430	63	27
Michigan	144	157	288	193	163	203	177	143	69
Minnesota	157	102	174	95	95	65	69	64	17
Mississippi	......	......	......	2	2	1	......	......	1
Missouri	147	84	218	325	299	375	352	112	60
Montana	5	17	40	3	6	11	9	10	......
Nebraska	46	63	43	47	58	46	42	36	17
Nevada	......	1	2	......	1	4	......	1	......
New Hampshire	37	23	9	29	13	13	23	10	2
New Jersey	228	204	350	398	402	472	488	167	43
New Mexico	......	4	5	1	6	......	1	3	......
New York	522	549	566	681	752	647	897	327	237
North Carolina	......	......	1	1	......	......	......	1	5
North Dakota	10	8	29	11	8	13	4	13	1
Ohio	443	327	329	490	375	543	323	166	105
Oklahoma	1	3	7	14	194	9	12	11	9
Oregon	16	13	9	11	5	9	21	19	3
Pennsylvania	553	744	721	969	491	987	986	623	442
Rhode Island	64	30	11	21	39	39	42	19	11
South Carolina	......	......	......	1	......	......	4	......	1
South Dakota	4	10	15	5	8	10	9	4	2
Tennessee	4	1	5	6	4	5	4	10	3
Texas	2	2	4	11	7	11	4	2	......
Utah	23	22	25	18	30	12	18	8	2
Vermont	45	14	10	14	18	19	12	4	4
Virginia	......	11	5	8	......	5	4	......	3
Washington	21	25	15	25	23	38	32	37	22
West Virginia	19	16	34	64	27	29	35	20	2
Wisconsin	190	215	230	155	150	187	157	171	52
Wyoming	1	2	8	3	......	1	1	4	4
Totals	4449	4169	5176	5466	4413	5623	5307	2923	1603

TABLE 8.—NUMBER REPORTED KILLED AND INJURED IN THE LARGER CITIES

City.	Population Census of 1910.	1907		1908		1909		1910		1911	
		Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New York City	4,776,883	22	422	11	316	7	559	6	179	3	91
Chicago	2,185,283	16	151	12	202	...	118	4	62	2	53
Philadelphia	1,549,008	7	248	6	426	9	508	4	405	...	294
St. Louis	687,029	3	189	4	229	4	163	...	44	...	38
Boston	670,585	3	59	6	190	5	167	...	35	...	3
Cleveland	560,663	3	63	12	93	...	4	...	1	...	5
Baltimore	558,485	...	5	1	10	...	5	...	6	...	10
Pittsburgh	553,905	10	88	...	30	5	48	6	26	1	25
Detroit	465,766	2	46	...	10	2	46	1	17	...	18
Buffalo	423,715	...	18	3	11	...	33	1	13	...	16
San Francisco	416,912	...	.....	...	11	...	12	...	9	1	8
Milwaukee	373,857	2	93	...	70	...	78	3	112	1	19
Cincinnati	364,463	2	89	1	112	3	86	3	49	1	4
Newark, N. J.	347,469	1	129	2	81	1	150	1	15	...	.....
New Orleans, La.	339,075	...	8	...	4	...	.....	...	3	...	2
Washington, D. C.	331,069	...	12	...	21	...	.....	...	.....	...	.....
Los Angeles, Cal.	319,198	...	35	...	40	...	26	...	.....	...	4
Minneapolis, Minn.	301,408	...	13	...	10	1	24	...	20	...	.....
Jersey City, N. J.	267,779	...	31	5	34	1	14	1	44	...	14
Kansas City, Mo.	248,331	1	46	...	55	4	67	1	25	...	4
Seattle, Wash.	237,194	1	3	...	11	3	10	...	7	...	.....
Indianapolis, Ind.	233,650	1	31	1	14	1	35	...	24	...	5
Providence, R. I.	224,326	...	20	1	21	...	13	...	10	1	9
Louisville, Ky.	223,928	...	13	...	10	1	10	1	13	...	3
Rochester, N. Y.	218,149	...	12	...	10	...	5	...	10	...	4
St. Paul, Minn.	214,744	...	20	...	13	...	18	...	12	...	10
Denver, Colo.	213,381	...	8	...	13	...	12	1	6	...	2
Portland, Ore.	207,214	...	2	...	3	...	10	...	12	...	1
Columbus, Ohio	181,548	5	36	...	5	1	19	...	.....	...	1
Toledo, Ohio	168,497	1	5	...	8	2	8	1	2	...	2
Atlanta, Ga.	154,839	1	4	...	3	...	.....	...	5	...	10
Oakland, Cal.	150,174	...	9	...	.....	...	8	...	9	...	1
Worcester, Mass.	145,986	1	6	2	20	1	42	...	6	...	1
Syracuse, N. Y.	137,249	...	20	...	14	...	13	...	6	...	1
New Haven, Conn.	133,605	...	2	...	.....	...	15	...	.....	...	1
Birmingham, Ala.	132,683	...	.....	...	.....	...	.....	...	.....	...	3
Memphis, Tenn.	131,105	...	1	...	3	...	4	...	2	...	.....
Scranton, Pa.	129,867	...	5	1	17	1	29	...	6	...	10
Richmond, Va.	127,628	...	.....	...	.....	1	1	...	.....	...	.....
Paterson, N. J.	125,600	1	29	2	31	1	45	1	14	...	5
Omaha, Neb.	124,069	...	25	...	10	1	17	...	17	...	7
Fall River, Mass.	119,295	...	.....	...	12	...	19	...	1	...	.....
Dayton, Ohio	116,577	...	11	...	14	...	4	...	2	...	4
Grand Rapids, Mich.	112,571	...	20	1	30	...	3	...	17	1	6
Nashville, Tenn.	110,364	...	2	...	.....	...	.....	...	8	...	2
Lowell, Mass.	106,294	...	23	...	.....	...	18	...	.....	1	3
Cambridge, Mass.	104,839	...	.....	...	17	...	.....	...	.....	...	4
Spokane, Wash.	104,402	...	.....	...	.....	...	.....	...	.....	...	7
Bridgeport, Conn.	102,054	...	1	...	27	...	21	...	4	...	4
Albany, N. Y.	100,253	1	24	...	37	...	31	...	11	1	5
Hartford, Conn.	98,915	...	18	...	18	...	11	...	14	...	1
Trenton, N. J.	98,815	...	38	1	17	1	58	...	.....	...	1
New Bedford, Mass.	96,652	...	.....	...	3	...	.....	...	.....	...	.....
Reading, Pa.	96,071	...	17	...	13	...	17	1	3	...	4
San Antonio, Texas	96,614	...	.....	...	1	...	.....	...	.....	...	.....
Camden, N. J.	94,538	...	16	...	29	4	14	...	6	...	.....
Salt Lake City	92,777	...	15	...	6	2	14	1	4	...	.....
Lynn, Mass.	89,335	...	3	...	11	3	16	...	4	...	.....
Springfield, Mass.	88,926	...	21	1	36	1	9	1	2	...	4
Wilmington, Del.	87,411	1	14	...	13	3	9	...	6	...	3
Des Moines, Iowa	86,368	1	31	...	41	...	13	...	23	...	12
Lawrence, Mass.	85,892	...	11	1	.....	5	22	...	.....	...	.....
Tacoma, Wash.	82,972	2	4	1	3	...	3	...	2	...	.....
Kansas City, Kan.	82,331	1	10	...	17	...	33	...	14	1	5
Yonkers, N. Y.	79,803	...	32	...	5	...	8	...	.....	...	4
Houston, Texas	78,800	...	.....	...	1	...	1	...	.....	...	.....
Duluth, Minn.	78,466	...	13	...	9	2	10	...	3	...	1
St. Joseph, Mo.	77,403	1	23	1	41	1	24	...	11	...	1
Somerville, Mass.	77,236	...	.....	...	.....	...	1	...	2	...	.....
Troy, N. Y.	76,813	...	.....	2	18	...	16	1	8	...	2
Utica, N. Y.	74,419	...	18	...	10	...	5	...	1	...	.....
Waterbury, Conn.	73,141	2	8	...	14	...	5	...	15	1	.....
Schenectady, N. Y.	72,826	...	4	...	20	...	8	1	13	...	7
Hoboken, N. J.	70,324	...	1	1	24	...	7	...	4	...	.....
Elizabeth, N. J.	73,409	...	43	...	72	...	37	...	15	...	1
Manchester, N. H.	70,063	...	3	...	1	1	5	...	.....	...	.....
Evansville, Ind.	69,647	...	5	...	12	...	6	...	7	...	1
Norfolk, Va.	67,452	...	.....	...	.....	...	.....	...	.....	...	.....
Wilkes-Barre, Pa.	67,105	1	.....	3	38	1	15	2	8	...	2
Peoria, Ill.	66,950	...	8	...	27	1	22	1	17	...	.....
Erie, Pa.	66,525	...	.....	...	1	...	4	...	2	...	3
Savannah, Ga.	65,064	...	.....	...	.....	...	.....	...	.....	...	.....
Harrisburg, Pa.	64,186	...	23	1	71	...	22	...	3	...	1
Portland, Maine	58,571	1	2	...	.....	...	2	...	.....	1	2
Totals		94	2,458	83	2,860	80	2,935	43	1,455	16	771
Totals elsewhere		70	1,791	80	2,600	135	2,156	88	1,337	41	775
Grand total		164	3,249	163	5,460	215	5,091	131	2,792	57	1,546

TOTALS IN CHIEF CITIES

Table 8 shows the number reported killed and injured in our largest cities during each of the past five years. The population figures are from the United States Census of 1910. This table is of particular interest since by it the results of the adoption and enforcement of prohibitive or restrictive ordinances can be seen. Sometimes, however, although very small numbers of injuries are reported, more deaths occurred than in other cities having more injuries. New York City reported three deaths, the largest number this year, Chicago reported two, and eleven other cities reported one each, making a total of sixteen deaths in our eighty-four largest cities as compared with forty-three killed last year, eighty in 1909, eighty-three in 1908 and ninety-four in 1907. Although Philadelphia is the one large city having more than 100 injured this year, it is the only time in the last five years that no deaths are reported. Only 771 non-fatal injuries were reported for these large cities this year as compared with 1,455 last year, 2,935 in 1909 and 2,860 in 1908. A marked reduction is seen in the records of practically all these cities, even Philadelphia having reduced its total by one-fourth.

Of these eighty-four cities, sixty-three have a record of five or less injured this year as compared with thirty-seven last year, twenty-six in 1909 and twenty-three in 1908. There were twenty-four of these cities having a clean record this year as compared with eighteen last year and only ten in 1908. On the other hand, only one city this year had a hundred injured, as compared with three last year, six in 1909 and six in 1908. Probably the most remarkable reductions in the last few years have been at Milwaukee, which records a fall of from 112 in 1910, to nineteen in 1911; at Boston, which records a fall from 190 in 1908, to only three in 1911, and at Newark, N. J., a fall of from 150 in 1909, to none in 1911.

WHERE THE RESPONSIBILITY RESTS

The responsibility for the vast majority of Fourth of July injuries clearly rests with city governments, since the employment of death-dealing methods of celebration is subject to their regulation. It is, therefore up to the city governments to decide whether or not the maiming of thousands, the agonizing deaths from lockjaw and the burning to death of little children by fire from fireworks are to be continued. Prohibitory ordinances are most effective and permanent, as shown by the results in Baltimore, Washington, Cleveland, Trenton and other cities, and even restrictive ordinances, if enforced, are quite effective, as shown by the results in New York, Boston, Chicago, Toledo and elsewhere. But the enforcement of restrictive measures is more difficult and requires more constant vigilance on the part of the police. By the sound, it is difficult to know whether an explosion is due to a firecracker 3 inches long or to one 5 inches long or whether it is due to some other forbidden form of fireworks, while under a prohibitory ordinance any explosion would be recognized at once as a violation of the law. Again, the smaller firecrackers, which have been considered so harmless, caused the clothing to catch fire in several instances this year, most of these being girls and young children, who were burned to death. Even the "harmless" sparkler caused some of these deaths which were far more agonizing than if caused by gunshot wounds.

RECENT PROGRESS

It has been well understood that the obliteration of the sorrow and suffering needlessly caused during the annual celebration of the Fourth of July could be brought about only by a vigorous campaign of education favoring more enlightened methods coupled with the enforcement of restrictive or prohibitive legislation against destructive methods. The Journal has been doing what it could for nine long years and apparently with small result until gradually more attention was given by prominent periodicals and newspapers. A campaign for more sane methods was started which, during the last three years particularly, has been most vigorous. Not only has the press of the country largely taken up the cause, but also local, state and national societies. They have not only argued against the use of fireworks, but, more important still, have provided more rational and patriotic means of celebration. A correspondingly vigorous action has been taken by city councils during the last few years in enforcing restrictive or prohibitive legislation. These forces, using and quoting as they did the statistics of the awful results of the old-time methods, as published annually in The Journal, have finally reduced the totals of casualties to a small fraction of what they were in previous years. The necessity of perseverance in this campaign for better methods of celebration is aptly shown this year by the record of Philadelphia. In spite of a most vigorous campaign which was carried on in that city this year, the results seem to be comparatively small, that city still having over 200 injuries. A continuance of that campaign, however, will doubtless prove more effective. The enforcement by the city authorities of restrictive measures, similar to those adopted by Chicago, Boston, New York and elsewhere would do much to help the situation. Reports indicate that hundreds of smaller cities and towns this year enforced either restrictive or prohibitive measures.

THE METHOD OF SUBSTITUTION

Better by far than the negative methods of restricting or prohibiting the use of fireworks this year, however, was the more general adoption of positive methods of reform. Our national Independence Day should cease to be a day of destruction and become a day of joy, of recreation and of enlightenment. From every section of the country comes the news that, in place of the senseless din of former years, more truly patriotic methods have been employed. The music of bands, the children's parade, the witnessing of historic floats, and afterward the picnics, the trips to the parks or the visiting of friends—these methods were employed more than ever before. And the result is very evident: the smallest number of lockjaw cases and other deaths reported in any year since The Journal began the collection of these statistics, fewer destroyed eyes, fewer maimed bodies and an astonishing reduction in the number of injuries. Let the campaign be continued until common-sense methods of celebration shall prevail throughout our fair land!

Crepitus.—The letters composing this word, used as the initial letters of an acrostic, says Dawbarn in the *Medical Record*, help us to remember the signs of fracture:

Crepitus.
Roentgen rays, fluoroscope, etc.
Ecchymosis.
Percussion, osteophonic.
Inability (disability).
Tenderness and pain.
Unnatural mobility.
Swelling, shortening, or other deformity.

Therapeutics

ANTERIOR POLIOMYELITIS: INFANTILE PARALYSIS

The picture of a child suffering from more or less weakness of one of its limbs, which on examination is found to exhibit atrophy of a particular group or groups of muscles, is familiar to every practitioner. This condition was designated as infantile paralysis.

During the last twenty years infantile paralysis has been observed repeatedly in epidemic form. The prevalence of the disease has greatly increased, in epidemics especially, and it has consequently received an increasing amount of investigation, both of its clinical and pathologic features.

Previous to the recognition of its epidemic occurrence, it was described as a disease of the spinal cord affecting chiefly the motor cells of the anterior horns of gray matter. It was considered by some pathologists that the degeneration of these motor cells was the primary lesion. By others it was considered that the cell degeneration and atrophy was due to a congestion and inflammation of the interstitial structures of the spinal cord. After it began to be realized that the disease occurred in epidemics, the opinion gained ground that the disease was of an infectious character, due to the action of some specific poison, and not a local inflammation or nerve degeneration due perhaps to climatic influences or to some autogenous poison, the character of which was undetermined. It is now believed that poliomyelitis in an acute infectious disease which affects chiefly the central nervous system, which may affect the brain as well as the spinal cord, and which may affect the white matter and the meninges as well as the gray matter.

The occurrence of the disease in epidemics has naturally raised the question as to whether it is contagious. Much evidence has been presented in favor of this theory. It has been asserted that the disease is directly transmissible from a patient having it to another with whom he comes in contact; that it may be carried by a third person from the person who is sick to a person who subsequently becomes sick; and that in many cases in which the direct transmission has not been recognized, it has really occurred through one who has been designated as a carrier, who may be a person who has suffered a slight or abortive attack of the disease which has not been recognized.

While these different methods of transmission have been advanced and discussed, it must not be forgotten that a very large number of people who come in contact with the patient suffering from the disease do not contract it. This may be due to some immunity to the disease which is not at present understood, or to the slightly contagious character of the disease.

In most epidemics more than 80 per cent. of the cases have occurred in children under 10 years of age, although a few cases have been observed in adults. Its occurrence in adults is not new, as occasional cases were reported before the epidemics were observed.

The mortality varies from 3 to 30 per cent., according to the severity of the particular epidemic.

The manner in which the contagious element is received has not been definitely established. There seems to be considerable reason for believing that the secretions from the nose and throat contain the contagious element, and that this may be received into the corresponding organs of the individual who contracts the disease. In some epidemics it has seemed that the disease was carried by dust, and it has been proposed to limit the spread of the epidemic by watering the streets. Some observers have implicated the common house-fly as a carrier of the contagion, and while the transmission of contagion in this way seems possible, it is difficult at the present time to prove definitely the culpability of this insect.

The disease occurs more frequently during the warm months of June, July, August and September. The period of incubation has been found to vary from three to thirty days, but is usually from eight to ten days.

The character of the contagious element of the disease for a long time baffled the bacteriologists. Within the last year or two it seems to have been determined with reasonable probability that this is a microorganism much smaller than those which have hitherto been determined to have an important part in the causation of disease. This particular organism is so very small that it can be detected only with the greatest difficulty by the most powerful microscopes. It is so small that it passes through filters which have hitherto been relied on to obstruct entirely the passage of pathogenic organisms. That it is a living organism capable of reproduction seems probable from the fact that very small quantities of the toxic element suffice to produce the disease experimentally in the lower animals, and particularly in the monkey, and that the disease may be transmitted through several successive monkeys.

The effect of this poison on the human individual varies very greatly. The typical lesions, as already stated, are found in the spinal cord, and consist of the changes characteristic of congestion and inflammation. These are a proliferation of the cells about the blood-vessels, with a narrowing of their caliber, and edema in the interstitial substance of the gray matter of the cord. These vascular changes, while most marked in the gray matter of the cord, are seen also in the white matter and in the meninges. The degeneration of the motor cells of the gray matter seems to be secondary to these congestive and edematous changes. Changes of similar character are found in some cases in the brain. The effects of the disease are also observed in the lymph-glands and spleen. The parenchyma of the heart, liver and kidneys shows cloudy swelling.

The symptoms of the disease are those of a general infection with localization in the nervous system. The general symptoms precede the peripheral manifestations of the affection of the nervous system. They are fever, which may be accompanied or preceded by restlessness, irritability and insomnia, or in some cases by restlessness and indifference. There may be convulsions, headache, pain in the back and limbs. Where the severity of the disease is not so great as to cause convulsions, there may be twitchings of the limbs and symptoms of meningeal irritation of the brain and cord. The digestive organs may be disturbed, and there may be vomiting and diarrhea. In other cases constipation is present. Sometimes sweating is a prominent symptom. After these general symptoms have lasted from twelve to seventy-two hours, the characteristic peripheral symptoms appear. These consist of a weakness, or complete paralysis, of certain groups of muscles in one or more of the extremities. Usually no impairment of power is noticed until there is complete paralysis of motion. Sensation is usually unaffected. The loss of motion is accompanied by impairment of the reflexes. If a lower extremity is affected, the patellar reflex of that limb is absent. In severe cases all of the limbs may be affected, and the paresis may advance upward until the muscles of speech, of deglutition, and finally of respiration are affected, the latter usually resulting quickly in death. Where a single limb is affected, the paralysis, after a few days, may gradually diminish, and in a few weeks the power of the limb may be entirely restored. In other cases there may be little change for four or five weeks, when the patient may gradually regain strength, but this improvement, after continuing slowly for several months, may entirely stop, short of complete recovery. The general symptoms usually entirely disappear within a week. There is not, in ordinary cases, interference with the function of the bladder or rectum.

The resulting paresis may be followed by great impairment of the usefulness of the limb, and in many cases by considerable deformity, and, especially when the lower limb is affected, by various forms of club-foot.

The diagnosis is not usually suspected when the patient is first seen, unless at that time paralysis has already intervened and is called to the attention of the physician. When the existence of an epidemic has been recognized the physicians in a locality are more alert to detect cases of the disease, and as a rule the diagnosis is made earlier. Under these circumstances, indeed, the physicians not infrequently err in diagnosticating the disease when some other disease is present.

A search is still being prosecuted for a serum which will cure the disease or cut short its course and prevent its more serious effects. The discovery of such a serum would give increased importance to the early diagnosis of the disease, and efforts have been made to find some method of making a correct diagnosis of the disease before the appearance of the paralysis. The blood has been examined very many times, but no definite change in it has been found, except that generally there is a so-called leukopenia, a diminution in the number of white blood-cells. The cerebrospinal fluid has also been examined in many cases. When the disease is fully developed this fluid shows very little change. There may be a slight increase in the intraspinal pressure, but the fluid is clear. It may contain an increased number of leukocytes, but does not contain bacteria. These findings enable one to distinguish the disease from epidemic cerebrospinal meningitis or from tuberculous meningitis, if the presence of either of the three diseases is suspected, but the early symptoms of poliomyelitis are so like those of many illnesses of childhood, which are of not great importance or significance, that one would hardly be sure of making an early diagnosis of every case of poliomyelitis. Practically, except in the presence of a recognized epidemic, it is difficult, if not impossible, to make the diagnosis of the disease before the occurrence of the peripheral paresis, and as this may be delayed for three or four days, the diagnosis will usually remain in abeyance for several days after the child is taken sick.

Before the peripheral paresis occurs, the disease for which it is most likely to be mistaken is cerebrospinal meningitis. From this disease it may usually be distinguished by the absence of the pain in the back and of rigidity of the muscles of the neck, by the early discontinuance of vomiting, by the absence of impairment of intelligence, and by the absence of Kernig's sign. In adults it may be mistaken for multiple neuritis. Here the more complete paralysis and the rapid wasting of the muscle are important diagnostic signs.

TREATMENT

As already stated, although the search for a serum is being assiduously prosecuted, it has not been definitely determined at the present time. It is, therefore, necessary to rely on general and symptomatic treatment in combating the disease. Perhaps the one measure of treatment on which all writers now agree as being important, is absolute rest. The child should at once be placed in bed and kept quiet, as should all sick children. Following the treatment generally recognized as useful in all infectious diseases, the first medicinal treatment to be prescribed should be a laxative. Probably nothing is more useful than 2 grains of calomel (this for a child 3 years of age), although some prefer the administration of a saline laxative, and still others, castor oil. If vomiting is an important symptom, the calomel will usually be found easier of administration and more satisfactory in action. Elimination may also be promoted by a diuretic, than which none is more useful than 5 grains (0.30 gm.) of citrate of potassium, repeated every four hours—this also for a child of 3 years. If the skin is hot and dry, a diaphoretic may be employed. For this perhaps nothing is more useful than a white woolen blanket wrung out of hot water and wrapped about the child, and outside of this is placed another woolen blanket. This hot pack should not be long continued. Perhaps as valuable is a hot bath or hot sponging.

If the pains are moderately severe, the salicylate of sodium may be given in doses of 2½ grains (0.15 gm.) repeated every two hours, for a child of 3. If the pains are severe, it may be necessary to give opium in some form. This is best administered as the tincture of deodorated opium; one drop, in water, every two or three hours, as needed.

The fact that hexamethylenamin has been found to be eliminated in the cerebrospinal fluid has led to the recommendation of this drug in poliomyelitis. It is highly recommended by some writers who have used it, and as unhesitatingly condemned by others. It is a harmless drug, however, and may do some good. The dose for a child 3 years old is 3 grains (0.2 gm.) every six hours.

Finally, it remains to consider the use of drugs directed toward combating the local lesion of the disease. Considering that congestion, inflammation and edema are found in the spinal cord of patients who have died of this disease, it has been recommended to give ergot, on the theory that this would contract the vessels and diminish the congestion and counteract the edema. It must be remembered, however, that while the vessels show marked cellular proliferation, they are not dilated, but on the other hand, the cellular proliferation often leads to narrowing of their caliber, and some observers have found thrombi within them. But in spite of these facts, not a few believe that ergot is indicated, and that its administration is followed by improvement in the symptoms. This drug may be discontinued when the acute symptoms have subsided, and then the question arises of giving some drug which will remove the products of the inflammation. For this purpose no drug can be more useful than an iodid; but the use of an iodid for this purpose is condemned by many as useless. Small doses, as 1 grain (0.05 gm.) three times a day can do no harm and may be of value.

The application of counterirritants over the spine has seemed to many clinicians to be productive of good, but this measure has been condemned by others.

Recollecting the congestion which is observed, some advise that the child should not be allowed to lie continuously on its back, but should be made to lie first on one side, and then on the other side; but here the opinion of the profession is not a unit, many advising that the child be kept on the back. It seems good sense, however, to change the child's position.

Ice-bags to the head and spine have been advised by some, and as vehemently condemned by others. As children bear ice applications badly, it seems more sensible to relieve congestion of the central nervous system by hot sponging and hot foot baths with the patient reclining.

While treating the acute stage of the disease, one must bear constantly in mind the disastrous after-effects which are likely to follow, and must use every method available in the endeavor to prevent these. When the muscles become paralyzed, great care should be taken to maintain the limbs, especially the legs, in such a position that the affected muscles will not become overstretched and that the unaffected muscles will not become overactive so as to draw the limb into a distorted position. This may be accomplished by elevating the clothes so that the weight of them will not press on the limbs, and by putting sand-bags around the limbs in such a way as to counteract the tendency to abnormal displacement.

After the acute symptoms have subsided, the treatment must be directed to the affected muscles. It is an important question how soon the treatment of the muscles should commence, and what measures should be adopted. As the motor nerve-cells are destroyed or at least temporarily impaired the muscles are deprived of their natural motor control. While one is waiting for the restoration of the nerve-cells, if it is to occur, the nutrition and contractility of the muscles must be maintained. For this purpose nothing is better than galvanic electricity, which should be applied gently to the paralyzed muscles, daily for ten or fifteen minutes, with the negative pole active. This will improve the motility of the part and maintain its contractility. Massage should also be given, but this should be gentle and not severe, and care should be taken not to damage the nerves in the vicinity of the muscle by undue force. In three or four weeks the patient should be encouraged to make voluntary movements of the affected muscles. If the use of the muscles is very greatly impaired, much benefit will be found from placing the patient in a warm bath at a temperature of 100 to 104 F., which must be maintained while the patient is in the bath. The water surrounding the limb on all sides helps to counteract the force of gravity in drawing it out of the proper position. The movements, when they are feeble, are also more easily accomplished in the warm bath. A system of muscular education should be undertaken with the patient, and he should be taught and encouraged to move the different muscles as far as he is able, and he should be coaxed to do this without having it impressed on him that he is moving his muscles, but rather he should be deceived into thinking that he is playing a game or doing some athletic exercise which interests him aside from the muscular movement.

It used to be the custom to advise and to give strychnin even in large doses soon after the symptoms of paralysis developed. It was then given for many months, at least as long as any improvement occurred. Most clinicians now, however, believe that strychnin should not be given. Theoretically the facts would be these; that while the inflammation was active, strychnin would certainly be contra-indicated. Also, if strychnin caused the child to be irritable, restless and nervous, even if given in small doses, if it caused the child's heart to become irritable or rapid, it certainly is contra-indicated. On the other hand, five or six weeks after the onset of the disease, a test of strychnin for a week to see if it would stir up the motor excitability of the spinal cord to the point of improvement, is perhaps advisable. If its action is for good, it could be continued; if it causes undesirable symptoms, it should be stopped.

The treatment by electricity, massage, and systematic exercise should be continued for from six to eighteen months. When, after the expiration of such a period, the patient has been at a standstill for a month or two, the propriety of orthopedic treatment should be considered. This varies from the adjustment of braces to bloodless and bloody surgery. Unquestionably great harm has been done by the application of heavy braces to patients suffering from infantile paralysis; but, on the other hand, there are a certain proportion of patients who are benefited by a light and well-fitting brace. This should not be used to such an extent that the patient will not get an adequate amount of exercise with the affected muscles. Unless this is looked out for, harm will be done by the brace.

The transplantation of muscles, which seemed to offer so much hope of benefit to this class of patients through the restoration of muscle balance, does not usually accomplish as much as is hoped for. Nerve anastomosis has accomplished somewhat more satisfactory results, but is often a disappointment. Its object is to effect restoration of power to the affected muscle. It is especially applicable when the muscles of the hand or shoulder are involved.

Tenotomy to counteract the excessive contraction of healthy muscles has sometimes proved beneficial, but the operation should be performed with care, and should only be undertaken in suitable cases. In some cases where there is excessive mobility of a joint it has been proposed to make the joint stiff by an osteoplastic operation. In still other cases, especially about the ankle, the removal of a portion of the bone, especially of the astragalus, has sometimes served to overcome a deformity due to this disease and to increase the usefulness of the limb.

The proper prophylactic treatment cannot be said to be definitely determined, but inasmuch as there is considerable reason for believing that the disease may be directly transmitted from one person to another, and that the contagium may be carried by a well person from one who is sick, it is desirable to insist on strict isolation of every patient affected with the disease.

It may be advisable to have the streets sprinkled systematically in towns where the infection is recognized to be present.

The room where the patient is sick should be carefully screened and flies should be kept away from the patient, for his own comfort as well as to prevent the possibility of their carrying infection to others.

When a community becomes afflicted with a scare of epidemic infantile paralysis, and frightened parents desire to do something to prevent their offspring from becoming affected with the disease, hexamethylenamin may be administered internally, and gargles of 10 per cent. solution of hydrogen peroxid, or other antiseptics, may be advised.

The Pretty Nearly Clean Operator.—Let us never forget that almost invariably if a clean, freshly-made wound fails of primary healing it is because of actual, tangible, visible particles of dirt conveyed therein while operating or subsequently during dressings. Remember this: Few hands, few failures! and this even when the air is dusty.—Dawbarn in the *Medical Record*.

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[*For other information see second page following reading matter*]

SATURDAY, AUGUST 26, 1911.

A TRIUMPH OF PREVENTIVE MEDICINE

In spite of the human tendency to forget what is disagreeable, most of our readers will recall the surprise and mortification with which the American people confronted the devastating epidemics which swept through the camps of the troops mobilized at the time of the Spanish War, thirteen years ago. It has been, therefore, most agreeable to read the highly favorable health reports which have come from time to time from our troops in Texas, and which have been brought to the attention of the medical profession by the President of the United States in words of hearty commendation.

Now that the Maneuver Division has been abolished by the return of most of its constituent organizations to their stations, it is of interest to be informed from an authoritative source what were the methods of procedure by which the new knowledge of preventive medicine has been applied to camp sanitation, and to have an exact and official statement of the results accomplished. It is impossible to read Colonel Kean's article published in another column of this issue, and especially the remarkable comparative figures at its end, without realizing that an epoch-making achievement in preventive medicine has been accomplished by the Army Medical Corps. For purpose of comparison with the Maneuver Division a table is given showing the typhoid record of a division of volunteer troops camped at Jacksonville, Fla., in 1898 under conditions similar to those at San Antonio this summer. But the difference is amazing. The division of 1898 has 2,693 cases with 248 deaths, which was about the average typhoid incidence of the camps of the Spanish War, while the division of 1911 had one case and no death. The deaths from all diseases were 281 for the former and eleven for the latter.

At the beginning of the Spanish War it was an accepted belief on the part of the medical profession that typhoid epidemics were due to polluted water-supplies and that with pure water this disease was not to be feared, but the experience of that war demonstrated that the question was not so simple and that contact infection, flies and other factors had to be considered. These other factors have been studied with much care in recent years, and it has been found that they can be to a large extent, but not entirely, removed by scrupulous attention to the cleanliness of the camp and the details of personal hygiene among the men.

While the disposal of fecal matters and other wastes seems to have been carried out in this camp with admirable thoroughness of execution and simplicity of method, no new sanitary principle was evoked and we must look further for the explanation of the enormous discrepancy between the amount of typhoid fever in the Second Division, Seventh Army Corps, thirteen years ago and the single case in the Maneuver Division.

It is clear that the medical officers attribute their triumph over typhoid fever to the method of immunization by the injection of dead cultures of the typhoid bacillus which was introduced into the army two years ago as a voluntary measure, and was for the first time made compulsory when applied to the officers and men of this division. The value of this preventive measure, as well as its innocuousness, has thus been demonstrated conclusively and on a great scale. It would seem, therefore, that the time has come for the medical profession throughout the country to follow the example of the Army by making use of the typhoid prophylaxis in general practice. The high degree of efficiency shown by the medical service in the recent mobilization is not fortuitous, but is the fruit of patient, laborious and ably directed efforts to apply the lessons of the Spanish War, and to assure the best results. This efficiency is a legitimate source of pride and satisfaction to the medical profession of the country, and should be a sufficient demonstration to the government of the wisdom of adequate and generous provision for its sanitary service. It is regrettable to read of shortages of officers, of men, and of mules for the sanitary organizations, when only a single division is mobilized.

DEATHS BY DROWNING

This is the season of the year when deaths by drowning are most frequent. Every Monday morning's paper brings its quota. The day after every holiday tells of a like toll of young lives paid for foolishness or accidents that might have been avoided. Usually the victims are in early life and in the very best health, otherwise they would not have taken the chances that prove fatal, and it seems too bad that so often apparently nothing can be done for them. Until well on in September these casualties will continue.

Undoubtedly as the result of old traditions there is in many places too ready acquiescence in the belief that a person who has been under water for five or ten minutes or even fifteen or twenty minutes is necessarily dead. There are well-authenticated records of the resuscitation of persons who had been submerged for half an hour or even longer. Such cases occur particularly in women and children, and the reason seems to be that the fright at finding themselves in danger of drowning actually brings on a collapse or faint in which the heart and breathing stop and they sink, but low-grade life processes continue for a considerable period. Strong men who have battled for their lives and then sunk are not so often revived, though if taken with a cramp they too may suffer from shock or fright with the resultant collapse that is apparently Nature's method of giving the longest possible opportunity for life under these circumstances.

All the recent experience with regard to death from shock or so-called death is extremely interesting in this regard. Patients have been reported as not breathing for fifteen minutes to half an hour and yet they have been resuscitated. The most interesting phase of surgical experience in this regard has been that sometimes when all other methods failed actual rhythmic squeezing of the heart caused that organ to resume its beating. In some of these cases this beating of the heart only maintained itself after the injection of a certain amount of physiologic salt solution into a vein in order to give the heart something to work on more readily.

There would seem to be a question whether some of these methods should not be employed on persons supposed to be dead from drowning. Ordinarily the methods of resuscitation are and ought properly to be exercised at the scene of the accident. Often the person is pronounced dead even before a physician has seen him. Only rarely are such cases transported to hospitals to be treated. There is an unfortunate prejudice among young ambulance surgeons by which ridicule attaches to the bringing in of a patient in whom death ensues without definite signs of life having been exhibited after the patient's reception into the hospital. The ordinary methods of artificial respiration might well be carried on in an ambulance and then in the hospital itself. Recourse might be had to any procedures, even surgical, that seem to give the slightest hope.

Certainly in the present state of our knowledge it would seem that some direct irritation of the heart muscle should be tried before the patient is pronounced dead. The responsibility of surgeons who were operating at the moment when collapse occurred has led to a very thorough development of means of resuscitation for their patients. Unfortunately with regard to the drowned there is no such responsibility and the consequence has been that all of the means at the command of recent surgery have not been applied. The saving of even a few of these young lives would be a very precious advance for modern medicine. The subject deserves the special attention of surgeons.

FOURTH OF JULY CASUALTIES

We present this week statistics showing the number of deaths and injuries resulting from the celebration of the Fourth of July in 1911. It is very encouraging to note a most remarkable reduction in the totals of killed and injured, these being the lowest since 1903 when THE JOURNAL began the compilation of these statistics. Of special significance is the great reduction in the number of deaths from tetanus. These reductions are due to an aroused public sentiment favoring saner methods of celebration, and in the creation of this public sentiment the statistics gathered and published by THE JOURNAL have had more to do than any other one factor.

Nine years ago THE JOURNAL began the collection and publication of these statistics. A year or so prior to that time a few public-spirited newspapers, notably the Chicago *Tribune,* immediately after the Fourth, had published, as a news feature, imperfect lists of the killed and injured. Such lists as were published the day following the celebration were necessarily imperfect. To secure accurate data it was necessary in a deliberate manner to verify the newspaper reports, eliminating those which on investigation were found not to be due to the celebration of the Fourth of July; to obtain reports from hospitals, health officers, physicians and others, of cases which had not been reported by the press and, of still more importance, to include the information regarding those who contracted lockjaw and the deaths which occurred days or weeks following the injury. The compilation of these complete data was begun in 1903 by THE JOURNAL, which year after year, has published actual facts concerning the awfulness of the results of our annual Fourth of July celebration; facts showing the agonizing death from lockjaw of hundreds of bright boys and girls; the burning to death of others, mostly girls and little children, and the shooting and maiming of thousands—all this, that we might celebrate the birthday of American freedom! The callous indifference with which the reports were received was disheartening. In 1907, however, in addition to the other figures, the numbers killed and injured for each of the larger cities were shown separately and it was pointed out that the responsibility rested with the city governments. Further, the matter as it appeared in THE JOURNAL was reprinted in pamphlet form and these were sent to city officials, to newspapers and to others interested. They were also furnished in quantities to numerous state and civic societies. From that time the change has been marvelous. Newspapers generally began to publish our statistics, and magazines and periodicals took up the cry, urging the adoption of more common-sense methods of celebration and demanding a restriction of the sale and use of fireworks. In this campaign THE JOURNAL figures were quoted far and wide, and the expression, "a safe and sane celebration," as opposed to the "barbarous and insane celebration," became familiar to every one. Then several cities, like Toledo, Chicago, New York and Boston, adopted restrictive measures, thereby greatly reducing the casualties, while Baltimore, Washington, Cleveland and Trenton vigorously enforced prohibitory ordinances, with the result that deaths and injuries were reduced to the minimum. And now such restrictive measures have been adopted by thousands of cities, towns and villages throughout the country.

On the other hand, city governments, civic organizations, medical and other societies took up the task of providing better means of celebration; Springfield (Mass.), St. Paul, Detroit, Toledo, Chicago, Pittsburgh and other cities spent thousands of dollars, employed special artists, or adopted other measures, to provide special programs in which music, the display of flags, the marching of soldiers, children's parades and historic floats illustrating natural achievements were prominent features. The results in these cities have been so encouraging and satisfactory that the continuance of such methods and their wider adoption are assured.

This is the day for the merciless exposure, in this country, of low morals, graft and disregard for law which are rife enough in high places and low. It is to be regretted that our national holiday has been largely given over to a furtherance of this apparent decadence in our national life. But an awakened public conscience must not rest with the exposure of wrong-doing; it must establish honesty in place of graft, morality in place of immorality, and love of law and order in place of lawlessness and disorder. And so the forces working for more enlightened methods of celebration should realize that in the use of pageants, military drills and parades with the display of floats representing historic events and national achievements, the Fourth of July is the nation's greatest opportunity to preach the gospel of national and civic righteousness and to point the attention of the youth of our land to the characters who have made and developed this nation and who are worthy of emulation.

The work began by The Journal, therefore, has grown and expanded not only along the line of initiating "safe and sane" methods of celebration but also in the adoption of ordinances which would repress the irresponsible hoodlum and the reckless users of firearms and blank cartridge pistols. And the results in the saving of lives and the prevention of needless injuries have been most gratifying. Injuries have been reduced from 5,623 each year to 1,603; the total of deaths from 466 to 57 and agonizing deaths from lockjaw from 406 to 10—naturally, The Journal feels a satisfaction that its labors have resulted in so much good to the people of this country. But the campaign must not stop. A record of 57 people killed, including ten children tortured by lockjaw and 1,546 others more or less seriously injured as a result of this year's celebration, still reflects too seriously on the conscience and common-sense of the people of our land to permit a cessation of active endeavor until all such needless casualties have been eliminated. The work of reform must go on until the Fourth of July shall cease to be desecrated by disorder and destruction with its aftermath of suffering and sorrow, but shall become as it should be, a day conducive to a stronger love of law and order; to a genuine love for our country and the principles for which it stands.

MALTA FEVER IN TEXAS

On page 730 of this number of The Journal Dr. Ferenbaugh describes several instances of Malta fever developing in Texas. There seems to be no occasion to doubt the correctness of the diagnosis in these cases. They occur under circumstances that are known to be favorable for the development of the disease in question, the symptoms and clinical course are those of Malta fever, and positive agglutinative results are given by the serum of the patients with cultures of *Micrococcus melitensis,* the accepted cause of Malta fever. So far as known this is the first actual demonstration of the indigenous occurrence of this disease in this country. It is true that Colonel Bruce, the discoverer of *Micrococcus melitensis,* states that Malta fever occurs in the Mississippi Valley,[1] but he gives no authority for this statement.

Single instances of imported cases are described by A. A. Smith[2] and Musser and Sailer,[3] and Bruce narrates the following accidental experiment, which played an important part in clearing up some of the problems of the genesis of the disease: In 1905 the S.S. *Joshua Nicholson* shipped sixty-five goats at Malta for export to the United States. The milk was drunk by the captain and many of the crew, with the result that an epidemic of Malta fever broke out on board the vessel, almost everyone who drank the milk being infected. Even after the goats reached America and were placed in quarantine, a woman who drank some of their milk had the fever.

Now that the disease has been shown to occur in Texas, it would not be strange at all if it should be found that it is more widely spread than has been apparent, in all probability masquerading, like so many other febrile diseases, under the names of hitherto better-known fevers. Its demonstration in Texas at this time is another illustration of the great advantage and power of applying modern methods of investigation to clinical problems "in the field" so to speak, and it is a matter of considerable gratification to note that for this kind of work the medical officers of the army appear to be especially well equipped.

It may be recalled that Malta fever is a disease of long duration, characterized by continued fever, profuse perspiration, constipation, frequent relapses ("undulant fever"), rheumatic or neuralgic pains, swelling of joints, or orchitis. Its recorded history is brief and the important discoveries to which we owe our present knowledge about it have been made by British army medical officers. The first thorough clinical description was written by

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[1] Bruce, D.: Malta Fever, Modern Medicine, iii, 17. This is an excellent account of the disease and should be read by all who wish to review the facts concerning it. See also Hughes, M. L.: Mediterranean, Malta, or Undulant Fever, 1897.

[2] Smith, A. A.: A Case of Levant Fever, Tr. Assn. Am. Physicians, 1897, xii, 414; also Am. Jour. Med. Sc., 1898, cxv, 50.

[3] Musser and Sailer: A Case of Malta Fever, Phila. Med. Jour., 1898, ii, 1408, and Tr. Assn. Am. Physicians, 1899, xiv, 163.

Marston in 1861; in 1887 Colonel Bruce discovered the specific bacterium *Micrococcus melitensis;* in 1897 Wright and Semple applied the method of serum agglutination to the diagnosis of the fever, and since 1904 the commission formed under the auspices of the Royal Society of London has made valuable contributions to our understanding of its mode of spreading, the most important being that goats may harbor the cause of the disease in their blood without being themselves manifestly ill, and that the micrococcus leaves the body in the milk, thus affording adequate explanation of many features in the epidemiology of the disease as well as a basis for preventive measures. In human beings the micrococcus is excreted in the urine in a considerable proportion of cases and this may be a means of conveying the disease from place to place as well as of local dissemination.

Current Comment

A POSSIBLE SOLUTION OF THE STORAGE EGG PROBLEM

Under the Food and Drugs Act some of the cold storage people have been much exercised by the regulation requiring that eggs shall not be stored longer than three months before using. They assert not only that it is impossible to keep all of their stock moving within that length of time, but that it is not necessary, as the eggs do not deteriorate sufficiently in that time to make them dangerous or undesirable as a food. Egg dealers have also been accused of removing bad eggs from the shells, canning them, using various preservatives, and selling them to bakeries to use in their baking operations which, of course, would be in violation of the Food and Drugs Act. Attempts have also been made in this country, we believe, to desiccate the egg but probably without great success, as the industry has not attained great proportions. In German China, however, according to the report of Consul J. C. McNally at Tsingtau, the desiccation of eggs is successfully carried on and the product is shipped in large quantities to Germany. One shipment has also been made to the United States with the expectation that the eggs will comply with the Food and Drugs Act and that a thriving trade may be built up with this country. The nature of the machinery and the exact method employed in making these dried egg products are held secret. The eggs are carefully candled, the fresh ones are washed and opened and the yolk separated from the white. With the aid of a suction pump the yolk is drawn from a tank through a large pipe into a vacuum in the machine and is dried in fifteen seconds. It is then passed on to a larger receptacle into which the material falls in the form of flakes, which look clean, have a good color and a fresh odor. The flakes are again passed through a machine and come out in a powdered form ready for shipment. It is said that this product can be kept indefinitely if stored in a dry, cool place. The whites of the eggs are put into small glass-bottomed trays about one foot square and placed on shelves in a room having a temperature of 105 to 130 F. After thorough drying, the material is broken up into small pieces or is sometimes powdered or reduced to crystal form resembling granulated sugar. The shells are sold in Germany for poultry food. It requires about seventy yolks to make one pound of the dried product and the whites of about 200 eggs to make a pound of the egg albumin. The price of the whole dried eggs is 31 cents a pound; of the albumin, 44, and of the yolks, 24 cents a pound. This industry in German China is said to be growing rapidly. If all that is claimed for it is true, this certainly should be a more satisfactory method of preserving eggs than that of cold storage. The difficulty, in this country at least, would be the lack of government supervision to insure that the eggs were fresh when utilized.

THE IRREPRESSIBLE CONFLICT

In 1858, William H. Seward, senior senator from New York, in describing the approaching struggle between two opposing conceptions of our national government, spoke of it as "the irrepressible conflict." His prophetic eye foresaw the coming storm. He saw, too, how impossible it was to prevent it. This phrase, caught up at once all over the nation, became one of the famous sayings of this strenuous period. The tendency of history to repeat itself has become proverbial. The present "investigation" of Dr. Wiley by the congressional committee affords another instance of a conflict just as important and irrepressible as that of fifty years ago. At the beginning of the hearing, the question at issue was whether or not Dr. Wiley had violated the law in the manner of employing an expert pharmacognosist. But this point has long ago been lost sight of. The committee and congress are now called on to determine whether the national Food and Drugs Act, won after years of struggle, shall be administered for the benefit of the people, or nullified for the profit of the manufacturers. Wiley and Bigelow and Kebler on the one hand, and Wilson, McCabe and Dunlap on the other, are but the representatives of the opposing interests. The real question is: Which is of greater importance, the health of the American people or the financial prosperity of certain business houses? This is the "irrepressible conflict" of to-day. It must be fought out to a finish and it must be settled aright. Which will triumph, the people or the interests? This is the real issue in the Wiley case.

HEALTH CAMPAIGN IN THE SOUTH

Ten thousand patients suffering from hookworm disease were treated in 107 days by one of the representatives of the Alabama State Board of Health with the help of three assistants, this work covering five counties of Alabama. In addition to treating the victims of the hookworm, the representatives of the state board of health are visiting the physicians, the school teachers and the schools, lecturing to public meetings, showing stereopticon views to demonstrate the cause and progress of the disease and the results of treatment, and using the country newspapers as a means of publicity for their work. The value of the Panama Canal as an object-lesson in modern sanitation has been frequently emphasized. The work now being done in the southern states for the elimination of hookworm disease will be an even greater demonstration of the economic value of modern medical science, when practically applied. The results of restoring to health ten thousand men and women cannot fail to be apparent in all branches of industry, commerce and society in the affected region. The extermination of the hookworm means a new South of commercial and manufacturing importance hitherto undreamed of. Health is wealth; sickness is waste, and no nation or section can prosper when the vitality of its people is being wasted.

Medical News

ALABAMA

Gift to Hospital.—Boston friends of the Tuskegee Institute have donated a hospital to the institute to be known as the "John A. Andrew Hospital." The donors do not desire to have their names made public.

Sanatorium Company Organized.—The Columbiana Sanatorium, Land and Improvement Company has been organized at Columbiana with Dr. Joel Chandler, Birmingham, as president. The company expects to erect a sanatorium and hotel.

Personal.—Dr. John D. S. Davis, Birmingham, is reported to be seriously ill with uremia in Colorado Springs.——Dr. William W. Haden, Huntsville, has been appointed health officer of Madison County, vice the late Dr. William C. Wheeler, Huntsville, to fill unexpired term.

Rotation in Office.—The Madison County Medical Society on August 8 adopted resolutions providing for rotation of the office of health officer in Madison County after the expiration of the present term. The vacancy is to be filled by the senior member of the society who, after a year's service, will resign in favor of the one next junior to him and so on down the line.

GEORGIA

Personal.—Dr. Floyd W. McRae, Atlanta, has sailed for Europe.——Dr. Walpole Brewer, after an absence of eight years in Tennessee and New York, has returned to Atlanta.

New State Journal in Georgia.—In line with the action of other states the Medical Association of the State of Georgia has begun the publication of a state journal as the official organ of the association. The first number appeared in August. It is under the editorial management of the board of councilors, of whom Dr. Wyman W. Pilcher, Warrenton, is chairman. It is issued from Augusta. The first number contains a number of interesting papers and discussions, the program and minutes of the 1911 state meeting, society reports, some editorial comments, personal items, book reviews, etc. It is a very creditable number, neat in its mechanical appearance, and should succeed.

MISSOURI

University Medical College to Continue.—It is announced that the University Medical College of Kansas City, which was reported to have closed its doors, is to be continued, but that it will give only the last two, or clinical years. It is stated that it will accept only students who have taken the first two years' work in medical schools having standards as high as those held by the University of Missouri Department of Medicine.

NEW YORK

Personal.—Dr. Ernest P. Livingston, New York City, sailed for Europe on August 12.——Dr. Claude A. Frink, New York City, has recently been appointed attending surgeon to the New York City Children's Hospitals and Schools.——Dr. Amos T. Baker, Fishkill-on-the-Hudson, assistant superintendent of the Matteawan State Hospital for the Criminal Insane, has resigned.

Milk Exhibit for State Fair.—The New York Milk Committee and the New York Dairy Demonstration Company have accepted an invitation from the State Commissioner of Agriculture to make an exhibit at the State Fair at Syracuse in September. The methods of producing pure milk for New York City will be shown. The milk committee will show by charts and literature what is being done all over the United States in establishing uniform standards of milk inspection, the proper relation between municipal and state authorities, and the need for interstate cooperation. There will be a reproduction of a city milk station and clinics and demonstrations will show what is being done to reduce infant mortality.

New York City

Anterior Poliomyelitis.—The Rockefeller Institute of Medical Research announces its desire to receive and treat gratis acute cases of anterior poliomyelitis during the present summer and fall. In the event of any fatal case, if an autopsy is held, portions of the spinal cord, the nasal mucosa, tonsils and adenoids are asked for.

Sea Breeze.—Under the auspices of the Association for Improving the Condition of the Poor, 25,886 mothers and infants were given an outing at Sea Breeze last summer. Up to August 16, of this year, the association has sent 17,059 mothers and children to this resort, and of this number 3,000 stayed a week or longer.

Another Milk Station Opened.—The board of health has opened a fifteenth pure milk station in Division Street, one of the most congested sections of the city. In all of the stations to August 13, 10,844 babies were registered; there were twenty-nine deaths during the week ending August 12, the highest number recorded thus far in any one week.

Infant Death-Rate Lower.—The total number of infant deaths from January 1 to August 12, according to statistics of the health department, was 9,398 as compared with 10,365 for the same period of 1910. Dr. Lederle has issued a warning to those conducting the campaign in behalf of the babies and to parents reminding them that while the time of the highest mortality has passed there is often a "high" period in September and vigilance should not be relaxed.

Health Department Closes Bathhouses.—When the authorities closed the bathhouses on Flushing Bay, it was rumored that the action was taken because of the insanitary conditions and the existence of several cases of infantile paralysis in the neighborhood, but later it was learned that the real reason was that the bathhouses did not have proper sterilizing plants for the bathing suits and there were complaints that this had been the means of communicating disease.

Typhoid Fever and Infantile Paralysis Increase.—From August 1 to 12 there were reported to the health department 279 cases of typhoid fever against 191 for the same period last year. In the nine weeks ended August 12 there were 448 cases reported against 298 in the same period of 1910. While there seems to be no certainty as to the cause of the infection the department is inclined to attribute it to infected milk and the supply of milk from several localities has been stopped temporarily. Since the first of August sixteen cases of infantile paralysis have been reported to the health department while there were no cases reported at that time last year.

The Need of Better Statistics.—The relation between vital statistics and the public health is discussed in the monthly bulletin of the department of health. It has been found that the present system in New York City is inadequate and a committee was appointed by the department of health to consider the subject and to make a report. After pointing out the shortcomings of present methods and showing the many ways in which accurate vital statistics would be useful the report makes the following recommendations:

1. Divide the city for the purposes of tabulation into small sanitary districts, the boundaries of which should coincide wherever possible with those of the 708 40-acre tracts of the Census Bureau.
2. Tabulate the deaths, births and marriages in the city in 1910 and subsequent years by these tracts.
3. Establish a working agreement with the Census Bureau regarding the tabulation of deaths and births to be made by each, in order to avoid duplication.
4. Estimate the cost of producing each statistical table now published by the bureau, and consider whether the same amount of money might be made to yield a better return to the city by changing the character of the table.
5. In selecting subjects for statistical investigation emphasize those on which the attention of other divisions of the Department of Health is concentrated and those in regard to which public interest has been or can easily be aroused.
6. Plan to have the state enumeration of 1915 taken with reference to serving as a basis for the vital statistics of this city by adding to the schedule certain questions of local value, as has been done to great advantage in several foreign capitals.

The committee suggests that the name of the present Bureau of Records be changed to the Bureau of Vital Statistics and be organized in three divisions: Records, Research and

Publicity. The members of the committee framing the report are: Prof. Walter F. Wilcox of Cornell University, consulting statistician of the New York State Department of Health; Prof. C. E. A. Winslow of the College of the City of New York, formerly connected with the Massachusetts Institute of Technology; Dr. Cressy L. Wilbur, chief statistician of the Federal Department of Commerce and Labor, and Dr. Robert S. Tracey, who retired as register of records in the department of health in 1901, after thirty-one years' services. From the department of health, Dr. William H. Guilfoy, register of records, and Dr. Hermann M. Biggs, general medical officer, and Dr. S. Josephine Baker, director of the department of hygiene.

NORTH CAROLINA

New Public Hospital.—Winston-Salem has recently voted $100,000, secured by municipal bonds, to be used for the erection of a new public hospital.

Free Antitoxin for Caldwell County.—The commissioners of Caldwell County have instructed Dr. Charles B. McNairy, Lenoir, health officer, to keep on hand a supply of diphtheria antitoxin for those unable to pay for it.

Hookworm Dispensary Opened.—The hookworm dispensary at Scotland Neck was opened, July 27, with Dr. Platt W. Covington, Rockingham, in charge. During the day, 335 applications were received and about forty-eight cases of hookworm were found in the examination of less than one-half the applicants. More than thirty patients were placed under treatment. The dispensary is open every two weeks and at these times patients will be examined and if necessary will be given free treatment.

Personal.—Dr. James J. L. McCullers, McCullers, has been appointed superintendent of health of Wake County by the secretary of the State Board of Health, as the authorities of the county had failed to elect a superintendent as provided by law.——Dr. James M. Templeton, Carey, has been elected first vice-president of the National Farmers' Union of America.——Dr. Charles A. Woodard, Durham, has started for Europe.——Dr. Louis Booker, Charlottesville, Va., has been appointed assistant resident physician to the State Tuberculosis Hospital, Montrose.——The building occupied by Dr. Edward P. Snipes, Jonesville, was destroyed by fire, July 26. ——Dr. Thomas A. Mann, health officer of Durham, has resigned. At the last meeting of the Durham Medical Society, resolutions commending the work done by Dr. Mann were unanimously adopted.

NORTH DAKOTA

State Board Elects.—At the annual meeting of the State Board of Medical Examiners held in Fargo, July 31, Dr. Paul Sorkness, Fargo, was elected president, and Dr. George M. Williamson, Grand Forks, secretary.

New Dean for Medical College.—Dr. Harley E. French, for four years professor of anatomy at the University of South Dakota, Vermilion, has been appointed dean of the faculty and professor of anatomy at the University of North Dakota, Grand Forks.

PENNSYLVANIA

Bequest.—The will of the late William Alexander Smith, for many years president and treasurer of the New York Stock Exchange, bequeaths $3,000 to the Pottstown Hospital.

Hospital Additions.—Work on the erection of a dispensary for the Medico-Chirurgical Hospital on Cherry Street, west of Seventeenth, was begun August 17. It is to be a one-story structure 59.7 by 146 feet and will cost $20,000.——St. Christopher's Hospital, Lawrence and Huntingdon Streets, is building a two-story addition at a cost of $1,000.

New Hospitals Opened.—The J. C. Blair Memorial Hospit l Building, Huntingdon, completely equipped and furnished, was opened for inspection August 24, the physicians' and press day. After examination of the hospital, a buffet lunch was served and in the afternoon addresses were given by Drs. Francis P. Ball, Lock Haven, and Theodore L. Chase, Philadelphia, and a press representative. The public will be allowed to inspect the building from August 26 to August 30, and the hospital will be opened to receive patients September 4.

Typhoid on the Decrease.—According to the records of the bureau of health for the week ending August 19, there were ten deaths from typhoid fever, but the number of cases reported was fifty-six as compared with sixty-four for the preceding week. Of the present week's total, fourteen cases were reported from the Thirty-Second Ward and investigation by the inspectors of the health bureau showed that the cases were contracted from milk infection. The cause was traced to a dairy outside of the city and Chief Vogelson reported the result of the investigation to the State Health Commission and the dairy was closed.

Reduction of Tuberculosis Death-Rate.—Dr. Thomas H. A. Stites, chief of the division of dispensaries of the State Department of Health, in a paper read before the Sixteenth Censorial District Medical Society, held at Montrose, August 15, declared that Pennsylvania had the lowest death-rate from tuberculosis during 1910 of any of the five middle states. He stated that the average number of deaths during the year from all causes in the states of Maryland, Massachusetts, New York, Ohio and Pennsylvania was 408,050, of which 42,075, or 10.3 per cent, were due to tuberculosis. Pennsylvania reports the lowest percentage, 8.6 per cent. from this cause.

Reading Promises Refrigerator Service.—On August 10, the State Railroad Commission concluded a hearing of complaint against the Reading Railroad by a local milk dealer, who is seeking to compel that road to transport milk to the city in refrigerating cars, by deciding that no recommendations would be made until the producers and shippers of milk should have a hearing, and to accomplish this sent invitations to 2,000 milk producers within a radius of 60 miles of the city. In the meantime a conference was held between John F. Auch, general freight traffic manager of the Reading Railroad and a committee of the Interstate Milk Producers' Association and assurances were given by the railroad that refrigerator car service will be furnished to shippers of milk to Philadelphia, beginning next spring.

Freedom from Water Pollution.—The waters of the state of Pennsylvania under enforcement of the purity of water law in 1905 are being freed from pollution. Phoenixville, the last town on the Schuylkill, taking an unfiltered supply of water from that river, has now submitted plans for germicidal treatment of the water pending the submission of comprehensive plans for a modern filtration plant. Lebanon has prepared plans for a sanitary system of sewers and sewage treatment plant and has appropriated funds for the construction of these improvements. Plans have also been drawn for a complete sanitary sewerage system and treatment plant for the borough of Middletown. In Lancaster, extension of the water filter plant are necessary on account of the increasing population of that city. Ligonier has been compelled to build a sewage treatment plant and its work is now in progress. Sunbury has been refused permission to extend its sewers until prior decrees of the commission of health which ordered sanitary improvements, have been obeyed. Jersey Shore is to have a new pumping station and intake, germicidal treatment of the water and a large storage reservoir. Lock Haven is also about to build a new dam and a large storage reservoir. Renovo, which owns its own water works and sewer systems, is extending and improving both. Palmerton, the headquarters of the Pennsylvania Zinc Company, is enlarging the sewage treatment plant and extending sewers in accordance with plans approved by the department. Danville has submitted plans for a complete sanitary sewer system and for sewage treatment work which has been approved by the State Department of Health. The Muncy Water Company has been cited to show cause why its charter should not be taken away on complaint of the commissioner of health unless forthwith it treats its water temporarily and installs at the earliest moment a modern filter plant. The borough of New Brighton and a chain of municipalities stretching along the banks of the Beaver River have been ordered to provide for an outfall sewer and ultimately for a sewage disposal plant. Harrisburg is expending this season $500,000 for improved sewerage work to take the sewage out of the river all through the major length of the city along the banks of the Susquehanna.

GENERAL NEWS

Unauthorized Subscription Agencies.—The Journal has repeatedly published warnings against paying money to unauthorized persons who pretend to take subscriptions. All agents of The Journal who are authorized to receive money carry signed and sealed current letters of identification on the Association stationery. Physicians write of having paid money to the Seattle Subscription Company, Seattle, Wash., and to J. R. Russell of the Twin City Magazine Company, St. Paul, Minn. They receive receipts, but that seems to be all that they receive for the money as none of it is sent to the periodicals for which subscriptions are taken. The Journal called attention to the Seattle Company not long ago when a man was operating under that name in Montana. It seems that he has been working east and that physicians are still careless about their money.

The Christian A. Herter Memorial Fund.—In the *Journal of Biological Chemistry,* August, 1911, appears an announcement of The Christian A. Herter Memorial Fund. This fund, now amounting to $40,000, has been confided to the care of the directors of the *Journal of Biological Chemistry* under the provisions of a declaration of trust executed by them. The chief aim of the trust is to further the interests of the *Journal of Biological Chemistry,* an instrument for the development of science created by Christian A. Herter and fostered by him up to the time of his death. In the event that conditions arise removing the need for such a use of the income, provisions are made by which the fund shall continue as a memorial of Professor Herter and of service to humanity by the promotion of scientific research. Dr. Simon Flexner, New York, is the president and Dr. A. N. Richards, Philadelphia, the secretary of the directory in charge of the fund.

FOREIGN NEWS

Dr. Herbert Timbrell Bulstrode, medical inspector to the local government board and lecturer on preventive medicine at Charing Cross Hospital Medical School, London, died suddenly at his home in London, July 21, aged 52. Dr. Bulstrode was an arduous and painstaking worker, and the first fruit of his important work was the Milroy lectures delivered in London, before the Royal College of Physicians in 1903, on "The Causes, Prevention and Control of Pulmonary Tuberculosis." He was next commissioned to make especial enquiry into the sanatorium treatment of tuberculosis, the result being the "Sanatoria for Consumption," published by the local government board. His next most important work in the line of preventive medicine was on the spread of diseases by shellfish, and as a result of his revelations, no doubt is left as to the necessity of legislative action prohibiting the sale of shellfish from contaminated sources.

LONDON LETTER

(*From Our Regular Correspondent*)

London, Aug. 12, 1911.

Remarkable Improvement in the Health of London

A remarkable improvement in the public health of London is shown by a recent report issued by the government. During the past year the general death-rate was 13.7; the death-rate from consumption was 1.2; and the number of infant deaths per thousand births was 103. Contrasting these figures with the average for the years 1901-5, the general death-rate was 17; the death-rate from consumption, 1.6, and the infantile death-rate, 139. Thus, the general death-rate has declined 19 per cent.; the death-rate from consumption, 25 per cent., and the infantile death-rate, 26 per cent. A similar improvement is shown in regard to infectious diseases. The number of cases of scarlet fever in the past year was 10,509, of diphtheria 5,494, of typhus 3, and of typhoid fever 1,284. The corresponding figures for the average of the years 1901-5 were 10,509, 8,865, 12 and 2,478. The only disease which has shown some increase is measles. The great improvement in the infantile death-rate is due to the increased regard for infantile hygiene, which is largely the result of the work of "health visitors." The precautions against importation of exotic disease have never been more successfully carried out than at present; although both cholera and plague have from time to time appeared in the Port of London, the infection has never spread. Although, as mentioned in a previous letter to The Journal, plague rats were found at Wapping, a higher point on the river than ever before, the disease has not spread to man.

Lunacy in England and Wales

The statistics of lunacy for 1910 which have just been issued show that there were 2,604 more certified insane persons in England and Wales at the end of the year than on the corresponding date of the previous year. The corresponding increase for 1909 was 1,766, for 1908 2,703, and for 1907 2,096. For the decennium ending 1910 the average increase was 2,521. Extending the survey backward a continuous increase in insanity is shown. Thus, since 1869 the population has increased by 64.6 per cent., while the number of insane has increased by 150.4 per cent. In 1869 the ratio of the insane to the population was 23.92 per 10,000; on Jan. 1, 1911, the ratio had risen to 36.4. From these figures the conclusion might be drawn that for many years insanity has been increasing. However, the commissioners on lunacy, who issue these reports, say: "The increase in the number of insane recorded year by year is no proof of an actual growth of insanity in the community, although it is often assumed to be such. Such facts as are available tend to the conclusion that if insanity is increasing at all it is doing so very slowly and by no means proportionately to the increasing numbers of insane persons under care." The figures are explained by an increasing accuracy in the diagnosis of insanity and a greater readiness to send patients to asylums, who otherwise would remain uncertified. There is a most interesting discussion in the report of the inheritance of insanity. It is estimated that there are about three insane persons who apparently come from insane stock, for every one with a family history of insanity. But the commissioners insist that these figures cannot be used to minimize the importance of inheritance. They point out that the question is much more complicated. There may be a family history—and, in fact, there are many such histories—in which no positive insanity can be traced, but in which there are evidences of instability of the nervous system due to a large variety of causes, of which alcohol is one of the most important. This instability may manifest itself in many directions apart from actual insanity.

Pharmacists and Secret Remedies

The annual meeting of the British Pharmaceutical Conference has just taken place at Portsmouth. A very important discussion took place on the subject of secret and proprietary medicine. A report was submitted giving the answers received by the conference, to a series of questions addressed to eighty-eight local associations of pharmacists in all parts of the United Kingdom. They all agreed that the sale of secret and proprietary medicines by pharmacists is considerable. Eighty-six per cent. stated that proprietary articles are ordered by doctors in their respective districts to a considerable extent, and of these 20 per cent. reported such ordering to be by verbal recommendation, 20 per cent. by prescription, and 60 per cent. in both ways. In reply to the question, "Would you regard with favor proposals for legislation making compulsory a declaration on the label of all the principal ingredients"? 70 per cent. replied in the affirmative, 24 per cent. in the negative and 6 per cent. were doubtful; 88 per cent. were of the opinion that such legislation would curtail the sale of undesirable quack medicines. In regard to the prescribing of proprietary articles by doctors, the suggestion was frequently made that much greater use should be made of the British Pharmaceutical Codex in prescribing. The discussion was opened by Mr. E. F. Harrison, who referred to the usual mendacious advertisements by which quack medicines were sold. He regarded the great majority of secret remedies having a large sale as possessing a certain usefulness in some of the disorders for which they were recommended, but as frequently advertised by grossly exaggerated and untrue statements. He moved the following important resolution which after discussion was carried unanimously: "That this meeting of the British Pharmaceutical Conference is of opinion that a public inquiry, by a royal commission, a select parliamentary committee or a departmental committee, should be held in regard to the advertising and sale of proprietary secret medicines and the law relating thereto, with a view to further legislation for the prevention of fraud and quackery."

The Plague in India

In his speech on the Indian budget the under-secretary for India made an important announcement on the subject of plague. He thought there was urgent need for the education of the masses of India in the principles of hygiene. Though archaic habits might be tolerable in the open country, when transferred to the crowded town they became unsupportable. If there were less ignorance and less perversity, plague would never have found the lodgement it had. Persons living under proper sanitary conditions were virtually exempt. Plague did not attack the jail population or the native army; it attacked the ordinary civil population because they lived in houses which were not rat-proof and because they treated the rat almost as a domestic animal and refused to kill it. Plague had now been present in India for fifteen years, and the deaths from it had reached the appalling total of 7,500,000. Of this, the Punjab accounted for nearly 2,500,000. In the last ten years, 11 per cent. of the population of that province had died from plague. The vaccine discovered by Professor Haffkine conferred a comparative, though not absolute, immunity for a time. But the unhappy accident at Mulkowal, where several villagers died of tetanus after inoculation gave the treatment a blow from which it has never recovered. The disease was now largely fought by house evacuation, which was easier in villages than towns. Special plague doctors and subordinates were appointed. When plague occurred they visited the locality, offered inoculation and gave assistance to persons to vacate their houses. An improvement in the general sanitary condition of the people had taken place and was being promoted by grants from the government.

The Compulsory Segregation of the Subjects of Venereal Disease

An influential deputation, among whom were eminent members of the profession interested in questions of public health —Sir Victor Horsley, Sir James Crichton-Browne, Dr. F. W. Mott—has presented to the president of the local government board, Mr. John Burns, a petition urging that effect should be given by detention or some form of compulsory treatment, to the recommendation of the royal commission on the poor laws, for the detention in poor-law institutions of persons suffering from venereal disease, when medically certified to be dangerous to others. The petition was signed by a number of well-known ladies representing various associations engaged in philanthropic work, physicians and members of town and borough councils. Sir Victor Horsley and Dr. Mott supported the petition from the medical standpoint and Lord Kinnaird, chairman of the committee of the Lock Hospital, spoke as a life-worker among young men. Mr. Burns in reply quoted figures showing a marked diminution in venereal disease during recent years, and while holding out no hope of legislation empowering detention, assured the deputation that he would by administrative action do all in his power to promote the cure and stay the progress of venereal disease.

PARIS LETTER

(From Our Regular Correspondent)

Paris, August 4, 1911.

Suture of the Abdominal Aorta

The Académie de médecine has adjourned until October 3. At its last session Dr. Routier, surgeon of the hospitals of Paris, reported a case in which the abdominal aorta was sutured. A diagnosis of hydatid cyst, based on the reaction of Weinberg, was made on a young man of 24 who complained of pains in the left hypochondrium. In the course of the operation it was ascertained that the tumor was in reality a solid one covered by a very vascular membrane adhering to the aorta. It was enucleated with great difficulty and the tags of the enveloping membrane were clamped off by forceps. One of the last adherent points was clamped off and the tumor removed. Each pair of forceps was successively replaced by a ligature. At the moment of tying the last one, a jet of blood burst into the surgeon's face. Compressing the aorta with his left hand, Dr. Routier placed on the orifice in the aorta, which was as large as a brachial artery, two hemostatic forceps which stopped the hemorrhage. But this was considered only an emergency measure and it was to be expected that on the removal of the forceps a fatal hemorrhage would ensue. A second operation was, therefore, necessary and on the next day the patient was anesthetized. With needles threaded with fine silk an attempt was made at first to pass a ligature behind the forceps but the needle and the thread broke. Taking then the needle of Reverdin, which is used in intestinal sutures, Routier passed a catgut suture into a fold of the aorta under the forceps and tied it. The two ends of the suture were then passed around and tied solidly under the two forceps. Success was complete. No blood ran when the forceps were withdrawn. A fragment of the epiploon nearby was placed over the ligature and the abdomen was closed. All went well; there was a temperature of 37 C. (98.6 F.) and 78 pulsations to the minute for eight days. In the night of the eighth day after an abrupt movement there was a kind of demisyncope, pain in the abdomen, facial pallor, perspiration of the skin and thorax. A secondary hemorrhage was thought of. This passed, however. The patient finally died on the sixteenth day. It was impossible to ascertain the cause of death, as autopsy was not permitted. This seems to be the third case of suture of the abdominal aorta.

Vaccination Against Typhoid Fever

The minister of war, M. Messimy, has entrusted to Dr. Chantemesse, professor at the Faculté de médecine de Paris, and Dr. Vincent, professor at the Ecole d'application de médecine et de pharmacie militaires du Val-de-Grâce, the task of applying among the troops on the Algerian and Moroccan frontier the method of antityphoid vaccination. This decision was taken in response to a resolution of the sanitary service of the province of Oran submitted by medical inspector Février, director of the sanitary service of the army to the consultant commission on military hygiene and epidemiology, which voted its approval. As in the armies of other countries, this vaccination will be entirely facultative.

The Dogs of the Sanitary Service

The use of dogs in the relief of the wounded was recently tried at Vincennes in the course of instruction of the sanitary service of the military government of Paris. Several men who were supposed to be wounded were hidden in various places on the plain. All the pseudo wounded were found in a few minutes. The trial was made as follows: The dog is sent off by his master in a given direction at various distances; he aids the wounded, takes his kepi and brings it back. The dog leads or, one might say, drags his master immediately to the spot where he found the wounded man without hesitation. In default of the kepi the dog hunts with his paw or his muzzle in the wounded man's pocket and takes his handkerchief, glove or some other object showing the identity of the man.

The importance of the use of such dogs is readily understood. Wounded men exposed for a long time on the field of combat may be exposed to attacks of birds of prey and in our colonial expeditions several have undergone frightful mutilation by the natives. The methods of combat, the arrangement of the troops during battle over a more or less extent of territory, modern long-range fire-arms, night battles —all these make the work of the ambulances very difficult. The number of men who disappear is always large because the relief of the wounded during action becomes constantly more difficult. The wounded who are too weak to call or to leave their shelters are abandoned unless the orderlies are accompanied by dogs who are used to searching for the wounded. It seems, therefore, that it is necessary for modern armies to possess dogs trained in the sanitary service.

The New Hôpital de la Pitié

The new hospital built to replace the old building of the hôpital de la Pitié has just been opened. It is a model building established at the cost of 11,000,000 francs (about $2,-200,000) and comprises thirty-two medical and surgical buildings.

The Physician Not Always Obliged to Continue the Care of the Patient

While it is true that the obligation of a physician to respond to a patient's call is one imposed by conscience solely, the case is altogether different if the physician abandons his patient at a critical moment when his retirement may endanger the life and health of his patient. A Paris tribunal has recently decided, however, that the withdrawal of the physician is justified in some instances. The case which elicited this opinion was that of an obstetrician who withdrew because the patient or those around her were determined to select a nurse whose antecedents were unknown to the physician. The court held that this physician, in renouncing the responsibility and the fees of confinement acted honorably and was in a position to demand damages on account of the injury to his professional reputation through the unjustified action of his patient.

DRESDEN LETTER

(From a Special Correspondent)

International Hygiene Exhibition

Dresden, July 28, 1911.

A visit to the International Hygiene Exhibition at Dresden brings a number of surprises. First, one is surprised that in an exposition supposed to be international in character, the catalogues, explanations, labels, etc., are practically all in German. It was surely not too much to expect to find the labels and abbreviated catalogues in French and English.

Second, one is surprised that so large a proportion of the exhibition is commercial in character, containing much that is only remotely, if at all, connected with hygiene. While it is primarily a hygienic exhibit, apparently nothing has been refused admission that would help to make the exhibition a financial success. There are, as might be expected, many beer gardens over the ground, tobacco stores and the like. There are numerous "Coney Island" attractions and ingenious means of attracting the nimble penny. Photographing, copying or reproducing any of the exhibits is forbidden. The right to photograph was let to one photographer, who I was told gave 20,000 marks ($5,000) for the monopoly. Needless to say the enterprise long ago paid for itself.

The English-speaking nations are poorly represented in the exhibit. Great Britain was late in opening her exhibit, which though excellent in many ways, is hardly commensurate with the splendid sanitary achievements of that country. This is probably owing to the reluctance of the British Government to make an appropriation for the Dresden Exhibition, notwithstanding the fact that the British colony in Dresden had raised a handsome purse as a starter.

And the United States! There is nothing whatever to indicate that there is such a country. The only exhibit from the American continent is a small one from Brazil. The French, Swiss, Austrians, Russians and Spanish all have exhibits. The Japanese have an admirable exhibit, and one naturally recalls the difference in the medical management of the armies in the Spanish war and in the Russo-Japanese war. Not that American physicians were not alive to the importance of hygiene and sanitation, but the non-medical "men above" had not learned the lesson. Too much red tape, in fact. This characteristic and the indifference of our government officials to health matters may explain the failure of our physicians and sanitarians to obtain an appropriation for Dresden.

One is amazed at the completeness and the excellence of the educational and scientific exhibits. The care and expense involved in the preparation of the exhibition are extraordinary. Explanations have been made and demonstrations installed in order to make plain to the man in the street the anatomy and histology of the body, the functions of the organs, the needs of the body in food, air, exercise, clothing, etc., and yet any physician will find well spent the time he spares for a study of the health exhibit. The composition of the body, of the blood, of various food substances, of the excretions, etc., are shown by means of jars containing the exact amount of each constituent in a manner much more impressive than can be done by means of charts. Similar exhibits have been made elsewhere, but perhaps not to the same extent as here. One physician, a German, passing through the exhibit stated that it took him years to learn what here he might obtain within a few months. There must be at least 100 compound microscopes, some of them binocular, exhibiting tissues, cell growth and microscopic life; and there are many stereoscopes of the new type, adjustable for pupillary width (which sell here for about $14.00). There are admirable papier maché and wax figures of the human body and its parts, and an excellent series (in wax) of skin diseases, including the exanthems, and syphilis and lupus. There are exhibitions of beds for the sick, bath apparatus, healthful clothing, ventilating and heating systems, etc. The effort has been made to demonstrate the evil effects of tobacco, alcohol and other narcotics, corsets, tight shoes and the like. The care of infants and children, the value of exercise, care of the health in old age, the importance of proper nutrition, have been carefully shown with a view of making the exhibit of real value to the general public, who, by the way, throng the buildings and the grounds in the afternoons so densely as to make it inconvenient to get around. There are motion picture exhibits of silk-worm culture, the protective agencies of the blood (a magnificent representation of the clumping of bacteria in the blood), etc., the projection of microscopic life, and stereopticon lectures. Infectious diseases, tuberculosis and tropical diseases have had due attention. But to particularize is only to omit other features fully as good. This is certainly an exhibit of which the Germans may feel proud.

BUDAPEST LETTER

(From Our Regular Correspondent)

Budapest, Aug. 7, 1911.

Ancient Jewish Hygiene in the Dresden Hygiene Exhibition

Having spent my holiday in Dresden, I found many things of interest in the wards of the Jewish section, which attracted my attention with its descriptions of ancient hygienic institutions and laws approaching in perfectness many an institution and law of to-day.

The exhibition in Dresden devoted two spacious halls to the exhibits of the sanitation of biblical, ancient and medieval Jewry.

The thora being the foundation of the Jewish hygiene, a good part of the biblical and ancient class is occupied by the exhibition of thoras. Much attention is paid by the visitors to a thora about 1,000 years of age, written on red leather.

The walls are covered with Hebrew and German texts of Moses' hygienic laws. The inside of the hall is occupied by a plaster cast of King Solomon's lakes and water-works. Here we find books, drawings and plans on the water supply of biblical Jerusalem, ancient Jewish residences and reliquiæ found at excavations. Bricks, roofings, walls and fountains, drainings, sewers for the removal of droppings and photographs of household utensils are here in a great abundance.

A separate group deals with the housing, showing an evolution from tents to houses of mud and later of stone. The type of the ancient houses has scarcely changed in comparison with the houses of Palestinian and African Jews, or the tents of some nomad tribes.

Another group deals with the rules to be observed in eating and drinking. The customs at meals can be seen on plaster models. Here are pictures of old ovens, fireplaces, grain store-houses, models of flour mills and the reliquiæ of original grain-crushing stones. In contrast to these ancient things, we see exhibited the present foods, dishes and household tools of native Palestinian and African Jews.

In the medieval class the walls are covered with quotations from the Talmud, as the source of sanitary laws. One case is full with special instruments and apparatus for circumcision. One or two among them are real masterpieces of art. The series of circumcising instruments is most interesting, commencing with a knife, the handle of which is ornamented with rubies and diamonds, and ending with a simple knife suitable for being boiled and sterilized. Another case contains the sick nursing instruments which every parish had to procure for itself.

The ritual handling of the dead is represented by plastic models. This is supplemented by a collection of grave-stones and burial requisites.

An important feature of medieval hygiene of the Jews was the public baths. Here are bathing and washing requisites, together with a collection of hand-washing basins.

The management of meat is instructively illustrated by a series of pictures, showing the processes from the salting of the meat to its being dished up. A plaster cast shows the humanity of ritual slaughtering and the brutality of killing an ox with a blow. An anatomic preparation shows the bloodless heart of the animal, beside it, the killed animal's heart full of blood.

The exhibition is finished with a room furnished and fitted up entirely with original ancient furniture; a laid table awaits the advent of the Sabbath.

This Sabbath awaiting room, apart from its interesting historic and folk-lore aspects, stands as an expression of the social thinking of an ancient people, who made it a law to have rest on the seventh day of the week.

In the modern sections of the exhibition we meet with names of Jews from every land prominent in the domain of medical and hygienic sciences. Among them are Birch-Hirschfeld, Born, Cohnheim, Fränkel, Gäartner, Remák, Hebra, Schwalbe, Weigert, Ascher, Askanazy, Kronecker, Loeb, Hein, Izrael, Munk, Pollitzer, Fuchs, Haffkine, Koplik, Senator, Marmorek, Metchnikoff, Weil, Ehrlich, Wassermann, Landau. This list shows that the special Jewish hygiene and sanitary education of biblical and ancient times has not passed away without traces.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Aug. 3, 1911.

Personal

Professor Reichenbach of Bonn has received a call to succeed Professor von Esmarch as director of the Hygienic Institute at Göttingen.

Professor Weber, formerly director of the medical clinic at Halle, celebrated the fiftieth anniversary of his doctorate.

Professor Jamin of Erlangen and Professor Umber of Altona have been nominated, neither one being given a preference, to succeed Professor Gerhardt in Bern.

Prohibition of Weapons to Students

In view of the numerous accidents which are caused by the hasty use of firearms by students, the Prussian school authorities feel obliged to issue a general prohibition of weapons for students of the higher schools. Every student who is found in possession of any kind of firearm or ammunition will be punished by expulsion from the school.

The Position of Physicians in the Criminal Statutes

In Germany there exists the peculiar state of affairs that, according to the construction of the criminal statutes, the physician is threatened with punishment even for professional treatment that is carried out according to established rules. A surgical operation which is undertaken without the express consent of the patient may, for instance, be treated as a bodily injury and the physician may be convicted on account of it. Inasmuch as at present a new criminal code is being prepared, physicians are bestirring themselves to have the paragraphs which threaten their professional activity removed or so modified that their construction will be less dangerous. On account of the importance of this matter the last Deutsche Aerztetag took it into consideration. The committee to whom the reports were referred, presented the following propositions which were adopted by the Aerztetag:

On account of the inclusion of medical professional treatment under the sections "Crime and attempts on the life" and "Bodily injuries," a legal uncertainty is produced which makes the business of the physician difficult and which is injurious to the public health. The Aerztetag expresses its opinion that treatment by a physician when it is conducted according to the rules of medical science and art should not fall in the criminal classification of premeditated bodily injury. The Aerztetag recommends the addition to the preliminary paragraphs of the criminal code, the following statement: "A person shall not be punishable who undertakes any action for the saving of a person or the property of himself or that of another from a present danger for which he is not responsible, and which cannot be removed in a more appropriate way, except when the danger is only slight or involves only the saving of property, unless the damage to be expected from the operation is disproportionately greater than the danger. One is not punishable who undertakes to save a person from a present danger not to be removed in a more suitable way than by an operation on the person himself, except when the danger is only slight."

To Limit Advertising Intended for the Laity

In Germany there exists the custom (less common in your country) of drug manufacturers advertising medicinal preparations, not only in the medical press, but also in the daily papers. Other firms place in the circulars accompanying their specialties recommendations of other remedies. The last Aerztetag has passed a resolution against this advertising business which favors self-medication by the public.

Average Length of Life of the German People

From the death-rates which give the number of deaths per 1,000 births at the end of the first, second, third, etc., year of life, the length of life, that is, the whole number of years that these 1,000 persons have lived, is obtained; this sum divided by 1,000 gives the average length of life for the individual. This number is called the average length of life. From the three published mortality tables for the entire German people, the following average life duration can be calculated: From 1871 to 1880, for men, 35.58 years; for women, 38.45; from 1881 to 1890, for men, 37.17; for women, 40.25; from 1891 to 1900, for men, 40.56; for women, 43.97. The average for men has risen 5 years in the last twenty years, that for women five and one-half years. Still Germany is behind many other European countries. In Sweden, the average length of life is about ten years higher than in Germany, in Belgium and the Netherlands about five years, and in France and England about four years. The chief reason for this difference lies in the considerable infant mortality of Germany.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Aug. 9, 1911.

An Embryo Found in an Elephant in the Vienna Zoological Garden

A few days ago the female elephant in the Vienna Zoological Garden died after having been ill for some weeks. The interesting patient had been treated by two professors of the Vienna veterinary high school. The predominant symptoms of the disease were anorexia and frequent attacks of what may be called swooning fits. When the animal died, it was examined by representatives of the museum of natural history, of the anatomic institute and the veterinary high school. A regular post-mortem examination was made, and it was a very difficult task, for the body weighed 1½ tons even after the enormous loss of blood. The most interesting finding of the necropsy was an embryo, completely developed as to macroscopic appearance, measuring 65 cm. and apparently 11 months old, thus lacking another eleven months to its maturity. This uncommon specimen was taken possession of by the anatomic institute. The mother elephant was found to have suffered from chronic gastro-intestinal inflammation with ulcerations of the anterior wall of the stomach. A detailed account of the findings will be published soon, while a good deal of the material obtained will need to be studied and worked up later on.

The Spread of Cholera in Austria

Since writing the last time about the appearance of cholera in this country (The Journal, June 24, 1911) the disease has claimed in Trieste, our chief port, over twenty victims. The infections were all traced to steamers coming from Italy, and in spite of very strict and careful precautions a spread could not be prevented. As it appears now, there are several foci from which the various cases of the disease have originated in the city. Much bitter comment has been heard concerning the attitude of Italy, in not reporting the presence of cholera in its districts to the other governments, as it ought to have done according to the last cholera convention. It is said here of Italy that actual cases of cholera have been officially "diagnosed away," so as not to prevent the influx of visitors to the country and the two exhibitions. In Austria, as soon as the cases occurring on board ships were traced to the neighboring country, the commercial traffic was placed under careful control. But before the measures went into effect, infection had taken place in several different localities. It is interesting to note that all cases observed afterward were among those persons who were under control as "suspects," having been found to be "carriers of vibrios," at the routine examinations of all persons in contact with a definite cholera patient. Therefore, the hope of the board of health that the outbreak will soon be suppressed is justified. Another source of danger of infection is the *Hinterland* of the Austrian coastline, where just now the Turks are fighting the Albanian tribes. Cholera has been found there too, and the low sanitary standard of these people means a real menace to that part of Europe. Therefore, the Austrian government has sent down a number of well-equipped physicians to these districts.

A Special Prize for Austrian Physicians

Two French practitioners, Dr. Meussand and Dr. Rivier, have notified the senate of the University of Vienna that they have placed at the disposal of this body a sum sufficient to yield yearly an interest of 1,000 francs ($200) for the purpose of sending an Austrian physician to Paris. The candidates must not have obtained their diplomas longer than four years ago, and must spend the prize in Paris, staying there at least three months in the hospitals pursuing scientific objects. The prize is granted in two equal sums, at the beginning of the Paris stay and six weeks later, respectively. This unusual but most welcome grant is intended to promote more intimate relations between the two famous continental medical schools, Paris and Vienna. At present, there is hardly any connection between the two save occasional visitors during the international congresses.

Effects of Agrarian Prohibition Tariffs on Meat Imports

The influence of our great agrarian proprietors on legislation is very powerful, and their political preponderance was the chief reason that some ten years ago a tariff was introduced in Austria making the importation of meat and living animals into this country impossible, because unprofitable. But owing to the constant rise in prices on all articles of food, frozen meat was imported this year from South America in limited quantities. It sufficed to show that it is possible to procure from abroad wholesome and healthy food at a considerably lower cost to the consumer. No sooner was this evident, than the landowners again exerted their influence to stop further importation of frozen meat. They succeeded. But then the population, especially the poorer part of the rural population, brought all influence to bear on the government to obtain cheap food. Medical men were at the head of the movement which wanted to "open the frontiers." They pointed out how much underfed the population is at present, and how much the consumption of meat per capita has decreased within the last few years in all Austrian towns. And they pointed out, too, how national defense would suffer, and has suffered already, because the recruits, underfed as they are, become less and less fit to be enlisted in the army. This latter argument seems to have had effect on the government, for now a commission for studying the problem of food has been appointed. But a more substantial gain is the permission for the importation of a certain quantity of frozen meat, which was wrested from the government. Once obtained, this concession will no doubt be necessarily increased, with or without the permission of the landowners. A similar conflict has broken out with regard to the supply of milk. Here the dairymen try to create a ring or a trust to push the price of milk to a higher level. The violent indignation of the urban population has for the moment averted the danger.

Marriages

Charles Martin Strotz, M.D., Philadelphia, to Miss Estella Erwin of McVeytown, Pa., at Cristobal, Canal Zone, August 2.

Burt D. Harrington, M.D., Flatbush, L. I., to Mrs. Florence Omlsted Randall of Hackensack, N. J., August 2.

Arnold Burkelman, M.D., to Mrs. Mary J. Lindsay Schallert, both of Los Angeles, Cal., August 17.

Edwin Holland Trower, M.D., to Miss Catherine Elizabeth Rush, both of Eastville, Va., June 28.

James N. Shearl, M.D., Middletown, Ill., to Miss Bertha M. Nicholson of Tower Hill, Ill., August 2.

Ira Stanley Pope, M.D., Chevy Chase, Md., to Miss Marie M. Spatola of Philadelphia, August 9.

James Edward Allgood, M.D., Liberty, S. C., to Miss Ruth Thompson of Inman, S. C., June 20.

Elisha B. Jackson, M.D., to Mrs. Lydia Ward-Hubbard, both of Aberdeen, S. Dak., July 31.

James M. Delevett, M.D., Baltimore, to Miss Mary E. Fitzhugh at Philadelphia, August 9.

Fred C. Jordan, M.D., Lewis, Iowa, to Miss Berma Bland of Des Moines, August 2.

Deaths

Alvin Allace Hubbell, M.D. University of Buffalo (N. Y.), 1876; one of the most prominent specialists on diseases of the eye of western New York and a prolific writer, died in Buffalo, August 10, of general arteriosclerosis, aged 65. After graduating with honors from the University of Buffalo, he studied diseases of eye under the late Dr. Samuel D. Gross in Philadelphia for more than a year, and then began his practice in that specialty in Buffalo; his ability was at once recognized and his practice rapidly increased. After his graduation Dr. Hubbell was made professor of ophthalmology in the Niagara University, Buffalo. In 1898, when this institution became consolidated with the University of Buffalo, he became professor of the same specialty in the latter school, and in the spring of 1911 he was made emeritus professor of ophthalmology. For several years Dr. Hubbell was surgeon to the Charity Eye, Ear, Nose and Throat Hospital, the Sisters of Charity and the Erie County Hospital. He was also oculist to the Lake Shore and Michigan Southern Railroad. He was a member of the American Medical Association, chairman of the Section on Ophthalmology, 1908-1909; one of the founders of the Buffalo Ophthalmological Club; president in 1908 of the American Ophthalmological Society and a member of the American Academy of Ophthalmology and Oto-Laryngology. He was the author of a number of articles bearing on his specialty, and in 1908 published a volume entitled "The Complete History and Development of Ophthalmology from 1800 to 1870."

Blencowe E. Fryer, M.D. University of Pennsylvania, Philadelphia, 1859; colonel, medical corps, U. S. Army, retired; one of the most prominent ophthalmologists of the southwest; died at Marquette, Mich., August 13. At the outbreak of the Civil War, Dr. Fryer entered the Army as assistant surgeon and passed through the successive grades to lieutenant colonel before his retirement in 1891, and received his promotion to colonel retired in 1904. While he was stationed at Fort Leavenworth, Kan., Major Fryer was called to the chair of ophthalmology in Kansas City Medical College, and was made permanent professor of that branch ten years later, and thereafter confined his medical work to diseases of the eye and ear. He was a member of the American Academy of Medicine, American Ophthalmological Society, American Academy of Ophthalmology and Oto-Laryngology; Association of Military Surgeons of the United States, and was associate editor of the American Journal of Ophthalmology. Dr. Fryer was a surgeon of skill and judgment and a student of medical science of rare acumen and originality, and his death is deplored by his many friends, both in and out of the profession.

Joseph Thatcher Woods, M.D. University of Michigan, Ann Arbor, 1855; major-surgeon of the second division, Twenty-Third Corps, United States Volunteers, during the Civil War; thereafter for several terms health officer of Toledo and a member of the faculty of Toledo Medical College and Western Reserve University, Cleveland, and a member of the surgical staffs of St. Vincent's and the Toledo Hospital; died at the home of his sister in Washington, D. C., August 5, aged 84.

Stephen Pierson, M.D. College of Physicians and Surgeons, New York City, 1869; a member of the American Medical Association and New York Academy of Medicine; surgeon to All Souls and Memorial hospitals, Morristown, N. J.; a veteran of the Civil War; president of the Morristown Board of Education and vice-president of the Washington Association of New Jersey; died at his home in Morristown, August 10, from heart disease, aged 66.

James A. Lewis, M.D. New York University, New York City, 1869; for many years a practitioner of South Buffalo, N. Y.; formerly health commissioner of Lockport, N. Y., and president of the Lockport Tuberculosis Committee; for five years in charge of a hospital at West Seneca, N. Y.; died at his home in Lockport, August 3, from hemorrhage of the stomach, aged 63.

John Chapman Davie, M.D. University of California, San Francisco, 1865; premier and attorney general of Vancouvers Island while it was a crown colony, and later governor and premier of British Columbia; one of the oldest and most eminent surgeons on the Pacific Coast; died at Oak Bay, August 10, from tuberculosis, aged 67.

Albert Steinrauf, M.D. Barnes Medical College, St. Louis, Mo., 1898; ever since his graduation in the United States employ in the Philippine Islands, and for the last six years of the Canal Zone; died at the home of his parents in St. Charles, Mo., August 5, from tropical disease of the liver, aged 33.

William Hope Davis, M.D. Eclectic Medical Institute, Cincinnati, 1865; a veteran of the Civil War; two terms secretary of National Eclectic Association; for many years a practitioner of Springfield, Ill.; died at his home in San Antonio, Texas, August 5, aged 73.

George W. Sayles, M.D. University of Buffalo, N. Y., 1894; a member of the Erie Railway Surgeons' Association and local surgeon of the Erie, New York Central and West Shore railroads; died at his home in Buffalo, August 6, from tuberculosis, aged 44.

George H. Fox, M.D. Castleton (Vt.) Medical College, 1851; a member of the Vermont State Medical Society and one of the founders of the Rutland Medical Club; died at his home in Rutland, July 28, from disease of the intestines, aged 81.

J. Solomon Smith, M.D. University of Louisville (Ky.), 1880; a member of the American Public Health Association; for thirty years a practitioner of Denver; died in Excelsior Springs, Mo., August 3, from nephritis, aged 60.

Alexander Doull Sinclair, M.D. Harvard Medical School, 1867; formerly of Boston and later a practitioner of Kiel, Germany, and since his retirement a resident of Florence, Italy; died at his home in that city, August 7.

Thomas D. Williams, M.D. University of Pennsylvania, Philadelphia, 1885; for several years local surgeon to the Pennsylvania Railroad at Jersey City; died at his home, August 4, from ptomaine poisoning, aged 55.

Elbridge A. Thompson, M.D. Castleton (Vt.) Medical College, 1852; of Dover, Maine; formerly a member of the state legislature; died suddenly at Isle of Springs, Maine, August 2, from heart disease, aged 84.

Nathan Johnson Davis, M.D. Harvard Medical School, 1871; died at his home in East Somerville, Mass., where he has practiced for more than forty years, August 8, from heart disease, aged 67.

John Garfield (license, Massachusetts, years of practice, 1894); for more than forty years a practitioner of Malden; died at the home of his daughter in Everett, Mass., August 5, aged 76.

Walter W. Lester, M.D. Louisville (Ky.) Medical College, 1892; a member of the Kentucky State Medical Association; died at his home in Paintsville, Ky., August 7, from typhoid fever.

Warren W. Drake (license, Ohio, years of practice, 1896); for forty-eight years a practitioner of the state; died at his home in Findlay, August 6, from cerebral hemorrhage, aged 70.

Oliver H. Babcock, M.D. University of Buffalo, N. Y., 1861; for nearly half a century a practitioner of Hammondsport, N. Y.; died at his home in that city, July 29, aged 77.

Worthington W. Hopkins, M.D. University of Maryland, Baltimore, 1858; died at his home in Gover's Hill, near Havre-de-Grace, Md., August 4, aged about 74.

Brayton Muscott, M.D. University of California, San Francisco, 1896; of Friday Harbor, Wash., was accidentally shot and killed, August 6, aged 39.

Charles Eddy, M.D. Bellevue Hospital Medical College, 1873; died at his home in Brooklyn, August 10, aged 62.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

TABLET MEDICATION AND THE PUBLIC

There is no denying the fact that the tablet form of medication has manifest advantages; its convenience and accuracy are alone sufficient insurance that it has come to stay. But these advantages are also potent for much harm, in that they appeal to the non-medical no less than to the medical man, and thus become a great inducement to self-medication. The man who wishes to be his own physician is especially well satisfied with a preparation which calls for no prescription, but can be obtained at the drug-store and taken without the need of glass or spoon. Many tablet manufacturers stamp their initials on their tablets, or make them of a distinctive color or shape; this is done, so they say, to prevent substitution on the part of dishonest pharmacists. While firms may be justified in protecting their interests by adopting a general mark or device to identify tablets of their make, there is no justification for the plan followed by some of giving a particular shape or a particular color to each combination. Such a device can have but one object in view, namely, to bring prominently before the patient the individuality of the medicine he is taking. That this may lead the patient to injure himself or others by the careless use of highly poisonous drugs goes without saying.

Our attention has been called recently to a particularly dangerous form of advertising. A firm has put on the market a bichlorid of mercury tablet, each tablet containing 7½ grains of mercuric chlorid and these are sold under the catchy name "Clover Antiseptic Tablets." Not only are these tablets sold under an innocent-sounding title, but the public safety is still further disregarded by their being made in the shape of a clover leaf. The good fortune supposed to attend the clover leaf would not only prove attractive, but would also lessen the sense of danger because of the supposed harmlessness of vegetable remedies.

The abuse of the corrosive sublimate tablet has borne bitter fruit in accidental poisoning by the use of this substance under the titles of antiseptic tablets, disks, wafers, etc. There is much to be regretted by both the physician and the pharmacist in the history of the employment of mercuric chlorid. The day of its indiscriminate use by the medical profession has long passed, but the knowledge gained by the public from tablets inadvertently placed in their hands by physicians or recommended by druggists has led to their use, especially for the prevention of conception, with disastrous results. Several cases have recently come to notice in which the victim or her consort placed the undissolved tablet in the vagina with fatal effect.[1] The use by the public of such tablets in vaginal douches for the same purpose has been the cause of death[2] in several cases.

In the interest of public safety, physicians should do their utmost to discourage the indiscriminate use of corrosive sublimate tablets. They should particularly avoid those which, because of their non-descriptive, catchy title or distinctive shape are liable to be used by those ignorant of their dangers.

LAY APPRECIATION OF EXPOSURE OF MEDICAL FRAUDS

The Poughkeepsie (N. Y.) *Eagle* comments editorially as follows: "The American Medical Association is doing good work by giving extra publicity to the exposures of fake cures that have been made and clinched through prosecution by the government for fraudulent use of the mails. This publicity is not only through THE JOURNAL of the Association, but stories of some of the more notorious frauds are published in pamphlet form. 'The Rupert Wells Cancer Cure Fraud' is the latest of these we have seen. The story of how such quack remedies deceive hundreds of ignorant people, and some of fair intelligence, is not without touches of human interest, and seems to us to show that here is a department where more government supervision and regulation would benefit many people."

"NEW REMEDY" STAGNATION

An article by Professor Biderfeld in the *Deutsche medizinische Wochenschrift*, June 22, 1911, p. 1153, on the remedies introduced during the last year, begins by discussing the dearth of new discoveries in medicines. The author recalls that in an article published last year he stated that stagnation in the discovery of new remedies was a characteristic of the present time. This stagnation becomes apparent by the substitution for remedies based on really new ideas, medicaments elaborated by slight variations of old ideas or even of mixtures of well-known remedies. The author further notes that the same conditions have prevailed during the past year. That this stagnation is felt seriously in Germany is shown further by an advertisement which appears in another German medical weekly in which it is stated that a large firm will pay physicians for ideas suggesting new forms of medication. No alarm need be felt at this dearth of inventiveness, as we feel sure the medical profession will be benefited by a respite from the flood of new synthetics and will grasp the opportunity thus afforded for a closer study of those now on the market.

Correspondence

Austin Flint's Notes on a Consumptive

To the Editor:—In going over the records of the late Dr. Austin Flint, New York, I happened on the following report of a case of pulmonary tuberculosis, together with Dr. Flint's notes.

Case Pulmonary Tuberculosis. Circumstances Illustrating Diagnosis Before Ulceration Has Ensued

A young man, aged 25, applied to me to-day for a cough. He has been in the habit of going on the lake in the summer seasons. At present he is tending a recess. His habits are good, but occasionally he takes a little spirit. I mean that he is not intemperate. Beyond this I did not inquire. His name is George Fowler. Is not aware that his family are prone to consumption. [They are not.] His father is still living. As this case illustrates the value of circumstances bearing on diagnosis in obscure cases of pulmotuberculosis before ulceration, I will note precisely its important points for after-reference.

His cough has existed all winter and he has not before applied for medical advice. [Phthisis rarely creates alarm.] It did not follow any acute attack of bronchitis or any other pulmonary inflammation. Thinks he must have taken cold, but this is a matter of course.

His cough has not been severe, has created no pain and never occurs independently of expectoration. [This shows that in this case, if there be tubercles, the presence of the tuberculous deposit does not excite irritation sufficient for cough. It is only the presence of the secretion in the bronchial tubes.]

He expectorates moderately, but especially in the morning, and represents it as sometimes yellow, and sometimes of a darker color, probably ink color. [It strikes me here is a point of some import: if the case were one of bronchitis purely (which it is if it be not tuberculous) there would be greater secretion through the day, because the mucous membrane would be more irritated by inhaling dust, etc. Another and much stronger point, moreover, is that the cough and expectoration are both too little for a chronic bronchitis.]

He has at various times had shooting pains in different portions of chest. [Slight pleuritic adhesions. This is very different from the soreness of bronchitis, which would also be more or less constant if it existed at all.]

He has had very frequently chilly sensations, especially shooting down the back and into the shoulders. Is subject to them almost daily. Attributes this to having formerly had the fever and ague. [A symptom of considerable value.] Has lost considerable flesh during the winter. [Another bad symptom.] Is readily put out of breath by exercise. [Another significant fact.] Has lost some strength, but thinks not much. [He has probably lost more than he thinks.] Appetite is good. Bowels are regular. Sleeps well and feels well. Digests well for aught that he knows.

Pulse is 100. I saw him last night and to-day. It enumerated this last night and was not less this morning. [A very bad symptom. One of the most reliable of rational facts. He had indubitably tuberculous fever. With the same accelerated circulation from any other cause—from local inflammation he would be more conscious

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1. THE JOURNAL A. M. A., April 9, 1911, pp. 1203 and 1459.
2. THE JOURNAL A. M. A., April 30, 1910, pp. 1459, 1867; also Am. Jour. Obst., March, 1911, p. 473.

of severe ailment. He would be confined to his bed or at least to his house. On the contrary, he is now about his business. If the disease were chronic bronchitis he would not have this pulse.]

Says he has no fever at night; hands and feet are not hot. Does not perspire. [He has tuberculous fever, not yet hectic fever.]

Here is a general view of the rational symptoms. Now of the physical. There is evidently a slight dulness on the left side contrasted with the right. I think there is slight dulness on the right also. I think the respiration is rough on both sides and there is an evident distinction between the two sides—the left being more rough. This distinction was particularly perceptible posteriorly in the interscapular spaces. Action of heart unusually perceptible to the ear, in all parts of chest. On the left side there is a slight hitch in the respiratory murmur. No râles were perceptible.

In view of the foregoing history I consider it demonstrative that this young man is the victim of tuberculous disease of lungs. His symptoms will progressively increase, he will shortly have hectic fever, judging especially from the tuberculous fever, I predict that he will succumb within six months, and very likely within three.

Mark that he is not now in his own opinion an invalid. He is merely troubled with a slight cough. He has no apprehensions. He has no cavities, no hectic—and yet he may confidently be pronounced a doomed man. If the result confirm this prediction it will certainly show that attention to the points connected with the diagnosis of pulmonary tuberculosis enables the practitioner to have a prescience which must appear remarkable to one not acquainted with the value of evidence bearing on the subject.

April 10, 1846.

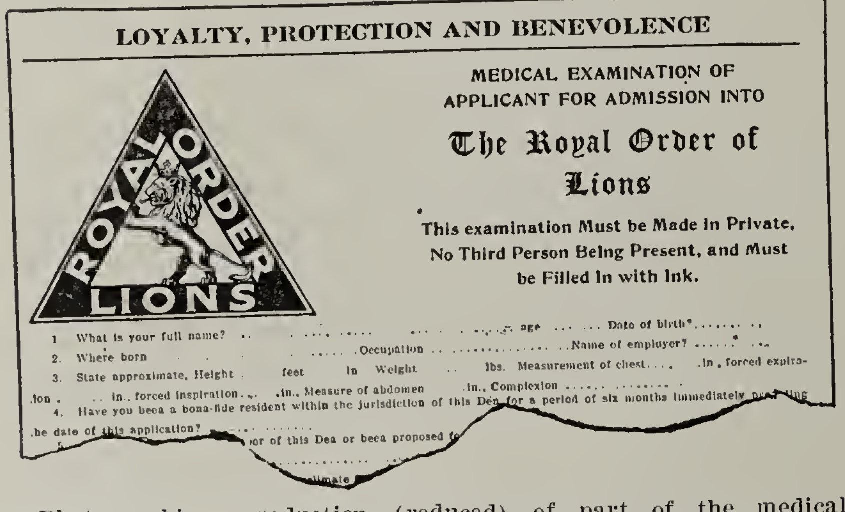
Oct. 11, 1846. This person went to Iowa and passed the summer. He returned recently and again applied to me for advice. His cough and other symptoms were about the same as they were last April. He had lost little if any flesh. Had taken no medicine. I did not examine him closely, but I could not discover on a general examination that the disease had made any appreciable progress. Dr. Trowbridge, Sr., saw him with me, concluded in the diagnosis of incipient tuberculosis and joined in advice to seek a warm climate for the winter. The patient has taken our advice, but his particular destination I do not know. He promised to write.

That Dr. Flint should have grasped so clearly the diagnostic significance of the various symptoms and signs of tuberculosis as early as 1846, shows the acuteness of his diagnostic ability. It seems worth while to publish this case from a historical point.

Lawrason Brown, Saranac Lake, N. Y.

The Royal Order of Lions Fraud

To the Editor:—There is a fellow traveling over the country inducing the physicians to examine for his new order the "Royal Order of Lions" so called. He calls on two physicians in each city to obtain their services as examiners. For this privilege they pay $5.00 in advance. He gives you a receipt, bids you goodbye and that is the last you hear from him. He has roped in any number of doctors throughout Minnesota. There is no such order in existence so far as we can learn. Enclosed find blank application and receipt. He is of slight build, dark complexion, medium height, traveling with a woman whom he calls his wife; she is a dark, short, robust, pretty-faced girl. I thought a notice could be published in the next issue which might be the means of catching him somewhere.



LOYALTY, PROTECTION AND BENEVOLENCE

ROYAL ORDER
LIONS

MEDICAL EXAMINATION OF
APPLICANT FOR ADMISSION INTO

The Royal Order of
Lions

This examination Must be Made in Private,
No Third Person Being Present, and Must
be Filled in with Ink.

1 What is your full name? ... age ... Date of birth? ...

2. Where born ... Occupation ... Name of employer? ...

3. State approximate, Height feet in Weight lbs. Measurement of chest ... in., forced expiration ... in., forced inspiration ... in., Measure of abdomen in., Complexion ...

4. Have you been a bona-fide resident within the jurisdiction of this Den for a period of six months immediately

the date of this application? ...

of this Den or been proposed

Photographic reproduction (reduced) of part of the medical examination and application blank used by the individual who persuaded physicians to pay $5 for the privilege of becoming a medical examiner for the hypothetical Royal Order of Lions.

Charles F. Brigham, St. Cloud, Minn.
President St. Cloud Board of Health.

Comment.—The application blank, receipt and other printed matter which Dr. Brigham sends with his letter have nothing on them to show where the headquarters of the Royal Order of Lions are located. The "Receipt and Admittance Card, Supreme Den of the World, Royal Order of Lions" has the name "J. L. Giblin, National Organizer" printed on it and the receipt is signed "J. R. Landauer, Supreme Organizer." The latter name also appears on some of the printed matter that details the wonderful advantages to be gained by joining "The Fastest Growing, Fraternal, Social and Beneficial Order." The descriptive pamphlet states that this is "The Order That Does Things;" Dr. Brigham's letter indicates that it evidently does.

Fetal Death from Knotted Cord

To the Editor:—In The Journal, August 12, page 563, Dr. Froehlich reports a case of death of fetus due to twisting of the cord. In a somewhat similar case under my care, labor occurring on the date expected, the patient had not felt life for six days. Physical examination revealed absence of heart sounds. A fully developed male child was born dead. There was a knot in the cord about 6 inches from the fetal end, drawn tightly enough to cut off the circulation completely.

Mark Beach, M.D., Clinton, Kan.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIAGNOSIS OF A CASE OF NARCOLEPSY

To the Editor:—I have a somewhat baffling case under my care, and in view of the fact that the text-books, so far as I have investigated, suggest very little on the subject, I appeal to you. History: The patient is a married woman, under middle age, the mother of two healthy children. Her pregnancies have been very easy; she is of medium height and weight, is intelligent and looks the picture of good health and says she feels it, with the exception of some sharp pains of an anginal character over the pericardium, from which at intervals she is free. She came to North Dakota about ten years ago and began almost at once to experience great drowsiness. She would rest her arm on the table, for example, at meal-time and fall into a profound sleep, from which she would be aroused with considerable effort. To prevent a further lapse it would be necessary for her husband to walk with her in the cold air. At this time, and for some years back, she would lapse into a sound sleep, even while at the table, when chatting with friends or while holding the baby. When carrying her baby she had to be watched in order to be prevented from dropping it. When she felt the attack coming on while at her meal she would hurriedly sip a little tea from her cup, but often she would begin to snore while the cup was half way between the table and her lips. The sleep is profound, lasts only a few minutes, after which the patient wakes perfectly refreshed and clear. Objective findings: Urinalysis is negative; the chest and abdominal organs are normal; the vision is good; the pupils are equal in size and active to light and accommodation; no focal symptoms of intracranial tumor or epilepsy are present. As the condition is very perplexing I should greatly appreciate advice.

M. L. G.

Answer.—The case appears to belong to that rare and interesting, though obscure, condition called "narcolepsy," which Gélineau first described in the *Gazette des Hôpitaux*, 1880, p. 626. In the *Archives Gén. de Médecine*, 1905, No. 25, Raymond succinctly defines true narcolepsy as a condition characterized by a sudden and irresistible inclination to sleep, occurring during the hours not usually spent in normal sleep and appearing at irregular intervals, lasting a variable period of time. The person so affected may be overpowered by sleep in the midst of his ordinary occupation and at most unexpected moments, even during meals at table. Authorities still differ in respect to the proper place of narcolepsy in the classification of diseases. All agree in calling it a functional neurosis when it is not symptomatic of brain tumor, syphilis or autointoxication. Although Gélineau described narcolepsy as an independent neurosis, most neurologists agree with Féré ("Twentieth Century Practice of Medicine," p. 501-503), who classes it among the symptoms of hysteria. In speaking of sleeping attacks, he says among other things: "In hysterical subjects we sometimes observe sudden but short-timed attacks of deep slumber, which Gélineau has designated by the name of narcolepsy, but which are always symptomatic, as Ballet has well shown." Continuing, Féré compares these crises to postepileptic stertor, but he regards them as larval forms of hystero-epilepsy, which is true hysteria, according to our latest conceptions of this symptom-complex. In conclusion, he quotes Pitres as having reported the case of a woman who had to yield to the sleeping attack even when she ran about trying to prevent it, or when she placed herself under a shower-bath. In opposition to this view, it must be stated that neurologists of experience see cases in which a short, sudden attack of drowsiness constitutes the sole symptom of petit mal in idiopathic epilepsy. If there be no obesity, diabetes, gout or hepatic disorder, and if tumor or syphilis of the brain can be excluded, and further, if there are no other evidences of hysteria, the condition should awaken a strong suspicion of epilepsy of the petit mal variety. The treatment of true narcolepsy is extremely unsatisfactory. If after a most painstaking examination we are convinced that there is no organic or metabolic disorder present, we resort to all those measures advised to combat hysteria. A course of thorough purging may cause a temporary disappearance of the tendency to sleep-attacks. Further, attention to proper hygiene and environmental changes and psychotherapy may be tried. Last of all, if these measures are of no avail, a course of bromids, as for ordinary epilepsy, should be given a faithful trial.

Besides the authorities mentioned, there will be found in the *American Journal of the Medical Sciences* for August, 1906, an interesting report on a case of narcolepsy, by Albert N. Blodgett, who traces the condition in his case to a faulty heredity, extending over several generations.

HYPODERMIC INJECTIONS OF EUCALYPTUS OIL IN TUBERCULOSIS

To the Editor:—Please give references and a review of the literature on the use of oil of eucalyptus by hypodermic injection in tuberculosis. J. A. BURNETT, M.D., Marble City, Okla.

ANSWER.—The following articles have appeared in recent years:

Berliner, M.: Zur Behandlung der Tuberkulose, Deutsche klin-therap. Wchnschr., Nr. 17, 1906.

Blümel: Treatment of Tuberculosis with Eucalyptus Oil Injections, Beiträge zur Klinik der Tuberkulose, B. viii, H. 2. Abstr. in THE JOURNAL, Dec. 7, 1907, p. 1960.

Berliner, M.: Treatment of Tuberculosis with Injections of Eucalyptol, Beiträge zur Klinik der Tuberkulose, B. x, H. 3.

This treatment of tuberculosis has been recommended by Berliner who gives it by hypodermic injections of a solution in castor oil. He begins with a somewhat weak solution, but increases until the dose reaches 2 c.c. of a 33⅓ per cent. solution twice a week. His results, he claims, are unusually favorable. Cough, he says, becomes less troublesome or disappears and the dyspnea is relieved. Blümel submitted the method of Berliner to a critical trial and reports unfavorably, and feels that it is his duty to warn against certain side-effects as dangerous and injurious, especially as to the method of application advocated. To this Berliner replies that the purity of the castor oil is very important and recommends a proprietary preparation made by a somewhat obscure German firm. Blümel found that patients complained of pain after the injections, but Berliner denies that that has been his experience. The objection of Blümel that the injections were followed by the appearance of albumin in the urine is not accepted by Berliner, who attributes this symptom to an antecedent disease of the kidney.

MILD TYPE OF SMALL-POX

To the Editor:—During the last few years there have been reported in the United States small-pox epidemics with remarkably low mortality. On account of this benignity, many physicians believed that these were not the real small-pox, and much discussion was aroused. Since last year we have had a similar epidemic here, and some physicians believed that we had to deal with a new disease, much like small-pox, but still different in many ways. I am very anxious to obtain information on the following points: 1. Has it been proved that the epidemics in the United States were true small-pox?

2. On what is this proof based?

A. CARINI, Director Pasteur Institute, Sao Paulo, Brazil.

ANSWER.—1. No serious doubt has been expressed about it in the last ten years. From the early months of 1899 to 1901, many physicians having little or no experience with small-pox were unable to make a diagnosis of the mild type of the disease at that time prevalent in the United States. A few health officers with little experience with this disease were doubtful about the diagnosis, but at no time were those of the health officers who had had experience with small-pox in doubt about the nature of the disease. Anyone who is at all familiar with the various types of small-pox could not hesitate for a moment to pronounce the disease under consideration small-pox. Cases of the disease under discussion from all parts of the United States, Canada and Mexico, where the mild and debatable disease existed, were clearly small-pox, though the death-rate was low.

From Jan. 1, 1899 to Dec. 31, 1902, 692 cases of small-pox were treated in the Chicago Isolation Hospital, with a death-rate of a fraction under 2 per cent. (1.78 per cent.). From Jan. 1, 1903, to Dec. 31, 1905, 1,293 cases were admitted to the hospital, with a death-rate of 10.5 per cent. From Jan. 1, 1906, to the present date (Aug. 8, 1911), 355 patients were admitted to the Isolation Hospital, of whom but three died and two of these were imported from Europe—a severe type of the disease.

2. The period of incubation is the same as that of small-pox. The three days of prodromal symptoms followed by a papular eruption and a drop in temperature are invariably present. The life history of the lesion is that of small-pox—papule, vesicle, pustule, scab, leaving pigmentation spots, though the course is sometimes short, like small-pox modified by an old vaccination, but all the symptoms are present if the diagnostician has the patience to secure all the symptoms, not forgetting that many patients will lie about their symptoms through fear of being sent to the hospital. The disease attacks only those not protected by vaccination. Those recently vaccinated, say within ten years, or those vaccinated and revaccinated, do not contract the disease. Those not vaccinated, when exposed to the disease almost invariably contract the disease. Confluent and hemorrhagic cases of small-pox were placed side by side with hundreds of these mild cases in unvaccinated subjects in the hospital wards, where exposure of the latter to the former was close and prolonged, and in no instance did a second disease develop.

Dr. Rawlings, house physician at the Isolation Hospital, vaccinated a series of 100 patients recovered from this disputed mild type of small-pox and failed to secure a vaccination on any of them, though none had previously been vaccinated.

Confluent and hemorrhagic small-pox are contracted from the mild cases of so-called "Cuban itch." This has repeatedly been observed. An attack of the disease protects from small-pox; it protects against vaccination; vaccination protects against the disease and the disease conveys to others the severe types of small-pox.

A symposium on the subject of small-pox was read at the meeting of the American Medical Association held at St. Paul, in 1901. The papers read were published during that year. After a full discussion of the subject, a resolution was passed declaring it to be the opinion of the Section on Practice of Medicine that the epidemic then prevalent and under discussion was small-pox.

CARBON-DIOXID SNOW—CALENTURA FEVER

To the Editor:—Please tell me through THE JOURNAL (1) what carbon-dioxid snow is, and (2) what calentura fever is. I cannot find a definition for either term.

S. C. BROADSTREET, Mount Pleasant, Texas.

ANSWER.—1. Carbon-dioxid snow is carbon dioxid in the solid form, in which it is obtained by allowing the liquefied gas to escape from a container in the form of a spray. The evaporation of some of the liquid takes heat from the rest so that it freezes in fine particles like snow. Carbon-dioxid snow can be collected in a cloth or piece of chamois skin, pressed together and molded into various shapes. The layer of gas which surrounds it prevents it from freezing the hand unless too great pressure be exerted. When it is applied to the skin, the intense cold produced by its evaporation freezes the skin and produces the desired caustic effect. See article by W. A. Pusey, THE JOURNAL, Oct. 19, 1907, p. 1354.

2. *Calentura* is Spanish for "heat" or "fever," and is applied to a mild ephemeral or continued fever of tropical countries, often called by the natives of the English-speaking tropics a "cold." The term is also applied to thermic fever or sunstroke.

THE COMPOSITION OF HAIR DYES AND THE EFFECTS OF THEIR USE

To the Editor:—What reliable scientific information exists in regard to hair dyes? I am interested to find out what substances are employed, whence they come from, what injurious effects they may produce, etc. R. C.

ANSWER.—Hair dyes are chiefly of two classes. (1) Those which secure the effect by precipitating a metallic compound, usually sulphid of a reduced silver salt in the hair, and (2) those which darken the hair by the oxidation of some organic substances, such as pyrogallol. A number of combinations of the first class have been recommended in the past but they have largely fallen into disuse. Dyes of the second class are largely proprietary and depend on the use of various coal tar products which are likely to be irritating to the skin and may produce a severe dermatitis. Among the metallic compounds used for dyeing the hair may be mentioned salts of silver, lead, mercury, bismuth and iron. The salts of silver blacken on exposure to light or by the use of reducing agents. Silver may be absorbed by the scalp, but poisoning in this manner seems to be unusual. Lead is probably more frequently absorbed and it is possible that it may give rise to serious poisoning. The same may be said to be true of mercury. Of course, no such effects are likely to be produced by the salts of bismuth or iron. Systemic poisoning from hair dyes seems to be very rare and some dermatologists state that these substances are not known to have a deleterious effect on the general health. A considerable number of reports have appeared in The Journal of dermatitis, sometimes quite severe, which was attributed to the use of a proprietary hair dye, known as "Mrs. Potter's Walnut Stain." This dye (as well as another called "Eau Sublime") contains paraphenylene diamin which by the action of hydrogen dioxid gives quinone, a substance which has a very irritating action. The poisonous qualities of paraphenylene diamin have long been known. In addition to thirty-two cases of poisoning that have been reported to The Journal (Feb. 13, 1909; March 6, 1909; April 3, 1909; May 15, 1909; Aug. 14, 1909, and Sept. 4, 1909), eighteen cases have been reported by Gathelineau. Brocq described a severe form of poisoning due to this chemical; Balso reports a case of poisoning due to wearing hose which had been dyed with the chlorate of paraphenylene diamin, and Mewborn (The Journal A. M. A., May 18, 1901) reported a case of dermatitis from the use of a hair dye having this chemical for its base. This subject has also been discussed editorially in The Journal, Sept. 4, 1909, page 803.

PREPARATION OF SODIUM CACODYLATE SOLUTION FOR HYPODERMIC INJECTION

To the Editor:—Please give the formula for preparing sodium cacodylate solution as for hypodermic injection and the daily dose advised and your opinion as to its efficacy.

E. P. McGehee, Lake Village, Ark.

Answer.—Sodium cacodylate is readily soluble in water so that the desired dose, usually from ½ to 2 grains, can be given in an ordinary hypodermic syringe full of sterile water. Stock solutions should not be used, as they deteriorate readily, but the pharmacist should weigh out the desired dose for each administration and place it in a sterile bottle for use at the time of injection. Wholesale druggists furnish the drug in ampoules ready for use. J. B. Murphy advises an initial dose of from 2 to 4 grains, which should not be repeated within three or four days unless there are special indications for it. Other clinicians have given from ½ to 3 grains daily for a number of days. Probably it is better, as a rule, to allow an interval of three days. Clinical experience with sodium cacodylate in syphilis is not yet sufficiently extensive to enable a conclusive opinion regarding its efficacy to be formed.

MEDICAL WRITINGS OF OLIVER WENDELL HOLMES

To the Editor:—Kindly let me know through the "Queries and Minor Notes" column if the complete medical writings of Oliver Wendell Holmes are published in book form, and if so, by whom, the price, etc. Most of us have read extracts from Dr. Holmes' writings and the majority of us, perhaps, have a copy of his masterly paper on the infectious nature of puerperal sepsis filed away among our journals; but I, for one, should like to have such things in book form.

D. M. Molloy, Manila, P. I.

Answer.—The medical writings of Oliver Wendell Holmes have been published in one volume by Houghton, Mifflin & Co., Boston, under the title "Medical Essays." Price, $1.50.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Aug. 12, 1911:

Boehs, Charles J., M.R.C., orders to Fort Porter, N. Y., for temporary duty revoked.

Ingalls, R. E., dental surgeon, left temporary duty at Fort Apache en route to Whipple Barracks, Ariz., for temporary duty.

Burket, John A., lieut., ordered to proceed from Fort Riley, Kan., to Fort Des Moines, Iowa, for temporary duty.

Moncrief, William H., captain, ordered to proceed from Fort Leavenworth, Kan., to Fort Sheridan, Ill., for duty with troops from post to Camp Perry, Ohio, and return to post instead of duty at Camp Port Huron, Mich.

Owen, Leartus J., captain, relieved from duty as inspector-instructor of the organized militia of Michigan, Aug. 9-18, 1911.

Blanchard, R. M., captain, detailed inspector-instructor, organized militia of Michigan, in camp Aug. 9 to 18, 1911, Port Huron, Mich.

Holmberg, Carl R., lieut., granted leave of absence for thirty days.

Wolven, F. Homer, dental surgeon, reported for temporary duty at Fort Gibbon, Alaska.

Winter, Francis A., major, will proceed to New York City for consultation with medical supply officer, in connection with purchase of medical supplies. On completion of duty to return to station.

Maus, L. Mervin, colonel, is granted leave of absence for one month and ten days on or about Aug. 21, 1911.

Gilchrist, Harry L., major, is detailed as instructor of sanitary troops at Camp Nevada, Mo., Aug. 20, 1911. On conclusion of encampment will return to his station.

Duncan, Louis C., captain, on arrival at San Francisco, will proceed to the Presidio and report to commanding officer, General Hospital, for duty.

Billingslea, Charles C., captain, when relieved by Captain Duncan, will proceed to Columbus Barracks, Ohio, for duty.

Phalen, James M., captain, is relieved Oct. 1, 1911, at Columbus Barracks, Ohio, and will proceed to New York City as attending surgeon.

Brewer, Isaac W., M.R.C., on arrival at San Francisco, will proceed to Fort Niagara, N. Y., for duty.

Smith, Herbert H., M.R.C., on his arrival at San Francisco, will proceed to Fort Lincoln, N. Dak., for duty.

Boards of officers to meet on September 1 for examination of applicants for acting dental surgeons are appointed as follows:

- Fort Slocum, N. Y.: Wadhams, Sanford H., major; Boak S. Davis, dental surgeon; Tignor, Edwin P., dental surgeon.
- Columbus Barracks, Ohio: Fisher, Henry C., lieut.-col.; Mason, George L., dental surgeon; Bernheim, Julien R., dental surgeon.
- Jefferson Barracks, Mo.; Howard, Deaue C., major; Voorhees, Hugh G., dental surgeon; McAlister, John A., dental surgeon.
- Fort Logan, Colo.: Shook, Jay Ralph, major; Lauderdale, Clarence E., dental surgeon; Wing, Franklin F., dental surgeon.
- Fort McDowell, Cal.: Brooks, William H., major; Hess, John H., dental surgeon; Chambers, William H., dental surgeon.

Truby, W. F., major, granted two months' leave of absence.

Kerr, Robert W., lieut., granted leave of absence for two months.

Marietta, S. U., M.R.C., ordered to active service and assigned to duty, Aug. 23, 1911, to Fort Sheridan, Ill.

Medical Corps, U. S. Navy

Changes for the week ended Aug. 12, 1911.

Taylor, J. L., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to the naval hospital, Las Animas, Colo., for treatment.

Kelley, H. L., P. A. surgeon, detached from the naval hospital, Mare Island, Cal., and ordered to the Navy yard, Mare Island, Cal.

Hoyt, R. E., P. A. surgeon, detached from the Navy yard, Mare Island, Cal., and ordered to the Navy recruiting station, Los Angeles, Cal.

Bunker, C. W. O., P. A. surgeon, ordered to duty at the naval hospital, Mare Island, Cal.

Parham, J. C., asst.-surg., ordered to duty at the naval hospital, Philadelphia.

Zalesky, W. J., P. A. surgeon, detached from the *Franklin* and ordered to the Navy yard, Charleston, S. C.

Howard, J. V., P. A. surgeon, detached from the *Supply* and ordered to the naval station, Guam, P. I.

Abernathy, R. T., pharmacist, detached from the naval hospital, Las Animas, Colo., and ordered to the naval hospital, Washington, D. C., for observation and treatment.

Stuart, M. A., P. A. surgeon, detached from the Navy yard, Charleston, S. C., and ordered to the *Franklin*.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended Aug. 9, 1911.

Trask, J. W., asst. surg.-gen., granted twenty-six days' leave of absence from Aug. 8, 1911.

Austin, H. W., surgeon, granted one day's leave of absence, Aug. 6, 1911, under paragraph 189, Service Regulations.

Williams, L. L., surgeon, granted three days' leave of absence from Aug. 6, 1911, under paragraph 189, Service Regulations.

Mathewson, H. S., P. A. surgeon, relieved from duty at Fort Stanton, N. Mex.

McMullen, John, P. A. surgeon, granted twenty-one days' leave of absence from Aug. 7, 1911.

Robinson, D. E., P. A. surgeon, granted twenty-one days' leave of absence from Aug. 12, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to Providence, R. I., from Boston, Mass., and on completion of duty enjoined to return to Boston.

Lloyd, B. J., P. A. surgeon, granted two days' leave of absence, July 28-29, 1911.

Rucker, W. C., P. A. surgeon, granted seven days' leave of absence en route to rejoin station.

Smith, F. C., P. A. surgeon, to assume temporary charge of Fort Stanton, N. Mex.

Duffy, B. J., asst.-surg., granted seven days' leave of absence from Aug. 12, 1911.

Clarke, F. M., A. A. surgeon, granted ten days' leave of absence, with pay, from Aug. 5, 1911, and fifteen days' leave of absence, without pay, from Aug. 15, 1911.

Earl, F. D., A. A .surgeon, granted two days' leave of absence. July 30-31, 1911.

Richter, H. C., A. A. surgeon, granted thirty days' leave of absence from Aug. 1, 1911.

Savage, W. L., A. A. surgeon, granted thirty days' leave of absence from Aug. 8, 1911.

Simonson, G. T., A. A. surgeon, granted two days' leave of absence, Aug. 4-5, 1911.

Storrs, H. R., A. A. surgeon, granted seven days' leave of absence, without pay, from Aug. 3, 1911.

Walker, H. D., A. A. surgeon, granted twenty-five days' leave of absence, without pay, from Aug. 7, 1911.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

IOWA: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

MASSACHUSETTS: State House, Boston, September 12-14. Sec., Dr. Edwin B. Harvey.

MISSOURI: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

NEW YORK: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Wisconsin May Report

Dr. John M. Beffel, secretary of the Wisconsin Board of Medical Examiners, reports the written and oral examination held at Milwaukee, May 24-26, 1911. The number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 69, of whom 68 passed and 1 was conditioned. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1872)	84.
Rush Medical College	(1911)	87.
Bennett Medical College	(1911)	81.
Kentucky School of Medicine	(1893)	81.
American Medical College, St. Louis	(1897)	81.
Marquette University, Milwaukee. (1909) 75; (1910) 75, 75, 85; (1911) 75, 76, 76, 77, 77, 78, 79, 79, 79, 80, 80, 80, 80, 81, 81, 81, 81, 81, 81, 82, 82, 82, 82, 83, 83, 83, 83, 83, 84, 84, 84, 85, 85, 86, 86, 86, 87, 87, 88.		
Wisconsin College of Physicians and Surgeons, (1910) 83; (1911) 75, 75, 77, 78, 79, 80, 80, 80, 81, 81, 82, 85, 85, 85, 86, 86.		
Western University, London, Ontario	(1909)	79.
Queen's University, Kingston, Ontario. (1902) 76;	(1911)	80.

CONDITIONED

College	Year Grad.	Per Cent.
Marquette University, Milwaukee	(1911)	72.*

* Conditioned in pathology and neurology.

Ohio June Report

Dr. George H. Matson, secretary of the State Medical Board of Ohio, reports written and practical examination held at Columbus, June 6-8, 1911. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 162, of whom 152 passed and 8 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Baltimore Medical College	(1911)*	
Harvard University Medical School	(1911)	85.1
University of Michigan, Homeopathic College	(1911)	84.6
Johns Hopkins University. (1910) 87;	(1911)	79.3, 82.5
Bellevue Hospital Medical College	(1876)	76.
Ohio-Miami Medical College, (1910) 77; (1911) 75.1, 76, 76.7, 77.5, 77.5, 79.8, 79.9, 80, 80.4, 80.5, 80.9, 81.1, 81.1, 81.6, 81.7, 81.7, 81.8, 82.8, 83, 83.1, 83.1, 83.4, 83.4, 83.6, 83.6, 83.7, 83.8, 84, 84, 84.8, 86.5.		
Eclectic Medical College, Cincinnati, (1908) 78; (1911) 76, 76.4, 78.7, 79, 81.6, 84.7, 84.9.		
Starling-Ohio Medical College, (1911) 75, 75, 75.8, 76.1, 76.1, 77, 77.9, 78, 78.1, 78.4, 79.4, 79.9, 80.4, 80.6, 80.8, 80.9, 81.2, 81.4, 81.5, 81.6, 81.6, 81.9, 82, 82, 82.2, 82.4, 82.5, 82.5, 82.6, 83.3, 83.4 83.6, 83.7, 83.8, 83.9, 84, 84, 84.1, 84.4, 84.6, 84.6, 84.7, 84.9, 84.9, 85, 86.6, 86.7, 87, 88.3, 89.		
Western Reserve University, (1911) 78.1, 80.3, 81.2, 82.6, 83.1, 83.5, 83.8, 85, 85.1, 85.8, 86.2, 89.3, 89.7.		
Cleveland College of Physicians and Surgeons, (1908) 83.5; (1911) 75, 78, 78.8, 78.9, 79.3, 79.5, 80.5, 81.3, 81.5, 81.5, 81.5, 81.8, 82.6, 82.6, 83, 83.4, 84, 84.1, 84.8, 85.2, 85.9.		
Toledo Medical College, (1911) 79, 80, 80.1, 80.1, 80.3, 81, 81.6, 86.3.		
Cleveland-Pulte Medical College, (1911) 77.2, 77.6, 78.1, 79, 79.1, 81.9, 83.4.		
Jefferson Medical College	(1910)	77.5
University of Pennsylvania	(1905)*	
Western University, London, Ontario	(1910)	78.6
University of Berne, Switzerland	(1900)*	
Royal College of Physicians and Surg., Glasgow†	(1898)	

FAILED

College	Year Grad.	Per Cent.
Starling-Ohio Medical College	(1911)	70.7
Ohio-Miami Medical College	(1911)	73.9
Eclectic Medical College, Cincinnati, (1910) 59.4,	(1911)	73, 73.8
Cleveland-Pulte Medical College	(1910)	70.4
University of Tennessee	(1907)	73.8
Lincoln Memorial University, Medical Department	(1911)	72.6

* Percentage not given.

† Not a medical school but an examining body.

Wyoming June Report

Dr. J. B. Tyrrell, secretary of the Wyoming State Board of Medical Examiners reports the written examination held at Laramie, June 6-8, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75, and not less than 60 in any one branch. The total number of candidates examined was 2, both of whom passed. Eight candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Grad. Year	Cent. Per
Western Reserve University	(1902)	85.2
Marquette University	(1910)	85.6

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1910)	Colorado
Chicago College of Medicine and Surgery	(1910)	Illinois
Kansas Medical College	(1909)	Kansas
University of Kansas	(1909)	Kansas
Detroit College of Medicine	(1906)	Michigan
University of Michigan, College of Medicine	(1889)	Illinois
Cornell University Medical College	(1910)	Illinois
Medical College of Ohio	(1908)	Ohio

Delaware June Report

Dr. H. W. Briggs, secretary of the Medical Council of Delaware, reports the written examination held at Dover, June 20-22, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 15, all of whom passed. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1905)	88
Chicago College of Medicine and Surgery	(1911)	81.6
Baltimore Medical College. (1910) 79.2;	(1911)	88.1
College of Physicians and Surgeons, Baltimore	(1911)	81 6
University of Maryland	(1910)	84.5
Medico-Chirurgical College of Philadelphia	(1911)	82.5
University of Pennsylvania	(1911)	87.9
Jefferson Medical College. (1911) 79, 81.5, 82.4, 82.9, 85.6, 92.2		
Woman's Medical College of Pennsylvania	(1911)	79.4

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Maryland	(1882)	Maryland
Medico-Chirurgical College of Philadelphia	(1907)	Penna.
Western Pennsylvania Medical College	(1903)	Penna.

Washington July Report

Dr. F. P. Witter, secretary of the Board of Medical Examiners of the State of Washington, reports the written and practical examination held at Tacoma, July 5-8, 1911. The number of subjects examined in was 11; total number of questions asked, 100; percentage required to pass, 75, and not less than 60 in any one subject. The total number of candidates examined was 85, of whom 53 passed, including 1 osteopath, and 29 failed, including 4 osteopaths. Three candidates did not complete the examination. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Colorado. (1901) 76;	(1911)	75
George Washington University	(1907)	78
Yale University	(1908)	76
Hahnemann Medical College and Hospital, Chicago	(1911)	81
Coll. of Phys. and Surgs., Chicago. (1883) 80;	(1909)	85
Northwestern University Medical School (1909) 77, 84, 90; (1910) 75; (1911) 77, 81.		
Chicago Homeopathic College	(1901)	79
Rush Medical College. (1901) 85;	(1909	86
University of Iowa, College of Medicine	(1910)	77
Tulane University of Louisiana	(1908)	78
University of Maryland	(1901)	81
Baltimore Medical College	(1907)	80
Harvard University Med. School. (1907) 80;	(1908)	84
Tufts College Medical School	(1908)	75
Univ. of Mich., Dept. of Med. and Surg. (1909) 78;	(1910)	78
University of Michigan, Homeopathic College	(1897)	81
Hamline University	(1908)	75
Univ. of Minnesota, Coll. of Med. and Surg	(1909)	81
University Medical College, Kansas City	(1897)	83
Barnes Medical College	(1905)	77, 82
Washington University, St. Louis	(1910)	75
Creighton Medical College. (1910) 75;	(1911)	75
University of Buffalo	(1910)	79
Columbia Univ. Coll. of P. and S. (1903) 77;	(1911)	80

Bellevue Hospital Medical College	(1896) 78; (1898)	82
Medical College of Ohio	(1909)	82
University of Oregon	(1910)	77
Western Pennsylvania Medical College	(1911)	82
University of Pennsylvania	(1899)	79
Medico-Chirurgical College, Philadelphia	(1896)	86
University of Virginia	(1906)	75
Milwaukee Medical College	(1910)	78
Queen's University, Kingston, Ontario	(1907)	84
University of Toronto, Ontario	(1910)	80
Trinity Medical College, Ontario	(1901)	79, 82
University of Geneva, Switzerland	(1911)	76
London School of Medicine for Women	(1900)	81

FAILED

Northwestern University Medical School	(1910)	66
Hahnemann Medical College and Hospital, Chicago	(1888)	56
Rush Medical College	(1899) 65; (1901)	76
Bennett Medical College	(1910)	24
Indiana Medical College	(1907)	73
Iowa College of Physicians and Surgeons	(1897)	65
Drake University	(1900)	62
University of Louisville	(1911)	68
Southwestern Homeopathic Med. Coll., Louisville	(1909)	58
Medical School of Maine	(1909)	65
Baltimore Medical College	(1910)	68
Tufts College Medical School	(1906)	61
University Medical College, Kansas City	(1898)	74
Barnes Medical College	(1907)	55
St. Louis University	(1910)	71
Washington University, St Louis	(1904) 70; (1911)	70
Creighton Medical College	(1911)	62
Eclectic Medical College, Cincinnati	(1911)	59
Pulte Medical College	(1891)	75
Willamette University	(1909)	64
University of Oregon	(1911)	70
McGill University, Quebec	(1909)	74
Trinity Medical College, Ontario	(1903)	71

Connecticut Homeopathic July Report

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports that at the meeting held July 11, 1911, 1 candidate, a graduate of the New York Homeopathic Medical College and Hospital, 1899, was licensed through reciprocity with New Jersey.

Book Notices

Ueber Scharlach (der Scharlacherkrankung zweiter Teil). Von Dr. Dionys Pospischill, k. k. Primararzt, und Dr. Fritz Weiss, gew. Assistent der Abteilung. Paper. Price, 5 marks. Pp. 147. Berlin: S. Karger, Karlstrasse 15, 1911.

The authors have had enormous experience with scarlet fever. This work is based on the study of 3,605 cases seen within the six years ending with 1909 and especially on 2,605 cases seen during the last thirty-five months of that time. During these and previous years the authors have gathered a number of deep-rooted impressions and convictions about scarlet fever, and they express these with an earnestness and a fervor that is rather unusual in a scientific treatise. Only a single page is devoted to statistics. The authors aim rather to record their views which are the results of years of careful clinical observation. Pathology, bacteriology, hematology, etc., remain almost untouched—the work is essentially a clinical treatise.

This pamphlet is devoted wholly to what the authors call *das zweite Kranksein*, i. e., the second manifestation of illness in scarlet fever that occurs after the primary symptoms have abated or disappeared. This *zweite Kranksein* is not a complication, or a new illness; it is an integral part of the scarlet fever process. The symptoms when present are, in order of frequency, one or more of the following: (1) fever; (2) adenitis; (3) angina; (4) nephritis; (5) scarlet fever heart.

Special attention is given to nephritis and to the severe types of scarlet fever. Before the latter, the authors feel utterly helpless in affecting its course. In two series of 1,186 cases, each of the children kept on a milk diet on the one hand and on a general diet including rest, on the other hand, there was a difference of 1/6 of 1 per cent. in the number of cases of nephritis that developed. Mastoiditis, the authors state emphatically, should never be operated on radically. Moser's serum they consider of value.

The book is interesting alike to the student and practitioner of limited experience with scarlet fever, and to the specialist who has seen a great deal.

Medical Revolution. A Plea for National Preservation of Health Based on the Natural Interpretation of Disease. By Sydney W. Macilwaine, M.R.C.S., L.R.C.P. (Retired). Cloth. Price, 2 shillings 6 pence. Pp. 162. London: P. S. King & Son, Orchard House, Westminster, 1911.

This little book is a plea for a national preservation of health based on the natural interpretation of disease and is dedicated to the "intelligent and puzzled layman, to medical officers of health and general practitioners and to medical students to whom belong the future of our profession." The emphasis laid by the writer on prevention rather than cure is another indication of the rapidly changing views regarding the function of the medical profession. Probably the most suggestive and practical chapter is that on organization, in which Macilwaine pleads for a systematic and intelligent effort to make the collective experience of the entire medical profession of value to each member. After discussing the enormous practical experience of individual physicians at the end of long years of service, and of the profession in the aggregate, he says, "We have no organization for the collection, digesting and systematizing of experiences. The vast bulk of our raw material is deliberately allowed to die unorganized and unrecorded with the individual practitioner." His remedy is simple. "There must be created a central body of experienced men who shall collect information from the whole profession bearing on the causation of disease. This information they will systematize and redistribute regularly to every member of the profession. As soon as our knowledge of any particular disease was definite enough for the purpose it would be drafted into a permanent shape and also distributed to the profession. In this way the foundation of the ultimate text-book of medicine would be made. It would represent the accumulated and systematized experience of the whole profession. It would be comprehensive and would furnish the practitioner at last with a complete and reliable book of health." It is interesting to note in this connection that much the same plan of collecting data from each member of the profession was proposed in the American Medical Association over fifty years ago but has never been developed into a practical working scheme. The book is of interest as an evidence of the changing attitude of the medical profession in England. Evidently our English brethren are going to lead the way in the inevitable socialization of the medical profession.

Clinical Symptomatology. With Special Reference to Life-Threatening Symptoms and Their Treatment. By Alois Pick, Professor of Medicine, University of Vienna, and Adolph Hecht, Pediatrician, St. Anne's Hospital, Vienna. An Authorized Translation Under the Editorial Supervision of Karl Konrad Koessler, M.D. (Univ. of Vienna), Instructor of Clinical Medicine, Rush Medical College, in Affiliation with the University of Chicago. Cloth. Price, $6 net. Pp. 833. New York: D. Appleton & Co., 1911.

The systematic grouping of the several diseases and pathologic conditions which may produce a given symptom, forms a valuable method for teaching differential diagnosis. Such a study enables the student to construct a mental cross-index to his store of facts concerning disease, and trains him in orderly habits of thought.

In this work Pick and Hecht discuss symptoms, such as vomiting, headache, pain in the chest, jaundice, etc., and after describing the mechanism by which the symptoms are produced, suggest appropriate therapeutic measures. This proposal of the authors to combine treatment with diagnosis is commendable. The diseases for which we possess specific remedies are relatively few in number, and treatment must often consist in alleviating the more distressing complaints of the patient. The study of symptoms offers a favorable opportunity for the discussion of rational therapy based on the pathologic condition present.

The opening chapter deals with general symptoms including nutritional and developmental anomalies, with a full discussion of the theories of the production of fever. The section on disturbance of heart action contains many valuable suggestions on treatment. We commend specially the chapters on dyspnea and pain in the chest. The space devoted to abdominal pain is rather limited, considering the importance of the subject. The subject of jaundice, too, deserves a more thorough consideration than is accorded to it by the authors. The chapter on the symptomatology of poisoning by chemical agents will prove of interest.

The translator has adhered closely to the subject-matter of the German edition. The inverted sentence is employed rather more frequently than is consistent with idiomatic English. Typographic errors are rare.

The book contains much that is valuable to the student, and to the clinical instructor who wishes to present his subject from a new point of view.

Internal Secretions from a Physiologic and Therapeutic Standpoint. By Isaac Ott, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia. Cloth Price, $1. Pp. 133, with illustrations. Easton Pa.: E. D. Vogel, 1910.

In these lectures Dr. Ott has undertaken to present a succinct account of the recent facts accruing from the study of the physiologic and pathologic action of the glands with internal secretion. The first and second lectures deal with individual glands, the parathyroids and the pituitary, the third with the correlation of such glands in the economy. Perhaps no better example of the nice adjustments of the animal economy can be produced than the action of the adrenals in producing a definite chemical substance, one-millionth of a grain of which raises blood-pressure and an excess of which might have very deleterious effects. The quantity and action of this secretion is so carefully regulated, however, that no harmful results arise in the normal animal. The study of the parathyroids brings out the records of a good deal of personal work on the part of the author. He found that tetany was due to a poison in the blood, but not entirely to loss of calcium. He found that the pituitary gland is able to some extent to compensate for failure of parathyroid function. In the second lecture, a more detailed study of the pituitary is made and some therapeutic deductions drawn. The author attributes acromegaly to hyperhypophysy and infantilism to hypohypophysy. He found that in experimental work none of the artificial preparations have as much power as the gland itself. The third lecture compares the action of the various glands and lays the foundation for the therapeutic deduction that overaction of one gland is to be controlled by giving the substance or secretion of another gland to counteract the effect of the first. A considerable number of therapeutic conclusions are here collected which naturally add to the interest of the work to the practicing physician. The book is quite profusely illustrated by a number of charts and tracings. Only a careful reading will disclose the full value of the facts which recent studies of the ductless glands have brought to light. Such a perusal we bespeak for this monograph.

Lehbruch der Kinderheilkunde. Bearbeitet von Prof. Dr. Feer, Heidelberg; Prof. Dr. Finkelstein, Berlin; Priv.-Doz. Dr. Ibrahim, München; Dr. L. F. Meyer, Berlin; Prof. Dr. Moro, München; Prof. Dr. Von Pirquet, Breslau; Prof. Dr. Pfaundler, München; Prof. Dr. Thiemich, Magdeburg; Priv.-Doz. Dr. Tohler, Heidelberg: ; Herausgegeben von Prof. Dr. E. Feer, Direktor der Univ.-Kinderklinik in Heidelberg. Paper. Price, 11.50 marks. Pp. 734, with 162 illustrations. Vienna: Gustav Fischer, 1911.

This is a composite book, but the names of the contributors are an evidence that the editor selected men of authority to discuss the various subjects. Thus, Finkelstein and Meyer write on nutritional disorders and diseases of the new-born; Pfaundler, on blood, constitutional and metabolic disturbances; von Pirquet, on tuberculosis and diseases of the respiratory tract; Moro, on syphilis and dermatology; Feer, on heart diseases and acute infectious diseases; Ibrahim and Tobler, respectively, on diseases of the nervous and genito-urinary systems, while Thiemich contributes a valuable introductory chapter of 100 pages on general considerations, anatomy, physiology, nutrition and hygiene, examination, symptomatology, pathogenesis, prophylaxis and therapy. The continuity and unity of the book are not disturbed because each author discusses a complete subject.

The illustrations are abundant, original, well chosen and well executed. The book is exhaustive in spite of its size, partly because of its conciseness and partly because of the fact that it treats briefly the diseases which are common to child and adult and fully those which are peculiar to the child. For this reason infancy receives the largest share of attention.

Three Thousand Years of Mental Healing. By George Barton Cutten, Ph.D. (Yale), President of Acadia University. Cloth. Price, $1.50 net. Pp. 318, with Illustrations. New York: Charles Scribner's Sons, 1911.

This is a general historical review of mental healing. As the author intimates in the preface, many people nowadays are misled into believing that the recent mental healing movements are new in origin and in principle, simply and solely because they are ignorant of similar movements in the past. The author's object in writing this book was to show, on the contrary, that such movements as those known as Mormonism, Dowieism and Eddyism—mental healing combined with religious vagaries—are merely repetitions of similar movements in bygone ages, and that such individuals as the "Mountain Evangelist," George O. Barnes, Father Mathew and Francis Schlatter (the latter only the other day was attracting thousands of intelligent people to Denver who stood in line for hours to receive his magic touch and be healed) present characteristics which are to all intents and purposes the same as those of "healers" and leaders of cults hundreds and thousands of years ago.

The author is not a physician; he is president of Acadia University (Nova Scotia) and writes from the point of view of an intelligent layman. He discusses briefly, but philosophically, the different individuals, movements and fads of the past—relics, talismans, amulets, charms, royal touch, mesmerisms, etc., leading up to the final chapter, "The Healers of the Nineteenth Century." He recognizes that there has been, and is, an element of truth underlying all these things—the influence of the mind on the body.

When one has read this book one will be forced to acknowledge that with all our boasted civilization, with all our education and intelligence, the average human being of to-day is just as susceptible to imposition, just as easily led astray, and just as superstitious, as was the average human being one, two or three thousand years ago; also that ordinary common sense and logical reasoning are as foreign to the modern individual who is carried away with some fad or fancy that is cloaked in mystery or befogged with the supernatural, as they were to the individual human being one thousand years before Christ.

Education: How Old the New. By James J. Walsh, M.D., Dean and Professor of the History of Medicine and of Nervous Diseases at Fordham University School of Medicine. Cloth. Price, $2 net. Pp. 459. New York: Fordham University Press, 1910.

This volume contains eleven lectures and addresses. Of particular interest are the chapters on "The First Modern University"—that of Alexandria—"Ideal Popular Education," and "The Medical Profession for Six Thousand Years." Dr. Walsh shows in his interesting style that high ideals in education are not solely the product of recent decades, but were held and to a great extent fulfilled in ancient times. He shows also that much information of value may be obtained from a study of the history of education. In fact, he shows that the standards of medical education of a few decades ago were far inferior not only to those held centuries ago, but also to those long held by the Spanish-American universities of Mexico and South America. This book is well worth reading, and will be a valuable addition to the library of any one who desires a broad outlook on the subject of modern education.

Refraction and Motility of the Eye. With Chapters on Color-Blindness and the Field of Vision. Designed for Students and Practitioners. By Ellice M. Alger, M.D., Adjunct Professor of Ophthalmology at the New York Postgraduate Medical School. Cloth. Price, $1.50 net. Pp. 376, with 122 illustrations. Philadelphia: F. A. Davis Co., 1910.

This useful compend, now a year old, has found favor with students of refractive errors and of oculomuscular anomalies. Beginning with a chapter on optics the author furnishes a good account of the fundamental principles of the reflection and refraction of light, especially in their relation to the physiology of the eye. This is followed by a description of the normal or emmetropic eye, of the ophthalmoscope and its uses, and by a fairly well-considered report on that important subject, retinoscopy, which, by the way, we would prefer to call "skiascopy." Then follow chapters on hyperopia, myopia, astigmatism, presbyopia, anisometropia, aphakia and binocular vision. Four good-sized sections of this text-book are devoted to the normal motility of the eye-ball and to the causes, diagnosis and treatment of its abnormal variations—heterophoria and heterotropia.

The subjects strabismus, squint and ocular paralysis (the writer apparently makes no distinction between "paresis" and "paralysis"), their causes, detection and cure, are also described in a manner very helpful to the student.

Just why, in a small work of this sort, chapters on color-blindness, the visual field and the relations of functional eye symptoms to general diseases are appended is not quite clear, unless it is held that every ocular interest may be regarded as more or less germane to the subject of refraction and heterophoria. The book is well made, fairly illustrated and has a capital index.

The Nervous Life. By G. E. Partridge, Ph.D., Formerly Lecturer in Clark University. Cloth. Price, $1 net. Pp. 216. New York: Sturgis & Walton Co., 1911.

The author endeavors to point out some of the causes and conditions of the nervous, social and industrial life of our people as a whole, as well as the nervous life expressed in the temperament of the nervous individual. He holds that as the causes responsible for present conditions are rooted in the very heart of our national life and, indeed, of all social progress, the cure must be as profound and broad as the disease and must include the whole problem of education, mental and nervous hygiene and the personal problem of each individual. He endeavors to point out especially the psychologic causes and conditions of the nervous life and to suggest methods by which such conditions should be controlled. Chapters on biologic laws and self-knowledge serve as introductory. In Chapters 6 and 7, on the principles of control and the optimum life, the author defines his theory. The remainder of the book is devoted largely to discussing the practical means by which better conditions can be brought about. Food, exercise, rest and sleep, work and recreation are all discussed. The subject is one of vast importance and the book should be welcome as a contribution to a better knowledge of the complex conditions of modern life.

A Text-Book of Medicine. For Students and Practitioners. By Dr. Adolf v. Strümpell, Professor of Special Pathology and Therapeutics at the University of Leipsic. Fourth American Edition. Translated by Permission from the Seventeenth Revised German Edition with Editorial Notes, Additional Chapters, and a Section on Mental Diseases, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University, and Philip Coombs Knapp, A.M., M.D., ex-President of the American Neurological Association. Cloth. In Two Volumes. Price, $12 net. Pp. 831 and 800, with 224 illustrations. New York: D. Appleton & Co., 1911.

It is twenty-five years since the first American edition of Professor Strümpell's text-book was published and ten years since the third American edition, translated from the fourteenth German edition, appeared. The present is the fourth American edition, corresponding to the seventeenth German edition. These facts are an evidence of the well-deserved popularity of this text-book, both in America and in Europe. The present edition has been brought well up to date by the addition of articles on the "fourth disease," Malta fever, Rocky Mountain fever and pellagra. The editors have also included a section on mental diseases, which are of interest to the general practitioner. The present edition, we are sure, will be accorded the same favorable reception as its predecessors.

A Manual of the Diseases of Infants and Children. By John Ruhräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third Edition. Flexible leather. Price, $2.50 net. Pp. 534, with 173 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Three editions in three years speaks well for a work of the size and scope of this. It is deservedly popular, inasmuch as it gives the busy practitioner a concise account of practically everything in this field. For a more detailed and discursive text larger works must be consulted. It is not intended to be more than a desk-book. Besides having revised the entire text, the author has added a dose-table of drugs, instructions for summer, the care of the mentally deficient, the blind and the deaf. The book is well illustrated by pictures and plates as well as charts.

Medicolegal

Right to Recover for Operation Followed by Death—Power of Wife to Bind Husband for Operation on Child

(French vs. Burlingame (Mo.), 134 S. W. R. 1100)

The St. Louis Court of Appeals here affirms a judgment for the plaintiff for the reasonable value of professional services rendered as a surgeon in performing an operation on the defendant's infant daughter, for which a charge of $100 was made. The defendant, father, resisted payment solely on the ground that the operation was performed without his knowledge or consent. The child, 9 years of age, was suffering with what was diagnosed as an abscess of the liver. The mother had brought the child to the city and was advised that an operation should be performed at once in order to permit the pus to escape, and thus save the patient's life. She agreed that the operation should be performed, and it was, at a hospital, on the following day, when it was said that as much as 2 quarts of pus were removed. It was conceded that the operation was performed with skill, and that the death of the child, which occurred a day or two afterwards, was caused by weakness resulting from the disease. It was in evidence on the part of the defendant that he had objected to an operation before his wife left home with the child, and said that one should not be performed, but that fact was not communicated to the plaintiff, who was informed only that the father objected to the child's being removed to St. Louis.

The defendant relied on the case of Detwiler vs. Bowers, 9 Pa. Super. Ct. 473, where it was said that a surgical operation of doubtful advantage was not a necessary for which a nonassenting father was liable on an order given to the surgeon by the wife. But the facts in that case were dissimilar from those in this one, for there the malady from which the child suffered and for which the operation was performed at the instance of the mother, without the knowledge and against the consent of the father, was a cancerous tumor, and the parents had been advised that the disease would immediately reveal itself again, though an operation were had. Indeed, this prediction proved to be true in that case, for, though several operations were had, each time the cancerous growth recurred. On those facts, the court deemed the operation so known to be of doubtful advantage as one not falling within the category of necessaries furnished the child for which the parent should answer.

Here the facts were entirely dissimilar, for naught in the case suggested that the malady—an abscess of the liver—might return if once removed, and it was conceded that its removal was the only remaining chance for the recovery of the child. The fact that the defendant objected to the child being removed from home and brought to St. Louis for treatment by the plaintiff was wholly unimportant in view of the further fact that, notwithstanding, he permitted the removal to be made.

The defendant having acquiesced in the act of his wife in bringing the little one to the plaintiff in St. Louis for treatment, the case must be viewed as though the wife was his agent for the purpose. No one can doubt the implied agency of the wife to pledge her husband's credit for necessaries for herself or his minor children according to the circumstances of the case. It is the law, too, that the father is liable for such reasonable necessaries of life as are compatible with his circumstances furnished to his minor child by third persons in case he neglects to supply them, and they are procured by the child, or even by a prior divorced wife, for it.

It was conceded that the only chance of saving the life of the child was the operation, which the plaintiff performed in a careful and skillful manner. The fact that the patient subsequently died without fault of the surgeon was wholly immaterial to the obligation of the defendant to pay the reasonable value of his services.

In these circumstances, the court can imagine nothing more highly necessary to the welfare of the child or more within the obligation of the parent than the services rendered, for it was the one and only hope of the little one's continued life to bless and cheer the parents. It was obvious, too, that this service was rendered at the instance and request of the defendant's wife, who possessed *prima facie* authority to bind him for such necessaries as were furnished to herself or his minor children. Infection was present and about to progress. The mother, unattended, except by the family physician, but with the father's consent, was in a great city with their child dangerously ill, seeking some measure of relief. So situated, was the mother to await communication with her husband at a distant part of the state, while the spell of almost immediate dissolution hovered over the little one, before asserting her authority to commit him to respond as for necessaries in compensation of services which offered the one chance for its life? The court answers no. It further says that the services rendered were in the circumstances of the case necessaries for which the law implied an obligation on the part of the father to pay when so performed at the instance and request of the mother. Every precept of natural justice suggests the liability of the defendant, and, if there is no precedent for sustaining the judgment, one should be established forthwith.

Incompetent Evidence to Fix Liability on Company for Services

(*Chickasha Cotton Oil Co. vs. Lamb & Tyner (Okla.), 114 Pac. 333*)

The Supreme Court of Oklahoma reverses, for errors in the admission of evidence, a judgment recovered in this case against the oil company, by the latter-named parties, for services rendered as physicians to a wounded employee. The plaintiffs sought to fix liability on the company for their services by showing that the company's manager sent for them and requested that they render the services. Over the company's objection, they were permitted to testify that the person who called for them at the time of the accident stated that he had been sent by the president or manager of the company. But there was an entire absence of any other evidence in the record to show that the person who made this statement was in any way the agent of the company, or had been sent by its manager, and it is held that statements made in the absence of the defendant by the messenger, who was not shown to be the company's agent, could not bind the company, and were objectionable as hearsay testimony.

The company's defense was that its manager had not ordered the services of the plaintiffs; and that, if he had done so, he was without authority to bind the company in the premises. The company offered to prove by the manager that he was without such authority; but his testimony relative thereto was rejected by the trial court. That such testimony was competent seems plain; it bore directly on the issues of defense made by the company's answer. The burden was on the plaintiffs, under the issues formed by the pleadings, not only to show that the company's manager requested them to render the services for which they sought to recover, but also that he was acting within his authority as the agent of the company; and evidence by the company's officer who knew his authority was competent to contradict evidence offered by the plaintiffs in support of this issue.

It was also error to permit the plaintiffs to testify in their own behalf as to a conversation had between them and one Morrison, in which he made statements tending to show the admission by the company of its liability to the plaintiffs for their claim. They testified that he had asked them if they were still looking to the company, and, on being told that they were, said to them that they had better see the company about standing for any more of the bill; that the company had some money on hand that it expected to pay on the plaintiff's bill, but, before the plaintiffs did anything else, they had better see the company, as their bill was much more than the company was expecting anyhow. Morrison was an employee of the company, but to render the admissions of an agent admissible against his principal it must first be shown by competent evidence that such admissions were made in and as a part of the agent's performance of his duties and within the scope of his authority, which the record did not show in this case.

Physical Examinations of Policemen and Plaintiffs

(*People ex rel. Wayman vs. Steward (Ill.), 94 N. E. R. 511*)

The Supreme Court of Illinois holds that a rule making it the duty of the superintendent of police of the city of Chicago to ascertain, by physical and medical examinations conducted under his direction from time to time by a board of physicians, whether active patrolmen are able to perform the duties required of them, to the end that he may make assignments of patrolmen to such duties as they shall be physically able to perform, and that if any are permanently or totally incapacitated he may prefer charges of physical incapacity against them before the Civil Service Commission, does not violate the constitutional provision: "The right of the people to be secure in their persons, houses, papers and effects, against reasonable searches and seizures, shall not be violated." Courts have never looked on a physical examination to determine the fitness of a person for a particular service as a search, within the meaning of the constitutional provision. The case of a policeman is like that of a soldier, where physical ability is necessary and material part of an examination. It is not contended that the superintendent has authority forcibly to make, or cause to be made, a physical examination of a member of the police department. If a policeman does not choose to submit to the examination and to abide by the rules and regulations of the department, he merely commits the offense of disobeying the superintendent, and subjects himself to a charge of that kind before the Civil Service Commission.

An argument was drawn from the rule of this court that in a civil suit the court has no power to compel a physical examination of a party to the suit, but there is no similarity between the two cases, nor is there any claim that the superintendent may compel the examination of a policeman. Besides the rule that the court cannot compel an examination of a party does not rest on immunity, under the Constitution, from an unreasonable search. There is no doubt that a statute might be enacted requiring a party to submit to an examination as a condition of maintaining the suit, and many courts have held that such an examination either rests in the discretion of the court, or may be demanded by the opposite party as a matter of right.

In any view of the case, the court cannot see how it can be said that the superintendent of police is compelled by the Constitution to remain in ignorance of the physical capacity of policemen to perform the duties required of them, with the necessary consequence that the policemen may retain positions which they are incapacitated to fill and draw salaries for services they are unable to perform. Even if the examinations conducted for the purpose of ascertaining the facts should be characterized as searches of the person, they cannot be considered unreasonable.

Form of Action and Liability for Malpractice—Expert Testimony

(*Carpenter vs. Walker (Ala.), 54 So. R. 60*)

The Supreme Court of Alabama affirms here a judgment for damages for alleged malpractice in the setting and treating of a compound fracture of the forearm for a boy whereby it was charged that he lost his arm. It says that the action against a physician for malpractice need not be based on a contract, though it may be, and usually is. It is sufficient if based on his legal obligation. The action for malpractice is essentially in tort (for wrongdoing), and hence it is immaterial by whom the physician is employed. While a physician or surgeon may, under the same state of facts, be liable both *ex contractu* and *ex delicto*, or on contract and for breach of duty, yet the plaintiff has the option to declare against him in either form; but prior to the present Alabama Code he could not declare in both in the same action. As to the duty, care and skill required of physicians and surgeons, the rule (as twice before announced) is as follows: "the reasonable and ordinary care, skill and diligence which the law requires of physicians and surgeons in the same general neighborhood, in the same general line of practice, ordinarily have and exercise in a like case."

There was no error in allowing the question to be propounded to a medical witness, "whether it was reasonable prudence on the part of a surgeon setting a broken limb to leave the patient for ten days without any one trained in treating wounds, and with instructions to his parents that he need not be sent for unless the hand turned black." There was evidence justifying the hypothesis put; and it was not a substitution of the witness for the jury, but was to afford them the benefit of an expert's opinion as to whether that kind of treatment was reasonable prudence.

Nor was there error in instructing the jury that if they believed from the evidence that the plaintiff broke his arm, and that the defendant was employed by the plaintiff's father (plaintiff being a minor) to treat and attend the same as a physician and surgeon, and entered on and undertook such employment, and did set or dress or treat the plaintiff's said arm as a physician or surgeon, and assumed charge of the same, then the plaintiff was entitled to receive from the defendant the care, attention and skill of an ordinarily skilled physician and surgeon. And if the jury believed that the plaintiff did not receive from the defendant such care, attention and skill, and that in consequence of not receiving the same, and without fault on the plaintiff's part, or on the part of any one else, suffered increased pain, suffering and injury, then the jury were instructed that the defendant was liable, and the jury would render a verdict for the plaintiff, and would assess his damages found from all the evidence, not exceeding the amount claimed by the plaintiff in his complaint.

Society Proceedings

COMING MEETINGS

Amer. Acad. of Ophthal. and Oto-Laryngol., Indianapolis, Sept. 25-27.
Amer. Assn. of Obstet. and Gynecol., Louisville, Ky., Sept. 26-28.
American Electro-Therapeutic Association, Philadelphia, Sept. 6-7.
American Roentgen Ray Society, Richmond, Va., Sept. 20-23.
American Urological Association, Chicago, Sept. 26-27.
Assn. of Military Surgeons of United States, Milwaukee, Sept. 26-29.
Indiana State Medical Association, Indianapolis, Sept. 28-29.
Medical Society of the Missouri Valley, Omaha, Neb., Sept. 7-8.
Michigan State Medical Society, Detroit, Sept. 27-28.
New Mexico Medical Society, Las Vegas, Sept. 6-9.
Pennsylvania State Medical Society, Harrisburg, Sept. 25-28.
Washington State Medical Association, Spokane, Sept. 5-7.
W. Va. State Med. Assn., White Sulphur Springs, Sept. 20-22.
Wyoming State Medical Society, Thermopolis, Sept. 4-5.

AMERICAN OPHTHALMOLOGICAL SOCIETY

Forty-Seventh Annual Meeting, held at New London, Conn., July 11-12, 1911

(Concluded from page 680)

Sarcoma of the Chorioid; Neuromata of the Ciliary Nerves

Prof. E. Fuchs, Vienna: I believe these to be the smallest specimens of sarcoma of the chorioid hitherto known. There were three cases in all. In one, the sarcoma was so minute that it could not be seen by means of the ophthalmoscope.

The only positive evidence that these small tumors are sarcomas would be an aggressive and destructive growth, which could not be expected at such an early stage. The diagnosis must, therefore, be based on the character of the cells compoisng them.

In the first and third cases, the tumor was composed of closely packed spindle cells, with scarcely any pigment. In the second case, the pigment cells composing the tumor assumed in part a polygonal shape, and lay contiguous to one another, like spindle cells. We may learn from these cases that the sarcoma may originate in the layer of large vessels termed Keller's layer; it may be composed of spindle cells from the beginning, and deep pigmentation may be present from the very start. I have found neuromata in two atrophic eye-balls.

In both cases, the minute tumors were composed nearly exclusively of nerve-fibers; so that they were genuine neuromas, and not neurofibromas.

DISCUSSION

Dr. George E. de Schweinitz, Philadelphia: A few years ago, Dr. E. A. Shumway, of Philadelphia, and I showed two growths of the chorioid. Dr. Fuchs, in a recent paper on sarcoma, referred to these, and stated that we had left it open whether they were to be regarded as sarcomas or degenerated chromatophores. He has just pointed out that young sarcomas never form chromatophores. One of our cases was a melanoma, and the other a sarcoma of the chorioid.

Cases of Pulsating Exophthalmos Cured by Ligation of the Common and Internal Carotids

Dr. William H. Wilder, Chicago: Both cases were due to blows on the head. Exophthalmos was marked, but pulsation was very slight. In one case relief immediately followed ligation of the common carotid, and a permanent cure resulted. In the other case ligation of the common carotid gave relief from the bruit and the head noises, but the exophthalmos did not recede completely. A recurrence of the bruit and an increase in the exophthalmos took place two months after the ligation. The internal carotid of the same side was then ligated, with complete relief of all the symptoms, and the results have been permanent up to date. A slight impairment of speech and paresis of the left forearm followed ligation of the internal carotid.

DISCUSSION

Dr. Samuel D. Risley, Philadelphia: I should like to inquire whether, after the ligation of these arteries, if there were intra-ocular hemorrhages in either of the cases. Some time ago, I reported one instance in which, when I made an ophthalmoscopic examination, forty-eight hours afterward, I found extensive hemorrhages that had been absent before the operation.

Dr. Carl Fisher, Rochester, Minn.: Dr. Charles Mayo operated about a year ago in a similar case. This patient had had a pulsating exophthalmos of the left eye, for which a ligation of the common carotid had been done some time before. Through some accident, this eye had afterward been lost. Three years later, the patient developed pulsating exophthalmos of the right eye. The vision remained fair, but was slowly diminishing. Dr. Mayo clamped a stout tin spring around the vein. He then closed the artery as much as he could allowing vision to remain, so as to develop collateral circulation through the basilar arteries. It is hoped that enough collateral circulation may be developed to enable the woman to retain her vision.

Dr. Emil Gruening, New York City: I have had two cases of pulsating exophthalmos; both patients were operated on by ligation of the common carotid. There was almost immediate improvement of the sight, and no hemorrhage occurred.

Dr. William H. Wilder: There were no retinal hemorrhages in either of my cases. I should hesitate to ligate the ophthalmic vein until I had resorted to other procedures, as I should fear embolism somewhere in the body, particularly the brain.

Phantom Intra-Ocular Tumor

Dr. Arnold Knapp, New York City: The patient was a woman, aged 73, with protrusion of the left eye. Palpation at the margin of the orbit was negative, except at the upper inner angle, where a nodular pulsating mass was felt. The optic nerve was normal. The fundus showed arteriosclerosis of the vessels, with a few small hemorrhages; and below, in its periphery, there was a shallow detachment. The pupil was dilated, and there was a round, brownish swelling back of this on the temporal side. Tension was normal. The diagnosis of intra-ocular tumor with orbital extension seemed clear. The growth was thought to be a melanosarcoma of the ciliary body. Enucleation showed cystic degeneration of the retina, with distinct changes in the epithelium in the pars ciliaris retinæ. The tumor recognized clinically was presumably a large cyst or detachment, which ruptured when the eye was opened immediately after removal.

The Field of Vision in Tabetic Atrophy of the Optic Nerve

Prof. E. Fuchs, Vienna: Ylhloff states that the cases of tabetic atrophy in which the field of vision presents a central scotoma constitute about 2 per cent. of all the cases of tabetic atrophy. According to my experience, they are more common; as I could pick out not less than thirty from the histories of my private patients alone. The common opinion is that the central scotoma is not a sequela of the tabes, but is to be considered as a complication with a simultaneous syphilitic retrobular neuritis. I believe, however, that we have to do with the same kind of gray degeneration that is characteristic of tabetic atrophy in general. As a rule, the spots of gray degeneration are located in the optic nerves, but they may exceptionally locate themselves farther back in the chiasma. According to my belief, bitemporal hemianopia is in most cases of tabes to be considered, not as an accidental complication due to hypostatic inflammation, but as a genuine tabetic affection.

DISCUSSION

Dr. George de Schweinitz, Philadelphia: I should like Dr. Fuchs to tell us whether the results of his observation indicate that the excessive use of tobacco and alcohol has any bearing on the existence of the central scotoma. I had always supposed that instances of central scotoma were much rarer than 2 per cent.

Dr. Lucien Howe, Buffalo, N. Y.: I have found that if the center of the eye did not correspond with the center of the arc of the perimeter, it was not difficult to get almost any kind of field that was desired.

Dr. E. Fuchs: It was not 30 per cent. of cases of tabetic atrophy that showed a central scotoma, but thirty cases out of many hundreds. All the patients were men, as is usual in tabes; and there was none of them who did not smoke. The man from whom the specimen came was a heavy smoker. If it had been a toxic scotoma, the stopping of the use of these drugs would have brought about an improvement in the scotoma. I used MacHardy's self-regulating perimeter, the ordinary perimeter, and the campimeter. If you examine the patient on subsequent days, you will not find the results exactly alike, because the fixation is not sure.

The Mechanics of Choked Disk

Dr. Myles Standish, Boston: Following an operation on the mastoid, there was thrombosis of the lateral sinus; although it still remained permeable. The patient was operated on, ligature of the jugular vein being done. There was an increase of choked disk on the side operated on, followed by similar appearances in the other eye. These symptoms finally subsided, and the patient recovered.

Cilioretinal Vessels

Dr. Edward Jackson, Denver: Such vessels have been observed in 1,000 eyes, with notes of their position in each case. They are almost invariably arterial branches, and can usually be traced from their point of entrance into the optic nerve head. In doubtful cases, arteries may be distinguished from veins by noting which branches of the central retinal vessels they cross. Visible arterial pulsation under normal conditions appears to be more frequent in cilioretinal branches than in branches of the central retinal artery. This may be due to their manner of entering the eye-ball.

DISCUSSION

Dr. B. A. Randall, Philadelphia: It is certain that, while the veins are far less frequently seen in this condition than are the arteries, they constitute a larger proportion than is indicated by Dr. Jackson, while it is almost invariable that vein crosses vein, and artery crosses artery, this is not always so.

Case of Retinitis Pigmentosa Complicated by an Albuminuric Retinitis

Dr. T. B. Holloway, Philadelphia: The patient was a male, aged 34, who dated the onset of his ocular trouble from an attack of measles that he had had at the age of 9. Nephritis had been known to exist for about four years. Each eye showed lenticular and vitreous opacities. The disks were partially atrophic; and, in addition, the left disk had a distinct blurring of the temporal margins. The retinal vessels were contracted. In each macular region there was a stellate figure, and in the mid zone and periphery was a marked pigmentation characteristic of a retinitis pigmentosa. The fields were contracted to about 15 degree.

A Case of Embolism of the Right Central Artery in a Boy Aged 8

Dr. E. Gruening, New York City: The boy was examined twenty-four hours after the occurrence of the blindness of the right eye, and it showed the ophthalmoscopic picture of embolism of the central retinal artery. In the white zone surrounding the cherry-red spot there were numerous hemorrhagic patches. At present, white patches of peculiar appearance occupy the site of the macula. Embolism of the central retinal artery in children seems to be very rare. The secondary changes in the fundus are unusual.

Dr. Alexander Duane, New York City: I had a case of bilateral partial embolism in a boy of 14, the patient being affected with heart disease.

Dr. William K. Rogers, Columbus, O.: A case of the kind once occurred in my own practice. The patient was a boy of 10, who presented a characteristic picture of embolism of the central artery, but is was accompanied with a history of endocarditis, associated with chorea.

Congenital Deviations of the Eyes

Dr. Alexander Duane, New York City: The characteristic marks of a congenital deviation cannot always be relied on. The most frequent forms of congenital deviation are the following: insufficiency of the superior rectus with or without secondary deviation; insufficiency of the inferior rectus; insufficiency of the external and internal rectus, usually combined so as to constitute a special syndrome. In most cases, the anatomic conditions underlying the deviations probably consist of aphasia or other defects of the muscles themselves. Contrary to what is generally supposed, the symptoms of congenital deviation are often important and cause permanent inconvenience. They comprise obvious squint (which may be present at the outset or may not develop until late in childhood), torticollis, asthenopia and aprosexia. The treatment consists in operation. Each case must be judged by itself.

The Function of the Kidney Glomerules.—In his Croonian lecture before the Royal Society of Great Britain, Prof. T. G. Brodie brought out a new conception of the glomerular activity. Recent work, he says, has conclusively shown that the usual explanation of the glomerules, that they act as filters, is incorrect. Excluding filtration, the structural details point to a relation to the blood-pressure in the work of the glomerules, and he suggests as their function the setting up of a pressure head by which the watery part of the urine is driven through the very long and narrow tubules. Its activity would be, therefore, one of propulsion, and he suggests that the glomerulus be called a "propulsor." He finds, by an approximate calculation, that to drive the fluid through the tubules during the height of the kidney activity, a pressure head about equal to that in the glomerular capillaries is required. In support of this he offers the microscopic findings in the kidney after activity. The capsules of Bowman are greatly distended, the glomeruli are moderately enlarged and no longer fill the capsular spaces, and the tubules are straightened out and distended. All these changes are exaggerated by anything that favors the exaggeration of this intratubular pressure, such as a high arterial blood-pressure or obstruction to the outflow through the ureter. The kidney, moreover, is tense and hard, and its capsule stretched to the utmost. The presumption of the propulsor function of the glomerules he says explains the existence of a firm and inextensible capsule to the kidney, and also such phenomena as the maximum ureter pressure, the dependence of the rate of discharge from the kidney on the general blood-pressure and dilatation of the renal arteries, etc. Applying this theory, he says, to the study of the action of diuretics in animals in which the blood-pressure has been lowered so that the propulsion can no longer occur, we obtain evidence as to the parts of the renal tubules acted on by these different substances.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

July

1 *Studies on Circulation in Man and the Influence of Oxygen Inhalation on Circulation in a Case of Cyanosis. G. N. Stewart, Cleveland.
2 *Further Data on Use of Certain Antimonial Compounds in Treatment of Experimental Trypanosomiasis. L. G. Rowntree and J. J. Abel, Baltimore.
3 The Liver in Its Relation to Anaphylactic Shock. C. Voegtlin and B. M. Bernheim, Baltimore.
4 Study of the Antiseptic and the Pharmacologic Properties of Meta-Cresol Acetate. I. Greenwald, New York.
5 Action of Senecio Alkaloids and the Causation of Hepatic Cirrhosis of Cattle (Pictou, Molteno or Winton Disease). A. R. Cushny, London.
6 Properties of Several Species of the Polyporaceæ and of a New Variety of Clitocybe, Clitocybe Dealbata Sudorifica, Peck. W. W. Ford and J. L. Sherrick, Baltimore.
7 *Relation of the Adrenals to Pancreatic Activity. C. W. Edmunds, Ann Arbor.

1. **Influence of Oxygen on Circulation.**—In a man with pulmonary emphysema, chronic bronchitis, and recurring cyanosis not associated with dyspnea, the blood-flow in the hands was increased by oxygen inhalation by an amount varying from 30 to 70 per cent. of the combined flow in the two hands in experiments made on different days during a period of two months. In general, a greater percentage increase under oxygen inhalation was obtained by Stewart when the initial flow was relatively small than when it was large. In this patient the normal flow (without oxygen inhalation) was habitually large, quite as large as in any of the normal cases studied, and larger than the average of the normal cases. The action of oxygen on the blood-flow was not associated with any sensible change in the respiratory movements, nor with any certain change in the alveolar carbon dioxid tension. Stewart is of the opinion that it was therefore conditioned in some way by the increased alveolar oxygen tension. Oxygen inhalation produced no sensible change in the rate of the blood-flow in the hands of two normal men.

2. **Antimonial Compounds.**—Many experiments on trypansome infected rats were made by Rowntree and Abel to determine the therapeutic value of antimonial compounds. They found that although the antimony salt of succinic acid is capable of causing the disappearance of trypanosomes, yet in the vast majority of cases its action is of very short duration. It is irritant locally, more toxic than the sodium antimony thioglycollate or the triamide of antimony thioglycollic acid, and much less efficient in the treatment of experimental trypanosomiasis.

7. **Adrenals and Pancreatic Activity.**—The results obtained by Edmunds in his experiments would seem to dispose finally of any objection which could be raised against the explanation that the inhibition of the pancreas by epinephrin (adrenalin) is due to the vasoconstriction and consequent anemia of the gland. Briefly, the evidence in favor of such a view is as follows: After doses of ergotoxin which paralyze the vasomotor nerves, epinephrin no longer causes constriction of the vessels of the gland, nor does it inhibit it. Pituitary extract will not inhibit unless it constricts the vessels of the gland. Nicotin and strychnin in their primary stimulant doses constrict the vessels of the pancreas and inhibit its action. Later, after the paralytic stage has come on, neither drug lessens the blood-supply to the gland, nor does either cause inhibition. Other drugs, such as strophanthin, pilocarpin and barium chlorid, which constrict the vessels of the gland, cause inhibition. If, on the other hand, they increase the blood-flow to the gland, as shown by increasing its volume, they have a tendency to accelerate the flow. Direct electric stimulation of the splanchnic nerve will produce precisely the same inhibition as will chemical stimulation.

Laryngoscope, St. Louis

July

8 Atypical Mastoiditis. E. A. Crockett, Boston.
9 Id. T. J. Harris, New York.
10 Case of Nasal Sarcoma Removed by Intranasal Operation; Recurrence After Thirteen Years; External Operation and No Return After Three and a Half Years. C. H. Knight, New York.
11 Three Cases of Fibrous Polyp of Nasopharynx with Exhibition of Specimens. W. A. Wells, Washington, D. C.
12 Accidents During Tonsillectomy and Sequela of Operation. A. O. Pfingst, Louisville, Ky.
13 Progress in Treatment of Laryngeal Carcinoma Since Organization of the American Laryngological Association. J. S. Cohen, Philadelphia.
14 Congenital Web of Esophagus. J. P. Clark, Boston.
15 Atypical Mastoiditis. J. A. Stucky, Lexington, Ky.

Cleveland Medical Journal

July

16 Tuberculin, Its Use and Administration. E. R. Brooks, Cleveland.
17 *The Blood in Pertussis; Report of 120 Cases. N. P. McGay, Cleveland.
18 Case of Probable Abscess of the Larynx, Requiring Intubation, Followed by Inspiration Pneumonia. J. J. Thomas, Cleveland.
19 *Interesting Case of Major Hysteria, Successfully Treated by Reeducation. H. H. Drysdale, Cleveland.
20 Circulation After Forcible Reduction of Congenital Club-Foot. W. G. Stern, Cleveland.
21 Chemical Condition of Lake Water After Chlorin Treatment. H. D. Haskins and S. A. Cleaveland, Cleveland.
22 Hypertension of the Portal System. M. Schott, Cleveland.
23 Routine Bacteriologic and Chemical Examinations of the Cleveland Milk-Supply. H. O. Way, Cleveland.

17. **Blood in Pertussis.**—McGay examined the blood in forty-six cases of pertussis. In all the cases a leukocytosis of from 7,600 to 46,000 was found, as well as a lymphocytosis, with a decrease in the polymorphonuclears. Comparing the averages in forty-six pertussis cases with ten normal cases, there is an average increase of 6,070 in the leukocyte count, or approximately 33 per cent.; an increase of 1.9 per cent. in the large mononuclears, and of 5 per cent. in the lymphocytes, and a decrease of 6 per cent. in the polymorphonuclears; the transitionals, eosinophils and mast cells remaining approximately the same. In bronchitis and pneumonia the polymorphonuclear count is much higher than in pertussis, while the lymphocyte count, both small and large, is considerably decreased. The lower the leukocyte count, the higher the lymphocytes and the lower the polymorphonuclears; and as the leukocytes increased so did the polymorphonuclears, while the lymphocytes decreased in relatively the same proportion. The cases showing the lowest leukocyte count at the beginning of the child's coughing were the ones soonest well of the disease, except in one case, which held out as long as any, while another case had a recurrence with a count very similar to the one listed. The only fatal cases in the 120 directly attributable to whooping-cough were the ones (five in number) showing the highest leukocytosis. Four of the five fatal cases were caused by pneumonia complicating the pertussis; the fifth death resulting from gastro-enteritis.

19. **Major Hysteria.**—The case reported by Drysdale was of interest on account of the unusual combination of somatic phenomena appearing in one patient, i. e., hysterical paraplegia, multiple contractures, hemianesthesia, hyperesthetic zones, amblyopia, dyschromatopsia, unilateral anosmia and ageusia, bradylalia, amnesia, contraction of the psychic functions, etc.

Journal of South Carolina Medical Association, Charleston

July

24 *Transmission of Typhoid and Its Prevention by Vaccination. A. Lambert, New York.
25 *Herniotomy in Youth and Old Age. A. C. Baker, Charleston.
26 *Raynaud's Disease. T. E. Wannamaker, Cheraw.
27 Treatment of Typhoid. J. Forrest, Charleston.

24, 25 and 26. Abstracted in The Journal, June 3, 1911, p. 1679.

Illinois Medical Journal, Springfield

August

28 Ante-Mortem and Post-Mortem Examinations of John Junkins. H. J. H. Hoeve, Des Moines.
29 *Experimental Transplantation of Legs. V. D. Lespinasse, Chicago.
30 Diagnosis of Associated Diesases of the Eye and Nasal Accessory Sinuses. F. Brawley, Chicago.
31 Internal Secretion of the Thyroid. A. Werelius, Chicago.
32 Active Immunization in Tuberculosis. H. J. Achard, Chicago.
33 *Bisulphate of Quinin in the Treatment of Acute and Subacute Gonorrheal Urethritis. A. E. Mowry, Chicago.

34 Treatment of Syphilis; a Retrospect and a Prospect. E. A. Fischkin, Chicago.
35 Technic for the Intravenous Injection of Salvarsan. L. B. Baldwin, Chicago.
36 Plea for the Borderline Case. F. E. Anten, Belleville, Ill.
37 Treatment of Hemorrhoids Under Local Anesthesia. C. J. Drueck, Chicago.
38 Religion and Medicine. J. R. E. Craighead.

29. Abstracted in THE JOURNAL, June 10, 1911, p. 1747.

33. **Bisulphate of Quinin in Acute and Subacute Gonorrheal Urethritis.**—Mowry has used bisulphate of quinin irrigations in fourteen cases of acute gonorrheal urethritis, and he says his results have been gratifying in most of the cases. Fifty per cent. of the patients have apparently been cured in the course of two weeks. In using the solution of bisulphate of quinin for irrigation purposes, Mowry begins with a solution of 1 to 3,000, and gradually increases the strength to 1 to 1,500. He uses the solution as warm as the patient can comfortably bear, with care always taken to avoid mechanical irritation to the meatus by the irrigating tip, and that the flow is continuous by not putting on too much pressure and still putting on enough to insure the solution getting well into the urethra. He has also used the above-described solutions in two cases of cystitis 1 to 5,000 with good results, and in four cases of chronic posterior urethritis with a fair result. In the latter cases he used the solution 1 to 400 in form of an instillation, using the Ultzman deep urethral syringe. As an anterior injection for the patient's own use, Mowry makes the strength of the solution 1 in 200 to 1 in 1,000.

St. Louis Medical Review

July

39 Scoliosis. A. O'Reilly, St. Louis.
40 Etiology and Diagnosis of Pellagra. S. T. Rucker, Memphis, Tenn.
41 The Diagraphoscope. R. D. Carman, St. Louis.
42 Spread of Tuberculosis and How to Prevent It. L. Weiss, Newark, N. J.
43 Gunshot Wounds of the Inferior Vena Cava Without Symptoms of Internal Hemorrhage. J. D. Bloom, New Orleans.
44 Crotalin in the Treatment of Pulmonary Gangrene. T. Mays, Philadelphia.
45 Naphtha Soap; Its Dangers. B. M. Ricketts, Cincinnati.
46 The State and the School Child. F. A. Tucker, Noblesville, Ind.

Journal of American Public Health Association, Columbus

July

47 *Antityphoid Vaccination in American Army. F. F. Russell, U. S. Army.
48 Mayors and Municipal Health. J. A. Kingsbury, New York.
49 Vital Statistics in the Promotion of Public Health. W. H. Guilfoy, New York.
50 Occupational Statistics for Tuberculosis in Wisconsin. L. W. Hutchcroft.
51 Garbage Receptacles. P. M. Hall, Minneapolis.

47. **Antityphoid Vaccination in American Army.**—In the United States Army the vaccination against typhoid was begun in March, 1909, and up to Aug. 1, 1910, 11,771 persons were vaccinated. The total number of doses administered was 31,556. It has been the practice to give three doses at ten-day intervals to as many volunteers as possible. Seventy-five per cent. have received the full course of three doses; 21 per cent. have received two doses, and only 4 per cent. have failed to receive more than one dose. The failure to receive the second dose has sometimes been due to refusal, but just as often to change of station, discharge, desertion, etc. The first dose is 500,000,000 bacteria, the second and third 1,000,000,000 each. Ninety-five per cent. of the men had little or no fever or discomfort, aside from the local reaction. This consists of a somewhat red and tender area at the point of inoculation, which is rarely troublesome, and usually disappears in from forty-eight to seventy-two hours. Among the vaccinated men, three cases of typhoid have occurred, while, during the same length of time, there were 306 cases among the unvaccinated. The three cases were all mild and ended in recovery. Russell believes that the first case was probably infected immediately before or after receiving the first dose, and was admitted to the hospital soon after the second; the diagnosis was confirmed by isolation of the bacilli from the stools. The other two cases were so mild that, in the absence of blood cultures, there remains some doubt as to the correctness of the diagnosis.

Bulletin of the Manila Medical Society, Manila

June

52 Paratyphoid-Like Bacillus Isolated from a Dog. E. H. Ruediger, Manila.
53 Myiasis Narium. I. W. Brewer, U. S. Army.
54 *Duration of Passive Immunity Against Tetanus. E. H. Ruediger, Manila.

54. **Duration of Passive Immunity Against Tetanus.**—According to the results obtained by others and by himself, Ruediger concludes that passive immunity against tetanus is of short duration. Where alien serum is used immunity disappears in about three weeks; with homologous serum the duration may be about two months. The longest period of passive immunity conferred by alien serum reported on seems to be six months, observed by Roemer and Sames. Passive immunity conferred to the guinea-pig by a moderate dose of tetanus antitoxin from the horse is of less than three weeks' duration. Passive immunity from a large dose (300 units) of alien serum appears to be only a few days' longer duration than that from a smaller dose (100 units).

Western Medical Review, Omaha, Neb.

August

55 Roentgen-Ray Method of Locating Exact Position of Foreign Body Within the Eye-Ball; Special Reference to Bowen-Sweet Method. W. H. Mick, Omaha.
56 Localization and Extraction of Intra-Ocular Foreign Bodies. J. M. Patton, Omaha.
57 Case of Congenital Stenosis of the Pylorus Treated Surgically. G. Haslam, Fremont, Neb.
58 After-Treatment in Surgery of the Digestive Organs. B. R McGrath, Grand Island, Neb.
59 Conservation of Vision. F. S. Owen, Omaha.
60 Practice of Medicine—Its Success and Failure. F. A. Butler, Harvard, Neb.

American Journal of Surgery, New York

August

61 Malignant Disease as a Problem of Modern Surgery. J. B. Deaver, Philadelphia.
62 Abdominal Pain; Its Diagnostic Significance in Surgical Diseases. J. P. Warbasse, Brooklyn.
63 Indications for Mastoid Operation. F. E. Franchere, Sioux City, Iowa.
64 Rhinophyma; Operative Treatment. R. S. Fowler, Brooklyn.
65 Certain Limitations of Living Pathology. D. Roberts, Brooklyn.
66 *Study of Cancer. J. A. McGlinn, Philadelphia.
67 Early Diagnosis of Cancer of the Skin. W. S. Gottheil, New York.
68 *Acute Angulation and Flexure of the Sigmoid a Causative Factor in Epilepsy. W. H. Axtell, Bellingham, Wash.

66. **Cancer.**—This study by McGlinn is taken from the records of 8,515 post-mortem examinations made at the Philadelphia General Hospital from Sept. 12, 1867, to Sept. 1, 1909. In this series there were 457 cases of cancer. One patient out of every nineteen posted (18.6) had cancer. Cancer was found in males in 274 cases and in females in 179 cases; the sex not being specified in four cases. Eliminating the organs peculiar to the sex, the percentage for males was 72.5 and for females 27.5. The frequency as to age was as follows: Twenty to 39 years, forty-four cases; 40 to 49 years, ninety-three cases; 50 to 59 years, 107 cases; 60 to 69 years, 121 cases; 70 to 79 years, sixty-seven cases; 80 and over, 113 cases. The location of the cancer was: Stomach, 168 cases; uterus, forty cases; breast, thirty-eight cases; pancreas, thirty-six cases; esophagus, thirty-one cases; liver, twenty-six cases; rectum, eighteen cases; gall-bladder, eleven cases. Chronic tuberculosis of the lungs (healed foci) was found associated with cancer 197 times; acute pulmonary tuberculosis, seventeen times; tuberculous peritonitis, five times, a total of 219 cases. Gall-stones were present in fifty-one cases. In the entire series of autopsies gall-stones were found in 507 of the cases. Kidney-stones in the cancer cases were found seven times. Other neoplasms noted in association with the cancer cases were as follows: fibroid of uterus, twenty-five cases; fibroid of ovary, one case; broad ligament cyst, one case; ovarian cyst, four cases; papilloma of ovary, two cases; sarcoma, one case; hypernephroma, one case. Syphilitic lesions were found in eight of the cases.

68. **Acute Angulation and Flexure of Sigmoid a Causative Factor in Epilepsy.**—Since his last report on this subject, Axtell has had two additional private cases and examined three asylum cases, making a total of ten private and twenty-six asylum cases. In the whole number of cases the same con-

ditions in varying degrees were present excepting in one asylum case. A remarkable feature in connection with this case was that the abdominal examination excluded the possibility of the internal trouble being present. In this particular case the epilepsy was produced by a depressed fracture. This was the first case of a normal condition of the rectum and sigmoid found at the asylum. There was no angulation or impaction whatsoever; no gaseous distention of the cecum or history of persistent and obstinate constipation. Of the ten private patients only four persisted in the treatment for the rectosigmoidal difficulties. Of these four, three are practically relieved of the epilepsy, as well as the rectosigmoidal trouble. The fourth patient who persisted in the treatment for an acute angulation, thickening and ulceration at the rectosigmoidal juncture was made worse while taking treatment. The convulsions occurred three or four times per month. After the acute angulation, ulceration, hypertrophy and the prolapsed and impacted sigmoid were relieved, the convulsions ceased. He has had no recurrence for more than two months. The fact that the frequency of the convulsions was increased during active treatment is the most convincing evidence in Axtell's opinion that the cerebrospinal irritation was caused by the rectosigmoidal trouble.

Albany Medical Annals, New York

August

69 Chemistry of Metabolism and Its Relation to Ocular Disease. S. L. Ziegler, Philadelphia.
70 Angina Pectoris Due to Sclerosis of Both Coronaries and Embolism of the Right; Symptoms Limited to Pain. C. Stover, Amsterdam, N. Y.
71 Angina Pectoris and Disease of the Coronary Arteries. T. Ordway, Albany.

California State Journal of Medicine, San Francisco

August

72 Surgery of Nose, with Free Transplantation of Bone. L. Eloesser, San Francisco.
73 *Intestinal Indigestion in Adults. E. Schmoll and W. C. Alvarez, San Francisco.
74 *Intestinal Indigestion from a Surgical Point of View. R. Smith, Los Angeles.
75 Case of Carcinoma of the Eyelid. H. A. Kiefer, Los Angeles.
76 *Dermatitis Venenata from Proprietary Hair Dye. E. D. Chipman, San Francisco.
77 *Case of Perforated Duodenal Ulcer, Operated on Fifty-Five Hours After Perforation, Complicated by Double Pleuropneumonia. L. W. Allen, San Francisco.
78 Modern Milk Feeding Station for Infants; Clinical Results. P. V. K. Johnson and P. S. Chancellor, Chicago.
79 Prevention of Postobstetric Lesions. D. Hadden, Oakland.
80 Borderline Cases of Ear Disease. P. A. Jordan, San Jose, Cal.
81 *Significance and Treatment of Abdominal Pain. C. P. Thomas, Los Angeles.
82 Early Diagnosis and the Prophylaxis of Toxemia of Pregnancy. T. Coffey, Los Angeles.
83 Arteriosclerosis; Review of Cases. D. J. Frick, Los Angeles.
84 *Treatment of Epithelioma by Curetting, Followed by Cauterization with Chromic Acid and Later by Exposure to *X*-Rays. G. D. Culver, San Francisco.
85 New Tonsil-Knife, with Description of Its Use. P. Summer, San Francisco.

73. **Intestinal Indigestion in Adults.**—The authors' studies have shown that these patients have the greatest difficulty in handling the cellulose in their diet. Therefore, they should be given a concentrated diet of high calorie value which will tax their weakened powers of digestion as little as possible and leave no bulky residue to irritate the hypersensitive colon. Such a diet must be controlled frequently by the stool examination, and the symptoms, such as flatulence, auto-intoxication, etc., and the relative amounts of starch, meats and fats adjusted to the individual. All vegetables and starches should be cooked very thoroughly, and those, such as beans and peas, which have resistant capsules should be passed through a sieve and puréed. Contrary to expectation, this diet rarely aggravates constipation and sometimes it even improves matters by relieving spasm due to bulky, irritant masses. It is well, however, to have the patient eat plenty of stewed fruit without skins or seeds. Stool examination seems to show that the diseased intestine is absolutely unable to deal with poorly chewed food, and many an indigestion can be cured by securing better conditions in the mouth. Nothing will help the severer enteroptotic cases more than fattening. In such cases the authors generally give a diet containing 3,000 to 5,000 calories and a large amount of fat, mainly in the form of cream and butter. There is generally some repulsion and disturbance for the first three or four days, but they have not as yet found a case in which the diet had to be given up, or in which it failed to produce the desired gain in weight. During the first few days the patient should be in bed, as the sagging intestines do their work very much better when they have fallen back into place. The practice many surgeons have of "fixing" one or two of the prolapsed organs is strongly condemned by the authors. They believe it is irrational and does not take into account the condition as a whole.

74. **Intestinal Indigestion.**—Smith defends the surgical treatment of this condition.

76. **Dermatitis Venenata.**—Within a few months Chipman has met with six cases of severe dermatitis of more or less extensive distribution, the reaction in each instance following the use of "Mrs. Potter's Walnut Tint Hair Stain." This preparation was found by the North Dakota Agricultural Experiment Station to depend "for its action on paraphenylene-diamin, a substance which when oxidized by means of a solution of hydrogen dioxid becomes an intense black."

77. **Perforated Duodenal Ulcer.**—The purpose of Allen in reporting this interesting case is to draw attention to the fact that simple drainage to the point of rupture is all that is necessary for a permanent cure; that breaking away adhesions to see and suture the perforation may add just enough shock to change a favorable to an unfavorable termination. The patient in this case recovered.

81. **Treatment of Abdominal Pain.**—Thomas believes that many chronic sour stomachs in belchers are due to colitis, and curable by appendicostomy with proper after-treatment. He condemns the uncalled-for use of the hypodermic syringe. He says it is more disastrous than the uterine curet.

84. **Curetting in Epithelioma.**—Out of 139 patients presenting epitheliomata, forty-four with fifty-three separate lesions were treated by Culver by curettage and the application of chromic acid crystals. The tumors were located as follows: nose, fifteen; cheeks, fourteen; ear shell, seven; forehead, seven; eyelids, five; and one each on upper lip, lower lip, neck, chin and back of hand. Twelve of the forty-four patients had previously been treated by one or more methods of treatment and there was either incomplete removal or recurrence from apparent complete removal. Five of the forty-four are now under treatment. Of the remaining thirty-nine, twenty-three of whom Culver had knowledge and who had twenty-seven different tumors have remained free from recurrence for periods of time varying from a few months to five years. Seven of the remaining sixteen never had recurrences or have not had up to the present time, and of six others information is unavailable. Three had recurrences and one of the five under treatment has a recurrence, making a total of known recurrences in four patients, practically 9 per cent. Subsequent treatment of the four has been along similar lines. Eleven patients have been treated with Roentgen rays following the removal of the crust formed by the cauterization with chromic acid. The points considered in the selection of cases are these: The lesion generally has been present many months, is either a firmly indurated plate or tubercle in the skin, of shiny, waxy appearance, pinkish or yellowish in color, showing distinct dilated capillaries near its surface, or it is an ulcerated lesion showing in some part of its periphery a raised, rolled or nodular firm, waxy border which presents the characteristic dilated capillaries, and having an irregular center with an uneven, easily bleeding base that discharges a viscid fluid which dries into dirty yellowish crusts. Its appearance is often greatly changed by added infection or by previous treatment, but some of the characteristics are always present. Metastatic processes are uncommon in this type of epithelioma, but are sometimes present, and if so an entirely different treatment is required, and if inoperable it becomes the unpleasant duty of the physician to so consider it. It is this type of growth that is so frequently mistaken for lupus, but the history of its not having begun so early in life and the absence of the so-called apple-jelly nodules seen in lupus vulgaris through a glass pressed over the lesion would rule out the latter.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

August 1

86 Operative Treatment of Perforation in Typhoid. G. D. Head, Minneapolis.
87 Case of Fracture of the Neck of the Femur. H. C. Windell, Williston, N. D.
88 Enteritis in Infants and Its Dietetic Treatment. H. D. Newkirk, Minneapolis.

New York Medical Journal

August 5

89 *Relation of the Tonsil Operations to the Soft Palate and Voice. G. Hudson-Makuen, Philadelphia.
90 Reflex Affections of the Tonsil. R. B. Faulkner, Pittsburg.
91 Renal Function in Surgery, with Particular Reference to Kidney Surgery. L. E. Schmidt, Chicago.
92 Some Cases of Optic Neuritis Benefited by Operation on the Sphenoidal Sinus and Posterior Ethmoidal Cells. H. Smith, New York.
93 Diagnosis of Brain Tumors. J. E. Burns, Wheeling, W. Va.
94 Diagnosis of Incipient Pulmonary Tuberculosis. B. S. Horowicz, New York.
95 Use and Abuse of Coffee. R. E. Coughlin, New York.
96 Hysteria in a Girl of 7 Years. G. H. Nofer, Philadelphia.

August 12

97 *Chronic Appendicitis with Obscure Manifestations. N. Jacobson, Syracuse.
98 *Case of Typhoid Bacillus Cholecystitis. B. Holmes, Chicago.
99 Esthetics of Surgery. A. M. Crispin, New York.
100 Experiences with Salvarsan in Syphilis. H. Goldenberg and D. J. Kaliski, New York.
101 Medical Aspect of Life-Insurance. A. Moss, New York.
102 Prophylaxis of Social Disease. M. Glasgow, New York.
103 Treatment of Gastric Ulcer by Lenhartz' Method. J. J. Gilbride, Philadelphia.
104 Two Cases of Occipital Abscess with Wernicke's Pupillary Phenomenon. I. Strauss, New York.

89. **Tonsil Operation and Soft Palate and Voice.**—The causes for the belief that the removal of the tonsils in some way results in an impairment of the voice, are discussed by Hudson-Makuen. He shows that normal tonsils are in no way prejudicial to phonation, but, on the contrary, they may be helpful both in directing the action of the neighboring muscles and in modifying the resonance of the oral cavity. Hypertrophied tonsils, on the other hand, are distinctly prejudicial to phonation, because they interfere with the action of the muscles, they deflect the vibrating column of breath, and impair the normal resonance of the oral cavity. Degenerate tonsils are prejudicial to phonation primarily because they are prejudicial to health, and secondarily, because they interfere with the action of important vocal organs, by setting up a catarrhal condition in the oropharynx, which results in hypertrophy of the faucial pillars, the plica and the capsule, and in numerous inflammatory adhesions binding all these parts together in one conglomerate mass. The two important indications for the tonsil operation are, to remove foci of infection and to increase or restore the functional efficiency of the respiratory, phonatory and articulatory organs; and the operation that fails to meet the requirements of these two indications is more or less of a failure. The tonsil that requires removal is always prejudicial to vocal excellence. The author is firm in his claim that the popular belief that the removal of tonsils is injurious to the voice is well founded, and it is due in large measure to careless or bad surgery.

97. **Chronic Appendicitis.**—In five cases cited by Jacobson the early history has always been indefinite whether the symptoms have been referable to the stomach, duodenum, gall-bladder or the large bowel, and a period varying from one year to several years has elapsed before any evidence strongly suggesting appendicular disturbance has manifested itself. However, in the end, close analysis of the symptoms and repeated examinations of the abdomen have warranted each time the diagnosis of chronic appendicitis. Jacobson emphasizes that it is essential to investigate these cases thoroughly and to exclude all other pathologic conditions before determining to remove the appendix.

98. **Typhoid Bacillus Cholecystitis.**—Holmes reports a case of typhoid bacillus cholecystitis without typhoid fever or gall-stones. He says that typhoid bacillus cholecystitis is an invariable attendant on typhoid, but clinical (obstructive) cholecystitis occurs only when the cystic duct is obstructed. The gall-bladder often retains the infection long after the typhoid septicemia and typhoid enteritis have passed away, and then the typhoid bacilli may, by use of cholagogues, be found in the stools. The fate of a typhoid bacillus cholecystitis is so uncertain and so surrounded with danger that the fear of a surgical operation in the course or at the beginning of typhoid should not be given too much weight. The cholecystostomy should be performed promptly and quickly with the minimum of anesthetic and the minimum of traumatism. No attempt should be made during typhoid to remove stones from the cystic duct. A later cholecystectomy will rarely be necessary.

Boston Medical and Surgical Journal

August 3

105 *Observations Regarding Relative Frequency of Different Diseases Prevalent in Boston and Its Vicinity. R. C. Cabot, Boston.
106 *Prostatic Concretions and Calculi. F. B. Lund, Boston.
107 Classification of Diabetes. F. W. White, Boston.
108 Result of Tonsillectomy. O. A. Lothrop, Boston.
109 Report of Two Cases of Pneumococcus Meningitis. J. R. Wiseman, Syracuse, N. Y.
110 *Abdominal Pain from Antero-Posterior Curvature. M. H. Rogers, Boston.
111 Anterior Dislocation of Hip. G. H. Monks, Boston.

August 10

112 Aspects of Abdominal Ptosis. J. G. Mumford, Boston.
113 *Chronic Acetanilid Poisoning a Perfectly Definite Symptom Complex. H. C. Gordinier, Troy, N. Y.
114 *Hydrocele and Its Radical Cure by the Insertion of Catgut. C. M. Whitney, Boston.
115 Concerning Nurse Training Schools. S. E. Parsons, Boston.
116 *Compression Myelitis by Aneurysm Occurring in a Tabetic. J. B. Ayer, Boston.

105. **Relative Frequency of Different Diseases Prevalent in Boston.**—In a hospital population of about 8,000 males over 18 years old, all of whom were carefully questioned by Cabot, 35 per cent. give a history of gonorrhea, and 11 per cent. a history of syphilis, at some period of their lives. These histories and the resulting percentages are believed to represent approximately the truth about an average sample of Boston's adult males. The Americans, Irish, English and Italians have about the same amount of both these venereal diseases. The Jews have about one-third as much syphilis and one-half as much gonorrhea as the other races. The history of an excessive consumption of alcohol was obtained in 32 per cent. of 8,356 patients questioned. The Jews show the smallest amount of alcoholism—the "Americans" the highest percentage of total abstainers. About one-fourth of all the 7,186 males who were questioned gave a history of using an excess of tobacco. The Italians appear to use rather less than the other races but the racial differences are less marked as regards tobacco than as regards alcohol and venereal disease. The statistics relating to alcohol and tobacco are regarded as an indication of the habits of a fair sample of Boston's population. Acute nephritis, chlorosis and sunstroke would appear (on the face of the records) to be decreasing. This decrease is shown by analysis, however, to be in all probability fallacious. Pyogenic infections are more than twice as numerous as any other known infection (tuberculosis included). Three Boston hospitals treated 6,892 cases of syphilis and only 4,819 of gonorrhea in the years 1903-1910 inclusive.

106. **Prostatic Concretions and Calculi.**—Three cases are reported by Lund. The lesson he would draw from these cases is that prostatic concretions are frequently associated with infiltration of the prostate, which makes a small, fibrous organ feel larger than it really is by rectal examination and may lead to the suspicion of malignant disease.

110. **Abdominal Pain from Anteroposterior Curvature.**—Rogers reports two cases in support of his claim that an anteroposterior spinal curvature may be the cause of abdominal pain simulating appendicitis, kidney disease, etc. In these two cases correction of the deformity gave relief from the pain.

113. **Chronic Acetanilid Poisoning.**—A study of the cases recorded in the literature and personal observation have convinced Gordinier that the ingestion over a considerable period of time of acetanilid or related coal-tar products is productive of a definite symptom-complex, which is highly suggestive, if not absolutely diagnostic of poisoning by this group. The subjective symptoms are great general weakness, nervous excitability, insomnia, loss of appetite, digestive disturbances, palpitation, dyspnea, numbness and weakness of the extremities, pain in the region of the liver and spleen and faint

attacks. The chief objective symptom is cyanosis, which is often extreme but usually fluctuating in intensity, accompanied by marked pallor of the mucous surfaces and without clubbing of the fingers. The blood changes are quite characteristic and due to the destructive action of a hemolytic poison circulating in the blood stream, which produces a secondary anemia variable in degree. The erythrocytes are diminished in number, they often present nucleated forms, show granular stippling, stain poorly and are variable in size and form. There is usually a moderate leukocytosis of the polymorphonuclear variety, and there is often a relative increase of the lymphocytes. The appearance of the blood as it stands on the finger tip or the ear is very suggestive; it is either of a bluish-black color or chocolate in appearance. The coloration of the plasma renders the estimation of the hemoglobin quite difficult.

The spleen has been found enlarged in most of the well-observed cases, and it is usually tender both on palpation and percussion. The liver is slightly increased in size and is also tender on pressure. The heart is usually found enlarged, the transverse diameter being increased and the apex beat being displaced downward and outward. The heart sounds are feeble, and adventitious murmurs are frequent; systolic, mitral and tricuspid murmurs are common, as are basic systolic murmurs. These murmurs are probably dynamic in origin and due to the loss of tonicity of the heart muscle, as they disappear *pari passu* with the diminution in size of the heart and improvement of the blood on the withdrawal of the acetanilid. The mitral and tricuspid murmurs are, doubtless, caused by relative leakage, while the basic murmurs are hemic in origin. The urine is usually dark brown or black in color and gives the characteristic indophenol reaction. It may contain blood pigments in the form of methemoglobin or hematrophorphorin; bilirubin is common; glycuronates may be present. It is interesting to note that the ratio of the sulphates has been found reversed. In Gordinier's first case, the ratio being 16 to 1, only a comparatively few milligrams of the oxidized sulphur being eliminated in the form of inorganic sulphates. Dextrose was found in both of his cases, and probably exists in small amounts in most cases. Gordinier has been unable to find any mention in the literature of trophic changes in the way of ulcerations of the skin such as occurred in one of his cases. That these ulcerations were due to the effects of acetanilid seems probable, as most other causes could be excluded.

114. **Radical Cure of Hydrocele.**—The method used by Whitney consists of the insertion of sterile catgut into the cavity of the tunica vaginalis. It is less toxic than phenol, less painful than iodin and more certain than either of them. By it an inflammation of the sac is immediately produced and as the fluid resulting from this is slowly absorbed, an adhesion of the walls occurs with obliteration of the sac and a permanent cure of the disease.

116. **Compression Myelitis by Aneurysm in Tabetic.**—A middle-aged colored man with admitted history of early syphilis suffered for two years with cramp-like pains, mostly in the limbs. For less than a month sensory disturbances were present, at first numbness, later anesthesia below nipples; also recently loss of sphincter control. On examination the pupils were found to be unequal and to react sluggishly to light, and knee-jerks absent. A large, pulsating aneurysm in the back readily explained the anesthesia and paralysis of the lower limb, but did not explain flaccidity and loss of reflexes.

At autopsy the aneurysm was found to have eroded parts of four vertebræ and to compress the cord in the upper dorsal region to such an extent as to cause severe distortion. The pressure exerted caused the degenerations expected—Gower's and the direct cerebellar tracts upward, pyramidal tracts downward—except in one instance, namely, the posterior columns which were free from evidence of recent degeneration. Referring to Weigert sections it was evident that the man had pretty well-marked posterior tract degeneration of long standing; there was not a section from sacral to cervical but which showed marked posterior root atrophy. On this field of posterior column fibers no fresh degeneration appeared.

Ayer believes that in this case there were evidently two cord lesions, one of ancient date, tabetiform in character; the other, acute and caused by pressure of the aneurysm. The older process probably accounted for the symptoms of the previous two years, the pressure effects, for the culminating and serious symptoms of paralysis and anesthesia which so overshadowed the older disease.

Medical Record, New York

August 5

117 Prevention of Epidemics of Infantile Paralysis. M. A. Starr, New York.
118 Epilepsy and the Epileptic Temperament. E. L. Hunt, New York.
119 *Case of Anaphylaxis. W. S. Thomas and W. K. Terriberry, New York.
120 Limelight on Pneumonia. J. R. Mitchell, Fort Worth, Texas.
121 Three Cases of Non-Parasitic Cyst of the Spleen. H. A. Royster, Raleigh, N. C.
122 Chronic Blood Infection Successfully Treated with Staphylococcus Aureus Vaccine. T. W. Beeman, Perth, Ontario.
123 Heat Waves and Heat Strokes: Climatic Currents, Atmospheric and Oceanic. J. Knott, Dublin, Ireland.

August 12

124 A Darwinian Interpretation of Anaphylaxis. R. G. Eccles, Brooklyn.
125 Treatment of Epilepsy. E. L. Hunt, New York.
126 Fact and Fancy About the Hookworm. H. J. Nichols, U. S. Army.
127 Recent Repair of the Cervix. G. G. Speer, Los Angeles.
128 Personal Reminiscences of Lord Lister. L. H. Hill, Montgomery, Ala.

119. **Case of Anaphylaxis.**—The patient received 3,000 units diphtheria antitoxin subcutaneously in the abdominal wall. There was no bleeding through the needle. Antitoxin was administered with the patient in a recumbent posture. At the end of five minutes he felt well and arose, but began to sneeze continuously and his nostrils became obstructed. He soon grew dizzy and complained that everything was growing dark. About fifteen minutes after receiving the injection he was cyanotic and his inspiration was noisy and difficult. Preparations were made for intubation of the larynx, if the necessity should arise. He raised himself on one elbow in the bed, laboring for breath, with frequent cough and expectoration of pinkish serum. His face, especially about the eyes, was swollen. The conjunctivæ were injected; the skin was cold and covered with perspiration, and the pulse was absent in both radial and brachial arteries—even the apex beat not being palpable. A hypodermic injection of atropin sulphate, gr. 1/100, and strychnin sulphate, gr. 1/30, was administered. In a few moments the respiration became more quiet and at the end of fifteen minutes the patient sank back to the recumbent posture and the serous expectoration ceased. At this time the patient had an urgent desire to defecate and passed a large, brown semiformed stool. Twenty-five minutes after the injection of antitoxin the radial pulse became barely palpable. The blood-pressure, however, was too low to be recorded with the sphygmomanometer. The skin all over was brightly flushed. The tongue was swollen, its edges showing the impressions of the teeth; the soft palate and uvulva were edematous and their vessels were injected.

Two hours after the serum injection the patient drank a pint of water which he promptly vomited. The regurgitated liquid was pink and frothy. During the efforts at vomiting the pulse-rate sped up to 150 but afterward dropped to 96. At three and one-half hours the arterial pressure was about 105 m.m. The patient went quietly to sleep about four hours after the antitoxin injection, his symptoms having now disappeared. Examination of the first urine voided after the antitoxin injection showed a specific gravity of 1.032, neutral reaction, no albumin, a trace of glucose. No further symptoms developed until nine days later, when a general urticaria appeared with much edema of the eye-lids. This continued three days and then disappeared.

Lancet-Clinic, Cincinnat.

August 5

129 The Medical Examiner. W. E. Grant, Louisville, Ky.
130 Poisonous Effects of Turpentine. C. H. Wintsch, Newark, N. J.
131 Adams-Stokes' Disease. L. H. Newburgh, Cincinnati.
132 Ohio Medical College at End of Civil War. T. C. Minor, Cincinnati.
133 Obstetrics. W. Gillespie.

American Journal of Diseases of Children, Chicago

August

134 *Occurrence of Infantile Paralysis in the United States and Canada in 1910. R. W. Lovett, Boston.
135 *Cerebral Forms of Poliomyelitis. H. Koplik, New York.
136 *Infantile Paralysis; Spinal Form. J. L. Morse, Boston.
137 *Control of Epidemic Poliomyelitis. S. Flexner, New York.
138 Infantile Paralysis. J. H. M. Knox, Baltimore.
139 *Rôle of Mineral Salts in the Metabolism of Infants. R. R. Hoobler, New York.

134, 135, 136 and 137. Abstracted in THE JOURNAL, July 8, 1911, p. 152.

139. **Mineral Salts in Metabolism of Infants.**—Hoobler discusses the part which mineral salts play in carrying on the physiologic functions of the body and in what manner they contribute to the various pathologic processes to which the infant and young child are subject. He records fully his results in a series of metabolism studies made on a perfectly healthy infant, 9 months old, who had been fed on cow's milk from the time of birth. Briefly, he found that salts are necessary to maintain life. They are best absorbed and utilized when in organic combination with food-stuffs. There are marked differences in the salt content of mother's and cow's milk which should be considered in artificial feeding. Certain pathologic conditions arise in which certain of the salts are not absorbed, even though in abundance in the food. In certain other pathologic conditions salts are actually withdrawn from the body to such an extent as to impoverish the organism and produce grave disturbances of nutrition. The various salts, with the exception of iron, are present in sufficient quantities and proper proportions in mother's milk. In most of the dilutions of cow's milk there is an excess of salts which may be neglected in feeding normal infants, but which plays an important rôle in the feeding of children already suffering from nutritional disturbances. The conditions under which the salt content of feedings should be altered and in just what degree each or all should be varied, are still unsolved problems.

Journal of Oklahoma State Medical Association, Muskogee

August

140 Extra-Uterine Pregnancy. W. C. Graves, McAlester.
141 Uterine Deviations. H. Reed, Oklahoma City.
142 The Puerperium. A. N. Lerskov, Claremore.
143 Prevention and Treatment of Superficial Infection. E. H. Troy, McAlester.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

July 29

1 *The Present Position of the Medical Profession. R. Saundby.
2 *Mistakes. B. Bramwell.
3 *Progress in Surgery. J. Lloyd.
4 *Simple Method of Treating Fracture of the Patella. J. T. Maclachlan.
5 Treatment of Fractures. A. V. Leche..
6 Erythema Nodosum. G. Pollock.
7 Salvarsan in Almond Oil. A. Loxton.

1. **Present Position of Medical Profession.**—Speaking of medical education, Saundby says, in his presidential address before the British Medical Association, that it should be possible to make the curriculum five years in a medical school after preliminary science has been passed, and so adequate time be obtained for those subjects which can be learned only in a medical school and in a hospital. Though there is still much in the modern arrangements for medical education which falls short of our desires, there has been a vast improvement in the organization of medical teaching, in the equipment of medical schools, and in their methods of instruction. Medical education in England has always had its feet firmly planted on the solid foundation of hospital work, but it was deficient in academic opportunities as compared with the schools of Scotland and the Continent. The hospitals have provided abundant clinical material, and many subordinate appointments of incalculable value for the training of practitioners, but the scientific needs of students are but poorly supplied in them. During the last ten years this has been to some extent remedied by the better equipment of the medical schools, mainly by the self-sacrifice of the senior teachers, who have surrendered the greater part of their scanty emoluments for this purpose; laboratories have been started in all schools, and in some hospitals it has been realized that it is not enough to possess good accommodation for the care and comfort of the sick, but that adequate means must also be provided for the study of their diseases by good laboratories with a sufficient paid staff. Saundby asks that hospital authorities take a broader view of their duties and realize that in the end the interest of the patients will be best served by spending more money on the scientific equipment of these institutions. The function of voluntary hospitals, medicine and the state and the national insurance bill are also considered in this paper.

2. **Mistakes.**—This is the address in medicine delivered at the recent annual meeting of the British Medical Association. Bramwell points out that there are mistakes of various kinds. There are the bad mistakes, which show incapacity to make the most ordinary observations, gross ignorance, or inexcusable carelessness; and there are the slight mistakes—they perhaps should hardly be called mistakes—such as erroneous conclusions with regard to the significance of certain facts or groups of facts. There are mistakes of omission and mistakes of commission, mistakes due to incomplete, inaccurate, or erroneous observation, mistakes due to hasty or illogical conclusions. There are mistakes which as regards their results are unimportant; and mistakes which, either to the practitioner who makes them, to the patient whose case is wrongly diagnosed, or to the public at large, are of great importance, since they may entail very disastrous consequences. Mistakes due to imperfect knowledge, to want of clinical experience, to erroneous observation, to inability to observe correctly, are most common in the early years of one's practice. In the case of experienced practitioners, hurry, and the incomplete examination of patients due to hurry, and hasty conclusions are probably by far the most common causes of errors in diagnosis. Physiognomonic diagnoses are apt to be erroneous. Mistakes are not infrequently due to the fact that the information secured from third parties is insufficient, inaccurate, or misleading. Before a disease is described as a distinct clinical and pathologic entity; typical and characteristic cases, which a few years later are easily diagnosed, are mistaken for other conditions. Mistakes due to erroneous deductions and illogical conclusions are very common. Even those men in whom the judicial faculties are most highly cultivated often fail to draw the same conclusions from the same facts.

Mistakes in diagnosis often occur because undue importance is given to some symptom or physical sign which is present. Mistakes are sometimes due to too little importance being attached to some fact or facts. Errors in diagnosis are often due to the fact that one's judgment is warped or biased from some cause or another. Most of us probably know how difficult it is to diagnose and treat illness in one's self or in members of one's own family. One's judgment is upset by anxiety and fear; all sorts of terrible possibilities occur to the mind and prevent one taking a cool and level-headed view of the case. On the other hand, one occasionally sees the exact reverse of this picture—a medical man the subject of advanced organic disease ignoring it or making light of it, and of the symptoms which it produces, in the most extraordinary way. One's judgment is apt to become biased in favor of some particular theory or idea, and under such circumstances, one sees everything in the light of that idea. Erroneous therapeutic conclusions, based on too limited a number of observations, are common.

3. **Progress in Surgery.**—Lloyd reviews the advances made in surgery, speaking more particularly of exploratory operations, kidney and stomach surgery, appendicitis, colostomy, cecostomy, prostatectomy and herniotomy. Speaking of gastric surgery he says that precision in the diagnosis of many stomach diseases can be secured only by exploratory incision, and that earlier resort to this procedure in many cases is very desirable. When pyloric obstruction is present, as evi-

denced by periodic vomiting, treatment by posterior gastrostomy is eminently and uniformly satisfactory. Pain in such patients may be absent altogether. When vomiting is absent or only occasional, and pain is the symptom for which a patient seeks relief, gastro-enterostomy has its failures. Acute ulcers of the stomach, except when perforating, do not demand surgical treatment; chronic ulcers, on the other hand, do; but what that treatment is to be he is uncertain. Some should be excised, some are cured by gastro-enterostomy, some should be infolded, and possibly some should be left alone by the surgeon. Operations for gastric carcinoma are at the present time unsatisfactory, probably owing to their nonearly recognition. Dilated stomachs, in the absence of associated lesions such as pyloric narrowing or ulceration, may be left unoperated on. Gastric hemorrhages are not to be dealt with satisfactorily by surgical operation. They do better in the hands of the physician. Duodenal hemorrhages, too, are not readily amenable to surgical treatment. Gastro-enterostomy does not meet their urgent indications, although it may contribute to the healing of the ulcers in which the bleeding originates. Chronic duodenal ulcer is a pathologic fact; it is no mere surgical apparition as is sometimes suggested. Its frequency in adult males is remarkable; its diagnosis prior to exploration is highly probable, but by no means sure; its recognition at the time of operation is certain, and its relief by operation is most satisfactory. In Birmingham cancer of the stomach does not appear so often as a sequel of chronic ulceration as it is said to do in many other places. The majority of patients with cancer of the stomach give no account whatever of long-standing or of past indigestions. It appears usually as a primary indigestion in the middle-aged or elderly, and in all such patients Lloyd agrees that by the failure of medical treatment quickly to relieve such indigestion, a suspicion of cancer should be aroused and an exploratory operation at once performed.

As for herniotomy, he says that the most important step of the operation has to do with the sac of the hernia. The neck of the sac should not be ligatured, but the peritoneum beyond the neck, and when this has been done and cut across below the ligature, it matters little whether the sac is removed or not. The closure of rings and canals is said to be a matter of secondary importance; in Lloyd's opinion it should always be done, except in the inguinal hernias of very young children, and well done, too. Lloyd is performing regularly both suprapubic and perineal prostatectomy, and finds that each has its merits, and that neither can claim to be the better for all cases. The suprapubic operative mortality is rather the higher in his hands, probably because the more serious cases have been dealt with by this method. The after-results of both operations are then about the same. Prostatectomy for carcinoma and tubercle has been disappointing in his hands.

4. **Treatment of Fracture of Patella.**—The treatment employed by Maclachlan is as follows: First, a mold is made of the sound knee by taking poroplastic material, 1½ feet long by 6 inches broad, which is softened in boiling water, and then firmly placed on the sound knee. In this way a perfect mold of the knee-cap is taken; this is used as a splint for the fractured patella, the fragments being viced in the cap of the splint. A little cotton-wool is placed in the cap and sufficient to pad the rest of the splint, which extends above and below the knee-joint. Prior to fixing the splint the fragments are strapped into position by adhesive plaster, and longer strips are placed immediately above and below the patella, and drawn in contrary directions to pull the upper and lower fragments together. Lastly, a plaster-of-Paris bandage is put over all. In three weeks the plaster-of-Paris bandage is taken off. The splint is kept on for two weeks, passive exercises begun, and a knee-cap worn for two months, when it is discarded.

Lancet, London

July 29

8 *Present Position of the Medical Profession. R. Saundby.
9 *Mistakes. B. Bramwell.
10 *Address in Surgery. J. Lloyd.
11 Extraction of Cataract. H. L. Eason.
12 *The Appendix; Its Relation to Causation and Surgical Treatment of Affections of the Adnexa. H. M. Jones.
13 Rubella or Measles? D. W. C. Hood.
14 *Successful Case of Ovariotomy and Cesarean Section Performed on the Same Subject at One Sitting. H. B. Mylvaganam.
15 Fatal Case of Acute Mercurial Poisoning. A. W. Burton.

8, 9 and 10. See *British Medical Journal*, July 29, and abstracts 1, 2 and 3 in this issue.

12. **The Appendix.**—Jones advises that the appendix should be examined in every case of celiotomy for adnexal disease. This equally applies to the left adnexa as to the right. When the abdomen is opened for a grave appendix trouble, the adnexa should be examined. The appendix should be removed in every instance in which any abnormality or disease is found or if it be of unusual length, also if from the character of the operation there is a probability of further adhesions forming which may involve the appendix. The severity of the operation, however, will always have to be taken into account, and the influence its prolongation may have in lessening the chances of the patient's recovery.

14. **Ovariotomy and Cesarean Section.**—The operation in this case was performed for the ovarian disease which had become very troublesome. The duration of the pregnancy could not be determined because of the size of the ovarian tumor. The ovarian cyst was tapped and removed and then the section was done and a viable fetus about 8 months old was extracted. Both mother and child lived.

Journal of Tropical Medicine and Hygiene, London

July 15

16 Frequent Occurrence of Physaloptera Mordens as an Intestinal Parasite of Man in Tropical Africa. R. T. Leiper.
17 Seasonal Incidence of Dracontiasis on the Gold Coast. R. T. Leiper.

Quarterly Journal of Medicine, London

July

18 *Etiology of Auricular Fibrillation. C. E. Lea.
19 *Relationship of the Heart-Beat to Pulsus Alternans. J. D. Windle.
20 *Analysis of Gastric Contents. P. N. Panton and H. L. Tidy.
21 *Systolic Pressure at Different Points of the Circulation in the Child and the Adult. L. Findlay.
22 *Contribution to the Study of the Function of the A-V Bundle. P. F. Holst and G. H. Monrad-Krohn.
23 Essential Renal Hematuria. W. H. White.
24 Use of Tuberculin in So-Called Tuberculous Glands. G. E. Waugh.

18. **Etiology of Auricular Fibrillation.**—Rheumatic or choreic disease preceded auricular fibrillation in 56.6 per cent. of the cases examined by Lea. The most frequent lesion to which it gave rise being mitral stenosis (43.6 per cent. of cases with rheumatic history). Non-rheumatic cases presented auricular fibrillation in 43.4 per cent., the most frequent cardiac lesion being cardio- or arteriosclerosis, 57.1 per cent. The age incidence of mitral valve disease, with or without preceding rheumatism, was 38.2 years; the age incidence of cardiosclerosis was 53.9 years in rheumatic cases, 56.9 years in non-rheumatic. Females were more frequently subject to valvular disease than males in the proportion of 16 to 10; males were more subject to arterio- or cardiosclerosis, 15 to 8. Of all cases of auricular fibrillation, 32.8 per cent. occurred in cardiosclerosis, 31.3 per cent. in mitral stenosis, and 23.8 per cent. in cardiac dilatation. Influenza was noted as having occurred in 39.3 per cent. of non-rheumatic cases. Electrocardiographic records confirmed, in all cases examined, the polygraphic records.

19. **Heart-Beat and Pulsus Alternans.**—In all cases but one observed by Windle no alternation was present in records taken from the clinical apex beat, while in all disparity in force of alternate radial pulses was decided, and at times extreme. In the exceptional case the stronger beat of the heart-curve coincided with the weaker of the pulse. It is suggested that this anomaly is explicable on the assumption that the musculature of the ventricle producing the apex beat is not a part of that which drives the blood out of the left ventricle, otherwise it is inexplicable that the stronger beat of the ventricle should cause the weaker pulse, or that ventricular contractions equal in strength, beat by beat, should cause an alternating pulse. In two patients the heart's pulsation was recorded from two distinct areas: (a) In one case the cardiograms have the character of a left and right ventricular

impulse, respectively. The radial pulse was markedly alternating; but there was no evidence in the cardiograms of variations in strength of the ventricular contraction. (b) In the other case pulsation was recorded from the clinical apex-beat, and also from the fourth left intercostal space about 1½ inches from the left edge of the sternum. The cardiogram from both situations had the characters of left ventricular pulsation: that obtained from the fifth space at no time showed alternation in force. The cardiogram from the fourth intercostal space continuously alternated, except for brief periods.

The relationship between the alternating beats of the cardiogram and those of the radial pulse were not constant, the height of the respective waves being at times opposed, at others similar; at others, again, alternation was present in the heart-beat curve, whilst that of the radial pulse was equal; the reverse relationship occurred. Alternation was often pronounced in records of the jugular pulsation of this patient; invariably the larger wave corresponded to the higher wave of the radial pulse. In curves having character of right ventricular pulsation no evidence of alternation was present at any time. No variation in the intensity, pitch or duration of the heart-sounds or murmurs coincident with alternation of the pulse was detected in any case. While the observations lend some support to the view of Hering, that in alternate heart-beat a partial systole of the ventricle occurs, they also show that in alternating pulse it is not always possible, in clinical cases, to determine the fact of alternating heart action.

20. **Analysis of Gastric Contents.**—The investigations made by Panton and Tidy fall into two parts: the first deals with the routine examination of test-meals in a series of cases, the second consists of an inquiry into the various methods of examining test-meals and the meaning of the results obtained. In all 331 cases were examined: Carcinoma of stomach, 43 cases, operated 30. Gastric ulcer, 87 cases, operated 49. Duodenal ulcer, 36 cases, operated 21. Other gastric cases not operated, 62. Various conditions, 103 cases, operated 36. The results obtained follow: In normal gastric contents Günzberg's reaction is positive, free hydrochloric acid varies between 0.08 and 0.12, and the acidity lies between 40 and 50. In carcinoma of the stomach Günzberg's reaction is nearly always negative, i. e., free hydrochloric acid is absent. The average of the total acidity is 26. Some dimethyl acidity is often present. In the rare cases in which carcinoma is grafted on a simple ulcer, free hydrochloric acid is usually present, and the total acidity may be normal or even above normal. Thus, in these cases, the analysis often resembles that found in simple gastric ulcer. In simple gastric ulcer Günzberg's reaction is positive, the average of the free hydrochloric acid is 0.13 and the total acidity, 58. Free hydrochloric acid may be absent after a severe hemorrhage or after a previous gastrojejunostomy. In duodenal ulcer the average of the free hydrochloric acid is 0.17, and the total acidity, 69. Free hydrochloric acid is usually absent in cases of achylia gastrica, chronic alcoholic gastritis, severe anemia, chronic pulmonary tuberculosis, and in some forms of chronic dyspepsia. In these latter cases relief of gastric symptoms usually follows treatment by acids. Cases of hyperchlorhydria are commonly relieved by alkalies. It is not suggested by the authors that the diagnosis and treatment of gastric cases should depend on the result of test-meals alone, but they find that the simple analysis described affords very reliable information when taken in conjunction with clinical observation, and particularly with a carefully taken history.

21. **Systolic Pressure.**—The conclusions which Findlay draws from his study of well and sick children are, briefly: During childhood and youth the systolic arterial pressure is fairly uniform at different points of the circulation. In adult life the peripheral systolic pressure is lower than the central, and the difference between them increases with age. The difference greater than normal between the central and peripheral systolic pressures in cases of hypertension—from disease or experimentally induced—supports the idea that the behavior of the pressure and its variations depends on changes in the elasticity of the vessel wall.

22. **Function of A-V Bundle.**—The first case cited by the authors was one of Adams-Stokes syndrome with chronic bradycardia for many months, interrupted by short paroxysms of tachycardia. The post-mortem microscopic examination of the heart showed a destruction completely across the chief trunk of the a-v bundle. The heart was enlarged throughout (weight 590 gm.), the mitral valve calcified and the mitral ostium somewhat contracted. The calcareous infiltrations were continued into the septum membranaceum; on the right side this calcification could be seen as a projecting knot, the size of a pea and calcified right through, occupying the front part of the septum membranaceum. Also the aortic valves, especially the left were calcified so that the calcareous encrustations from the mitral valve and septum membranaceum were continued directly to the aortic valves. Both of the coronaries were calcified, but in no place obliterated or contracted. Microscopically, the muscles of the heart appeared normal, excepting certain small fibrous scars in the left ventricle. The macroscopic appearance of the calcareous knot and its situation alone made it highly probable that the main trunk of the a-v bundle must be damaged by the calcareous masses to a greater or lesser extent. The microscopic examination also showed that the main trunk of the a-v bundle had disappeared entirely, leaving not a trace of its normal tissue in the great calcareous knot. The authors assume that the relationship between auricle and ventricle along the a-v bundle must have been quite broken for a long time before death, and when also all the signs of a complete block have long been present, there occur attacks of great frequency of the pulse. The tracings from the last weeks of the patient's life show that the stimulus conduction from auricle to ventricle must have been to some extent restored, though the result of the post-mortem a little later makes it more than probable that the main trunk of the a-v bundle must have been, so to say, cut across by the large calcareous knot.

In the second case there was a normal a-v bundle, but strongly pronounced degenerative neuritis in both vagus nerves. At the post-mortem examination the heart was found to be hypertrophied, dilated and to some degree infiltrated with fat; it weighed 510 gm. The subpericardial fat was highly developed, especially over the right half of the heart, where the muscles were also somewhat infiltrated with fat without showing any signs of fatty degeneration. Incipient arteriosclerotic changes in the aorta were present. The coronary arteries were normal. An embolus was found in the right pulmonary artery, with an incipient hemorrhagic infarct in the lung. The other organs were found in all essentials normal. The microscopic examination of the a-v bundle showed that it was mixed with fatty tissue with large fat cells, perhaps to a little higher degree than is found on an average; but not outside the normal limits. The fatty tissue was found especially in the main trunk and also in the left branch. The a-v bundle was also somewhat hyperemic (a post-mortem phenomenon), but not especially strongly marked. On the whole, the a-v bundle presented no clear pathologic alterations. In both vagus nerves there were found very important anatomic changes. In unstained preparations from the upper part of the nerves black drops of fat could be seen around the nerve. In sections in which the nerve was longitudinally cut, the fibers were to a large extent brownish-black to black in color. Such black fibers were found partly through long stretches of the nerve, and they were on the whole rather homogeneous, although in places it gave the impression of a kind of accumulation of small granules of different sizes. In places where the section had been made across the nerve, there were, in addition to swollen black nerve fibers, a similar number of more yellowish normal fibers. The middle portion of the neck vagus showed on the whole the same aspect as described above, but the black parts of the nerve fibers were seen to be more extensive, so that the majority of the nerve fibers are black; the black round or cylindric formations were seen on closer inspection to be formed by numerous small granules or fragments. In sections from the lower portion of the nerve (about where the cardiac branches come off), extensive black cylindrical formations were seen, consisting of extremely fine, small, black granules, lying spread in the larger bundles. Examination of the right vagus showed the same appearance as that described for the left. In hematoxylin stained sections no signs of inflammation were to be seen. The right and left middle cervical sympathetic ganglion and the cardiac sympathetic ganglion, prepared in exactly the same manner as the vagus, showed nothing abnormal.

The medulla oblongata showed in the upper half of the fourth ventricle and in the lower half no degenerated nerve fibers. The ganglion cells at the bottom of the fourth ventricle, amongst which are the vagus nuclei, showed an extremely finely granulated grey-black coloration (lipochromate), but no signs of degeneration. The hypophysis showed its normal structure without any sign of inflammation or degeneration. The chief interest in this case lies in the fact that in all probability it must be regarded as a case of Adams-Stokes disease of vagal origin. The authors hold that the muscular (extra-fascicular) type of the disease of Adams-Stokes that is especially described by Pletnew and Nayago, has still to be proved in man.

Clinical Journal, London

July 26

25 Sore Throat. H. Tilley.

Medical Press and Circular, London

July 26

26 Dysphagia. A. Wylie.
27 Two Cases of Metastatic Ocular Inflammation Associated with Bacillus Coli Toxemia. A. Lawson.
28 The Training of the Indian Child in Health Matters as Part of General Education. D. Walsh.
29 Case of Acute Pancreatitis, with Surgical Conditions of the Pancreas. J. J. Clarke.

Archives Générales de Chirurgie, Paris

May, V, No. 5, pp. 481-598

30 Spontaneous Rupture of Hydroceles. L. Thévénot.
31 Experimental Research on Aseptic Ligation of Arteries. L. Delrez.
32 True and False Chorio-Epitheliomas. D. Angier and J. Poulain.
33 Four Cases of Excessive Bending or Straightening of the Neck of the Femur from Infantile Paralysis. P. Mauclaire.

Presse Médicale, Paris

July 5, XIX, No. 53, pp. 561-568

34 *Traumatic Spondylitis. (Maladie de Kümmel-Verneuil.) L. Imbert and F. Vial.

July 8, No. 54, pp. 569-576

35 *Digitalis and Bundle of His. A. Martinet.
36 *Treatment of Tuberculosis of the Kidney. L. Bernard.

July 15, XIX, No. 56, pp. 585-592

37 *Vaccine Therapy. (Vaccinothérapie par les vaccins irradiés.) M. Renaud.

34. **Traumatic Spondylitis.**—Imbert and Vial warn against the deceptive subsidence of symptoms after an accident involving the spine. After the first period of local pain and soreness, with possibly some paralysis of the sphincters and slight exaggeration of the leg reflexes, all the symptoms may subside and the patient may be apparently quite well for several weeks or months. But then the site of the contusion gradually grows painful again and girdle pains develop with incontinence or retention of urine, constipation or diarrhea, etc., and the patient stoops forward, the curvature of the spine being generally of the scoliotic type. Treatment should be along the same lines as for Pott's disease, striving to immobilize and relieve the spine of all weight-bearing. Reclining in the dorsal decubitus with a cushion under the lumbar region is indicated during the first stage, and also if the patient is seen at the onset of the third phase; the condition should be supervised with the Roentgen rays during the quiescent period if possible. The final outcome is generally ankylosis, and there may be industrial incapacity equivalent to 25 or 50 per cent. of the original wage. The characteristic feature of this form of injury of the spine, known as Kümmel-Verneuil's disease, is the period of latency preceding the development of the curvature.

35. **Digitalis and Heart-Block.**—Martinet presents arguments to sustain his assertion that digitalis is contra-indicated in case of partial heart-block while it may be indicated in total heart-block. In case of mitral stenosis, digitalis is contra-indicated if the presystolic souffle is missing, the jugular or liver-pulse is synchronous with the cardiac systole, and the heart occasionally skips a beat, with a curve showing disturbance in conductibility.

36. **Treatment of Tuberculosis of the Kidney.**—Bernard discusses whether the progress realized in tuberculin treatment and other medical measures in the last fifteen years justifies reliance on medical measures alone in renal tuberculosis. His conclusions are that nephrectomy is still the one great reliance and medical measures come into their own only when operative measures are impracticable for any reason.

37. **Vaccine Therapy.**—Renaud prepares his vaccine from selected cultures of the bacillus of typhoid fever by emulsionizing a forty-eight-hour growth on gelose with physiologic salt solution in the proportion of 5 mg. of culture to the cubic centimeter. This emulsion is submitted to the action of the ultraviolet rays for thirty minutes, by which the bacteria are killed. He finds that animals, guinea-pigs or rabbits are immunized by moderate or large non-lethal doses more readily than by small doses. The inoculation entails no risk of infection and the result is the rapid establishment of an immunity with the appearance of antibodies in the serum. The author has used his vaccine in forty clinical cases, which he will report later.

Semaine Médicale, Paris

July 12, XXXI, No. 28, pp. 325-336

38 *Sodium Chlorid as Factor in Edema Induced by Large Doses of Sodium Bicarbonate. F. Widal, A. Lemierre and Cotoni.

July 26, XXXI, No. 30, pp. 349-360

39 *Cleaning and Scraping the Uterus After Septic Abortion. R. De Bovis.

38. **Edema Following Large Doses of Sodium Bicarbonate.**—Widal, Lemierre and Cotoni describe some clinical experiences and experiments on normal persons which demonstrate that ingestion of sodium bicarbonate in large amounts checks the elimination of sodium chlorid. As the sodium chlorid is thus retained, water is retained with it. This explains the tendency to dropsy observed after large doses of sodium bicarbonate have been taken in the course of diabetes. It is not the bicarbonate that causes the dropsy; the retained chlorid is responsible for it. Under the bicarbonate treatment the output of sodium chlorid in the urine rapidly declines, showing how it is being retained in the body and edema develops in consequence, but as soon as the bicarbonate is suspended, and the elimination of sodium chlorid proceeds as usual, then the dropsy rapidly drains away. The proportion of water in the organism at any given time is thus dependent not only on the amount of sodium chlorid being ingested and on the more or less perfect functioning of the apparatus engaged in the elimination of the chlorids, but it depends also on the ingestion of sodium bicarbonate. Probably the bicarbonate is not the only substance which possesses this property. The chlorid is retained or poured out in a flood at will, just by giving or withholding the bicarbonate. Although it upsets the metabolism to such an extent yet it does not seem to cause any material lesion or permanent modification of the nutrition. As soon as it is suspended the chlorid metabolism proceeds to right itself promptly and effectually. The data reviewed emphasize anew the importance of sodium chlorid in the production of edemas and the connivance of the two substances in producing certain effects.

39. **Cleaning and Scraping the Uterus After Abortion.**—De Bovis discusses the recent contention of Winter that curettage of the uterus after abortion should be reserved for cases in which such complications as hemorrhage render it necessary, but that the physician in ordinary cases should wait until the infection has subsided before he attempts to interfere to clean out the uterus. De Bovis concludes that while there are good arguments on Winter's side the contention should not be pushed too far. The rule should be retained during the primary discussion, to prefer cleansing to curettage and to be chary of intervention, leaving the milder infections alone, in spite of the fact that they sometimes develop an unexpected malignancy. The accumulation of more facts, he hopes, will clear the matter up; if Winter is right, one cannot but admire the boldness which led him to attack so well established a therapeutic dogma.

Archiv für klinische Chirurgie, Berlin

XCV, No. 2, pp. 245-493. Last indexed August 12, p. 594

40 *Trauma a Factor in Pathogenesis of Kidney Tuberculosis. (Trauma und Nierentuberculose. Trauma und Organtuberculose.) F. Pels-Leusden.
41 *Diagnosis of Chronic Duodenal Ulcer. A. Neudörfer.
42 *Operative Treatment of Inflammatory and Functional Disturbances of the Large Intestine. F. de Quervain.
43 *Patching and Bridging in Plastic Surgery. (Neue Wege der plastischen Chirurgie.) F. König. (Experimente über Verschluss von Wunden und Ueberbrückung von Defecten schleimhauttragender Körpercanäle und- höhlen durch freie Autoplastik.) F. Hohmeier.
44 *Changes in Fundus of Eye in Cases of Rupture of Liver. (Veränderungen am Augenhintergrund bei Fällen von Leberruptur.) A. Tietze.
45 *Diagnosis of Injury of Liver. (Zur Diagnose der Leberverletzungen.) H. Finsterer.
46 *Treatment of Varices by Anastomosis between the Saphena and Femoral Veins. E. Hesse and W. Schaack.
47 Intestinal Gas Cysts. (Ueber Pneumatosis cystoides intestinorum insbesonder deren Aetiologie.) H. Miyake.
48 Intestinal Sarcoma. (Zur Kenntnis der Ileocecalsarkome.) S. Goto.
49 General Principles for Treatment of Wounds. W. Noetzel.

40. **Experimental Research on Tuberculosis of the Kidney.**—Pels-Leusden has been experimenting for years to study the mechanism of the development of tuberculosis in one kidney, and here gives the detailed reports of his experiments. He used goats, sheep and dogs and injected the bacilli directly into the artery supplying the organ, without obstructing the flow of blood. Success is possible only when small amounts of very virulent bacilli are used for the purpose. Direct trauma as by a contusion is not necessary for development of the renal tuberculosis, but such a trauma may mobilize bacilli and entail a tuberculous process at some remote point.

41. **Chronic Duodenal Ulcer.**—Neudörfer reports eight case-histories, all of which sustain his assumption that if a duodenal ulcer does not heal completely under a single systematic course of dieting as for gastric ulcer, an operation is not only justified but imperative. According to the records, operative treatment cured the tendency to duodenal ulcer in from 80 to 90 per cent. of all the cases. The best results seem to be attained with simple gastro-enterostomy, generally supplemented by closing up the pylorus. One of his patients had an ulcer in the stomach with one in the duodenum, and she still has the same symptoms. This may be due to the fact that he did not close up the pylorus in this case or he may have overlooked another ulcer.

42. **Operative Treatment of Disturbances in the Large Intestine.**—Quervain reports the outcome of an operation eight years ago on a woman with abnormally sagging long transverse colon with mucomembranous inflammation and gallstones. He removed the cecum and ascending colon which put an end to all the symptoms on the part of the intestine. He reviews similar cases on record, the results showing that the colon cannot be resected with a prospect of normal stools; diarrhea or constipation seems to be the rule afterward or they may alternate. His final conclusion is that ileosigmoidostomy is not so good an operation as what he calls ileotransversostomy and in future he will give the preference to the latter.

43. **Plastic Surgery.**—König has been experimenting with a patch applied outside after suture of a defect in a mucosa-lined cavity. The flap of tissue applied grows into place so solidly that he calls the method "soldering" (Verlöthung). The first time he applied this method was in the reinforcing of a suture after an operation for abdominal hernia; the tissues were so thin and fragile that even the stitch-holes seemed to invite recurrence. He reinforced the suture with a thin flap of periosteum and bone from the tibia, but since then has used the periosteum alone and has now a record of fourteen abdominal and scar hernias which he has safely patched and soldered up in this way. He experimented on dogs to apply this patch method when there were defects in hollow organs and also as a tubular bridge when there was an actual gap in a tubular organ. He gives illustrations of his various experiments and operations in which he thus patched and soldered the bladder and urethra or the rectum. The method is especially adapted for defects after resection of cancers in the rectum. He has found fascia tissue the best for the purpose, obtaining it through a separate incision, not far from the point where it is to be used. The main point is to have the flap in smooth contact all over its surface, so he always sutures the soft parts together above it to press it down into its bed. No tampon should be used. He adds that it is simply amazing to see how the free transplanted flap heals into its new place. Hohmeier reports operations on the same principle on the esophagus, bladder and trachea of dogs, all with promising outcome.

44. **Changes in the Fundus of the Eye with Rupture of the Liver.**—Tietze has operated in eight cases of rupture of the liver in the last five years. In two of the cases the fundus of the eye showed the same changes to which we are accustomed with albuminuric retinitis. These patients were men of 18 and 30 with severe contusion of the liver region and rupture of the liver requiring suture. In one case the changes in the fundus had subsided by the end of the second day. He queries whether the changes were due to compression or to the anemia.

45. **Diagnosis of Injury of the Liver.**—Finsterer noticed bradycardia as a striking symptom in two cases of injury of the liver; it seemed directly contrary to what would have been anticipated with the acute anemia. In one case the liver had been ruptured by the kick of a horse and the pulse was only 48. In the other case the liver had been sutured and the pulse was 52. Several writers have mentioned bradycardia with injury of the liver, and ascribe diagnostic importance to it. Finsterer experimented on animals to determine the influence on the pulse of injury of liver and spleen. The results with twenty animals showed that bradycardia is a characteristic symptom of injury of the liver, but that its absence does not exclude injury of this organ. The local pains with injury of the liver may relate to the right shoulder, and the reflex rigidity may extend over the entire abdomen. In two other cases of contusion of the liver region with bradycardia no operation was deemed necessary, but the assumption of injury of the liver was sustained by the development of jaundice and the appearance of bile salts in the urine. In itself, therefore, bradycardia does not necessarily indicate operative treatment. It is important also in prognosis, he thinks; if there is no bradycardia in spite of absorption of bile salts or if, with extreme anemia, the pulse is 70 or 80, the injury requires an operation at once, the prognosis being graver than when the pulse is abnormally slow.

46. **Venous Anastomosis in Treatment of Varices.**—Hesse and Schaack describe experiments on the cadaver and on animals which show the feasibility of implanting the saphenous vein in the femoral vein, 10 cm. below its normal site, in the treatment of varices. The arrangement of the valves and the anatomic and physiologic conditions tend to restore normal conditions in the venous circulation. Delbet published in 1906 eight cases and has reported sixteen since in which he has applied this method, but since then it does not seem to have been applied, possibly owing to the little notice paid Delbet's communication and to the tedious technic. Hesse and Schaack here report the successful application of the method in twenty-six cases. They give the details of the first twenty-three cases and commend the operations as restoring physiologic conditions. If the fine results attained to date prove permanent the method has a future. In their cases all the varicose ulcers had healed, all the edema had subsided and the patients were free from all subjective disturbances. Only one case was a failure. The wound healed but by the end of a week deep infection was evident and the patient succumbed the twenty-sixth day to suppurative thrombophlebitis of the two veins, with superposed pneumonia.

Berliner klinische Wochenschrift

July 17, XLVIII, No. 29, pp. 1313-1360

50 Alleged Combustible Carbohydrate for Diabetics. (Beitrag zur Chemotherapie der Zuckerkrankheit.) G. Rosenfeld.
51 *Operative Treatment for Pendulous Abdomen. (Die Operation des Fett-Bauches.) R. Jolly.
52 *Differential Diagnosis of Benign and Malignant Hour-Glass Stomach. J. Kretschmer.
53 The Duodenal Tube. M. Gross.
54 *Influence of Calcium Salts on Production of Effusions. R. Levy.
55 Position as Aid in Diagnosing Tricuspid Defect. H. Stern.
56 Continuous Suction in Treatment of Nasal Disease. A. Peyser.
57 *Anatomic and Clinical Bases for Operative Treatment of Pulmonary Embolism. H. Ritzmann.
58 Endo-Urethral Massage. J. Sellei.

July 24, No. 30, pp. 1361-1408

59 Rhinoplasty. (Plastischer Ersatz des Nasenseptums.) O. Hildebrand.
60 Tissue Culture in Vitro. (Kultur der Gewebe ausserhalb des Organismus.) A. Carrel.
61 Elimination of Salvarsan. H. Frankel-Heiden and E. Navassart.
62 *Consanguineous Ectodermal Anomalies in Development. (Untersuchungen an drei blutsverwandten Personen mit extodermalen Hemmungsbildungen, besonders des Hautdrüsensystems.) W. Wechselmann and A. Loewy.
63 Pulmonary Tuberculosis. E. Aufrecht.
64 Pathognomonic Blood Findings in Pernicious Anemia. (Definition, hämatologisches Blutbild und pathognostisch-differentialdiagnostische Blutkriterien der perniciösen Anämie.) A. Pappenheim.
65 Urogenital Involvement in Scleroderma. (Beteiligung des Urogenitalapparates bei einem Fall von Sklerodermie.) G. Ehrenberg.
66 Tracheopathia Osteoplastica. I. Haga.

51. **Correction of Pendulous Abdomen.**—Jolly reports two cases in which he has relieved patients from pendulous belly by resecting the pendant portion. A curving incison was made near the umbilicus from groin to groin and then another, with a sharper curve, is made below, both incisions starting at the same point on each side and the two outlining a crescent. The pendant mass of abdominal skin and fat thus circumscribed is cut out and the upper and lower incisions are sutured together. He gives an illustrated report of his first case; the lips of the wound left by resection of all the tissues down to the fascia were held together with forty Michel clips. One of his patients had long had painful disturbances from the pendulous belly as she strove to keep it under control with corsets. Jolly has been able to find in the literature only two communications on operative correction of pendulous belly, one from Demars, a French surgeon, and one from Schulz, a Russian, who reports three cases. The linear scar left from the transverse crescent incisions is scarcely perceptible; there is little, if any, bleeding at the operation, and Jolly regards it as simple and entirely harmless, possibly more so than strenuous measures sometimes undertaken by women to reduce their flesh to get rid of their sagging belly and which rarely accomplish their purpose, while this is promptly realized by the simple operation described with illustrations.

52. **Differentiation of Benign and Malignant Hour-Glass Stomach.**—Kretschmer gives some illustrations of the findings with radiography of hour-glass stomachs which demonstrate, he thinks, that it is safe to assume malignant disease when the hour-glass constriction is horizontal and vertical, the radiograph showing an extensive horizontal and vertical defect in the outline of the stomach. With non-malignant anomaly the constriction is more or less horizontal. With the non-malignant hour-glass stomach the upper sac empties itself into the lower, while with malignant disease both halves of the stomach seem to empty themselves regularly together, without the lower sac filling up first.

54. **Influence of Calcium Salts on Production of Effusions.**—Levy's experimental research failed to demonstrate that calcium chlorid has any inhibiting action on the production of effusions.

57. **Operative Treatment of Pulmonary Embolism.**—Ritzmann has found by numerous experiments on the cadaver that Trendelenburg's operation to expose the pulmonary artery to remove an embolus is entirely practicable from the anatomic standpoint although none of the five patients thus operated on was permanently cured. Ritzmann has been studying the fifty-five cases of an embolus in the pulmonary artery which he has encountered during the last 6,000 necropsies. The embolism followed operations on the trunk or legs in six of the thirty-five cases of which the details are known; it followed injuries of the legs in three others, varicose disturbances in the legs in seven, anemia and cachexia in eight, and it occurred with a heart defect in three. In only six cases was the diagnosis of pulmonary embolism made during life, and in these cases the embolism proved rapidly fatal. In all the others there was an interval of from half an hour to forty-eight hours between the onset of the symptoms of embolism and the fatal termination. An interval of from three to six hours was the rule, and it is probable that the embolus gradually increased in size or that the embolism occurred in waves. This is evidenced by the transient improvement under camphor, and the discovery in the smaller arteries at necropsy of minute emboli evidently older than the big one that proved fatal. The data show thus, he remarks, that the diagnosed embolism proved too rapidly fatal for any operative intervention, and that in the cases with a sufficiently long interval for operative interference to have been successful, the nature of the disturbances had not been recognized. The embolus was generally located in the main trunk of the artery or one of its chief branches, and from the pathologic-anatomic standpoint might easily have been removed. The great difficulty therefore in the way of successful operative treatment of pulmonary embolism is the failure to recognize it in time. Bloody sputum at the beginning of the disturbances is an almost constant symptom. The mechanical factor should be considered in diagnosis as the embolism occurred almost invariably after sitting up in bed, getting up, changing the dressings, or after the agitation stage of general anesthesia. An instance has been reported recently in which the embolism followed application of a constricting band to induce hyperemia. The condition of the heart and lungs when the embolism occurs is a decisive factor in the outcome, as also conditions favoring thrombosis. On suspicion of pulmonary embolism a surgeon who has mastered Trendelenburg's technic need not hesitate to apply it to save an otherwise doomed patient.

62. **Consanguineous Anomalies of Development.**—The authors report a peculiar anomaly of development of the ectoderm which was transmitted only to the male offspring through the female; none of the developmental errors were at any time noticed in the females, nor were all the males affected. The original progenitor of the patients whose cases are reported was twice married. By her first husband she had four children, only one of whom was affected by the anomaly to be described. One of the well children gave birth to fifteen boys, four of whom showed the anomaly. By her second husband the original progenitor gave birth to eleven children, two of the boys showing the anomaly. One of the well children gave birth to one child, a boy, who also showed the anomaly. The congenital maldevelopment consists in a hypotrichosis, a saddle nose, misshapen ears, absence of teeth, in part or entire, with misformation. The fingernails were normal. The growth of hair on the head, face and body was exceedingly sparse. The eyebrows were absent, while the eyelashes were well developed. The beard was very sparse and only a few hairs were present on the chest and in the axillæ. The skin was normal in color but appeared to be rather loose and was very dry. The genitalia were well developed. The ears were of the type known as satyr ear. There were no evidences of syphilis; the Wassermann reaction was negative. When teeth were present they were flask-shaped. The jaws were atrophic and did not contain teeth germs. Although the patients could not be called imbeciles their mental development was noticeably deficient. None of them perspired.

Centralblatt für die Grenzgebiete der Medizin und Chirurgie, Jena

June 24, XIV, No. 9, pp. 321-368

67 *Tuberculosis of the Kidney. (Ueber Nierentuberkulose.) K. Frank.
68 Nodular Rheumatism. O. Willner.

67. **Tuberculosis of the Kidney.**—Frank reviews, with comment, 527 articles bearing on renal tuberculosis. The mortality in 1,331 nephrectomies for tuberculosis has been 9.3 per cent. in the years since 1900 in the experience of thirty-five surgeons, including Kelly's thirty-five cases (1904), with 14.2 per cent. mortality, Rovsing's 106 with 5.7 per cent. mortality (1909), and Albarran's 188 cases with 3.3 per cent. mortality (1908). The mortality has grown constantly less with the progress in diagnosis and technic; Pousson, for instance, reported in 1902 a mortality of 33.7 per cent. in 335 operations, while it was only 11.6 per cent. in the forty-three operations reported in 1908. In the first half of the last decade the mortality in 137 operations was 18.2 per cent., while it was only 8.2 per cent. in the 1,194 operations 1905-1910. The ultimate outcome of many of the cases is also recorded. The results seem to show that there is little danger of ascending nontuberculous pyelonephritis from the bladder after removal of one kidney. It occurred only once in Israel's experience. Heal-

ing of the bladder lesions had better be promoted by local measures after the nephrectomy. Rovsing reported spontaneous cure of the tuberculous lesion in the bladder in fourteen cases; in twenty-five others there was propagation of minute foci or the lesions persisted unmodified. He advises after waiting a little to inject, after the bladder has been well rinsed out, 50 c.c. of a fresh and warm 6 per cent. solution of phenol, allowing it to be retained for two or three minutes in the bladder and then evacuated, repeating this until the solution comes away rather clear. He repeats this at longer and longer intervals: the course requires six or eight weeks. The measure is painful and may require injection into the bladder of some sedative. An opium or morphin suppository is given afterward. Occasionally signs of phenol poisoning were observed, black urine, nausea and vomiting, but all transient and never serious. The treatment proved successful in a number of apparently hopeless cases, and Lichtenstern, Bonamone and Lower have also reported good results with it, but Rafin and Stossmann advise against local measures as useless and liable to do harm. Hunner found it necessary to make an opening from the bladder into the vagina to relieve the disturbances after nephrectomy in one case; sitz baths were often found useful also.

Deutsche medizinische Wochenschrift, Berlin

July 20, XXXVII, No. 29, pp. 1337-1376

69 Salvarsan. E. Hoffmann and J. Jaffé.
70 *Arsenic and Iron in Chlorosis. F. Seiler.
71 Roentgenotherapy of Myoma of Uterus. E. Schmidt.
72 Roentgen Irradiation of Thyroid in Thyroidism. A. Simon.
73 *Phenolphthalein Test for Occult Blood in Feces. R. Goldschmidt.
74 *Tendon Stretching for Paralytic Deformities. (Sehnenentspannung bei Lähmungsdeformitäten.) W. Böcker.
75 Veratrum Viride in Eclampsia Gravidarum. E. G. Zinke.
76 Recent Methods of Diagnosticating Malignant Growths. H. Hirschfeld.

70. **Effect of Arsenic in Chlorosis.**—The effect of iron and arsenic and of both combined in chlorosis was studied by Seiler in thirty-three cases. In thirteen cases arsenic alone, in twelve cases iron only, and in eight cases iron and arsenic in combination were given. The arsenic was given in the form of arsenious acid, 0.005 to 0.01 gm. in pill form, or injected subcutaneously. The results were *nil*. While the hemoglobin percentage was a little higher in some cases after two or three weeks' treatment, the number of red cells was on the average reduced. Therefore it is concluded by the author that chlorosis should not be treated with arsenic alone. The patients who received the iron treatment were given a modified Blaud's pill for four weeks. The results on the whole were rather satisfactory. The hemoglobin percentage was markedly increased, almost doubled, whereas the number of erythrocytes was increased to normal. When both iron and arsenic were administered the result was a most astonishing one. For instance, if at the beginning of the treatment the hemoglobin was 37 per cent. and the erythrocytes, 3,000,000, at the termination of the treatment the findings were hemoglobin, 96 per cent.; erythrocytes, 5,000,000. It is quite evident, therefore, that the proper treatment of chlorosis is to use a combination of iron and arsenic.

73. **Phenolphthalein Test for Occult Blood in Feces.**—Goldschmidt confirms Boas' findings with reference to the value of the phenolphthalein test for detecting occult blood in the feces. He believes that this is the best test for the general practitioner because it is performed easily and quickly and with almost no apparatus.

74. **Surgery of Paralytic Deformities.**—Böcker advocates the transplantation of tendons for the correction of all paralytic deformites of the feet. However, this should not be undertaken until thorough stretching of the tendons has, beyond question, failed to produce any result. If electricity fails to produce any reaction in the muscles involved a central paralysis is, of course, present and then, depending on the condition of the muscle fibers, a corrective operation should be undertaken. The author reports several illustrative cases. In one of these there was complete paralysis of the peronei, tibialis anticus and extensor digitorum communis. He transplanted the flexor hallucis longus to the peronei and the extensor hallucis longus navicular bone. The tibialis anticus was transplanted to the cuboid bone. The result was satisfactory.

Münchener medizinische Wochenschrift

July 18, LVIII, No. 29, pp. 1545-1600

77 Trauma and Meningitis. H. Merkel.
78 *Esophagoplasty. E. Lexer.
79 Securing Pure Cultures of Spirochæta Pallida and Spirochæta Pertenuis. H. Noguchi.
80 Dilatation of Cervix for Operative Purposes and to Produce Abortion. (Erweiterung des Gebärmutterhalses zu gynäkologischen Zwecken und zur Einleitung des künstlichen Aborts.) K. Hegar.
81 Pituitrin as a Styptic in Gynecology. (Pituitrin als gynäkologisches Styptikum.) H. Bab.
82 *Local Anesthesia of Brachial Plexus. (Anästhesierung des Plexus brachialis bei Operationen an der oberen Extremität.) G. Hirschel.
83 Accidents and Complications in Orthopedic Surgery. (Unfälle und Komplikationen bei orthopädischen Operationen.) I. Wierzejewski.
84 Syphilitic Spastic Paralysis After Salvarsan. (Spastische Spinalerkrankung bei Lues nach Salvarsan.) M. Juliusberg and G. Oppenheim.
85 *Rheumatoid Arthritis Due to Measles in an Infant. (Masernrheumatoid im Säuglingsalter.) M. Feibelmann.
86 Eye Affections in Acne Rosacea. R. Hilbert.
87 *Acoustics of Heart Tones. (Cardiophone.) S. Lilienstein.
88 *Inversion of Appendix Vermiformis. O. Langemak.
89 *Relationship Between Hyperpigmentation of Skin in Addison's Disease and the Adrenal Function. (Hyperpigmentierung der Haut bei Morbus Addisonii und der Funktion der Nebennieren.) G. Stümpke.
90 Test for Salvarsan in Urine. J. Abelin.
91 Errors in Serodiagnosis of Echinococcemia. (Fehlerquelle bei der Serodiagnose der Echinokokkusinfektion.) A. Brauer and A. Israel.

78. **Esophagoplasty.**—The unsuccessful outcome of a case of esophageal carcinoma in which the patient was operated on according to the method of Roux, led Lexer to modify the procedure by substituting for the piece of intestine a skin flap. Two patients operated on according to this method in 1903 and 1904 got along very nicely, the wounds healed kindly without fistula formation and function was perfect. Only the neck portion of the esophagus is formed of skin; for the remaining portion the intestine is used according to the Roux method. In November, 1907, Lexer extended this procedure so that the entire esophagus was rebuilt from skin. The incision was begun 2 fingerbreadths above the sternal notch extending 6 centimeters to the left of the median line. It was then continued downward 3 fingerbreadths below the margin of the ribs, then extending inward to the median line. This huge skin flap was then separated from the underlying tissues and rolled up to the right so as to form a tube with a lumen large enough to admit the entire finger, the epidermis being on the inside. The skin of the chest was then loosened by undermining so that it could be drawn together covering the defect made by the flap and thus burying the skin tube completely. About a month afterward the lower mouth of this tube was anastomosed with the stomach and when healing had occurred there was a continuous patulous duct from the neck to the stomach. Lexer had contemplated making an anastomosis between the pharynx and esophagus but the patient succumbed to gangrene of the lungs incident to a recurrence of the carcinoma about two months after the original operation. Lexer concludes from this operation that the principle of the operation is correct. In another case he adopted the combined procedure using a loop of jejunum to replace the esophagus as high as the mammæ and above that making a skin tube. The result was a most gratifying one. The patient is able to swallow food although fluids must be taken at the same time in order to wash down large boluses of food. At first the patient complained of considerable itching in the skin portion of the esophagus but this soon subsided. Eight months have elapsed since the final operation and the patient is enjoying the best of health.

82. **Anesthesia of Brachial Plexus.**—Hirschel reports two cases in which he operated successfully on the elbow and ulna for the removal of fractured bones, and in a third case for tuberculous osteomyelitis, all under local anesthesia of the brachial plexus. The anesthetic was injected directly into the plexus.

85. **Arthritis Caused by Measles.**—A 6-months-old infant developed a typical attack of measles which ran the regular course and terminated in complete recovery. About five days afterward when no further effects of the measles were apparent, there developed a swelling and redness of the right large toe and dorsum of the foot. A similar condition developed

in the left foot and the right wrist and right elbow. All of the joints so involved were intensely painful, subjectively as well as objectively. The right hip and right knee next became slightly painful. The heart, lungs and other organs were apparently normal. There was very little elevation of temperature and inside of twenty-four hours the pains began to subside and the swelling became less. There was a slight leukocytosis and little poikylocytosis. When the patient was seen again, a week later, recovery was complete. Feibelmann believes that this was a typical rheumatoid condition caused by the measles. The case is interesting not only because of the arthritis following measles, but also because of the age of the patient.

87. **Acoustics of Heart Tones.**—Lillienstein calls attention to the fact that it is of the greatest importance to be able to differentiate valvular and pericardial adventitious sounds. This is hardly possible by means of the instruments and apparatus hitherto in use. Lillienstein has devised what he calls a cardiophone or a microphone stethoscope which makes accurate diagnosis possible. The heart tones are very easily appreciated by means of this instrument and any deficiency from the normal is quickly detected. Valvular tones may be differentiated from pericardial friction or other sounds, and the various sounds heard during respiration, both in well and diseased lungs, are easily heard. The instrument is easily portable. The illustration shows the method of construction of the apparatus.

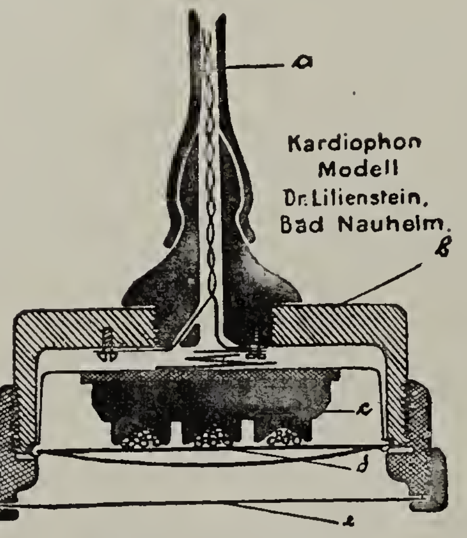


Figure showing Lillienstein's cardiophone; a, electric wiring; b, enclosed capsule; c, carbon; d, carbon membrane; e, hard rubber or celluloid membrane.

88. **Inversion of the Appendix Vermiformis.**—Langemak reports the case of a boy 4 years old who complained of pain in his right hip. Temperature was normal; there was no vomiting; no abdominal tenderness; no pain on pressure. Under the right Poupart's ligament an intra-abdominal mass was palpable, slightly tender on pressure and almost fixed. There was slight abdominal rigidity. Below Poupart's ligament was a fluctuating mass which was assumed to be an abscessed gland. In the meantime the temperature rose to 40.7 C.; pulse, 144. A diagnosis of epityphlitis was made. At the operation it was found that the appendix had become entirely inverted into the cecum. By means of gentle massage it was possible to reduce the invagination. Only fifteen similar cases have been reported in the literature.

89. **Skin Pigmentation in Addison's Disease.**—It is believed by Stümpke that the excessive pigmentation of the skin in Addison's disease is not the result of excessive pigment formation in the adrenals but that this occurs in the skin itself as the result of the action of the secretion of the adrenals which reaches the skin through the circulation.

Medizinische Klinik, Berlin

July 16, VII, No. 29, pp. 1109-1146

92 Surgery of the Teeth. (Die Zahnchirurgie und ihre Bedeutung für den praktischen Arzt.) A. N. Kneucker.
93 Statistics in Regard to Blindness from Ophthalmia Neonatorum in Germany. (Die Erblindungsgefahr infolge von Augenentzundung der Neugeborenen.) F. Best.
94 Arthrectomy for Gout. (Operative Heilung des Podagra.) F. Franke.
95 Sugar in the Diet in Heart Disease. (Zuckernahrung bei Herzkrankheiten.) A. Selig.
96 Non-Operative Treatment of Strabismus. (Ziele und Erfolge der unblutige Schielbehandlung.) P. Schultz-Zehden.
97 *Unsuspected Cancer as Cause of Hiccup. (Beitrag zum Kapitel "Singultus.") J. H. Greeff.

97. **Hiccup Due to Unsuspected Cancer.**—In Greeff's case the singultus persisted unmodified by all measures until the death of the patient, six months after the hiccup had first commenced to torment him. He was a man of 76, and the singultus developed a few weeks after recovery from pneumonia with pleurisy. The singultus recurred at intervals of only a few minutes, seldom more than a quarter of an hour, and there was occasionally a shrill intonation at the end of the hiccup showing the violence of the diaphragm spasm. Necropsy revealed a small tumor in the hilus of one lung, evidently a primary malignant growth, and probably responsible for the singultus by compression of the phrenic nerve directly or indirectly, although no positive evidence of this could be discovered.

Wiener klinische Wochenschrift, Vienna

July 20, XXIV, No. 29, pp. 1043-1078

98 Technic and Results of Photographing the Fundus of the Eye. (Photographie des Augenhintergrundes.) F. Dimmer.
99 Nature of Chorea Minor and the Chorea Psychoses. P. Jolly.
100 Allergy. (Zur Bewertung der Allergie.) Nourney.
101 Uterine Hemorrhage of Syphilitic Origin. J. v. Jaworski.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A Manual of Pathology and Morbid Anatomy. By T. Henry Green, M.D., F.R.C.P., Consulting Physician to Charing Cross Hospital, and to the Brompton Hospital for Consumption and Disease of the Chest. Eleventh Edition. Revised and Enlarged by W. Cecil Bosanquet, M.A., M.D., F.R.C.P., Assistant Physician (Late Pathologist) to Charing Cross Hospital and to the Brompton Hospital for Consumption and Diseases of the Chest. Cloth. Price, $4.50 net. Pp. 642, with 350 illustrations. Philadelphia: Lea & Febiger, 1911.

A Manual of Practical Hygiene for Students, Physicians and Health Officers. By Charles Harrington, M.D., Late Professor of Hygiene in the Medical School of Harvard University. Fourth Edition, Revised and Enlarged, by Mark Wyman Richardson, M.D., Secretary to the State Board of Health of Massachusetts. Cloth. Price, $4.50 net. Pp. 850, with 124 illustrations. Philadelphia: Lea & Febiger, 1911.

The Bellevue Hospital Nomenclature of Diseases and Conditions with Rules for the Recording and Filing of Histories. Compiled by the Committee on Clinical Records Composed of Drs. Robert J. Carlisle, Warren Coleman, Thomas A. Smith and Edmund L. Dow, 49 W. Fifty-Seventh Street, New York. Revised and Made to Conform to the International Classification, 1911. Morocco. Pp. 327.

A Manual of Clinical Diagnosis by Means of Laboratory Methods. For Students, Hospital Physicians and Practitioners. By Charles E. Simon, B.A., M.D., Professor of Clinical Pathology and Experimental Medicine at the College of Physicians and Surgeons, Baltimore, Md. Seventh Edition. Cloth. Price, $5 net. Pp. 778, with 168 illustrations. Philadelphia: Lea & Febiger, 1911.

Index-Catalogue of Medical and Veterinary Zoology. Part 34. (Authors: Werlhof to Xemard.) By C. Wardell Stiles, Ph.D., Consulting Zoologist, Bureau of Animal Industry, and Albert Hassall, M.R.C.V.S., Assistant Zoologist, Bureau of Animal Industry. U. S. Dept. of Agriculture Bureau of Animal Industry, Bull. No. 39. 1911.

Ophthalmic Myology. A Systematic Treatise on the Ocular Muscles. By G. C. Savage, M.D., Professor of Ophthalmology (Defects of the Eye) in the Medical Department of Vanderbilt University. Second Edition. Price, $4. Pp. 685, with 84 illustrations. G. C. Savage, 137 Eighth Avenue, Nashville, Tenn., 1911.

Immune Serums. A Concise Exposition of the Main Facts and Theories of Infection and Immunity. By Dr. Charles Frederick Bolduan, Bacteriologist, Research Laboratory, Dept. of Health, City of New York. Fourth Edition. Price, $1.50. Pp. 226. New York: John Wiley & Sons, 1911.

Report of the Eightieth Meeting of the British Association for the Advancement of Science. Sheffield: 1910. August 31-September 7. Cloth. Pp. 868. London: John Murray, Albemarle Street, 1911.

Transactions of the Florida Medical Association for the Year 1911. Held at Tallahassee, Fla., May 10, 11, 12, 1911. Paper. Pp. 177. Dr. J. D. Fernandez, Secretary, Jacksonville.

Thirteenth Annual Report of St. Francis' Hospital, Hartford, Conn. Conducted by Sisters of St. Joseph. For the Year 1910. Paper. Pp. 67, with illustrations.

The Wuhu General Hospital. Medical Report, 1910. Paper. Pp. 24. E. H. Hart, Surgeon, 7847 Winnecoma Avenue, Chicago.

Report of the Vice Commission of Minneapolis to His Honor, James C. Haynes, Mayor. Paper. Pp. 134. 1911.

Biannual Report of the Hoffman Hospital, Keyser, W. Va. Paper. Pp. 23, with illustrations. 1909-1910.

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SOME COMMENTS AND SUGGESTIONS CONCERNING THE WELFARE OF THE SECTION ON OPHTHALMOLOGY*

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In assuming the position of Chairman of this Section, I desire to express my thanks for the honor that has been conferred on me, and to assure you of my keen appreciation of the compliment you have paid me in selecting me to preside over your deliberations.

To be Chairman of the Section on Ophthalmology is an honor of which one may be proud. The Section was the first one of the Association, having been organized in 1879 with less than 100 members. It has steadily grown in size and importance until it has at present over 1,200 members, who, according to the rule adopted by the Association office, are active members as a result of registration in the Section during the past five years; and if we include as members all those who hold membership in the Association and who have registered in the Section during the last ten years, the membership is over 1,700. This membership includes practically all of the prominent and progressive ophthalmologists of this country, and from the amount and character of work that has been done and is being done, the Section is entitled to rank as one of the foremost ophthalmologic societies of the world.

But the organization does not exist which is so good that it cannot be made better, and in keeping with the spirit of the Constitution and By-Laws of the Association, which prescribe the character of the Chairman's address, I shall briefly discuss some features connected with the conduct of the Section, and offer a few suggestions and some recommendations which, if adopted, in my judgment, will add to the future reputation and usefulness of the Section.

The plan of sending the printed papers to the active members of the Section in advance of the annual session at which such papers are to be presented and discussed has now been in operation six years and has proved an unqualified success. Not only has it led to the preparation of better papers, but it has given the members an opportunity to read carefully and to study thoroughly the matter to be presented by the various essayists, and has stimulated more and better discussion at the meetings. It has also given opportunity for the careful preparation of discussions in advance and eliminated in a large measure the rambling and ofttimes inapplicable discussion heard at meetings where the matter contained in papers is first presented when the authors read from their manuscripts. The belief among some that the discussion of papers that have been given to the members prior to the sessions would lead to discussions devoid of originality has not been borne out by the results, for never in the history of the Section have the discussions been as comprehensive and yet original as they have been since the adoption of the plan of distributing the papers in advance in the form of our presessional volume. In expressing a desire for a continuation of the plan, I wish to make a plea for an earlier publication of the presessional volume with a view to placing the papers in the hands of the members of the Section at least 30 days before the annual session at which the papers are to be presented. This is entirely possible if the manuscripts are in the Secretary's office not later than March 15, and any member who desires a place on the program can have his manuscript ready at the appointed time if he will start earlier with his work on it. Probably a majority of our essayists prepare papers under pressure, and are apt to procrastinate. To complete a paper a week or ten days earlier is not a matter of much concern, if it is known months in advance that the completed manuscript must be in the hands of the Secretary of the Section at a certain time.

I also desire to make a plea for more written discussions or discussions from well arranged notes on the part of those who take part in our meetings. Even the best of our members, though there are many who are concise and forceful speakers, are apt to be guilty occasionally of rambling, disconnected and irrelevant discussions if the same are given wholly extemporaneously. This has been forcibly illustrated by a comparison of the stenographer's report of extemporaneous discussions with the same after revision and extended alteration at the hands of those who gave the discussions.

The plan of appointing members to open the discussion of papers should be continued, but the appointments should be made earlier and acceptances received before the final program goes to press, and each member accepting such an appointment should consider that he is as much under obligation as the essayist and his formal discussion should be prepared with such thoroughness and comprehensiveness as the subject demands.

Notwithstanding the action of the Executive Committee concerning the rule to be followed by the officers in arranging the program for this session, I desire to express my emphatic objection to a lengthy program necessitating long hours and an added meeting on Friday morning. I know that I voice the sentiment of a large number of the prominent and active members of this Section when I say that the best interests of the Section are subserved by having a few papers well and thoroughly discussed and within such time that the members are not completely tired out or unnecessarily bored before the session closes. To continue some of our morning meetings until 12:30, and some of our afternoon meetings until 5:30 or 6 o'clock, and even then crowd out much discussion in order to complete a long program, is not conducive to the best efforts and results, and it tires the members too much, to say nothing of the officers who are in duty bound to remain until the adjournment. If the morning meeting is called at 9 o'clock, or better still at 9:30, and adjourns not later than 12, and the afternoon meeting is called promptly at 2, and adjourns at 4:30 or not later than 5, the members will have had all they can stand in the way of a scientific treat, provided the program is followed as closely as it is by the more active and interested members. Not more than five good papers can be presented and properly and thoroughly discussed within the time allowed for one meeting, and five meetings, ending with the afternoon meeting of Thursday, are sufficient to satisfy fully 90 per cent. of the members.

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* Chairman's Address before the Section on Ophthalmology at the Sixty-Second Annual Session of the American Medical Association, held at Los Angeles, June, 1911.

No paper on the program should be presented out of its order, as it is unfair to the other essayists and to the members of this and other sections generally to have the order on the official program changed, with its possible disappointment to many who have arranged attendance in order to hear certain papers. Furthermore, we should follow the very stringent rule adopted by the Section several years ago, to the effect that any member who accepts a place on the program and defaults shall not be privileged to present a paper before the Section for a period of three years, except at the discretion of the officers and Executive Committee in accepting an excuse. It is already the rule that a paper on the program not actually presented and defended by the essayist shall not be published in the transactions of the Section except by unanimous vote of the Section, and I wish to make the recommendation that we eliminate that portion of the rule which provides for any publication of the paper on the recommendation of the Section until after the paper has been actually presented before the Section. In my judgment it establishes a bad precedent to refer papers by title for publication in either the Transactions of the Section or The Journal of the American Medical Association.

If, through absence of any of the essayists, or as a result of limited discussion of papers, the program of any meeting is shortened, a subject, previously selected by the officers for such a contingency, may be offered for discussion. Undoubtedly such a feature would prove an interesting and profitable innovation. For instance, if at this meeting the program should be completed at too early an hour for adjournment, we might discuss the subject of the effect of salvarsan, or what is popularly known as "606," on the eye. Comparatively little on the subject has been written in this country, and you will note that our program has no reference to it. Other equally practical subjects might be suggested for a kind of "round table" discussion, and such a feature, it seems to me would prove very acceptable. I am told that the British Medical Association regularly gives up a part of the time of the regular program to such a feature and that it has proved a decided success.

Another portion of the surplus time, if there should be any, could be given to that part of our program which of late years has been set aside for demonstrations or the presentation of new instruments or appliances. This feature, it seems to me, could profitably take more time than we have heretofore been accustomed to give it.

Therefore, in consideration of the propriety of having fewer papers, of giving opportunity for more and better discussions, and of affording an opportunity for the introduction of other features, I desire to make the following specific recommendations: First, that the Section adopt a rule to the effect that the entire program shall not consist of more than twenty-five papers, exclusive of addresses; second, that at the discretion of the officers, and with the approval of the Section, for any unfilled number on the regular program there may be substituted a general discussion on some subject selected by the officers or proposed by some member of the Section; third, that the presentation and discussion of papers shall end with the meeting of Thursday afternoon; fourth, that if the officers and Executive Committee arrange any program for Friday the same shall be in the nature of clinical or social features; and, fifth, that no paper shall be approved for publication in the Transactions of the Section or in The Journal of the American Medical Association unless such paper has been actually presented by the essayist before the Section.

This leads me to a discussion of the merits of papers which should be accepted for the program. In such a large Section it is natural to suppose that a large number of papers will be offered for each annual program, and such is the case. For each of two eastern sessions within recent years over 140 papers were offered. The selection of a program from this large number of papers is a task for the officers and Executive Committee, and one that is not always devoid of embarrassment, owing to the difficulty of making selections from an abundance of good material. However, in the selection of papers for the programs of this Section, the utmost fairness has prevailed, and as Secretary of this Section for a period of seven years and being familiar with the action of officers and executive committees during that time, I am free to say that on every occasion an effort has been put forth not only to select papers of originality and unquestioned merit for each program, but to exhibit fairness in the distribution of favors by selecting papers with due regard to geographic location of essayists as well as age of the members. While it has been the unwritten rule, which should be continued, that mediocre maiden efforts should find no place on our programs, the young men who have in one way or another demonstrated their ability have been encouraged to offer contributions, and have met with the most cordial treatment at the hands of executive committees. Let us not forget that the ophthalmology of the future will be written by the young men of to-day, and that many of these men, because of the superior advantages and training they have in this day and the facilities that are offered for original work, are developing new truths which it should be to our pleasure as well as to our profit to hear or see demonstrated. The older and more noted men in ophthalmology do not possess all the knowledge pertaining to our specialty, and for that reason I am in favor of giving the young man of training, if not experience, a chance to be heard.

Our programs should be practical as well as scientific, and to that end demonstrations and the exhibition of charts, photographs, specimens and new instruments and appliances, should be encouraged. Whenever the Association meets where it is possible, the giving of clinics, both medical and operative, serve a useful purpose for the presentation of rare and interesting cases or the demonstration of new forms of operation or treatment. Such a feature could with propriety form the only program for Friday. This was the plan pursued at St. Louis last year, and it proved a great success, and it was an attractive feature which many members have expressed a desire to have repeated.

A criticism that I would offer concerning the work of the Section is the lack of purely original work. Too often our programs are made up entirely of papers that are simply a review of the literature on various subjects or represent the authors' clinical experiences, or perhaps simply represent the report of what are considered interesting and rare cases. I do not wish to belittle the value of reports concerning clinical findings with appropriate deductions, for I feel that the clinical side of our work ought to receive a good share of attention, but the matter of pure investigation certainly does not receive the consideration that it deserves, and it was a recognition of this fact that in a large measure led to the establishment of the Knapp Testimonial Fund and the offering of a medal for original research work.

In this connection I wish to endorse heartily the recommendations of one of my distinguished predecessors, Dr. W. H. Wilder of Chicago, to secure collective investigation by the appointment of committees to study definite subjects of scientific and practical interest to us as ophthalmologists, and I wish to urge the committees appointed as a result of the recommendation, to continue their investigations and to make reports before this Section at stated intervals.

The recommendation of another former Chairman, Dr. A. A. Hubbell of Buffalo, that the Section consider the subject of the proper qualifications of the ophthalmologist and endeavor to secure a recognized standard for the practice of ophthalmology as a specialty, it seems to me, is worthy of more consideration than was given it at the time the recommendation was made. Concerning this subject I am in hearty accord with Dr. Hubbell when he says:

> It is unfortunate, however, that no qualifications for practice have heretofore been required of the ophthalmologist other than those of the general practitioner, but his sense of justice, his pride and his taste for the subject have stimulated him, in a large proportion of cases, to prepare himself creditably for his work. The absence of these and the presence of a dominant spirit of commercialism, have, on the other hand, caused him to make too much haste to begin his practice, limiting his study to an undergraduate course, with perhaps a few weeks in postgraduate work. He neglects taking the necessary time for study, disregards important subjects, fails to acquire personal clinical experience—in short, he is an unprepared, unqualified specialist—an ophthalmolgist only in part. Ophthalmologists are rapidly increasing in number, and the unqualified ones are also becoming correspondingly too numerous. The ophthalmologist, of course, like other specialists, should possess knowledge of his subject much more extended and complete than that of the general practitioner, and by wider observation and larger experience he should be far more proficient and skilful. Indeed, he should be an expert in this department of medicine. When, therefore, one lacks the necessary qualifications for such a position, he should not be allowed to assume it, both because of the harm he may do to patients and because of the injustice he inflicts on the rights of his neighbor ophthalmologist, who has qualified at much sacrifice of time, energy and money.
>
> In order that protection may be secured against unqualified ophthalmologists, I suggest that the course and subjects of study which the ophthalmologist shall pursue be regulated by law, and that a special board of examiners shall be appointed to act alone, or in association with general boards as now constituted, to determine his fitness, and, if found qualified, to authorize a license to practice to be issued to him.

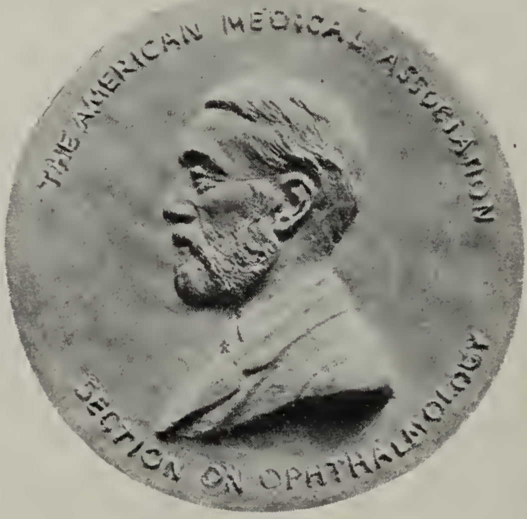
In an able paper by Dr. Edward Jackson of Denver to be presented before this Section at this session, the subject of the proper qualifications of the ophthalmologist is discussed in the closing paragraphs from which I abstract the following:

> As matters stand now, the graduate, after a scanty introduction to ophthalmology in the medical school, is permitted to pick up ophthalmic knowledge and skill here and there: from desultory reading, by study of chance cases, in the unsystematized clinics of postgraduate schools, from the courses of self-constituted teachers, and by a partial return to the apprentice system through assistantship in the eye clinic or private office.
>
> This has made ophthalmologists of apt students, sufficiently conscientious to persist in the effort to obtain knowledge under difficulties. But it has also created a large number of fakers within the profession—men who pose as specialists before colleagues slightly less informed than themselves, and before the still more ignorant public. This system, which is a lack of system, has not met the legitimate needs of the profession, or the best requirements of the public. The feeling that, although a physician's license to practice gives the privilege of ophthalmic practice, it does not guarantee any fitness for such practice, has led the public to be ready to look for ophthalmic advice outside the profession as well as in it.
>
> The establishment of the degree of doctor of ophthalmology, and of the course leading to that degree, in the University of Oxford points to a practical way of meeting the need of the profession and the public for some authentic evidence of fitness to practice ophthalmology. The offering of such a degree, based on requirements of graduation in medicine and evidence of special acquaintance with ophthalmic science and art, by a few of our better American universities would sweep away the false conditions, the lie in medical education, out of which the optometry question has grown. There can be no better time than to-day, and no better place than the Section on Ophthalmology of the American Medical Association, for starting a demand on the part of the medical profession for the adequate teaching of ophthalmology in all well-equipped, efficient schools of medicine.

My apology for appropriating from the presessional volume these remarks of Dr. Jackson, is that the presentation of the subject in the manner indicated is entirely in accord with the views I had in mind in entering on a discussion of the subject, and I desire to take this occasion not only to endorse all that Dr. Jackson says but to suggest that this Section should recommend some standard of qualifications which shall be recognized as entitling a physician to the title of ophthalmologist.

The question of having a noted foreigner as a guest of honor of the Section is one that has met with varying degrees of approval from active members of this Section. We have been favored by having as our guests, and hearing addresses from, such distinguished men as Haab, Hirschberg, Ramsey, Hess, Collins and Parsons. They have added to the richness of our literature, and their presence has been an inspiration as well as a social feature which has given pleasure and profit to those who were fortunate enough to hear and see them. The advisability of having a guest of honor every session may be questioned, as also the effort to secure a guest for any particular session at the expense of numerous invitations which bring regrets. At the request of the Chairman, and with the approval of the Executive Committee, an invitation in the name of the Section was extended consecutively in one year to four noted ophthalmologists in Europe, only to bring regrets in each instance. The following year I heard it intimated by some of our European confrères that an invitation to be the guest of the Section on Ophthalmology was not difficult to obtain, inasmuch as invitations were distributed freely. To be the guest of this Section, representing practically all of the prominent and progressive ophthalmologists of the United States, and to receive honorary membership in the American Medical Association as one of the rewards, should not be an honor to be looked on lightly, and our invitations should not be so numerous or extended so promiscuously as to encourage the belief that the honor is a common one. Our efforts should not be to secure a guest at any cost, but to secure a guest who is entitled, through his standing as an ophthalmologist, to distinctive honor by the American ophthalmologists, and who in turn will, by his presence and the part he takes in our proceedings, stamp his visit as an event of scientific and social importance in the history of the Section. Furthermore, an invitation to be the guest of this Section should not be extended unless we are reasonably certain that the one who is to be invited will accept the invitation with the intention of fulfilling the obligation. The expense of entertainment of the guest while attending the session of the A. M. A. should be met by the Section and not by the officers and a few prominent members who are always ready to contribute in order to show our guests proper hospitality. Once in two or three years is often enough for us to have a guest of the Section as a feature of any session.

The Knapp Testimonial Fund, proposed and inaugurated by my immediate predecessor, Dr. W. C. Posey of Philadelphia, and myself, is a feature which it seems to me is pregnant with great possibilities in advancing the welfare of the Section. At the St. Louis session the purposes of the fund and the plans for its use were outlined and the same were approved unanimously by the Section. As is now well known, the fund is raised by voluntary pledges of varying sums from those members of the Section who are sufficiently interested to contribute a definite amount each year. Quite a large number of the members have become contributors on the understanding that they are to give a definite sum each year, but I regret to say that all those who ought to contribute to the fund have not done so, though probably this is due to an oversight rather than a lack of desire to aid an exceptionally worthy cause. I desire to urge every member of the Section to give something, even though it is no more than one dollar per year, and the fund will not grow too large for the purposes under consideration. In fact, I am distinctly in favor of efforts to secure, if possible, sufficient funds to established a principal, the income from which will be enough to enable us to carry out the plans already adopted.



The Knapp medal of the Section on Ophthalmology.

It was proposed that the Knapp fund should be maintained and used essentially for the purpose of stimulating research work and encouraging the highest type of scientific contributions in the field of ophthalmology. To this end it was decided to procure a medal, to be known as the Knapp Medal of the Section on Ophthalmology, and offer the same to invited as well as uninvited contributors to the Section on Ophthalmology for original work in ophthalmology, or for some contribution of such a highly meritorious character in the field of ophthalmology as will warrant the granting of a medal as a special recognition. It was also proposed to use a portion of the fund for the granting of a money prize to be used in carrying on any original investigations at the instance of the Section. It was further proposed that a portion of the fund should be used to meet the expenses of the Scientific Exhibit and various practical demonstrations. Provision was also made for minor expenses not already provided for by the Association in promoting the welfare of the Section.

The plan as outlined was approved by the Section, and the officers and Executive Committee were made a committee to carry out the purposes as outlined. In conformity with the action of the Section, I have the pleasure of exhibiting a design for a medal to be known as the Knapp Medal of the Section on Ophthalmology, to be offered annually for purely original work in ophthalmology, which shall be presented before this Section and be deemed by a committee, appointed for the purpose, worthy of special recognition. It is proposed that the medal shall be made of gold, and that on the reverse side shall be engraved the name of the recipient of the medal, the date when the medal was presented, and for what it was granted. It is also proposed that but one such medal be offered, that one contribution only shall receive a medal in any given year, and that the medal be not granted in any year unless the contribution offered in competition for the medal shall be of such a distinctly meritorious character as to meet with the approbation of the committee appointed to pass on the merits of such contribution. It is also proposed that the sum of $100 be set aside annually to be used, on the recommendation of the Section and at the discretion of the committee, to further research work carried on by order of or under the direction of the Section, but that no second appropriation be made until the first one shall have been exhausted.

In furthering the purposes as outlined, I desire to recommend that the Secretary of the Section, when sending out his annual announcements, shall include a printed circular calling attention to the medal and prize, and the conditions under which they are bestowed.

Since our last session death has removed from our ranks a large number of prominent members, among whom I may mention: Drs. A. W. Calhoun of Atlanta, A. R. Baker of Cleveland, and Leartus Connor of Detroit, all ex-chairmen of the Section. Others who were prominent and active members of the Section and who have died within the past year are: Drs. Charles Stedman Bull of New York, Henry Gradle of Chicago, Charles A. Oliver of Philadelphia, C. J. Kipp of Newark, N. J., and Herman Knapp of New York. To each and all of these deceased members the Section owes much of its success, for they labored to bring the Section to its present standing as the foremost ophthalmologic organization in this country.

In preparing the program for this year the officers of the Section have met with some disappointment in having withdrawals at the last minute and a few of the essayists whose papers appear in the presessional volume have, in consequence of sickness or other equally valid excuse, been prevented from being present. There are, however, enough papers to engage our attention for the time at our disposal, and I am satisfied that the discussion will prove interesting and profitable to all. It is with pleasure that I welcome you, old members as well as new, in this garden city of the Pacific Coast where the most cordial and generous hospitality has been extended to us, and I bid you take up the Section work that is before you with an earnestness and thoughtfulness which presages a profitable and pleasant session.

219 West Wayne Street.

AN EPIDEMIC OF CHANCRES OF THE LIP FROM KISSING

JAY F. SCHAMBERG, M.D.
PHILADELPHIA

The following epidemic is a distressing instance of the innocent transmission of syphilis.

A coterie of young men and women, varying in age from 16 to 22 years, gave a minstrel performance as a benefit. Following this, a party, and later a banquet, were given at which juvenile kissing games were indulged in. One of the participants, a young man of 22, had a sore on his lip, the nature of which he avers he did not know. Six young women kissed by him developed chancres of the lip. A young man present at the affair likewise developed a chancre of the lip apparently from the virus deposited on the lips of one of the young women, for he did not come into contact with the original source. In addition, a young woman kissed by the offender at a third social function likewise developed an initial sclerosis, making in all eight labial chancres from the one source.

The matter was called to the attention of the Department of Health of Philadelphia by a physician under whose care three of the patients came. Dr. Joseph Neff, the director of the department, asked me to investigate the outbreak. Further study brought to light knowledge of the remaining cases.

The original offender was apprehended by a detective and brought to the health department quarters in City Hall. I examined the young man and secured the following history: The patient first noticed a sore on the left side of the lower lip about Feb. 12, 1911; March 3, he consulted a physician who, according to the statement of the patient, did not inform him of the contagious nature of the lesion. The physician on being interrogated declares that he advised the young man to take all precautions; there is, therefore, a question of veracity between the patient and his physician.

March 4, the patient attended an evening party at which kissing games were played and at which most of the young women were infected. March 18, he attended a banquet, after which similar osculatory games were indulged in.

At the time of my examination, about June 20, he presented the remains of a chancre of the lower lip, pronounced tonsillar ulceration with mucous patches, and a maculopapular eruption over the trunk.

There is no law in this state specifically giving the right to the health authorities to deprive a syphilitic of his liberty during his period of infectivity, but there is an old law of almost a century ago empowering the board of health to quarantine a person who is known to be spreading a contagious disease. This patient had so carelessly spread a serious disease that the authorities felt called on to prevent further infection. With the patient's consent he was taken to the municipal hospital and an intravenous injection of salvarsan given. Had the patient refused, he would have been quarantined.

The data concerning the unfortunate patients who innocently contracted syphilis are as follows:

Case 1.—A young woman, aged 20, developed a sore on her lip in the early part of April and on the fifteenth of that month consulted a physician, who found an indurated lesion both on the upper and lower lip and marked adenopathy. The nature of the lesion was recognized by the physician and the patient was immediately placed on treatment. She later developed tonsillar ulceration, mucous patches and some eruption on the trunk. When I examined her later, she had tonsillar ulceration and the remains of the labial chancre. July 8 the Wassermann was strongly positive. She was given an intravenous injection of salvarsan.

Case 2.—A young woman, aged 18, was examined by me June 24. The site of infection, which was on the right side of the upper lip, still showed some activity of the process. There was a circular, deep-red lesion about 1.5 cm. in diameter, with convexly elevated borders and a cicatricial depressed center. A slight induration was still present. Both of the submaxillary glands were enlarged, but the intumescence was greater on the right side. This patient was kissed several times by the offender March 18. On account of the appearance of his lip she permitted the liberty with reluctance and wiped her own lip afterward with a handkerchief. July 8 a Wassermann reaction was strongly positive. The patient was given an intravenous injection of salvarsan.

Case 3.—A young woman, aged 19, states that she developed a "sore" towards the end of April on her lower lip where she had had a fissure. The lesion was about twice the size of a pea. The maxillary glands and glands of the neck were enlarged. She consulted her physician and was placed on mercurial inunctions. When I examined her July 1 there was a split-pea-sized deep-red discoloration at the site of the chancre on the lower lip. A Wassermann reaction was strongly positive. She was given an intravenous injection of salvarsan.

Case 4.—A young woman, aged 16, first noticed a sore on her lip about April 13 and visited her physician one week later. She had a lesion on the left side of the lower lip which was diagnosed by the attending physician as a chancre. There was an enlargement of the submaxillary glands. She was placed on mercurial treatment. When I examined her but little of the lesion could be observed. A Wassermann reaction was strongly positive. She was given an intravenous injection of salvarsan.

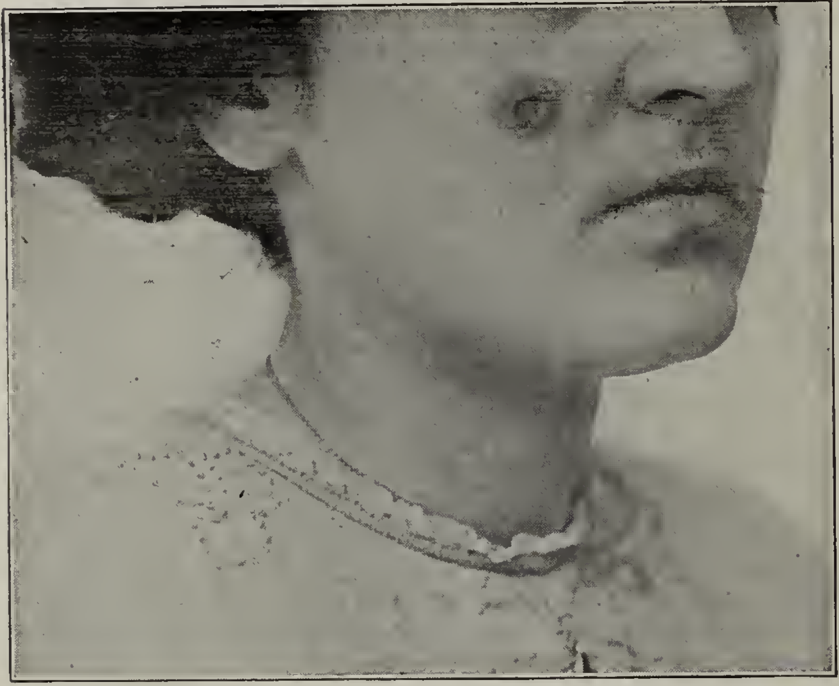
Case 5.—A young woman, aged 18, stated that her lip was noticeably sore about March 25. The lesion was situated on the right side of the lower lip and was never larger than a pea. It was crusted on the external half and covered with a whitish pellicle on the moist part of the lip. The lesion was properly diagnosed by her physician and the patient placed on mercurial treatment. When I examined her June 28 the site of the chancre was deep-red, shining and slightly elevated. The submaxillary glands were still somewhat enlarged.

Case 6.—A young man, aged 20, was present at the party and took part in the kissing games. In the early part of April he noticed a hard sore on the center of the upper lip. He states that he had the habit of biting his lip. His physician diagnosed chancre and placed him on mercury internally and sodium cacodylate hypodermically. When I examined him June 27 he exhibited the remains of the chancre on his upper lip. The lesion was convexly elevated, about the diameter of a cherry, and of a shining deep-red color. On the mucous aspect of the lip was a whitish pellicle. The maxillary and submaxillary glands on both sides were markedly enlarged. The patient stated that he had had a rash on the chest, but that this had disappeared. There was swelling and ulceration of the tonsils with mucous patches present. Spirochetes were found in the lip lesion and a Wassermann reaction was positive. An intravenous injection of salvarsan was given.

Case 7.—A young woman, aged 18, was not at the party referred to, but was kissed later by the same osculatory young man. Her physician informs me that she consulted him for a chancre of the lip which healed through the use of the biniodid of mercury.

Case 8.—A young woman, aged 18, was also infected. My knowledge of this patient is merely from hearsay, as I have not been able to see her. I am told by those who saw her that she had a very conspicuous sore on the lip in the early part of April. She stated that her physician "burned it out." She was at the party and was kissed several times by the young man with the labial chancre.

Five or six other young women at the several social functions were kissed by the young man with the labial chancre, without contracting syphilis. Of those who developed chancres, four had no knowledge of any abrasion on the lips prior to infection, one had a fissured lip, and one was in the habit of biting his lips. Of the seven chancres examined by me, four were on the lower lip, two on the upper, and in one case both lips were involved. In the case of the young man who contracted a chancre, there is reason to believe that he acquired the infection from virus deposited on the lips of one of the young women by the original disseminator. The source of the chancre of the lip in the original patient could not be definitely determined, but, inasmuch as the young man was given to frequent and promiscuous kissing, it is presumed that the disease was contracted in this manner.



Chancre of the cheek of several months' duration, presumably contracted indirectly from one of the young women with chancre of the lip.

Case 9.—Since writing the above I have been consulted by a 20-year-old young woman employed in the same establishment and brought into close contact with two of the patients with chancre of the lip, who presents a well-defined chancre on the right cheek below the malar bone. This first developed in April after the appearance of the labial sores in her associates. At the present time (July, 1911) there is a deep-red, firm, elevated placque about 1½ c.m. in diameter, with a slightly depressed cicatrical center. The submaxillary glands are enlarged. The patient and her physician state that she had some eruption on the trunk which disappeared under the administration of mercury. This patient handled telephone trunk cords which were used by the patient described in Case 1. She states that she scratched a "pimple" on her cheek and the present lesion developed at the site. She was not kissed by the two young women with chancres of the lips, and had never come in contact with and, indeed, did not know the young man who was the source of the extragenital epidemic. The exact manner in which the infection was carried to this patient cannot be affirmed but it is reasonable to believe that it was derived from one of the young women with a lip chancre.

This most unfortunate epidemic should teach a lesson which cannot too strongly be impressed on the public, i. e., the danger of promiscuous kissing, either between those of the opposite or the same sex. This should be taught as a matter of every-day hygiene. In the second place, physicians must recognize that a tremendous responsibility rests on them in safeguarding the public from luetic patients under their care. Too often the instructions given to patients suffering from syphilis are perfunctory and unimpressive, if not omitted altogether. This epidemic likewise emphasizes the intense infectivity of extragenitally located chancres swarming, as they do, with spirochetes.

1922 Spruce Street.

LINGUAL, SUBLINGUAL AND OTHER FORMS OF ABERRANT THYROIDS *

CHARLES H. MAYO, M.D.
ROCHESTER, MINN.

The common expression that "Man is as old as his blood-vessels" is no longer tenable. We now know that his growth and his manifest age depend more on the glands of the body which control function and metabolism, as well as the vessels themselves.

Inasmuch as the importance of the duct and the ductless glands is now known to us, we see why there should be, proportionately, so few anomalies among them in comparison with those in less important structures of the body.

It is becoming more and more apparent that of the various ductless glands the thyroid is one of the most important in its control of the body metabolism, as well as in the maintenance and stimulation of function in many of the associated glands. While various diseases or changes in its structure are fairly common, marked anomalies are exceedingly rare.

The first consideration in the study of the anomalies of this gland is the observation of development of the structure from the earliest embryonic stage. Usually the thyroid is considered as being developed from three anlage; the superior from the pharynx or mouth area is developed with the tongue which is in three portions; the anterior three-fifths, all in front of the circumvallate papilla, in fact, is formed from a median single body. The posterior two-fifths of the tongue is formed in halves, and at the center of union of these three portions, a tubular depression is developed with the bilobed thyroid anlage at its base, from which tissue the greater part of the gland is formed. As stated by most embryologists, this structure descends to unite at the seventh week with the lower anlage, one on either side, which has developed in the fourth branchial furrow. The hyoid bone is apparently developed at about the fifth week, and crosses the line of the descending thyroid.

The hyoid in its development entangles 40 odd per cent. of thyroids in their descent, causing a stringing out of the thyroid tissue to a variable degree. This portion, when present, is commonly known as the parimedial lobe and connects with the isthmus or the left upper pole.

The tube which developed as a consequence of the descent of the thyroid is known as the "thyroglossal

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

duct." It is lined with a temporary pharyngeal epithelium, and apparently is a phylogenetic remnant of the excretory duct of the thyroid which still persists in certain of the invertebrate animals; for example, the sea scorpion, the limulus or king crab, etc., in which, the thyroid being a true sex gland, the duct empties into the uterus or the genital tract (Gaskill). This duct is not lined with thyroid epithelium in man, but with fetal pharyngeal mucosa which undergoes obliteration more or less completely, the remains of its upper extremity being marked by the depression or opening at the back of the tongue, known as the "foramen cecum." In anomalies in which there is a failure of obliteration of this duct, or in which portions of true pharyngeal mucosa are carried down by it, are found the midline cysts of the upper cervical region. These are not true branchial cysts, but thyroglossal duct cysts filled with mucoid material. Being remnants of the embryologic development, they retain power of generation and growth when operated on unless every vestige of the structure is removed. In several cases we have seen such cysts open through a delicate foramen in the center of the hyoid bone where it had been grapsed by the developing hyoid.

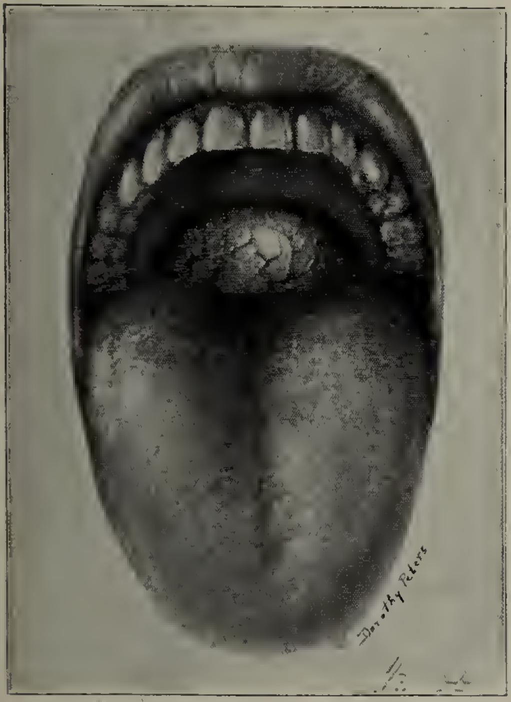

Fig. 1.—Lingual thyroid.

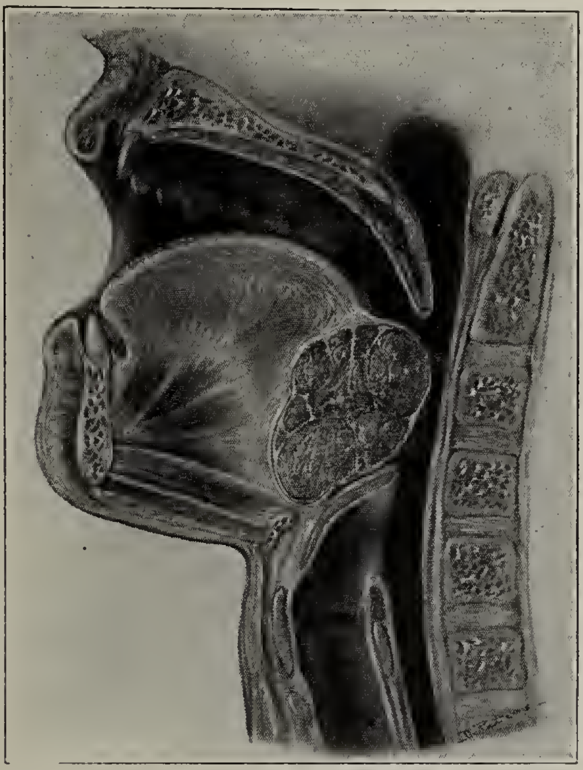

Fig. 2.—Lingual thyroid seen in cross section.

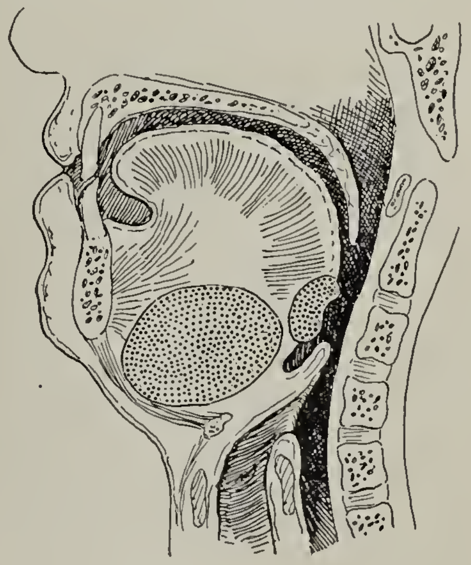

Fig. 3.—Lingual and sublingual thyroids. (From Priestly Leech, *The Medical Annual*, 1906.)

It may be seen readily then, that a delayed descent of the thyroid from its lingual position, or an early formation of the hyoid, might force the development of this portion of the thyroid into the lingual or the sublingual area.

His, and other embryologists, formerly believed that the lower poles of the thyroid were developed in the fourth branchial grooves, but in His' later work he is more doubtful concerning this point and is inclined to believe, with some others, that there is a possibility of these lower centers developing tissue which later disappears, but which resembles the so-called suprapericardial bodies of the vertebrates. However, if it is true that these bodies are thyroids, it would explain some of the anomalies of the lower portion of the gland; for example, aberrant or accessory thyroids beneath the sternum or within the upper chest. Such tissue might occasionally be dragged to this position by the thymus gland, which forms one notch higher, namely, in the third furrows, and descends to a point behind the sternum.

Thyroid tissue completely separate from the rest of the gland is usually described as aberrant, while if it is at all connected with the main thyroid it is called an accessory thyroid. The anomalies of the lower portion of the gland are fairly common, being seen probably once in fifty thyroid operations for simple goiter. Aberrant thyroids, found laterally, we have observed with much less frequency. Small accessory and aberrant thyroids between the hyoid and isthmus of the thyroid are relatively common.

I have seen but three lingual thyroids; one in a boy of 18 years, in whom the growth had been present for six years; one in a woman of 46, which had been noticed for several years, and one in a woman of 63, which had been present about two years (Figs. 1 and 2). The latter case presented both types of lingual and sublingual; the superior upper portion was the size of a large walnut, while the inferior lingual tumor was nearly as large.

In corroboration of the views of those embryologists who believe that the bulk, if not all, of the thyroid has developed from the pharyngeal anlage, it is of interest to note that in approximately one in seven of the cases, patients operated on for lingual thyroid develop myxedema. It is probable that some cases were reported too early after operation to give any accurate information in regard to this point, and that in others only the cystic portion was enucleated, leaving a part of active thyroid.

I believe that a careful examination of the thyroid region should be made before operation in order that a less extensive removal of tissue will be made if there is no palpable thyroid, treating the tumor by shelling out the cyst interior rather than by the more radical removal of all the tissue.

It is very probable that stray portions of the thyroid are of frequent occurrence and are not recognized since there may be no pathologic change occurring in the aberrant portion to make its presence known by tumor formation.

In the diagnosis, the suprahyoid or the midline tumors must be differentiated from malignant disease of the glands of undiscoverable primary origin, from thyroglossal duct cysts, from dermoids, ranula, lingual tonsils, etc. In some instances this will be determined only by operation.

Free hemorrhage has been noted as a symptom in some of the reported cases. The thyroids in the tongue, as seen in the supralingual, are usually rounded tumors covered with thin mucosa with numerous veins coursing over the surface. Their prominence is between the epiglottis and the foramen cecum (Fig. 3). The slowness of the growth, in consideration of the richness of the blood-supply in this area, usually eliminates malignancy. Angiomas are differentiated by being more spongy, more irregular in outline, of purple color and usually showing venous extension to one of the lateral pharyngeal areas.

When tumors are found in the lingual and the sublingual positions in the same patient they may be removed, if preferred, in two stages, first, from a hyoid transverse incision with separation of the muscles, similar to ordinary goiter operations (this operation leaves less scar than the vertical); later, enucleation of the upper portion from the tongue, as was done in our third case.

In the enucleation of lingual thyroids the tongue and pharyngeal areas are cocainized, the patient anesthetized with ether and a rapid operation made while the tongue is held in extreme tension. The free hemorrhage is controlled by deep sutures. In very extensive superior lingual goiter it may be advisable occasionally to ligate the lingual arteries and make a laryngotomy as a preliminary procedure. It will rarely be necessary to divide and separate the lower jaw.

While the operations for the removal of lingual thyroids through the mouth have been quite bloody, they have been successful; practically no fatalities have been reported. Although there have been approximately but fifty cases recorded, undoubtedly there have been many others in which patients have been operated on.

Case 1.—A woman, aged 46, came for examination in 1893. There was a tumor on the dorsal posterior surface of the tongue. An operation was performed under local and general anesthesia. A blunt dissection was made and the cystic colloid thyroid was removed. Recovery followed.

Case 2.—J. D., male, aged 18, was admitted to the hospital, June 1, 1896. An examination showed a blood-tumor at the base of the tongue of about six years' standing. The patient spoke with difficulty. The diagnosis was: A tumor on the posterior part of the tongue next to the epiglottis. The operation consisted in making a temporary division of the jaw at the symphysis of the tongue and in excising the growth. Recovery followed. Pathologic report was "adenosarcoma."

Case 3.—Mrs. J. W. H., aged 63, on examination Nov. 15, 1910, was found to have a growth at the base of the tongue, which had been first noticed as a small lump eighteen months before. Two months previously the growth had become noticeable and troublesome, because of a feeling of fulness. There was no pain, but there were headaches after any exertion. A tumor was found in the posterior one-third of the dorsum of the tongue, the size of a hen's egg. There was a subcutaneous tumor (slightly smaller) under the chin. The diagnosis was of lingual thyroid.

Nov. 21, 1910, the operation, consisting of the enucleation of the lingual thyroid from the submental region, was performed, and two weeks later the superior lingual tumor was removed through the mouth. Recovery followed. Pathologic report was "aberrant thyroid with bone deposit."

Unclean Operators.—Each pitiful, infected, suppurated, fever-burned, doctor-poisoned victim, remarks Dawbarn in the *Medical Record*, like a gaunt specter, brings back to our thoughts with hideous clearness what surgery was before the surgeon knew better. He knows better now. To-day the man who operates unclean of person or appliance is unclean of soul.

THE TREATMENT OF LATERAL CURVATURE OF THE SPINE

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For many years the treatment of lateral curvature has been considered a muscular problem to be met by muscular therapeutics, that is, by gymnastics. Although this treatment has been on the whole successful when properly carried out in the functional and milder structural types of the affection, it has been on the whole distinctly unsuccessful in the treatment of the moderate and severe types of scoliosis. The reason for this is that the treatment of the severer types of the affection is a bone and not a muscle problem, and must be carried out by means of sound surgical principles addressed to the reshaping of distorted bone. The treatment to be advocated in the present paper is based on these principles, and the results of the treatment are shown as carried out for three years in the lateral curvature clinic of the Children's Hospital, Boston.

There are two varieties of lateral curvature, (1) the postural or functional, and (2) the organic or structural. The first variety can be quickly discussed and laid aside, for it is the second variety which constitutes our real problem.

FUNCTIONAL OR POSTURAL LATERAL CURVATURE

The former is really nothing but a faulty attitude, and the latter would be a better name for it. The child, who is generally from 5 to 15 years old, stands with a slight or very moderate lateral curve of the whole spine, in most instances to the left. The left shoulder is higher than the other, and the trunk is displaced to the left, uncovering the right iliac crest and making it more prominent than the left. There is no marked rotation or twisting of the curved region, but when the child bends forward from the hips and the trunk becomes horizontal, the right side of the back of the thorax can be seen to be very slightly higher than the left. The curve disappears when the patient lies down.

The condition is often associated with round shoulders and round back, and where statistics have been taken regarding it, it has been found to occur in from 20 to 25 per cent. of children of school age. The curve is always single, and compensatory curves do not exist. It is sometimes described as total scoliosis, which should be interpreted as being synonymous with functional or postural scoliosis.

Two mistakes are frequently made in dealing with this condition. In the first place, the curve is so slight that it is frequently overlooked, and second, if it is recognized, the parents are frequently told that the child will outgrow it. There is no reason for overlooking the existence of any postural curve, because it is perfectly simple to hang a plumb-line in the cleft of the buttocks and see if the spinous processes form a straight line and come under that plumb-line. If they deviate in a gradual curve, total scoliosis exists.

With regard to the second point, so far as observations go, there is no tendency to the spontaneous outgrowth of the condition. It is extremely common in adults, and the tendency of growth is entirely toward an increase of the deformity rather than toward a straightening of the spine. Such cases frequently change to the structural type in the process of growth, double curves forming out of single ones; but such cases do not as a rule change to the severe type of structural curve, so that having recognized the existence of a postural lateral curve, the parents should be told that it will probably increase somewhat, will undoubtedly persist into adult life unless efficiently treated, but will probably not cause serious or disabling deformity.

TREATMENT

The treatment is simple. The general hygiene should be looked into, overwork at school and at home prevented, and if the resistance of the child is below normal the day should be shortened slightly by a period of recumbency during the day.

The question of clothes is an important one and should be investigated. Most children of this age wear a waist with shoulder straps which rest near the tips of the shoulders. To this waist are attached the clothes, and also side elastic garters running to the stockings, which are kept very tight. The tension of these elastics is transmitted by the waist to the straps over the shoulders, and the shoulders are continually pulled downward and forward. Round garters should be substituted for side elastics in these cases, the clothes suspended from the waist should be as light as possible, and in many instances they may be supported from a belt.

If there is any reason to suspect a visual error leading to an improper position in reading, the eyes should be examined and such error corrected. It is advisable in all instances to go into the question of a short leg, not by a measurement from anterior superior spine to the internal malleolus, which is of little practical value and often misleading, but by placing under the foot on the side to which the spine curves enough pamphlets to raise the pelvis on that side and see if an improved position of the spine results. If it does, a higher sole should be worn on that side with a view to inducing a constant improvement in the spinal position.

With these preliminaries taken care of, the treatment should consist of a special set of gymnastics which are within the range of any good teacher of gymnastics, consisting practically of a setting-up drill similar to that given to army recruits. Such patients should exercise daily for half an hour or an hour under the supervision of the teacher until they can maintain a symmetrical position for a few minutes, when they can be allowed to do the exercises at home under the supervision of a parent, and report for observation. The gymnastic work should be individual and class work discouraged.

The daily active treatment should generally not cover a period of more than from one to three weeks under favorable conditions, but the observation period should last for at least a year. Under these conditions the prognosis for a complete cure is excellent, but exercises must be done with precision and vigor, and the general condition of the child must be regarded.

These cases may then be dismissed from our consideration and we can pass to our real problem—the treatment of structural lateral curvature.

ORGANIC OR STRUCTURAL LATERAL CURVATURE

This is accompanied by changes in the spinal structure, with deformity in the vertebræ. The phenomena cannot be reproduced experimentally, and the condition is outside of the normal behavior of the spine and implies structural change. Severe cases in childhood are due to one of five causes.

1. A congenital anomaly of the spine, such as split vertebræ, defective ribs, etc., a class of cases only recently recognized as so important, and until the general use of the x-ray not generally understood.
2. Infantile paralysis.
3. Empyema.
4. Rickets.
5. A softness of the bones which we must assume without direct evidence of rickets, but in which bony deformity is so great that it is evident that the bony resistance is below the normal.

The characteristics of organic lateral curvature are definite curves, either single or double—more often the latter—and much more marked than in the postural class, in some cases running to extreme deformity. There is always a rotation of the vertebræ or horizontal twist at the site of the curve, and in bending forward, with the trunk horizontal and the arms hanging, there is always to be seen a more or less marked upward bunch or prominence in the affected region on the side to which the spine curves, that is, on the convex side of the lateral curve. If the curve is double, there are two rotations corresponding to the two curves. This is a constant characteristic, and is diagnostic of this type of curvature. A right curve has always a right prominence and *vice versa* on the other side. The curve does not disappear on lying down, and the x-ray shows a deformity of the vertebræ, with compression of the intervertebral disks on the concave side, and in the more advanced cases, with a wedge-shaped deformity of the vertebræ. Distortion of the figure, the elevation of one shoulder, the prominence of one ilium, a general displacement of the body to the side, etc., are the results and expression of this bony spinal deformity.

It must be clearly recognized that these are the cases that present the difficulty in treatment, the vertebral column in these cases being deformed to some extent, with the changes mentioned, namely, shortened ligaments and muscles, compressed disks, and, in the severe cases, wedge-shaped vertebræ. In addition to these deformities to the side, the vertebræ twist on a vertical axis and are thus distorted along with the ribs and the bony structures of the thorax, which share in the deformity in severer cases. These changes in the lateral and in the horizontal direction result in distortion of the viscera, compression of the lungs, displacement of the heart and disturbance of the abdominal viscera, which in severe cases predispose to impaired digestion, deficient chest capacity, and in general to impaired resistance, so that it is safe to say that as a rule patients with severe scoliosis in adult life are badly nourished and have an impaired resistance. Extreme deformity may result in the severest cases.

TREATMENT

Having thus defined very briefly the essentials of the condition, we come to the very difficult question of how such cases should be treated. As the keynote of the treatment to be advocated, we must recognize that bone is an adaptive structure, and in its growth follows the line of least resistance, and we must remember also that we are dealing with a lateral bony deformity of the spine. Putting these two considerations together, it would seem as if our best chance of remedying the bony deformity was to force the spine into as normal a position as can be obtained, and to hold it in that position, during part of the period of growth. This is, in brief the treatment that will be advocated.

The majority of such cases in this country, as a matter of fact, are at present treated by gymnastics, and one rarely sees a bad case in which this treatment has not already been pursued and has failed. There are, apparently, two reasons for this. First, the treatment by pure gymnastics is inadequate for any but slight and moderate cases, and therefore unsuited to the treatment of severe cases, and second, in general it is ineffectually given, because the average medical gymnast thinks if he gives a treatment which he has reason to believe is proper, his responsibility ends; he does not measure the efficiency of his treatment by the results. If gymnastic treatment is to be given for cases of more than slight grade, let it be given as it is in Europe, where a patient goes to an institute and lives, abandoning school and family, works for several hours a day in specially constructed apparatus, spends perhaps hours in a recumbent position, and pursues this treatment for month after month under the supervision of skilled assistants. Under these conditions one may expect results from gymnastic treatment in properly selected cases; but contrast that treatment with what is generally given here as the gymnastic treatment, an exercise period perhaps three times a week with the patient under no supervision in the meanwhile and wearing no apparatus, the treatment interrupted by home demands, illness and other conditions, followed out in a half-hearted way for some months and finally abandoned. It is not reasonable, under these conditions, to expect much from the gymnastic treatment.

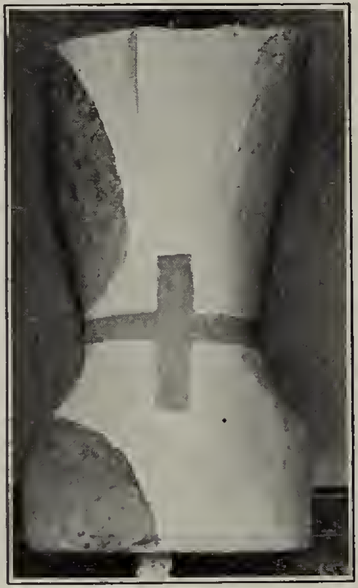

Figure 1.

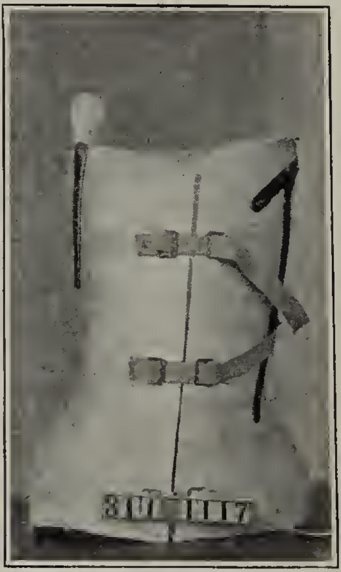

Figure 2.

Fig. 1.—Remodeled torso ready for application of jacket, in a case of right dorsal left lumbar scoliosis which has been cut in two at the waist and set apart 1 inch, so as to increase the upward pressure on the ribs. The dark areas on left of the torso show where plaster has been added on the concave side to allow for correction of displacement and deviation.

Fig. 2.—Front of jacket made over torso shown in Figure 1. Note shoulder pad.

If we look at the facts from a general surgical point of view, the condition seems to be as follows: A deformity analogous to knock-knee exists between each two vertebræ. We would not in a child of 8, for example, expect to cure knock-knee by an hour's muscular exercise given three times a week or oftener, while the rest of the time, except during sleeping, gravity is at work to exaggerate the condition. Our knowledge of the principles of general surgery would not allow us to sanction such a treatment, but it is allowed and sanctioned in an analogous deformity affecting the spine.

Moreover, not only does gymnastic treatment in the severe grade of cases as a rule do no good, but if effectually carried out, it does harm up to a certain point by loosening up a stiff spine and allowing the spine to sag farther into the bad position. A spine with severe lateral curvature soon becomes stiff and gets slowly worse, but if it is loosened by effective gymnastics, the side thrust of the superincumbent weight is so great that it becomes rapidly worse and the patient's average standing position is worse than before treatment was begun.

The rule should be, therefore, either (1) not to use gymnastics alone in any but slight cases, (2) to keep the patient recumbent until the gymnastics have developed muscles as well as restored flexibility, or (3) to use a support in connection with gymnastics to hold the improved position.

The use of gymnastics alone in lateral curvature of the spine should be limited to the slighter grades of structural curves. Such gymnastics should obviously have two aims, (1) to restore flexibility, and (2) to cultivate the holding power. The exercises should be done with vigor and precision for at least an hour daily, and they are to be regarded as effective only so long as they produce manifest improvement. Gymnastic treatment should be stopped temporarily if the patient loses weight, becomes irritable or languid, or if the menstruation in girls becomes profuse. The gymnastics to be used are to be found in the text-books on orthopedic surgery and in certain French and German books devoted to the subject.[1] Until the medical profession insists on the adequate and careful performance of gymnastic treatment and limits it to suitable cases it will fall into even greater disrepute than now.

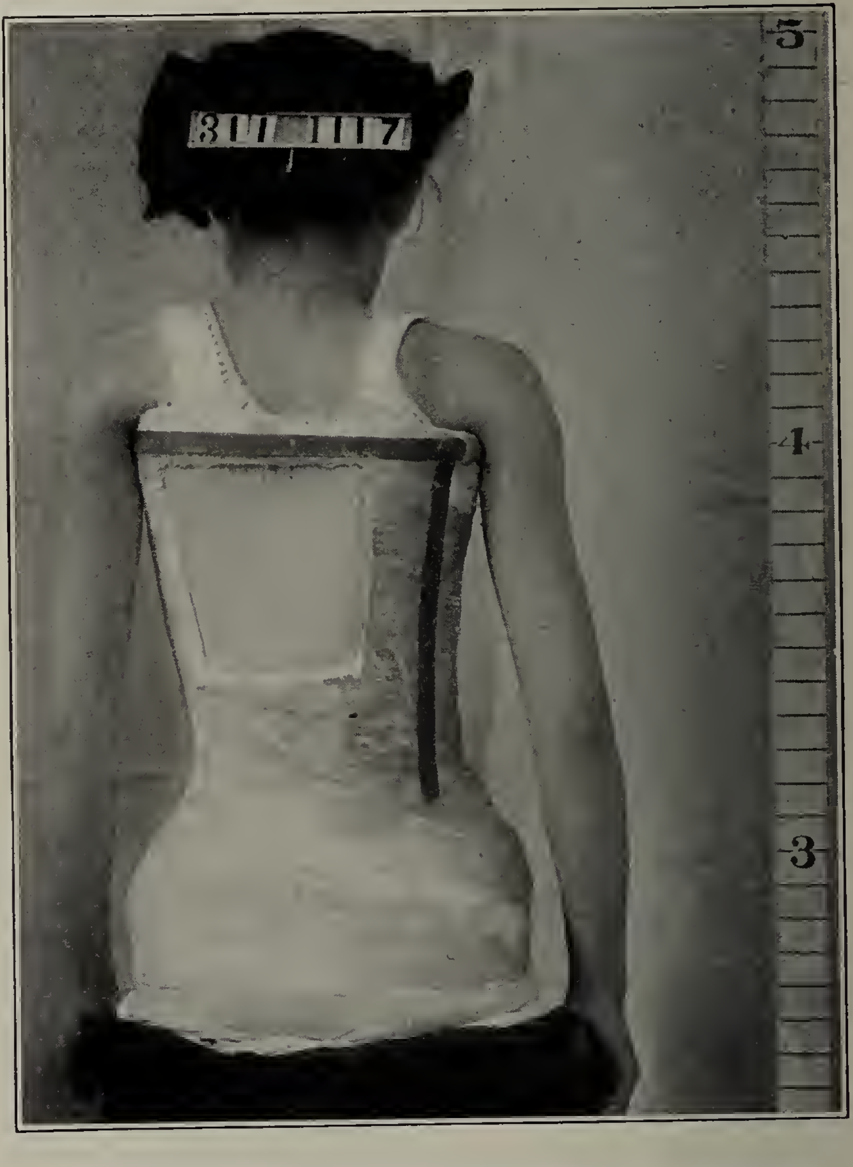

Fig. 3.—Patient in jacket shown in Figure 2. Note window on concave side. Jacket reinforced by steel strips.

Recognizing then the need of attacking moderate and severe lateral curvature as a bone problem, we advocate a treatment analogous to that universally recognized as effective in the cure of congenital club-foot, namely, securing a proper position of the deformed structures and maintaining this position until the bones are reshaped by growth. In the treatment to be advocated for this grade of lateral curvature, no more attention in the beginning is paid to the muscles than is the case in the treatment for club-foot, which is a radical departure from accepted views.

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[1] Wilbouchewitch: Gymnastique. orthopédique, Paris, 1903 Mikulicz and Tomas Cwzewski: Orthopädische Gymnastik., Jena, 1904. Lovett, R. W.: Lateral Curvature of the Spine, Phila., 1907. Klapp: Funktionäle Behandlung der skoliose, Jena, 1910.

A curious experience directed our attention to the possibility of this method. A girl with severe lateral curvature applied at the Children's Hospital for treatment. A forcible plaster jacket was applied and an x-ray of the spine in the corrected position taken through windows cut in the jacket. The girl was instructed to return in two weeks to have the jacket changed. Instead of returning in fourteen days, she stayed away fourteen months and came back wearing the same jacket. The improvement in her position at the end of this time was extraordinary, and an x-ray of the spine taken at the second visit showed an improvement in the bony curve. This suggested a treatment which has been followed out in modified form during the last three years.

For moderate and severe structural lateral curvature the treatment is of two kinds, either (1) by the use of a permanent corrective jacket worn for long periods, or (2) in its modified form by the use at first of a corrective jacket followed by a removable jacket and exercises.

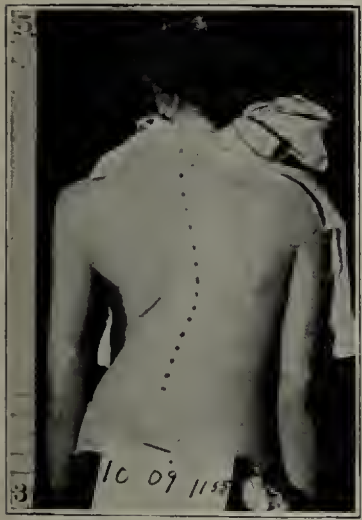

Fig. 4.—Girl aged 16, before treatment.

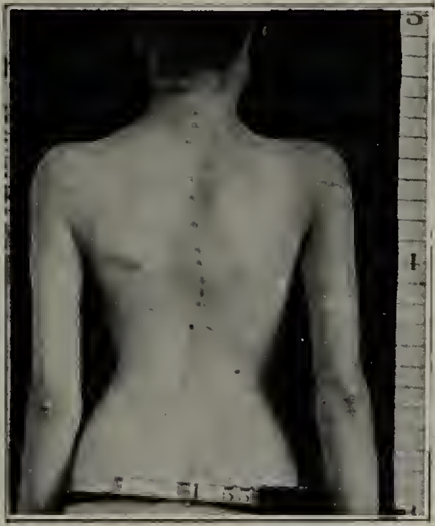

Fig. 5.—Girl aged 17, after fourteen months' treatment by removable jackets without exercises.

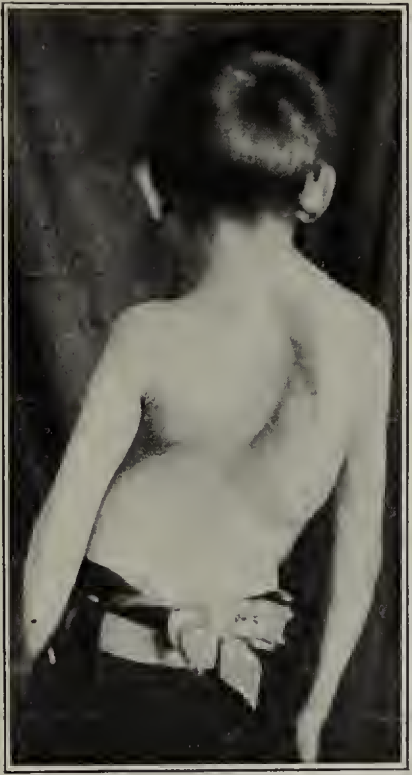

Fig. 6.—Boy aged 12, before treatment.

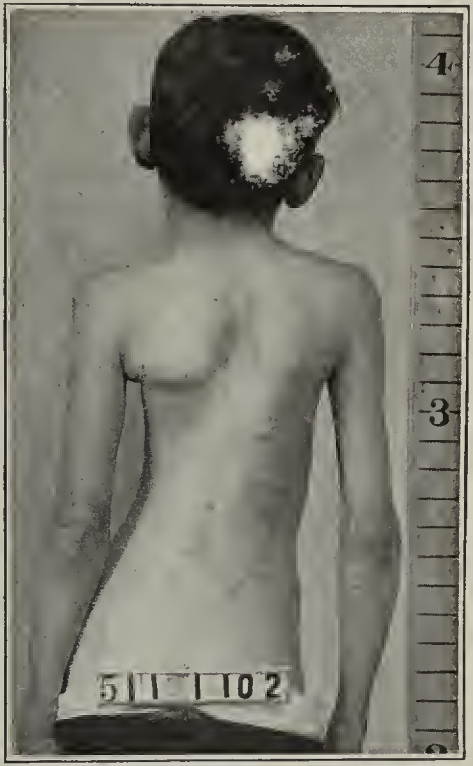

Fig. 7.—Boy aged 14, after two years' treatment by means of permanent jackets.

Permanent Jackets.—The first form, the permanent forcible jacket, is better suited to hospital practice than the other. We have for two years been taking cases of similar grades in the clinic and treating some by one method and some by the other, as a result of which we have come to the conclusion that the treatment by permanent jackets produces better results. The treatment by permanent jackets is as follows: Either in recumbency or in suspension a jacket is applied to the patient, securing the best obtainable position without the use of high degrees of force. At first we used the recumbent position with considerable amounts of force, but in hospital practice sloughs occurred, and if much force was used, occasionally trouble with respiration followed, and experience has shown us that we can obtain the same efficiency without the risk by the use of smaller degrees of corrective force in the initial jacket put on in suspension.

When the jacket is hardened, it is left solid over the parts that are made prominent by the rotation behind and in front, that is, in a right dorsal curve the right back and left front are not touched, but large windows are cut over the depressed side of the chest behind and the corresponding portion diagonally opposite in front, so that in a right dorsal curve the left side would be cut out behind and the right side in front. This makes it possible for the depressed parts of the chest to be expanded by respiration, while the prominent parts are compressed. Pads of felt are now inserted between the prominent part of the chest behind and the jacket, and sometimes in the corresponding region in the front, thus making the jacket more corrective, and thicker pads are substituted each week without changing the jacket, these being drawn through without difficulty by means of a bandage. In this way, a continual diagonal side-pressure is kept up on the curved portion of the spine and is steadily increased. At the end of two or three months, it will be found that it is advisable to apply a new jacket, to cut it out in the same way and to begin on the progressive padding. The use of such a permanent jacket is continued for a period of from one to two years, being changed at long intervals, and at the end of this time a removable jacket is substituted for the permanent one and gymnastic treatment is begun. The removable jacket is then gradually discontinued while the patient's muscular condition is being improved by gymnastic exercises.

Removable Jackets.—As in the former method, the second treatment, that by removable jackets, is started by the application of a forcible jacket either in recumbency or suspension. This is followed by a second jacket at an interval of a week. After the application of the second jacket, the patient is suspended and a plaster jacket is applied which is immediately cut off to serve as a mold, and a third forcible jacket is applied to be worn while the removable apparatus is being made. The jacket which is to serve as a mold is then bound together and filled with plaster of Paris and water, a torso thus being obtained. This torso is then remodeled by cutting off on the prominent side and building up on the other side, until it has become decidedly more symmetrical than the patient. It is also sawed in halves at the waist and set apart about an inch in order to secure continued extension.

On this corrected torso a plaster jacket is applied which is to be the removable jacket worn by the patient. This removable jacket should be supplied with shoulder pads to hold the shoulders in position, and should open down the front, being supplied with buckles and straps or lacings. It may also be advisable to slash such jackets over the iliac crests. The addition of 5 per cent. Portland cement to the plaster with which the jacket is made gives greater strength and durability. This jacket is to be worn by the patient night and day and to be removed only for the exercise period, which should consist of one hour or more daily, the exercises being of the type mentioned above. When the jacket is applied, it is sprung open and slipped on the patient, who then lies on the back, and the arms and legs are pulled on to extend the spine. It is then buckled tightly in place before the patient stands up.

Jackets of either kind should be tested for efficiency by measuring the height of the patient with and without the jacket. Without the jacket the patient places the hands on the hips and pushes up, making himself as tall as possible, and his height is taken in this position. The jacket is then applied and the patient's height is again taken. If the jacket does not hold him in as good a position, as estimated by height, as the patient can possibly assume with the hands on the hips, it is discarded and a more corrective one is made. In these jackets it is often advisable to cut the windows as in the permanent form, and to use padding in addition to the correction of the torso.

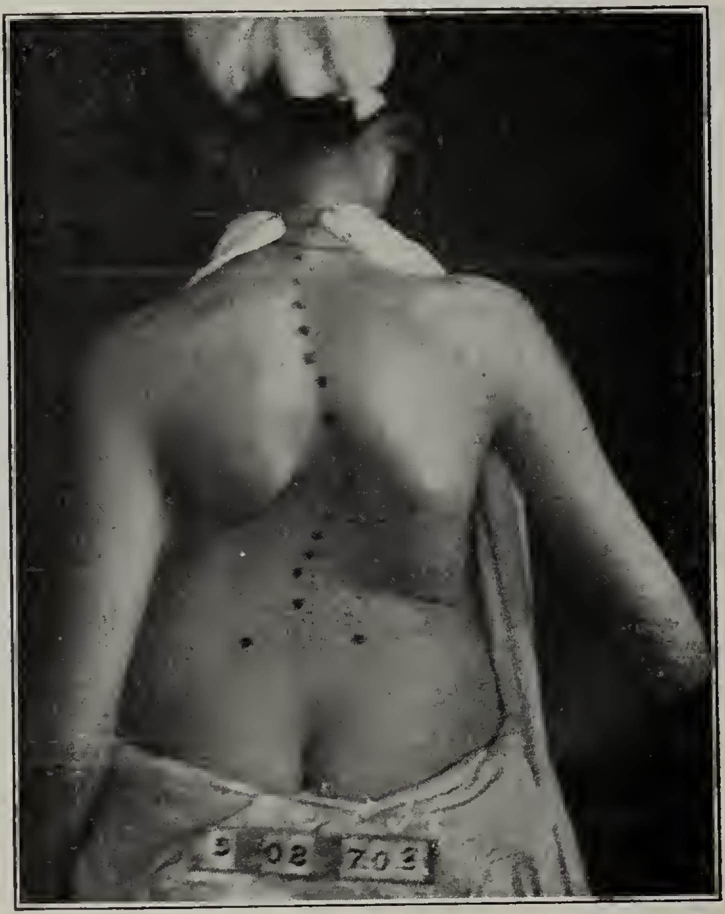

Fig. 8.—Girl aged 16, before treatment.

If such a jacket is worn by a patient who is making good progress, in a few weeks from the beginning of treatment it will be found to be inefficient and not to be holding him on account of his improvement. Under these conditions the torso must be again remodeled, more cut away from the prominent side and greater pressure exerted. In the course of a year, probably two or three such remodelings would be required. These jackets may be made of leather or celluloid if preferred rather than plaster, but the plaster is perfectly efficient, although heavier.

This treatment is more acceptable than the former to private patients, and where the patient is under complete control, it is probably nearly as efficient as the other, although perhaps taking a little longer time. When such treatment as the latter has been continued over a period of a year or more in the severer cases, a trial may be made of removing the jacket for a short period each day and watching the patient during this period, the jacket being gradually abandoned as the patient's corrective power increases. In neither form of treatment in severe scoliosis is the treatment likely to last less than two years, although in the moderate forms it may take less time to secure the desired results.

Finally, it may be well to meet two criticisms which are likely to be made. In the first place, the results are presented by photographs, patients unconsciously pose, shadows distort, and the method is not scientifically accurate. At the same time, in this clinic we have tried many other methods of measurement, including the Schultess machine for recording lateral curvature, and after a careful trial of each we have returned to photographs as, on the whole, the most reliable and practical method of presenting results.

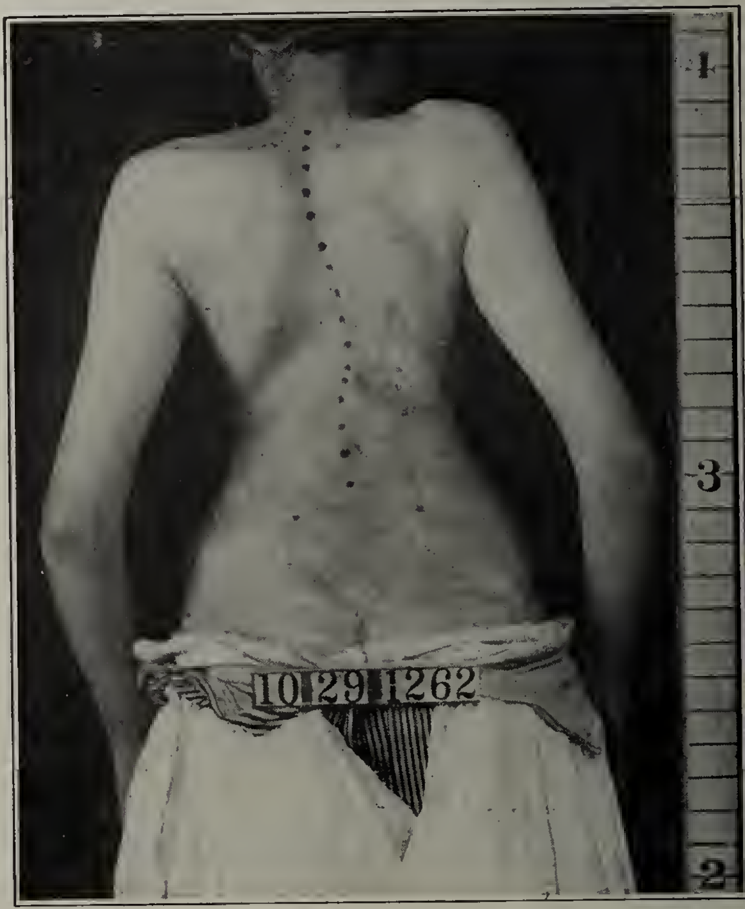

Fig. 9.—Girl aged 18, after two and one-half years' treatment by means of a series of permanent jackets.

In the second place, the criticism will be made that the results that we show are not necessarily permanent. This treatment has been used by us, for too short a time for us to be able to produce in this series, definite evidence that the results are permanent. In answer to this criticism, it can only be said that bone is an adaptive structure; that we have seen a change in the bony curve under this treatment as demonstrated by the x-ray; that the Chinese woman's foot is deformed permanently by pressure; that the shape of the bones in club-foot is permanently altered and restored to normal by pressure; that experimentally, bony lateral curvature was produced by Wullstein in dogs; that in the cases under observation longest the results have tended to be permanent, and finally, that Schanz of Dresden from a similar treatment has shown the persistence of good results for one or two years after the cessation of treatment. It is possible to state that if the treatment is stopped half way, immediate relapse follows and nothing is gained, but if the treatment is persisted in until the end and gradually discontinued, it seems likely that the results obtained will be permanent.

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MILD CASES OF HOOKWORM DISEASE IN CHILDREN

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One of the first results of the systematic study of any disease is the discovery that, in addition to the so-called typical cases, there are many others so mild in character that they are at first entirely overlooked. To many, no doubt, hookworm disease at once suggests a picture of extreme pallor and emaciation, with considerable edema and a hemoglobin percentage of thirty or under; it is less well known that one may harbor hookworms and that their presence may be entirely unsuspected. After the removal of the worms by a course of thymol, the patient will often gain rapidly in weight and strength (and, if a child, in height), showing that, though the effect of the parasites on nutrition is at times slight, it should not be disregarded.

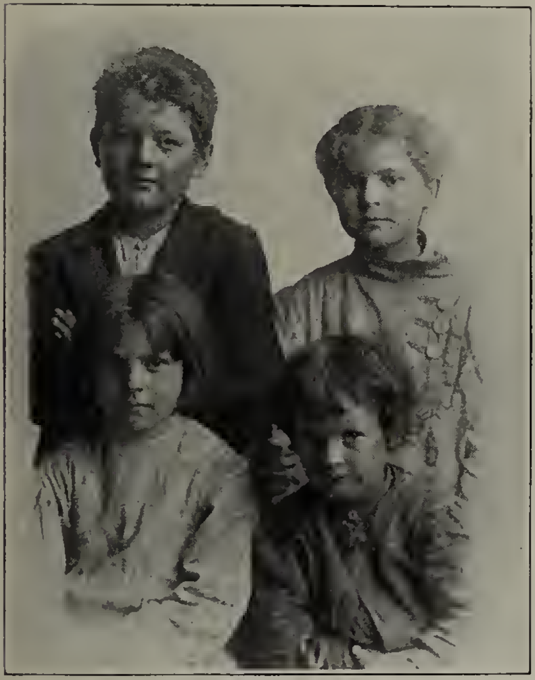

Fig. 1.—Four children of one family treated for hookworm disease. These children show little evidence of symptoms of the disease.

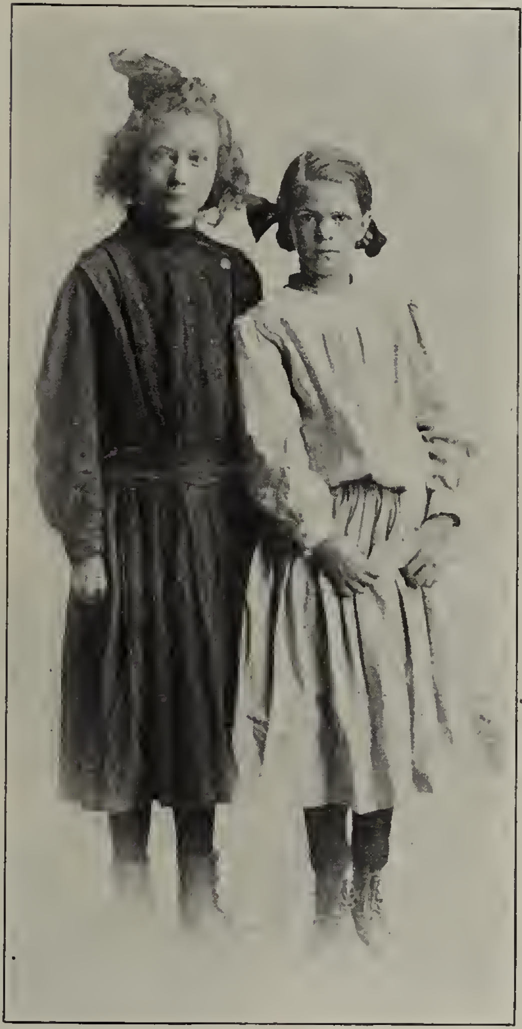

Fig. 2.—Two girls treated for hookworm disease. The taller is 11 years of age; the smaller girl, who is much stunted in growth, is 15 years of age.

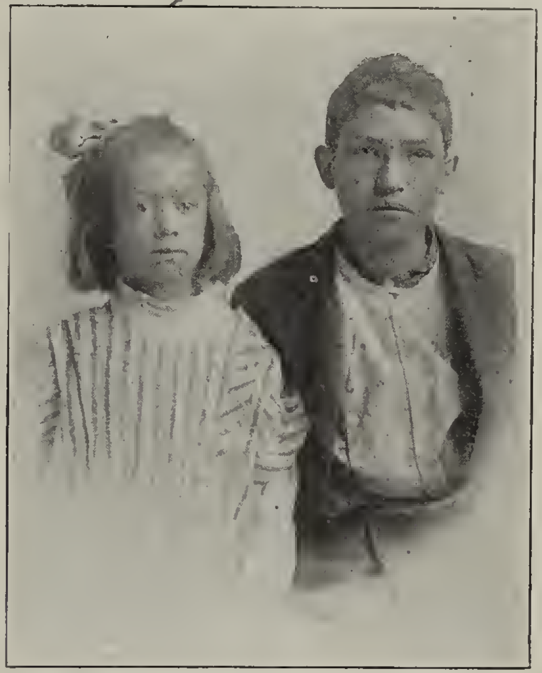

Fig. 3.—Two victims of hookworm disease whose symptoms are more marked than those of the other children shown.

I present the pictures of a few of the children treated this winter and spring for uncinariasis at the Asheville Free Dispensary. I have purposely selected the milder cases.

Figure 1 shows four children of one family; they are, respectively, $3\frac{1}{2}$, 6, 8 and 12 years of age. The two larger children are quite healthy in appearance, the others although not so robust do not appear sickly. The size and weight of each compares favorably with the norm. In none of them were there digestive disturbances, edema or pallor; and the hemoglobin ranged between 85 and 95 per cent.

Figure 2 is of interest in that some of the more characteristic features of the disease are shown. The taller girl, aged 11, is not undersized and might have been included in the first picture but for a somewhat sickly expression and a languid manner. The smaller girl, nearly 15 years of age, is very much stunted; the breasts are undeveloped and the mentality low. Note the prematurely aged expression of her face.

In Figure 3, the appearance of ill health is more marked. The boy, aged 16, has a heavy, stupid expression, and has suffered with headache and "stomach trouble" for several months. The little girl, aged 10, is dwarfed mentally and physically, she takes no interest in her studies, does not care to play and seldom smiles. The hemoglobin percentage of those shown in Figures 2 and 3 was between 65 and 80.

All of the children that I have been able to follow up have shown marked improvement in a few weeks. I gave them from one to three thymol courses and then put them on Blaud's pills and the results have been more than satisfactory. The teachers testify that after the thymol treatment many of the youngsters were transformed from dullards into normal, mischievous children.

A NEW PROCTOSCOPE AND SIGMOIDOSCOPE

DUDLEY ROBERTS, M.D.
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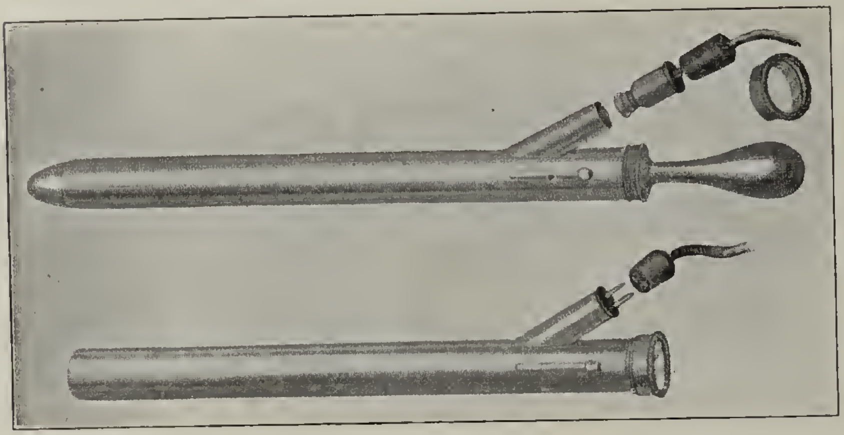
Those who have used the various types of proctoscopes and sigmoidoscopes know that each has certain advantages and disadvantages. The instrument known as the Kelly tube, depending on a headlight for illumination, is the simplest and cheapest. With it the upper rectum and sigmoid are often examined with great difficulty. The examiner is forced to assume an exceedingly awkward position in order to line up his eye, the light and the long tube. Instrumentation with this method of illumination is difficult, as the instrument and hands interfere with the light. The light cannot be satisfactorily thrown through the window such as is used to close the proximal end of the tube in effecting distention with air.

The use of tubes which are arranged with a small electric light on the distal end has meant a marked advance in our knowledge of the upper rectum and sigmoid. The chief objection to this method of illumination is the frequency with which the small lamp or its protecting capsule of glass becomes smeared with feces or other discharges. This necessitates the withdrawal of the speculum or the light-carrier and somtimes an annoying delay in the examination. The lumen of the examining tube is encroached on by the light, and its carrier or an accessory tube applied along the outside makes the passage of the speculum more uncomfortable. The tiny electric lights with their especially made bases are easily burned out, causing considerable annoyance and in the long run some expense.



New proctoscope and sigmoidoscope.

A wonderfully satisfactory illumination is secured by the new principle of lighting examining tubes herewith described. As illustrated, a flat-faced metal filament lamp, having the standard miniature base, is snugly held in a tube which projects at an agle of thirty degrees from the main tube. The inside of the main tube is heavily plated and highly polished with lines of polish running lengthwise of the tube. The lamp-holding tube is of exactly the same size in all instruments and the same lamp-carrier serves for any number of instruments. Owing to the manner of polishing no light is thrown back into the eye from the walls of the tube, all the rays going to the distal end. The light is carried brilliantly to and even several inches beyond the end of as long a tube as could possibly be of practical use.

Entrance into the sigmoid is occasionally facilitated by inflation of the bowel or puffing aside obstructing folds of mucous membrane. In this instrument the glass window is made the full size of the lumen of the tube and does not obscure the view in the least. The metal collar which holds the glass screws on to the end of the tube, making a perfectly air-tight joint. To the small offset tube a small hand-bulb is attached when inflation is to be used. These features are necessary or useful in only a comparatively small proportion of cases and are not used on the tubes which are spoken of as proctoscopes.

The end of the obturator is much less blunt than in previously made instruments. Bluntness is not necessary for safety, as it is customary to withdraw the obturator after effecting an entrance through the anus and then to make farther entrance into the rectum by sight. It is quite remarkable how much more easily this olive-shaped obturator passes through the anal canal than do the older blunt-ended obturators.

As the illumination of the distal end depends on the polish of the inner wall of the tube it is essential that some care be taken to keep the inside clean and free from tarnish. The easiest and best way of doing this is to force a narrow towel through the lumen, the first part of the towel being moistened with soapy water. The dry part is later pulled back and forth through the tube until a satisfactory polish is reestablished. Although not absolutely necessary it is well to make it a habit to clean the inside in this way each time after sterilization.

Three styles of the instrument are made. Two short tubes differing in caliber are designated as the large and small proctoscope. These are simpler than the tube illustrated, having no appliance for inflation. Either of these cheaper forms of instruments will be found satisfactory in the large majority of cases where high examination of the sigmoid is not to be attempted. The third style, designated as the sigmoidoscope, differs from the others in its greater length and parts added for air dilatation.

Only practical experience with these instruments could possibly convince one of the remarkable illumination secured and of the ease with which thorough examination and instrumentation can be accomplished in all cases.

84 Remsen Street.

CARDIAC DILATATION AND DISPLACEMENT DUE TO PLEURISY

EVAN O'NEILL KANE, M.D.
KANE, PA.

The following history, with accompanying illustration, demonstrates how completely the heart can be displaced into the right side and still for many years perform its function. Indeed, in this case, the mere displacement itself seemed to produce little or no discomfort. Death was indirectly due to the cardiac dilatation, and compensatory failure was not pronounced until late in the case.

Patient, 19 years old, suffering from cardiac displacement due to pleurisy.

History.—The patient, M. S., a girl aged 19, was of Swedish descent, with light complexion, and "scrofulous." The family history was generally good. She weighed over 14 pounds when born, and was healthy and vigorous until 7 years old. At that time she contracted "a severe cold on the lungs," causing shortness of breath. The family physician opened the pleural cavity, from which a large amount of pus was evacuated. For eleven years there was a continuous drain; consent to operation for radical cure was refused by the family. During a period of one year before death, the wound remained closed. Although greatly deformed and retaining the childish type of figure, the patient otherwise developed fully so that, until the great emaciation during her last months had wasted her, the arms and legs were strong, of full size and well proportioned. Mental development was rather above the ordinary; she had passed all the grades in public school up to the third year of high school.

Examination.—The heart was displaced entirely over to the right side of the sternum and filled the whole upper right side of the chest, being crowded up under the clavicle, the apex-beat striking sharply and being visible in the third right interspace, between the middle and outer third. Apparently, there was no lung-tissue above the heart, nor were respiratory sounds audible behind, until the lower part of the scapula was reached. The entire respiratory act seemed to be performed by the lower and middle lobes of the right lung. The left lung had atrophied.

Course of Disease.—Dilatation, though caused partly by the pulmonary obstruction, was also, to no small extent, due to the overexertion incident to school life. The patient lived two miles from school and had to climb a hill to reach it. During winter season the snow drifts were often three feet deep, yet, she scarcely missed a day. During the last winter of her life, the distress caused by swelling of her limbs and breathlessness forced her to abandon her studies. Death resulted from an intercurrent catarrhal pneumonia of probably influenzal origin that terminated in pulmonary edema. No autopsy was procured.

THE ELICITATION OF THE KNEE-JERK

AUGUSTUS A. ESHNER, M.D.
PHILADELPHIA

In addition to common and accepted methods of eliciting the knee-jerk, including that described by Dr. Curran Pope,[1] I have found two procedures useful in this connection. The one consists in supporting the leg to be examined on an inclined plane, while the patient is seated, the inclination being susceptible of variation in accordance with the requirements of the individual case. (Fig. 1.) By this means, relaxation of the lower extremity is secured independently of the volition of the patient, and the limb can be placed in a position most favorable for the development of the reflex. This device is particularly useful in the case of obese individuals and of those persons, old or young, who are either unable or unwilling to cooperate with the examiner, or who oppose or resist his efforts.

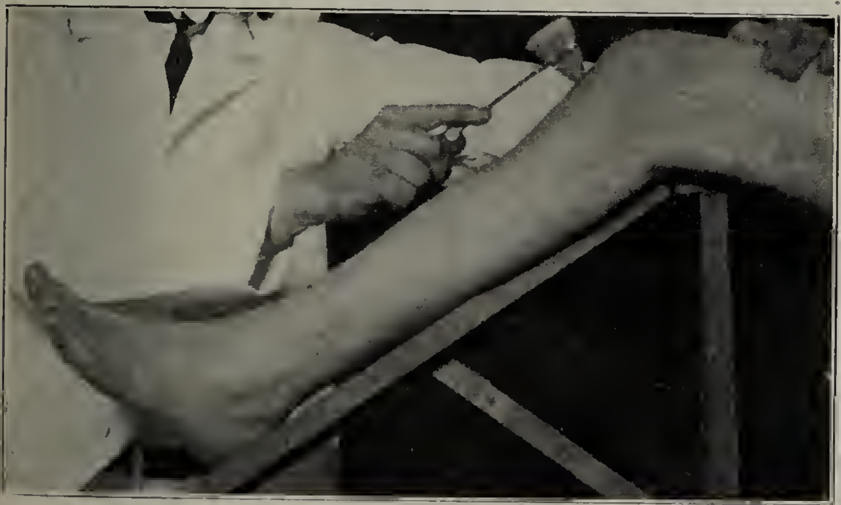


Fig. 1.—Leg supported on inclined plane, while patella tendon is struck with plexor and hand is applied over quadriceps extensor tendon.

The second procedure consists in the application of the palmar surface of the index-finger of one hand over the patellar tendon and striking the dorsal surface of this finger with a percussion-hammer or with the opposite clenched hand. (Fig. 2.) In this way a slight contraction of the tendon can sometimes be felt when it cannot be seen and when the leg is not thrown forward in extension.

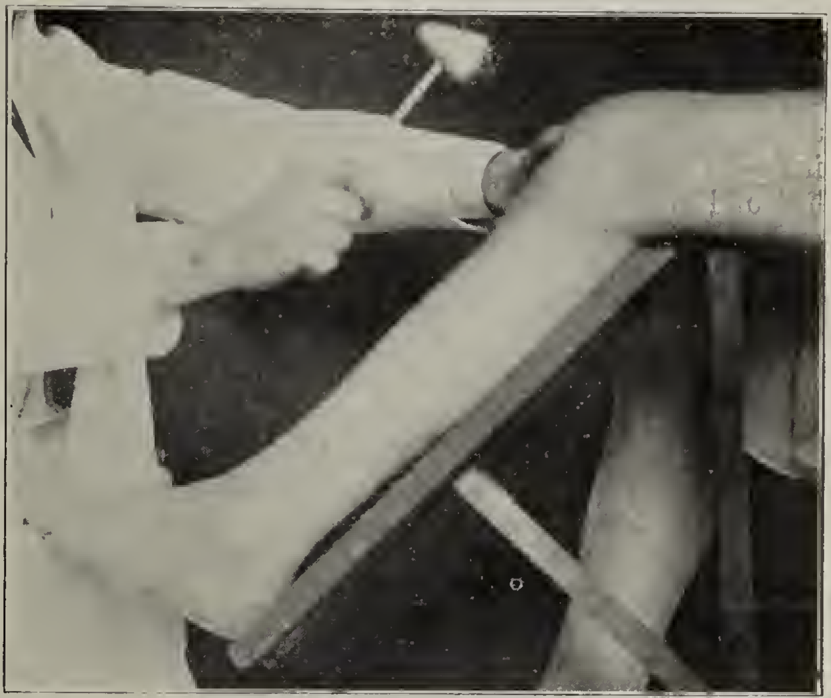


Fig. 2.—Leg supported on inclined plane, with finger applied over patella tendon and to be struck by plexor.

When there is doubt as to the presence of the knee-jerk, it is useful also to apply the palmar aspect of one hand over the quadriceps muscle or its tendon, while the patellar tendon is struck with a plexor or with the ulnar margin of the other hand (Fig. 1).

Under any of the circumstances mentioned, it is best in attempting to elicit the knee-jerk to bare the knee entirely, so that the stimulating blow is applied directly to the cutaneous surface overlying the tendon.

1019 Spruce Street.

SOME LESSONS DRAWN FROM A SERIES OF TWENTY-EIGHT EXTERNAL OPERATIONS ON FRONTAL SINUS AND ETHMOID LABYRINTH *

HENRY HORN, M.D.
SAN FRANCISCO

Having determined that an external operation on the frontal sinus and ethmoid labyrinth is necessary, there seems to be no question but that the terribly mutilating, truly radical operation of Riedel, with its complete destruction of the supra-orbital ridge, is the one which gives us the greatest certainty of a cure. The resulting deformity is so great that the operation is scarcely ever carried out to-day, but the Killian operation, or some of its modifications, is substituted.

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[1] Pope: THE JOURNAL A. M. A., June 10, 1911, p. 1705.

* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

In Riedel's operation[1] there are no dead spaces left behind; in Killian's operation,[2] the dead spaces, with their subsequent difficult drainage, constitute that element of doubt which does not allow us always to promise a certain cure. Admitting the necessity of an external operation in any given case, how are we to overcome this intrinsic objection of dead space which is the weak point in an otherwise ideal operation?

In presenting the present series, I do not do so because of the number or the very satisfactory results which have been obtained, but because I think that certain lessons can be derived from this group of cases, and also because I believe I have something to offer, not only in the way of getting quicker and more lasting results, but of limiting the severity and extent of the operation and overcoming the problem of drainage of the dead spaces, which is the weakness of the Killian operation.

The simplest way to classify cases of chronic suppuration of the frontal sinus and ethmoid labyrinth is as follows: First, cases with cerebral or orbital complications which should all be operated on by the external method, and second, the vast majority of patients who come to us with headaches and pus discharge.

Most patients in this last class can, by intranasal methods, either be completely cured or their headaches relieved and the discharge reduced to what I take the liberty of designating a "specialist's minimum"—an amount of discharge which a well-trained rhinologist can control without danger to the patient over a long period of time. With this result the patient may be satisfied, the true surgeon never. I am not altogether certain my coinage of the phrase is a happy one, but I use it in contradistinction to the often-used expression, "safe minimum," meaning thereby that the patient can go on for the rest of his life with such a discharge without danger, an idea which Gerber[3] has shown to be false and dangerous.

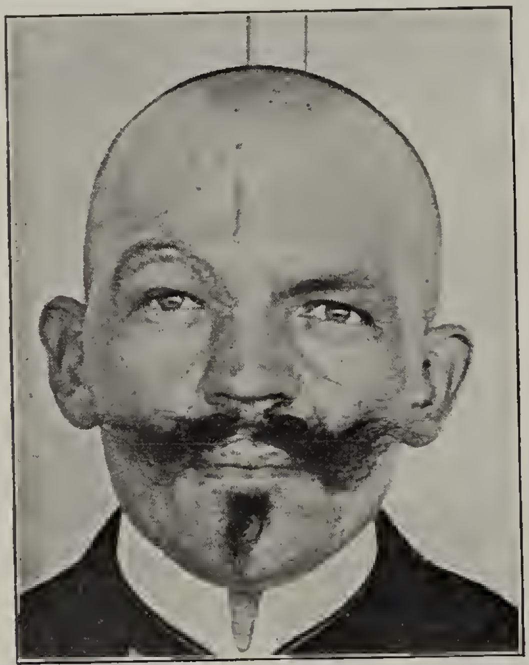
Fig. 1.—Right-sided Killian operation, with very large frontal sinus, necessitating vertical incision to hair line.

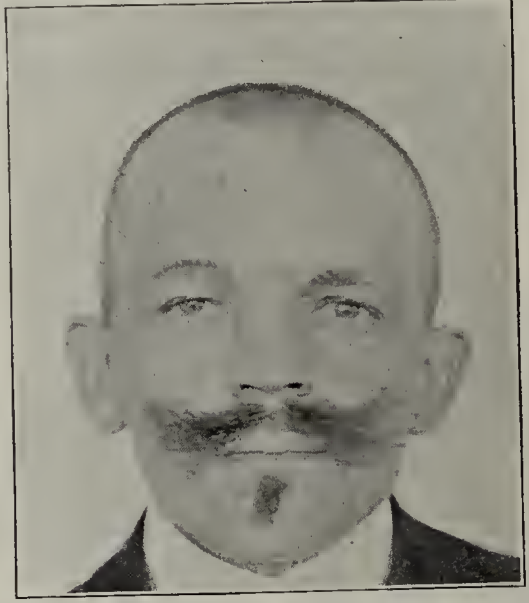
Fig. 2.—Same case as Fig. 1 after injecting large quantities of paraffin.

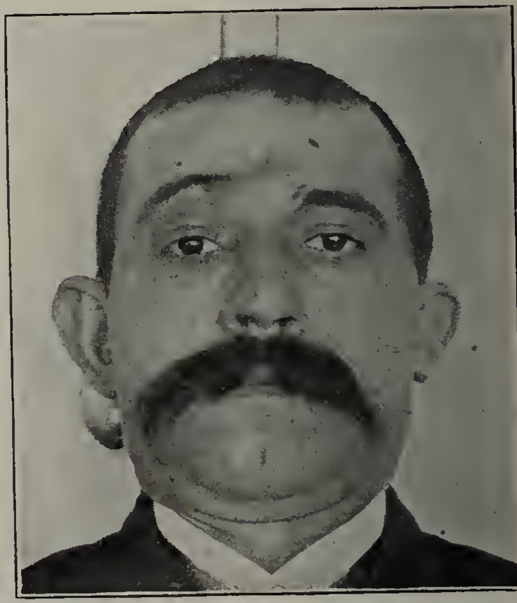
Fig. 3.—Extensive deformity after Killian operation, subsequently entirely filled out with paraffin.

There are many patients who are not in a condition to have constant attention even over a period of a few weeks. There may be considerations of time, finance and geography, that may cause what one might designate the sociologic operative indications to outweigh the clinical indications. The sociologic factor is more to be considered in America than in Europe. There the universal insurance system for workmen allows patients to remain away from work for weeks at a time. They lose nothing by it and their families are provided for. In every large city there are well-equipped special clinics, and the country districts are always within easy reach of the cities. In America, distances are great, insurance is unknown and clinics are scarce. The patient must be cured quickly, safely and radically.

During the last few years, an interesting wave of uncertainty has swept over the minds of European rhinologists in regard to the indication for the Killian operation. Since Gerber's book[3] appeared in the fall of 1908, reporting thirty-six postoperative deaths, there have been added not less than ten cases of the same kind.

This new chapter of postoperative, fatally terminating complications is the basis of this uncertainty, and that master of rhinologic technic, Hajek, has given the matter much serious study. His two recent fatal consecutive cases have altered his viewpoint of a few years ago. They occurred in cases in which no danger-signal appeared previous to the operation; they came at a period of his career when his operative experience was ripe, and nothing was neglected in the way of technic. Six days after the operation the first patient died of an intradural abscess; the second patient on the third day of a septic meningitis.

A study of such cases, so conscientiously reported, is the only means which give us a basis for improving our technical skill or reducing the mortality. The autopsies have impressed on us the one pregnant point—that the complications had their origin, not in the operated area, but in some overlooked ethmoid cell, some other neglected accessory cavity, especially in some area of pus which *had not been drained away*, and which had given rise to an area of infection.

These bitter experiences teach us not to neglect any possible method of determining the condition of the accessory cavities before the operation, and that perfect and constant drainage after the operation is the only protection which to my mind has been developed in recent years. These two prime requisites can be fulfilled by measured negative pressure alone.

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1. Riedel: Dissertation, Publiziert durch Schenker, Jena, 1898.
2. Killian: Arch. f. Laryngol., 1902, xiii.
3. Gerber: Die Komplicationen der Stirnhöhlenentzündungen, S. Karger, Berlin, 1909.

Although originally designed as an aid in the after-treatment,[4] I have come to regard measured negative pressure as the most important accessory aid in the clinical diagnosis of accessory cavity disease, followed in the order of their importance by the *x*-ray and trans-illumination. By means of my differential method[5] with tampons and aristol combined with gradually increasing measured pressure,[6] one can exclude every cavity but the one under consideration; can determine whether the ethmoid cells are involved alone or in conjunction with the frontal; can tell whether the frontal alone is involved, whether the diagnostic washing out of the frontal sinus actually took place or whether an anterior frontal cell was entered; can differentiate between pus in the frontal sinus or a pus process grafted on a catarrhal process. These points can all be determined previous to the operation and give us a great increase in security.

The greatest protection which we have against a fatal termination, and the greatest security for an absolute cure, is the preliminary intranasal work, which, if possible, should extend over months. All ethmoid cells, as far as it is possible to reach them from the nose, should be cleaned out. The diseased sphenoid and the antrum should be opened and if possible cured. The second and equally important requirement is that the operation should be carried out as radically as possible, so that no fragment of diseased mucous membrane, no single ethmoid cell shall remain behind. This proposition I urged three years ago,[7] and was based on the fact that I had had no mortality and that my results were unusually good. I only too clearly recognize the fact that my experience has been limited, and although since then I have not changed my method or ideas, I am directly at variance with Hajek, who, as I said, influenced by his two unfortunate cases, now urges that the mucoperiosteal lining of the roof of the ethmoid labyrinth be allowed to remain, *even at the cost of the thoroughness of the operation.*

Hajek[8] even asserts that such an incomplete operation will have no influence on the final outcome of the case, or at any rate will not disturb the patient as long as sufficient drainage is afforded. With this view I cannot agree, and in three of my cases in which I was forced to reoperate, the findings were proof positive that ultimate recovery would have been impossible.

The very reasons which Hajek gives for considering this retention of pyogenic mucous membrane a protection would, if we can believe the findings of my autopsies *in vivo,* in all probability have led to future severe trouble. In fact, Gerber[3] has proved that many cases of uncomplicated frontal sinus disease have, as a result of a Killian operation, finally terminated fatally, and this to my mind because of the incompleteness of the operation.

Hajek draws his conclusions from a series of about forty cases, while my experience is based on about thirty. He holds with Gerber[3] that a large number of the fatal cases have their origin in an injury or a complete exposure of the roof of the ethmoid labyrinth and the lamina cribrosa. I do not believe in the protecting power of this diseased mucoperiosteal lining of the roof of the ethmoid labyrinth, which is supposed to act as a protection against intracranial complications, but that we must place our reliance from the very first on perfect drainage. Such drainage is only possible after the removal of the gauze at the end of forty-eight hours, by the use of negative pressure.

I maintain that in my twenty-eight cases in which a cure took place, in seven of them in from five to eight days after the operation, in twelve cases from ten to fourteen days after the operation, and in three cases in less than three weeks after the operation, the results could only be obtained, first and foremost, by the most radical and exact operation, and second, by the use of negative pressure during the after treatment to secure perfect drainage.

In those of my patients who were not absolutely cured, and on whom I reoperated, overlooked ethmoid cells were always at the bottom of the trouble, and the sad lesson was always forced on me that every time my lack of boldness or of a retention of too much of the processus frontalis, a miser's greed in sparing the mucous membrane of the nose, or a timidity in attacking the tiny cells deep down on the roof of the ethmoid labyrinth, resulted in a temporary failure.

In any case in which after operation the mucous membrane is seemingly dry, and even after repeated inspection carried out over a number of days shows a drop of pus by suction, the cure is not complete, but some vagrant ethmoid cell has been left behind which is the cause of the trouble and may necessitate months of expensive and nerve-racking treatment.

In one double-sided operation, in which the patient had complained for years of violent right-sided frontal headaches, a curious phenomenon was observed, the only thing of the kind I have ever had the opportunity of noticing. In making a preliminary examination by suction, it was noted that the physiologic limit for negative pressure was lower on the right side than the left.

The physiologic limit is a term I have used to designate the height of pressure which each patient can bear with comfort, or a point at which bleeding begins to take place from the mucous membrane of the nose. Although the physiologic limit for bleeding may vary with the two sides of the nose, depending on the pathologic conditions present, the limit for discomfort has always been about the same for the two sides. In this case, however, the patient complained of much pain coming on with 6 cm. less pressure on the right side than on the left.[9] As the patient expressed it, she felt as if her brain was being "drawn out." At the operation the angle between the floor and the roof of the ethmoid labyrinth was unusually narrow, perhaps 80 per cent. smaller than in the ordinary case. In removing the cells, a dehiscence of the roof was noted about 0.5 by 1 cm., through which the dura showed clear and glistening. There was no pulsation and it was difficult to make out at first whether I was dealing with dura or not. In spite of Hajek's warning, however, the roof was thoroughly cleaned off. Whether this dehiscence was operative, as some of the visitors present maintained, or whether it was preoperative, I could not determine. During the after-treatment, however, the same phenomenon was always observed; the right side was 5 to 6 cm. more sensitive than the left. After about six weeks the sensitiveness entirely disappeared.

This case teaches us two things: First, in all probability the dura on the roof of the ethmoid labyrinth is no more sensitive to infection than the dura on the roof of the tegmen tympani. Who would think of leaving a fragment of diseased mucous membrane in a radical mastoid operation because the tegmen was paper-thin? The dura is exposed in a large percentage of such cases and cerebral complications rarely follow. Second, this lowering of the physiologic limit for discomfort on the diseased side may lead to a method whereby we may suspect, preoperatively, a dehiscence of the bony wall.

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[4] Horn: Die Behandlung operierter Nebenhöhlen, Verhandl. d. Ver. deutsch. Laryngol., 1909.

[5] Horn: The After-Treatment of Operated Accessory Nasal Cavities, Ann. Otol., March, 1910.

[6] Horn: A Method for the Determination of Pus in Diseases of the Accessory Cavities of the Nose, California State Jour. Med., February, 1911.

[7] Walb and Horn: Ueber Saugbehandlung bei Erkrankungen der Nebenhölen der Nase, Ztschr. f. Ohrenh., xlii, No. 1.

[8] Hajek: Die Behandlung der Empyeme der Nasennebenhöhlen, Ztschr. f. Laryngol., 1910, ii, No. 5.

[9] The apparatus for determining negative pressure is fully described by me in the Ann. of Otol., March, 1910, and can be obtained from V. Mueller & Co., Chicago.

Before concluding, there are a number of minor points to which I wish to draw attention in passing, although I have nothing original to add in the matter.

The uselessness of the retention of a nasal mucous membrane flap has long ago been decided on. If I am not mistaken, Killian himself has given it up.[10] In my series I never attempted but twice to carry out this procedure and before the operation was completed I saw that during the subsequent dressings the flap would be apt to come loose and therefore snipped it off. I do however believe and my contention is borne out by at least one European observer, that the use of the negative pressure in the after-treatment seems to have a tendency to inhibit the formation of granulations around the drainage openings. At least I have never yet had to snare or burn away any exuberant granulations in my cases.

The question of the necessity of a primary suture of the external wounds is still an open one.[11] The more conservative operators, Hajek and Killian, contend that even when no intracranial complications are present, but when the pus is unusually foul and dangerous-looking, a secondary suture would be the safest plan. In all of my cases the wounds were closed with a primary suture with the exception of one in which I experimentally did a secondary suture. The cosmetic result was good, but not the perfect result that in the ordinary case I now consider a *sine qua non*. In the case already mentioned with the dehiscence, I did, with some misgivings, a primary suture, but I considered my drainage absolute, and the necessity of a perfect cosmetic result must be considered in the case of a young woman.

In my first few cases I took great pains to spare the attachment of the trochlearis.[12] Now I pay no attention to the matter and in my series had but one temporary diplopia which lasted less than a month. There are often series of small ethmoid cells which extend down almost to the foramen of the optic nerve and which are concealed unless a very free dissection of the orbital contents is made by first loosening the attachment of the trochlearis. In one of my reoperated patients, when I had taken the greatest pains to do a very radical operation, a feeling of pain behind the eye combined with the appearance of a few drops of yellow pus, shown only by suction, led to the discovery at the second operation of a single row of six to eight ethmoid cells filled with small polypoid masses, almost surrounding the upper half of the edge of the optic foramen.

In but two of my cases did I find it necessary to use paraffin to overcome the sinking of the supraorbital space. The frontal sinuses in both cases, as you can see by the illustrations, were exceedingly extensive and deep, extending almost to the hair line. In one, a perpendicular incision was necessary to thoroughly eradicate all the dead space. Very extensive paraffin injections brought about most satisfactory results.

In conclusion I wish to emphasize the fact that I look on the Killian operation as a very serious procedure; that the indications for its performance are narrowing instead of broadening; that it should never be undertaken without a thorough preliminary intranasal preparation carried out for weeks or even months before the operation; that if possible the diseased sphenoid and antrum should be previously healed.

My present operative indications are distinctly distasteful to my operative inclinations. Intracranial complications should of course all be operated by the external route. If in the other class, in which headaches and pus are the dominant factors, we cannot heal the lesion by intranasal methods, and if there are no sociologic contra-indications, we can allow the patient to stay under observation with a discharging sinus and some slight headaches.

209 Post Street.

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[10] Von Eicken: Erfahrungen mit der Killianschen stirnhöhlen Operation, 1 Internat. Otologic Kong., Vienna, 1908.

[11] Zarniko: Die Krankheiten der Nase, S. Karger, Berlin, 1910.

[12] Eschweiler: Arch. d'otol., October, 1904.

THE VARIOUS PATHOLOGIC CONDITIONS INVOLVING THE FRONTAL SINUS *

B. R. SHURLY, M.D.
DETROIT

Nature has provided a most elaborate series of air-spaces in her construction of the bony labyrinths of the head. This plan of animal engineering is a structural necessity in vertebrates of aerial locomotion (birds). It is a design of great comfort and utility to the more developed species that assume the more erect posture.

The frontal sinuses may be classified as a part of this general plan of human machinery that demand the qualities of lightness in the construction of the head with a maximum of protection to the skull-case with the properties of resonance and lubrication to the upper air-passages. The structural units of the body are marvelous in their response to the laws of use and disuse or supply and demand, and we find that the frontal sinuses develop and enlarge extensively at puberty. As the subject of this paper is diseased states of the frontal sinuses, it is unnecessary to dwell at length on details of anatomy, yet it should not be forgotten that certain unusual structural findings exert their anatomic influence on the pathology.

Cryer has pointed out to this Section many interesting conditions relating to the abnormal morphology of the frontal sinuses. The absence of sinuses, the presence of septa, wide variations in contour and dimensions, absence of bony walls, presence of ethmoid cells within the sinus, variations in thickness of the structural bone and anomalies of the frontonasal duct may be mentioned as a few of the anatomic discoveries that may influence the pathologic conditions, the surgical indications and therapy in this region.

The physiologic phenomena of the nasal passages are in close relationship to many pathologic conditions in the frontal sinuses. Hyperemia, intumescence, and hypertrophy of the mucosa and turbinates are frequent attendants or etiologic factors of sinus disease.

To discuss the problems of pathologic conditions involving the frontal sinus comprehensively it is necessary to establish several distinct classifications. We find immediately on investigation that the frontal sinus (as we should expect) shares with the other accessory cavities in a number of pathologic processes that are common to all.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

It is only within the present century that frontal sinus disease has been recognized and operated on externally. In 1839, Dezeimeris, in 1859, Bonyer, and in 1872, Steiner contributed work of important pathologic value to this subject. It remained for Zuckerkandl to publish the most exhaustive and unequaled treatise on the accessory sinuses.

Disease of the frontal sinus may be grouped into six subclassifications: (1) acute catarrhal or suppurative; (2) chronic catarrhal or suppurative inflammation; (3) confined suppuration; (4) infectious conditions, as tuberculosis and syphilis; (5) mucocele; and (6) tumors, foreign bodies.

The pathologic processes that invade the frontal sinuses are those peculiar to mucous membranes in general and to the other accessory sinuses in particular. The problems of pathology in the region under consideration are modified by the anatomic confines of the bony walls and a small ostium for drainage or infection. Undoubtedly the most frequent pathologic condition of our north temperate zone involving the frontal sinus is the secondary catarrhal inflammation attending acute coryza. The process is usually one of extension. The sinus is protected from infection by its secretion falling through a comparatively long dependent canal. The acute inflammatory processes are frequently nothing more than a renewed bacteriologic activity of some old slumbering infection.

While unusual types of micro-organisms invade this frontal recess, the staphylococcus, streptococcus, pneumococcus and the influenza bacillus, are by far the most frequent invaders. The problems of inflammation within bony cavities, lined with mucous membrane, have much in common with like problems of inflammation elsewhere. The necessity for drainage is more important and requires alertness in diagnosis, with prompt attention to the surgical principles of drainage. Again, there are pathologic problems of the frontal sinus that closely simulate those of the mastoid region. In some cases acute frontal sinus abscess has broken down the bony walls, and even the anterior wall, within three days and this possibility must be borne in mind. Inflammation with hemorrhage and a closed nasal duct may develop especial pathologic conditions. The bloodclot may shrink and undergo fermentation. The activities of the gas-producing microorganism in turn may develop a sharp negative pressure similar to the middle-ear and mastoid phenomena. With this pathologic state, the aggravated symptoms of frontal pain or supra-orbital neuraligia may be developed, which pain or neuralgia is relieved by spontaneous or artificial drainage.

With these acute processes of inflammation may be associated pin-head or larger areas of necrosed bone attended by symptoms of pain. These are exceedingly difficult of diagnosis and have yielded to discovery through the findings of the *x*-ray. Given the fact of acute infection of the frontal sinus with the various types of microorganisms, the problems of pathology in general and inflammation in particular are decidedly influenced by several unknown factors, which we must endeavor to investigate in our cases. *X* may represent the unknown microbe; *y* may represent its virulence; *z* may represent the opsonic index of the individual host. These unknown factors of our algebraic problem may be determined approximately. The variety and virulence of the microbe, the resistance of the patient and the question of drainage, determine the extent, the character, the type, and the various phenomena of acute inflammation in this region; and we understand the pathology of the individual case, the more nearly we appreciate the life-history and habits of the infecting microbe.

The influence of the biochemistry of the blood and lymph and the general systemic condition of the patient must be constantly borne in mind. It is impossible to separate any special pathology of the frontal region from pathology in general. Suppurative and catarrhal conditions are closely related to systemic conditions such as the examthematous diseases of children.

In frontal suppuration it should be a routine procedure to obtain a culture and study the bacteriology on account of the valuable information that may be obtained in relation to the etiology, pathology, prognosis and treatment. It is not only difficult, but frequently impossible to draw the dividing line between acute, subacute, and chronic processes in this region. When the transition occurs, it is characterized by the growth of connective tissue. This may be attended by hypertrophy—general, local or scattered. It may be followed by cyst formation or polypi, or the development of osteomata. The infiltration stage with thickening of the mucosa may go on for months characterized by a mucous or seropurulent discharge with little discomfort to the patient.

The formation of cysts and polypi are quite frequent in the other accessory sinuses—especially the ethmoidal cells and antrum. Retention cysts arise many times as the result of contracting connective tissue thrown into the mucosa and choking the ducts of the mucous glands. Polypi are less common. When the chronic inflammatory processes continue and extend deeply involving the periosteum, and depositing inorganic salts in a meshwork of new cells and capillaries, we may have bony infiltration and the development of osteomata.

Chronic suppuration may be free or confined, depending on the patency of the ostium frontale. A macroscopic examination of the sinus reveals a thickened rough, soggy pyogenic lining membrane which is bathed with yellow and at times fetid pus. It is unusual to find the same pathologic picture associated with the anterior ethmoid cells or antrum. Suppuration may follow trauma.

Fistulas indicate necrosed sinus wall and occur most frequently at the upper internal angle of the orbit. The perforation is usually in the inferior wall of the sinus. When the anterior wall is perforated the point of selection is along the superciliary ridge. Eye clinics at Berlin report one fistula in 18,000, while in Vienna one fistula in 9,000 was found.

Among the more frequent infectious conditions that involve the frontal sinus may be mentioned influenza, tuberculosis, and syphilis. The former variety (influenza) is seen after the acute ravages of the winter grip epidemic have passed. The waves of acute infection subside, leaving colonies of activity in any or all of the accessory cavities. The frontal is frequently the cavity of selection.

Post-mortem examination in subjects who have died of tuberculosis has revealed the presence of tubercle bacilli in normal sinuses. The presence of this disease is rarely primary and shows the pathologic phenomena of tuberculosis of mucous membranes by extension. As nasal tuberculosis is rare, frontal sinus tuberculosis is exceedingly unusual and when present, exhibits no peculiar characteristics. The manifestations of syphilis are usually secondary to ulceration in neighboring tissues. An obscure form may be necrosis of the anterior wall. This condition came under my observation recently—a diagnosis could be made with the x-ray only, as all other methods failed to give any information whatever. Syphilitic processes in this region are deep-seated and invade the soft parts and bone with extensive destruction in the presence of mixed infection. Many of them are not benefited by ordinary antisyphilitic treatment.

Although sinus affections are quite common with general systemic infections, the frontal is less frequently involved than the other accessory cavities. In diphtheria the Klebs-Löffler bacillus may be found, and it may be infected with erysipelas, typhoid fever, variola, pneumonia, or cerebrospinal meningitis.

In addition to inflammatory and suppurative conditions, new growths may appear. Primary benign or malignant tumors, as fibroma, sarcoma, or carcinoma, are exceedingly rare. They involve this region as secondary growths by extension without any unusual change in their pathology. Epithelioma and sarcoma are the most frequent tumor formations involving the frontal sinus. A few cases of mucocele and pneumatocele are on record. Helly has reported nine of the latter. Farlow's case of mucocele with the characteristic "egg-shell crackle" illustrates the pathologic peculiarities of this condition. This tumor appears at the upper and inner angle of the orbital fossæ with a hard surface, slight bony irregularities and develops slowly.

The presence of foreign bodies in the frontal sinus is extremely rare. They occur, however, in both animate and inanimate varieties. A number of interesting cases due to maggots, larvæ and various worms and insects are reported. Bullets, shot, pieces of drainage-tube, broken instruments, constitute some of the inanimate objects recovered. The irritation of foreign bodies is usually followed by marked suppuration.

Modern research has not elaborated any recent remarkable discovery in the pathology of this region. It is necessary, however, that the therapy connected with the frontal sinus should be based on broad and just pathologic foundations. When we appreciate in full measure the value of its teachings the surgery of this region will be placed on the conservative basis where it belongs. The teachings of the ultraradical will be relegated to the realm of oblivion or the mountain of ancient surgical remains. The frontal sinus then, will be opened externally when it is absolutely and pathologically necessary.

If we are to be instrumental in relieving pathologic conditions of inflammatory type in the frontal sinus, this relief must not come through the efforts of surgery alone, but under the prophylactic guardianship of a method of treatment that will prevent and abort acute inflammation and the frequent common "head cold."

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ABSTRACT OF DISCUSSION

ON PAPERS BY DRS. SHURLY AND HORN

Dr. E. C. Sewall, San Francisco: My experience with Killian's operation has been limited to twelve cases, and my results have been largely similar to those of Dr. Horn. In my cases, in the beginning, I was somewhat disappointed in the after-results, as regards complete cessation of all secretion, largely due to the lack of proper drainage. This was true even when I felt at the time of operation that I had been particularly careful to get good drainage. Doing a Killian operation, to me, has always been like a stroke at golf: I always feel that if I had another chance at it I could do better. I feel that the operation is surgically correct. I congratulate Dr. Horn on his results. I am certainly very much interested in the use of suction, which in his cases prevented the formation of granulation tissue, which in my cases gave considerable trouble. In this connection I wish to call attention to a suction apparatus which I have introduced into surgery and which I have found of value in this work. I hope to show this apparatus to the Section. Dr. Horn speaks of fatalities being largely due to portions of pus not evacuated. Killian, during my four months with him, five years ago, had a death from osteomyelitis and seemed to look on this as a serious possibility in these cases. When I called again on him a few months ago, I found he was not closing nearly as many cases primarily as before. In my cases, perhaps I have operated too radically, in that I did not do the preliminary work Dr. Horn advocates. And I do not know that I agree with Dr. Horn in submitting the patient to tedious intranasal work on the ethmoid and sphenoid when one has concluded that the Killian operation is necessary. I have included the maxillary antrum in the operation. That may be too radical and in the future possibly I may retract from that position. But I have operated on both frontals, the ethmoids, the sphenoid and the maxillaries at the same sitting and have secured satisfactory results.

Dr. H. B. Graham, San Francisco: I want to congratulate Dr. Horn on the conservatism shown in his paper. I think the radicalism advocated by Jansen of Berlin is certainly not advocated by the majority of rhinologists in Europe to-day. I had the privilege of seeing many European operators work, and at the Budapest conference the tone was conservatism. Hajek and Killian are particularly conservative and I think the men most skilled in intranasal surgery will try every other method before they do a Killian operation. A great deal can be done by intranasal treatment and drainage. The introduction of suction has added a great aid to our drainage methods. The idea that bone dehiscences constitute an indication for the Killian operation is not true to-day. I have had one case in my own practice in which I had been treating the patient four or five months and who was gradually getting better under suction and drainage after operation on the ethmoids. One day I found my washings coming through on the opposite side and I thought I would have to do a Killian operation. But I kept on with the conservative treatment and the patient is now apparently well and has been so for four months. In Vienna I saw a great many patients who had been reoperated on, I am sorry to say, and I think in all there was a lack of technic in the primary operation. The assistants in the clinic were perfectly frank to acknowledge that portions of the mucous membrane had been overlooked.

In the conservative treatment we have a means that has not been mentioned here and that is the use of autogenous vaccination. We have observed at least one case in the Cooper clinic where we used the autogenous vaccine and reduced the infection from a polybacillary to a monobacillary infection. The patient is not cured. What will be the ultimate outcome I do not know, but I think it is of value to know that we can reduce the number of varieties of bacteria in these cases. If we can change a polybacterial pus to a monobacterial one there will be less danger of meningitis in the Killian operation.

Dr. C. F. Welty, San Francisco: When some of the large clinics report that they have ceased to do the Killian operation and a man says he has cured twenty-five consecutive patients, it starts us to thinking there is something wrong somewhere. I am inclined to believe that Dr. Horn's statements are correct, not because of the suction apparatus, but because of a more thorough operation than is usually done. The reason that the Killian operation is in disfavor to-day is because a large majority of the patients are not cured after that operation. If we adhere to the indications as established by Hajek and Killian at the last international congress, we are certainly not going to go ahead. The indications they gave then were threatening cerebral symptoms. It is self-evident that all such patients have to be operated on, regardless of whether they will recover entirely or not. I have operated on patients, with and without the use of Dr. Horn's suction apparatus, and they got well in three or four weeks. I have operated on other patients since and they have not done so well after a number of months. In the patients that do not get well I feel that the operation has not been sufficiently complete. I cannot believe that the suction apparatus can produce healing if you leave diseased tissue.

Dr. Sherman Voorhees, Elmira, N. Y.: Dr. Shurly spoke of a mucocele occurring in these cases and extending into the orbit, destroying the orbital wall. I have had two cases in which the eye-ball was displaced by mucocele and the thrush fungus was found in great numbers. Both patients were operated on by the Killian operation and recovered. Often we will find a deviated septum that should be corrected before the Killian operation is done. I have used for some time the suction apparatus, following the Killian operation and also the intranasal operation, and I can say with Dr. Horn that I think it is of very great use. Sometimes we defer for a long time operation by the Killian method. That is according to the case, to a great extent. I have had two cases in which perforation into the orbit took place following an acute infection of the sinus. In such a virulent case I think none of us would hesitate to operate early. Dr. Horn has emphasized the importance of getting good drainage. We should remember that the outer end of the sinus is lower than the curve in the orbital wall, so that it is necessary to take out the floor of the sinus clear across in order to secure good drainage. I have known some cases in which that was overlooked and the patients came to a second operation.

Dr. J. F. Barnhill, Indianapolis: There is a tendency to get away from radical work, but I think that tendency can be carried too far. There are patients who can be cured by intranasal treatment. On the other hand, no one will doubt that there are patients whom nobody will cure by any method of treatment. These cases are, as a rule, major surgical ones. Sometimes nothing short of applying all of the best surgical principles will effect a cure, and when we learn that this is true and apply such means, we will cure most of them, but there will still be some patients who will not be cured. Dr. Voorhees spoke of one such class of cases. Those of you who have had much of this work, know there are cases such as Dr. Voorhees referred to, in which you cannot overcome the dead spaces and get good drainage unless you have the patient stand on his head a good deal of the time. In such instances, Dr. Horn's suction apparatus may do some good, but I do not think that he believes it will cure all of them. A few patients will permit us to treat them a year or for years and then do radical work. If we do radical work, we must make it what it says it is, radical, and do it so that the operated field can be inspected afterward. We all know the freaks that occur in bone granulation. These often are strange. Sometimes even over night there may form granulations sufficient to hinder drainage and healing of the wound. One of the gentlemen has spoken of a patient who recovered in four weeks after operation. That seems to me almost incredible. I think he means that there was no discharge at the end of that time. He does not tell us what happened the next month or year, when there was perhaps an epidemic of influenza. The fact that a few of these patients die, should not hinder us from going on and doing our duty, any more than the death of a few patients in gynecology should hinder the gynecologists from doing good surgical work, for good drainage secured through careful surgical means is far less dangerous than no drainage. We should treat all patients so as actually to get good drainage. The laity and many practitioners do not recognize the difficulties with which we must contend in this work. To-day probably no work is more difficult than good sinus surgery.

Dr. W. R. Murray, Minneapolis: I want to emphasize the value of the first paper. It is absolutely essential that we recognize the pathologic conditions that may exist in the frontal sinus before determining our line of treatment. I believe it is the experience of all of us that the indications for the Killian operation are considered less frequent to-day than a few years ago. Often conservative intranasal surgery will give relief in cases of chronic frontal sinusitis. However, the radical external operation has a very distinct place in surgery, and when the indications for such radical operation are present then I believe the Killian operation should be done and not a semi-radical operation. I agree with Dr. Horn that intranasal work should be exhausted before resorting to the external operation, and that intranasal treatment or operation should, if possible, precede the radical operation. Unfortunately we cannot always keep the patient under observation and treatment sufficiently long to do this, especially in the case of out-of-town patients.

If I understood Dr. Horn correctly, he attributed the fatal cases he referred to to the presence of over-looked foci of infection in the frontal sinus or ethmoid cells. I should have some doubt as to whether that was the only explanation for the intracranial involvement. In these chronic empyemas the virulency of the microorganisms is usually low and following operation they may become much more virulent. This increased virulency, in connection with some existing pathway of infection, either physiologic or pathologic, which might be present between the sinuses and adjoining cavities, might explain the fatal results. That such communications do exist has been shown by numerous investigators, especially by Zuckerkandl and more recently by Onodi. Of course this is only a possibility and I do not know how we can determine when such conditions are present.

Dr. Frank L. Dennis, Colorado Springs: For several years we nose and throat men have been using vaccines in sinus and ear affections. Recently, at Dr. G. B. Webb's suggestion, I have introduced the vaccine directly into the mucous membrane of the nose, the idea being that if we can, in the infection of any tissue, put the vaccine into tissue of the same embryologic origin, we may get better and quicker results. Unfortunately, I have not done sufficient of this work to come to a definite conclusion as to its value. However, I feel convinced that I am getting better results from the use of vaccine in this way than before by giving the vaccine subcutaneously.

Dr. Victor F. Lucchetti, San Francisco: I think first of all, the intranasal methods should be exhausted before we proceed to radical work. After the middle turbinal is removed, I believe in many cases fluorescene is of value in washing out the sinus, giving an idea as to the condition of the sinus and also helps to effect a cure. Hydraulic suction is useful, with the use of the masseur of the Victor pump. No one has said anything about the Wassermann reaction. I recently treated a young lady with a bad sinusitis and an ill-smelling discharge, in whom the Wassermann reaction was positive, and she has recovered under the mixed treatment. I have used autogenous vaccine treatment in a number of cases, with benefit, but without a cure.

Dr. J. R. Fletcher, Chicago: Dr. Brem, of the Colon Hospital, Panama, informed me that in 300 autopsies on meningitis cases, some or all of the sinuses were the primary point of the pneumococcus infection. I think we should remember this, because it is not in the literature. The infection almost always extended through the blood-current to the meninges. In a few cases it extended through the ear.

Dr. William Ellery Briggs, Sacramento, Cal.: Surgery of the nasal accessory sinuses is in its infancy. As a rule it has been far from radical. In fact, many of us avoid radical surgery in these cases until it can be postponed no longer. The results of radical work in this field have not been uniformly good enough to warrant those with little experience to undertake the radical operation on patients who can be made comfortable by less severe means. Those who have not large opportunities for experience would do best to send those patients who need extensive operations to some one who has had abundant chance to see this line of work.

I have seen Dr. Jansen of Berlin do a great deal of radical sinus surgery and he does this work more radically than any other operator that I know. I have seen him operate on the eight sinuses at one time. His flap operation for the frontal sinus is difficult but complete. Whether this will be the ultimate method of operating one can only guess. If such extensive operations are best it will be best to have fewer men doing them. Possibly the autogenous vaccines will accomplish what they have done in other fields of usefulness. If experience should demonstrate this hope to be a fact the radical operation may be rarely needed in the near future.

Dr. B. R. Shurly, Detroit: It is most important that we should give close attention to the acute suppurative processes in the nose. It is these processes that make the trouble later on. It is exceedingly important that every acute inflammation in the nose have as thorough treatment as possible. We must appreciate the difference between the staphylococcus, the streptococcus and the pneumococcus infections; and the difference between the various epidemics and in the virulence of the various strains of microorganisms, especially when the infections invade the accessory nasal sinuses.

Dr. Henry Horn, San Francisco: Dr. Sewall, in his discussion, brought out some points, which I could not cover in my paper because of lack of time. When I said the danger was in the cavities not well drained, I did not refer to osteomyelitic cases. Those have nothing to do with the operation, the infection seems to come as lightning out of a clear sky and kill your patient. The question whether to close the wound primarily or secondarily, depends largely on the personal equation. As to operating without preliminary treatment, of course, if it is not possible to treat patients, and unfortunately here in America that is often true, we may have to eliminate the preliminary treatment. The doctor said he had difficulty with the granulations around the intranasal drainage wound. That is one reason why the preliminary intranasal work is so necessary. Intranasal work should be continued for months, if possible, before the external operation. This allows the epithelial cells to get a start in the region of the future drainage opening and possibly explains why my results were so good and healing was so rapid. When I said a few of them were healed in seven or eight days after the operation, I know that seems an anatomic impossibility, but it is a practical possibility. In seven days after operation in some cases pus cannot be sucked out of the sinuses, and if that condition continues a year or so one is justified in considering the patient healed. What the condition is inside we do not know; that is a pathologic problem on which I am working now. What I have found is that in some reoperative cases the frontal cavity is shut off by connective tissue from the postorbital space and has no communication with the latter. I think probably in some cases the whole cavity is filled up with organized connective tissue. Dr. Sewall spoke of his apparatus. There are dozens of suction apparatus on the market. I only spoke of measured negative pressure, which was first introduced by me into rhinology, and the report published in Germany a few years ago. It is simply measuring the dose. You cannot have any appreciation of the dose of negative pressure unless you measure it with a manometer of some sort. Suction alone will never cure a chronic condition. That is out of the question.

EFFECT OF TUBERCLE PRODUCTS ON EPITHELIUM *

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That tubercle bacilli or their products have a stimulating effect on epithelial structures we have convinced ourselves. This was quite clearly shown in our work during 1909 and the experiments early in 1910 abundantly corroborated it. We could only be sure of the effects on the epithelium in bile-ducts and bronchi, however, while in mamma and skin epithelium the appearances were far from regular. The work has therefore turned toward establishing conditions which could produce definite continuing results. The results in regard to the organs used are given here.

I. RABBIT EAR

For the purpose of stimulating the growth of epithelium on the ear, two methods were used, one of injecting the material as closely beneath the epidermis as possible, another by rubbing wax derived from tubercle bacilli into an abraded surface on the ear skin. The results seen under the microscope are detailed below.

Ear of Rabbit 57.—Thirteen injections 0.2 mg. dead tubercle bacillus under the skin of ear. Epithelium is essentially the same in the two ears where there are no hair follicles; where hair follicles are present, the epithelium seems a little thicker, but there is no evidence of active multiplication. Very few mitoses can be found; the connective tissue immediately below the epithelium is slightly more cellular in the treated than the untreated ear.

Ear of Rabbit 61.—Fourteen injections 0.5 mg. tubercle bacillus wax under skin of ear. Treated ear: There are many irregularities in the surface epithelium, both in the thickness and in its penetration; there does not seem to be any increase in hair follicle epithelium; connective tissue is rich, well organized and acellular with the exception of one or two minor round-cell collections in vicinity of blood-vessels.

Rabbit 62.—Crude wax molten by gentle heat and rubbed twenty-seven times in six months on an abraded surface on the ear. The other ear was abraded in a similar manner by the same instrument but no wax was applied. After removing a piece of the skin of each ear, the microscopic examination revealed nothing abnormal about the abraded untreated ear skin. The only noteworthy change in the treated ear skin was in the great number of glands and hair follicles throwing off dry epidermal plates, and the collections of crust of dried plates on the surface are certainly thicker than in the control animal.

II. GUINEA-PIG'S MAMMA AND RABBIT'S MAMMA

We had two of our original rabbits left and made use of them for the reason that they had already received irritating dosage in the mammary gland and we felt that they would be much more likely to show epithelial alterations than new animals. We accordingly took them from the males, treated them for a short time and put them with males again, and for the third time treated them with injections. Notwithstanding this severe treatment true stimulation of epithelium to adenomatous or carcinomatous growth did not result. Here are the notes made from the microscopic sections of one. The other was very similar.

Rabbit 58.—Injected six times dead degreased tubercle bacilli; put with male; injected five times; put with male, injected nine times. Did not conceive; mamma dissected off. The injected gland shows less activity than the untreated. A larger part of section surface of untreated gland shows active milk production. The lining of the ducts and skin surface shows greater tendency to drying and flattening in the treated glands. The epithelium is the same in both.

Guinea-pigs were treated with dead degreased tubercle bacilli, dead tubercle bacilli and living tubercle bacillus extract. Two guinea-pigs whose young had died were also treated with wax emulsion. The wax formed a ball mass in the gland and was encapsulated, thus having no effect on the epithelium.

The treatment given the animals injected with the first-named substances consisted of injection, then mating, and again injections. One (631) conceived and the mammary gland was removed as soon as the young could be separated from the mother.

Guinea-Pig 631.—Treated with dead tubercle bacilli three times, then mated, injected three times. Treated mamma presented low-grade but definite interstitial mammitis with distortion of acini and some attempts at reduplication of epithelial lining similar to that in adenoma; untreated mamma normal.

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* Commonwealth of Pennsylvania Department of Health Laboratories.

Guinea-Pig 536.—Injected three times with dead tubercle bacilli, then mated, then twelve injections. Animal had an abscess in mamma between last two injections which were three weeks apart. Died from enteritis. Very little difference microscopically between the two glands. In the treated one the connective tissue is probably greater in amount than in the untreated; the gland lumina are wider and much secretion fills them up. No epithelium cell change.

Guinea-Pig 637.—Injected three times tubercle bacillus extract, mated, injected seven times. Died of enteritis. The only noteworthy difference between treated and healthy glands lies in the abundance of desquamated epithelial cells in the gland lumina of the former.

III AND IV. BRONCHIOLES AND HEPATIC BILE-DUCTS

The two structures may be considered together because they are influenced seemingly in the same manner. In last year's report we described how the bile-ducts became prominent, tortuous and apparently increased. We are now convinced that an actual increase in bile-ducts occurs and we believe that they arise from liver columns.

We have one section in which a bile-duct can be traced from liver column cells with their homogeneous pale purple staining protoplasm and uniformly blue nearly solid nucleus, into a well-formed seemingly old bile-duct with epithelium having deep blue vesicular nucleus and rarefied pale blue protoplasm. The exact point at which this newly-made duct assumes its basal membrane cannot be precisely determined but it occurs before the transition of the cell staining properties is complete. As discussed in a previous paragraph, connective tissue increase is quite pronounced in these livers and this new growth is most marked in the fields containing the newly-formed bile-ducts. The connective tissue does not penetrate the lobules farther than where the changes of liver columns indicate alterations of cells preceding the form of duct epithelium. The bile-ducts are very tortuous, and indeed so conspicuously ramified and distorted that the picture of cystic adenoma is closely simulated. There may be also papillary outgrowths in lateral section, but one cannot say yet that these are more than ramifications cut across.

In the bronchioles the changes are fundamentally the same. The epithelium lining shows, however, many more changes correspondingly than do the bronchioles as tubes. One cannot say that they are increased in number, but they are undoubtedly abnormally tortuous. The epithelium is reduplicated both regularly and irregularly. The glands of the larger bronchioles show changes suggestive of carcinoma simplex, although by search one can find a well-formed complete basal membrane.

Within the bronchiolar lumen, one may see papillomatous overgrowth of the epithelium, usually but not always accompanied by connective tissue stalks. Many desquamated whole and disorganized epithelial cells lie in the lumen. Similar pictures, but to a very mild degree, are seen in the large bronchi.

COMMENT

The results of our experiments with the purpose of stimulating superficial epithelium overgrowth by products of the tubercle bacillus have not been satisfactory.

At most there is but little overgrowth and that is best seen on the free surface where the irritant was applied locally. Here the tubercle bacillus products have behaved as most other mild irritants, producing a low-grade keratosis. On the other hand, in the internal viscera of animals injected subcutaneously or intraperitoneally with the tubercle product, a very decided influence is exerted on bile-ducts and bronchiolar epithelium, which can be explained only on the basis of some attraction relationship between epithelium and the tubercle bacillus. The following conditions, however, must be strongly emphasized. Animals receiving tubercle bacillus products into the peritoneum or beneath the skin show these changes clearly enough to be followed. Animals given living tubercle bacilli, either after or before the product, show the changes in liver and lung very well and in much farther advanced condition than when living tubercle bacilli are not given. Control animals receiving only living tubercle bacilli present changes to about the same degree as seen in animals receiving only injections of products. The deduction is therefore justifiable that a combination of living tubercle bacilli and a tuberclin is necessary to the great effect on epithelium. This is not true for endothelium, which seems to undergo rapidly the changes usual in unrestrained tuberculomata or in caseous tuberculosis.

We might hazard a conclusion that this helps to explain the benefit of tuberculin injections on tuberculosis of organs rich in epithelium and the rather less promising outlook for caseous lesions where endothelium predominates.

A THEORY FOR THE PATHOLOGIC PHYSIOLOGY INVOLVED IN DISEASE OF THE THYROID GLAND AND ITS THERAPEUTIC APPLICATION

EXPERIMENTAL STUDIES *

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A SUMMARY OF WHAT IS KNOWN ABOUT THE PHYSIOLOGY OF THE THYROID

It is now accepted as reasonably certain that the thyroid discharges into the circulation a secretion which is of importance for many organs and tissues; that this exerts its effects directly on some and indirectly on others, possibly through the nervous system; that the formation of this secretion is the only function of the thyroid and that it has no other constructive or destructive attributes; that the physiologic activity of the thyroid secretion is dependent on an iodized protein or proteins and that it seems roughly proportionate in activity to its iodin content; that this secretion seems not to be destroyed during its utilization but to be reabsorbed by the thyroid with little or no loss; this fact in itself suggests the possibility of auto-activation of the gland.

It also seems to have been demonstrated that iodin starvation may produce simple goiter which can be interpreted as a compensatory hypertrophy in the attempt to supply a normally active thyroid product in the presence of a deficient ingestion of the essential iodin.

The thyroid secretion has some connection with oxidation, for by thyroid feeding in myxedema or cretinism the consumption of oxygen can be markedly increased. Likewise the amount of heat given off from the body can be correspondingly augmented. Conversely, experimental thyroidectomy leads to a diminution in the absorption of oxygen. This secretion also has to do with both carbohydrate and nitrogenous metabolism and certain recent experiments[1] seem to connect nitrogenous metabolism in the liver directly with the thyroid. There has been much controversy about the iodin content of this gland in health and disease, but the most recent and correct determinations[2] seem to prove that the normal human organ contains on an average 0.3 mg. of iodin per gram of gland substance. In the thyroid of Graves' disease, however, this is decreased to 0.2 mg. or 0.1 mg. or even less, and the less the amount of iodin per gram of gland substance, as a general rule, the more severe are the symptoms. Nevertheless, if before the gland comes to analysis, the patient has been fed iodin in any form the quantity of this element within the gland may be greatly in excess of the normal.

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911. The article is here abbreviated because of its length, but it appears in full in the Transactions of the Section and in the author's reprints.

That which may be called the physiologic chemistry of the thyroid is extremely interesting and important: if a number of fresh and normal human thyroids are ground and suspended in salt solution, to which a little thymol is added to prevent putrefaction, and stored in a refrigerator for several days and the coarser material strained off through gauze or a filter, an opalescent or cloudy filtrate is obtained. By the addition to this of some dilute acetic acid at ice-box temperature, there results a small amount of precipitate, which is a nucleoproteid. After removal of this product and half saturation of the filtrate with ammonium sulphate there can be obtained a much more abundant precipitate, which is a globulin. In a similar treatment of the pathologic thyroid of Graves' disease, which is far richer in epithelium and poorer in colloid than the normal gland, the nucleoproteid element is obtained in much greater quantity and the globulin in much less or scarcely at all. The nucleoproteid product can therefore be supposed to represent the epithelial portion of the gland and the globulin, the colloid material. The cross-section of a thyroid taken from a subject of acute toxemic hyperthyroidism presents a solid yellowish surface very different from that of the normal gland with its sponge-like areas of small depressions filled with a mucoid substance. Histologically the vesicles of the diseased organ are more or less filled with epithelium, either fully formed or disintegrating, and with cellular detritus: but there is little or no colloid. Chemically, as remarked before, this gland contains an abundance of nucleoproteid while the globulin is scanty or absent.

Somewhat analogous chemical and microscopic differences exist between the normal thyroids of the pig and sheep. The latter animals have much more globulin or colloid than nucleoproteid, while the pig gland, which is very rich in epithelium, yields a large nucleoproteid precipitate and comparatively little globulin. As regards the iodin content of these two substances, the nucleoproteid seems to contain more than the globulin, but this element is present in both products. If, however, the dissolved and suspended thyroid proteids, instead of being treated at ice-box temperature, are first warmed to 40 C. and then treated with 0.5 per cent. acetic acid, a much larger precipitate results than in the cold process, and the filtrate yields little or nothing on the addition of ammonium sulphate. The laboratory workers therefore doubt that there can be any difference in the physiologic activity between the nucleoproteid and globulin constituents of the thyroid, as their chief chemical difference appears to lie in the temperature at which they are precipitated. Nevertheless, there seem to be very marked physiologic differences shown by these two substances. If 10 to 15 minims of a 1 to 1,000 solution of the human thyroid nucleoproteid is injected subcutaneously into a normal individual at intervals of a couple of hours it invariably and soon produces tachycardia, accelerated respiration, cutaneous flushing, slight elevation of temperature with a subjective feeling of heat, sweating, tremor, insomnia and a sensation of "nervousness." The amount required to excite these symptoms varies considerably in different persons, but by increasing the dosage the symptoms can always be obtained and gastro-intestinal disturbances with diarrhea may be added. The symptoms produced by the injection of the thyroid nucleoproteid therefore correspond very closely with those which accompany overactivity of the gland or Graves' disease.

It should be noted that the ammonium sulphate precipitate or the globulin cannot be obtained entirely free from some admixture with the nucleoproteid material. Now when thyroid globulin solution is injected subcutaneously into a normal individual in the same dosage as the nucleoproteid, there seems to be little or no effect except a feeling of well-being, and a very large amount has to be administered and for a much longer time, to obtain the characteristic signs of thyroidism. But in certain abnormal individuals whose condition can be traced directly or indirectly to some disorder of the thyroid, this (impure) thyroid globulin may act as a dissipator of melancholic depression, as a means of slowing the pulse and respiration, of improving the resistance to infection, of checking diarrhea, as a cholagogue, a diuretic, an emmenagogue, or a sexual excitant. In general, it will often increase the quantity of the hemoglobin and the red cells better and more rapidly than iron or arsenic; it seems to be a far better tonic than the "bitters" or their alkaloids; it is more specific in gout and rheumatism than colchicum or salicylic acid. In fact, the enthusiastic endorsements of thyroid feeding found in literature for every imaginable ailment would be far more abundant if this thyroid globulin were more generally known and obtainable. Its best results are shown in hypodermatic administration; but for this purpose it is necessary to employ the material made from the human gland, as that from an unrelated animal like the sheep, if continued for any length of time, excites in man the formation of antibody, which neutralizes the foreign proteid.

The college laboratory, under the direction of Dr. Beebe,[3] has made tablets chiefly from sheep and pig thyroids which contain the combined proteids precipitated by acetic acid at room temperature from one or the other gland and standardized according to their content of iodized protein. The dosage is from 1/100 to 1/10 of a grain frequently repeated. The sheep thyroid contains far more globulin or colloid than that of the pig and seems more generally useful. The combined thyroid proteids in the tablet made from the pig gland is often essential, however, in certain conditions which are accompanied by a blood-pressure above 130 or 140 mm. of Hg but is much more likely than the sheep thyroid tablet to excite the characteristic signs of thyroidism; and in addition there seems not infrequently to be produced a peculiar subjective feeling of melancholy.

In passing it should be noted that the usual commercial thyroid tablets are made from the desiccated sheep's gland. As the thyroid rapidly autolyzes and as the globulin or colloid suffers most in this process, it is probable that the useful and active ingredient or ingredients may be extremely variable in amount and contain mostly if not entirely only the nucleoproteid element. This thyroid nucleoproteid, which with more or less reason is assumed to be the chief active ingredient in the commercial thyroid tablet and in the laboratory tablet of the pig thyroid combined proteids (and can be prepared approximately pure) is extremely valuable in cases of thyroid disease presenting more of the symptoms of myxedema than of Graves' disease but with a blood-pressure above 140 mm. of Hg. In thyroid disease with high rather than normal or subnormal blood-pressure the thyroid globulin or the sheep thyroid combined proteids often aggravate some of the symptoms.

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[1] Schryver and personal communication from S. P. Beebe.

[2] Riggs: Jour. Am. Chem. Soc., May, 1910, xxxii, No. 5.

[3] The methods of fractional separation of the thyroid components are described fully in the Am. Jour. of Pharm., February, 1911, by S. P. Beebe.

To recapitulate briefly the physiology of what appear to be two dissimilar though closely related substances in the thyroid secretion, it seems that the nucleoproteid affects chiefly if not solely the sympathetic nervous system, while the globulin or colloid affects so many organs and tissues that for the purposes of the hypothesis it can be called universally activating. An analogy for this double or complex secretion can be found in that of the pancreas, and the comparison may lead to less distrust of the findings detailed above.

THE ANTITHYROID SERUM

Before proceeding further it is necessary to refer to the antithyroid serum which led to the development of the theory about to be offered for the physiology of the thyroid. It is made by injecting sheep or rabbits at intervals of a few days with the combined nucleoproteid and globulin obtained from the human thyroid gland. After about six weeks of this treatment the blood is drawn from the carotid, the serum separated and tested for "activity" and stored for use in sealed glass tubes in a dosage of about 1 c.c. Its specificity and the reasons for it have been given in previous communications[4] and need not be repeated here. This serum seems as specific and beneficial in its effects on the symptoms of acute toxemic thyroidism as is the antitoxin on those of diphtheria; but the convalescence is protracted, and after the subsidence of the acute symptoms the antithyroid serum must not be "pushed" unduly. In acute exacerbations of chronic thyroidism it must be used with caution and not beyond the period at which it seems beneficial. In the usual chronic case of exophthalmic goiter, except when the blood-pressure is high or above 150 mm. of Hg, it is slowly beneficial and often curative when administered at intervals of two or three days and continued for weeks or months. It cannot with safety be administered oftener than once in twenty-four hours, and if at any time at the end of two or three days it has intensified rather than alleviated symptoms it should be stopped.

THE RELATIONSHIP OF THE CHROMAFFIN SYSTEM TO OTHER ORGANS AND ITS CONNECTION WITH DISEASES OF THE THYROID

The chromaffin system is an extremely interesting organ or group of organs, apparently belonging to both the nervous and secretory systems in that it is composed of certain cells distinguished from others by a characteristic staining reaction with the salts of chromium. These cells originate from the same embryonic source as the sympathetic nerves, namely, the neural ectoderm, and are found in larger or smaller collections in juxtaposition with these nerves all the way from the base of the skull to the bottom of the pelvis. The largest individual groups of them exist in the medullary portion of the adrenal glands, from which their active ingredient or product, epinephrin, is derived. This seems limited in its effects to the terminal filaments of the sympathetic nerves. Although the aggregations of the chromaffin cells which produce the epinephrin do not correspond exactly to secreting glandular tissue, they must nevertheless be regarded as having a secretory function. Furthermore, some recent experiments by Cannon and others indicate quantitative variations in the blood from time to time of the adrenal or chromaffin system product and hence it is reasonable to infer the possibility of functional derangements of this system which correspond to what is known to exist in the case of the thyroid. The sympathetic nerves, it should be recalled, supply only unstriped muscular fibers and secretory epithelium, of which by far the greatest amount is concerned with digestive and nutritional processes. Epinephrin may thus activate or inhibit the purely nervous impulses which, in addition to the chemical stimuli conveyed through the circulation, regulate the interaction of the different organs and especially the gastro-intestinal tract, the pancreas and liver. The most abundant and easily demonstrated nerve-supply of the thyroid and pancreas is from the sympathetic.

The (pig) adrenal gland can be treated like the thyroid and the nucleoproteid material thus obtained differs from epinephrin in having no local vasoconstrictor effect, while it lowers blood-pressure instead of raising it in certain atypical conditions accompanied by thyroid disease. Those cases in which this product is extremely beneficial or essential have goiter and more of the signs of myxedema than of Graves' disease, although there may be a greater or less degree of tachycardia, a blood-pressure above 140 mm. of Hg, cutaneous pigmentation, and gastro-intestinal disturbance in the form of diarrhea or recurring attacks of nausea, vomiting and diarrhea. If there is in addition headache, a combination of adrenal nucleoproteid and thyroid nucleoproteid will generally prove most helpful.

THE SYMPTOMS REFERABLE TO THE CHROMAFFIN SYSTEM WHICH MAY INDICATE ITS PARTICIPATION AND FUNCTIONAL DISEASE IN DISORDERS OF THE THYROID

The secreting portion of this system, or the chromaffin cells, are generally believed to produce epinephin or some closely allied substance or substances which apparently vary in amount in the circulation according to the bodily needs. The secretory portion of this mechanism must be subject to the same general laws as other organs, and hence must suffer from functional and structural disorders. The general picture furnished by Addison's disease supplies a very indefinite and uncertain standard but is the only one clinically recognized. The quantitative test for epinephrin by the instillation of a drop of blood or serum into a freshly excised frog's eye and noting the consequent degree of contraction or dilatation of the pupil, does not seem satisfactory. The destruction of the medullary portion of the adrenals apparently leads to a peculiar bronzing or pigmentation of the skin and mucous membranes, most marked about the nipples and genitals and in the mouth and on the hands and face; the muscular weakness is marked; the blood-pressure is low and the pulse rapid. Anorexia, nausea, vomiting and diarrhea are common. The most constant result of electrical stimulation of the adrenals in dogs is a pronounced muscular tremor, extreme tachycardia, accelerated respiration and a rise of between 1 and 4 F.

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[4] Beebe, S. P.: Preparation of a Serum for the Treatment of Exophthalmic Goiter, The Journal A. M. A., Feb. 17, 1906, p. 487.

in temperature within half an hour, and a marked rise in blood-pressure which seems more pronounced than that due to fear or pain. In Graves' disease so many of the symptoms are traceable to stimulation of the sympathetic that it formerly was described as a neurosis of this system. The cutaneous flushing, the sweating, and the tachycardia are the most distinctive. In the absence of other known causes, an elevation or depression of the blood-pressure and cutaneous pigmentation and perhaps the converse, or extreme pallor, must also be traced to the sympathetic of chromaffin system. It was stated above that the thyroid nucleoproteid seemed limited in its effects to stimulation of this system and that the thyroid globulin in the same dosage showed none of this peculiar activation. Hence when there is a demonstrable excess of nucleoproteid in a given thyroid secretion it is reasonable to ascribe the origin of the symptoms referable to the sympathetic, ultimately to the thyroid, and in the absence of such an excess of thyroid nucleoproteid they should be traceable directly to a functional disorder of the chromaffin system.

The presence of a goiter will often supply the clue for unraveling many obscure conditions.

THE RELATIONS OF THE PANCREAS TO THE THYROID, LIVER AND CHROMAFFIN SYSTEM

The digestive action of the pancreas needs no review, and it remains only to recall that there is a reasonable certainty of the relationship existing between the hydrochloric acid of the stomach, the secretin or prosecretin of the duodenum, the pancreas, its trypsinogen and the enterokinase of the small intestine. From the results of the experiments outlined above[5] it seems probable that at least some of the intestinal secretion of the pancreas is absorbed into the portal system and being thus carried to the liver exerts an important direct effect on the chemical processes in this organ. It is also reasonably certain that the pancreas produces an internal secretion, probably from the islands of Langerhans, which has a close connection with the adrenals and sympathetic nervous system. This has been demonstrated with more or less certainty in the great number of experiments dealing with glycosuria, particularly those of Opie, who extirpated all but a small portion of the pancreas and found no glycosuria until this remnant was removed. The remnant contained only the islands of Langerhans.

The investigations on glycosuria have also shown that the thyroid is concerned in the process through some apparently inhibitive action of the pancreatic by the thyroid secretion. Furthermore, all the evidence at hand strongly suggests that the closely interdependent thyroid, pancreas and chromaffin systems consummate their relations in the liver. Hence it is extremely probable that disease cannot exist in any part of this group without affecting more than one of its components. These components may be and probably are connected with other organs similarly associated in function, and therefore, therapeutics directed at the thyroid alone may be even harmful if the thyroid is not the primary source of the difficulties. Apparently goiter or symptoms referable to the thyroid may occasionally be entirely secondary to other disturbances, and the superficial deformity seems often to be only a hypertrophy which is compensatory to a failure elsewhere. A pancreas nucleoproteid can be prepared from the ground-up gland suspended in salt solution like that from the thyroid and adrenals. Clinically, it is a valuable and sometimes an essential adjuvant in the treatment, particularly in some cases of myxedema which are accompanied by headache, insomnia, constipation and persistent asthenia with loss of flesh and strength. The dosage is from about ⅛ to 1 grain, frequently repeated and generally used with the combined proteids of the sheep thyroid.

In addition the commercial enzymes or extracts of the pancreas, especially trypsin, administered by rectum or by mouth, are often useful as sedatives in all stages of Graves' disease.

THE SYMPTOMS WHICH MAY INDICATE PARTICIPATION OF THE PANCREAS IN THYROID DISEASE

The symptoms referable to functional or structural disease of the pancreas are notoriously unreliable. Nevertheless, as extreme fatigue impairs the functional activity of all organs, it is fair, under these conditions, to infer a decrease in the pancreatic product. The insomnia and constipation which are so constant in incipient or early hyperthyroidism, can be regularly relieved by the administration, either by mouth or by rectum, of one or another preparation from the pancreas, and hence these vague signs may be those of pancreatic insufficiency. The Cammidge reaction and tests of the stools in my hands have proved negative in disorders of the thyroid in which the pancreas may be supposed to participate.

Without the coexistence of thyroid symptoms or a perceptible goiter it would be clinically impossible to recognize the cases in which pancreas feeding can give the greatest benefit.

THE COMPARISON OF SYMPTOMS IN DIFFERENT FORMS AND STAGES OF THYROID DISEASE TO SHOW THE VARIATIONS IN THEIR PROBABLE ORIGIN AND CONSEQUENTLY IN THE THERAPEUTICS REQUIRED

In the development of the hypothesis and for therapeutic purposes, it is necessary to contrast the symptoms of Graves' disease, or hyperthyroidism, and those of myxedema, or hypothyroidism. The indications of defective or deficient thyroid globulin can then be pointed out. An excess of nucleoproteid in the thyroid secretion seems always to be shown by stimulation of the sympathetic nervous system which is revealed chiefly by tachycardia and cutaneous vasomotor irritability.

SMYPTOMS[6]

Hyperthyroidism with excess of thyroid globulin:	*Hypothyroidism with defective or deficient thyroid globulin:*
1. History of fatigue and slow onset.	1. The same.
2. More common in adolescence than in middle life and in women.	2. More common during and after middle life and in women.
3. Cutaneous flushing; tachycardia; manifest overaction of heart; pulsation of cervical vessels; all increased by exertion; blood-pressure 120-130.	3. Flushed skin over malar prominences only, marked pallor elsewhere; slow pulse; blood-pressure usually below 120.
4. Mental instability and excitability rather than mental alertness; tremor; restlessness; quick, jerky movements of extremities; insomnia.	4. Mentality sluggish, rather than dull: headache; insomnia with changes to somnolence only in terminal stages; slow movements.
5. Muscular weakness and inability to withstand ordinary fatigue.	5. The same.
6. Exophthalmos generally present in some degree, and the more marked it is the worse is the prognosis. It is often absent in the early stages.	6. No exophthalmos except in those who have passed through a preceding Graves' disease. In place of it there is a characteristic puffiness and edema around the eyelids and in the supraclavicular regions and on the back of neck and below the knees.

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[5] Omitted for lack of space here.

[6] Beebe and Rogers: Arch. Int. Med., November, 1908.

SYMPTOMS—Continued

Hyperthyroidism with excess of thyroid globulin:	*Hypothyroidism with defective or deficient thyroid globulin:*
7. Goiter of variable size and consistency. Its vascularity and density give some indication of the relative importance of the thyroid in the general disturbance; goiter is often imperceptible in the early stages.	7. Goiter is common, but by its consistency and absence of vascularity suggests a functionless organ.
8. Appetite abnormally good and out of proportion to the evident poor nutrition, movements regular or diarrheic. Thirst constant.	8. Appetite poor; apparently good nutrition. Constipation. No thirst.
9. Skin moist with a subjective feeling of heat.	9. Skin dry and scaly: subjective feeling of cold.
10. Temperature 99 to 101.	10. Temperature subnormal.
11. Blood shows relative lymphocytosis, anemia slight or absent.	11. Negative, anemia regularly.
12. Menstruation irregular or absent.	12. Regular but scanty, occasionally excessive.
13. Urine in nitrogen partition shows excess of creatin and diminished creatinin.	13. Negative; albumin sometimes present.

As typical Graves' disease may terminate in a typical myxedema there are in the intermediate stages many examples of the coexistence of both of these conditions. Clinically these states are remediable, not by measures designed to suppress the thyroid, like the antithyroid serum and partial thyroidectomy, but by feeding with thyroid globulin or the combined sheep thyroid proteids, which contain an excess of this substance. The inference is plain, therefore, that there is a deficient or defective colloid. The chief symptoms which indicate the necessity are headache, especially in the morning, anorexia, constipation and a dry skin, especially over the elbows and knees, and edema about the ankles.

THE HYPOTHESIS

Normally the thyroid, through a small but important part of its secretion, is supposed to activate specifically the chromaffin or sympathetic nervous system, and through the larger portion of its product every other organ and tissue in the body. The word "activate" is used intentionally in a general sense to signify some constant unknown chemical reaction which is of importance to the functional activity of every part of the body, as it is difficult to conceive of a secretion having one effect on this organ and another on that. And the thyroid evidently is concerned in so many metabolic processes that its influence cannot be excluded from any. It follows, therefore, that conditions which call for great functional activity in any particular organ or group of organs must require some corresponding increase in the functional activity of the thyroid and often force it to undergo a compensatory hypertrophy. This may result more easily if the gland possesses some congenital or acquired defect which makes its output less efficacious than it should be. The goiters which occur in young girls at puberty or in women during pregnancy or at the menopause can thus be explained as hypertrophies of a possibly weak organ to compensate for an unusual demand on the thyroid secretion, while the so-called endemic goiter found in certain localities may be the expression of an attempt on the part of the thyroid to compensate for a defect in itself or elsewhere which is dependent on a starvation or superabundance in some element essential in the metabolism of one or more organs. This means that all goiters, except the true tumors of the thyroid, though they may originate in many different ways from defective metabolism in the thyroid itself or any other functionally associated organ, have essentially the same cause in an increase or attempted increase in thyroid function. The later degenerative changes which may supervene in the gland are side-issues, although they may be of great importance, in that these changes, by destruction of the portion of the gland still capable of normal function, may promote the enlargement and degeneration of this part, or by pressure on adjacent structures, chiefly the trachea, so interfere with general nutrition as to have the same effect as the primary fault.

The increase of function implies a consequent fatigue, the effects of which have been studied chiefly by electrical stimulation of the salivary glands. In these there is at first a greatly increased and approximately normal flow of secretion according to the nerve employed, but it soon becomes watery and of poor quality and finally ceases altogether and cannot be reexcited until a considerable period of rest has been allowed. All the clinical evidence strongly suggests fatigue in one form or another as the exciting cause of hyperthyroidism. The production of a normal secretion or colloid material, of course, depends on the vitality or biochemical capacity of the thyroid epithelium; and, as iodin is an essential ingredient of its product, the biochemical relationship of the epithelium with this element should suffer according to the degree of fatigue imposed on the gland. In the fractional separation of the thyroid proteids the pathologic gland of hyperthyroidism, as remarked before, yields a far more abundant acetic acid precipitate than the normal organ and much less of an ammonium sulphate precipitate. The quantities vary within certain limits, depending somewhat on the temperature and concentration of the solutions employed, but in general the quantity of the acetic acid precipitate is in direct proportion to the severity of the hyperthyroid symptoms, and the most prominent of these are traceable to the chromaffin or sympathetic nervous system. Qualitative variations in the product of the thyroid of Graves' disease, though probable from analogy and from the microchemical appearances of the gland, cannot be demonstrated as well as can these quantitative changes in its product. It is assumed, therefore, with more or less reason, that in Graves' disease fatigue damages the biochemical relationship of the epithelium with iodin and in an ineffective attempt to metabolize this element properly, the epithelium proliferates too rapidly and disintegrates, and, instead of a colloid containing the normal proportions of iodized proteids, there results one in which there is an excess of one or more elements and a deficiency of others. Specifically there seems to be an excess of one, designated here as a nucleoproteid, which is believed to activate only the chromaffin system, and in the most severe forms of the disease a deficiency of the globulin component of the secretion although in the milder forms of the disorder this also may be more or less abundant, but possibly of inferior quality. In consequence of this excess of nucleoproteid the whole sympathetic nervous system which supplies secreting, glandular epithelium is unduly stimulated and one or more vicious circles are immediately started, which perpetuate the process. Auto-activation of the thyroid through its sympathetic innervation is suggested by the injurious effects of (commercial) thyroid feeding in active hyperthyroidism, as well as by the benefits obtainable from surgical interference. At the same time the globulin portion of the secretion which is supposed to be universally activating may return in the circulation to its source, and, when superabundant, as in the milder forms of hyperthyroidism, may stimulate the epithelium to a pathologic extent. The similar activation of the sympathetic, by the thyroid nucleoproteid and probable fatigue which follows this stimulation of the important organs concerned in digestive processes, should impair the general nutrition and with it that of the thyroid, and thus add to its injury and abnormal activity. If the supposed compensatory hypertrophy and overactivity of the thyroid was started by a primary defect, for example, in the chromaffin system or the pancreas, as is conceivable and seems probable from clinical experiences with certain cases, attempts at relief of the thyroid fatigue and its consequent excessive stimulation of the sympathetic are always logical though seldom curative. Patients with glycosuria and comparatively mild signs of Graves' disease or with symptomatic Addison's disease and moderate thyroidism are suggested as belonging in this class. But feeding thyroid to a diabetic individual with the object of relieving the apparent strain on the thyroid is dangerous.

The existence of hyperthyroidism without any perceptible goiter seems to indicate that the gland is so defective or so fatigued as to be unable to hypertrophy, and in general, such cases will be found to have a worse prognosis than those in which a considerable enlargement has occurred before the constitutional manifestations appear, and when recovery from the thyroidism takes place, sooner or later signs of myxedema commonly follow.

In myxedema it is believed that a fatigue of the thyroid has been brought about in some one of the same several ways which are apparently the exciting cause of simple goiter and of hyperthyroidism. But the epithelium in its attempt to metabolize iodin, instead of multiplying, is unequal to any effort at compensation and atrophies. The not infrequent termination of simple hypertrophy of the thyroid and of Graves' disease in myxedema and the injurious effects of fatigue in general on the disorder, as well as the therapeutic experience of thyroid feeding, particularly with the active ingredients of the gland in their normal proportions, which may be supposed to relieve the strain on the organ, all unite to indicate a glandular fatigue as the cause of myxedema. When symptoms of Graves' disease and myxedema coexist, as often happens, it seems probable that certain portions of the thyroid are more injuriously affected by fatigue than others, and, while one area attempts to compensate for the excessive demands on the biochemical capacity of the epithelium by its proliferation, another is incapable of response and the epithelium atrophies. Or, inasmuch as the symptoms of Graves' disease more frequently precede those of myxedema, the latter is simply the expression of the terminal stages of the glandular fatigue and becomes manifest in the epithelium serially in the order of its individual vitality.

THERAPEUTICS

This hypothesis, based on fatigue of the whole organism, and especially on that of the components particularly concerned in general nutritional processes, and on the consequent variations in the quality and quantity of the products of these components, supplies a rational foundation on which to formulate measures designed either to check a pathologically overactive thyroid or to aid a defective one.

The primary requisite is rest for the gland, and that for sufficient time to allow its epithelium to regain its ability to metabolize iodin properly. To obtain this the superabundant thyroid nucleoproteid, and probably the thyroid globulin, must be cut down, not only to relieve the thyroid of the constant auto-activation, but to check the abnormal stimulation through the sympathetic of the thoracic and abdominal organs. While this is being accomplished, the presumable strain on the thyroid, whose secretion is supposed to be in constant and universal demand, must be relieved by feeding, preferably with the combined sheep thyroid proteids, which contains a preponderance of globulin, in a dosage of approximately from 1/100 to 1/10 grain frequently repeated. The probability of auto-activation of the gland must be borne in mind and the thyroid feeding kept constantly just below the point at which it intensifies the symptoms.

In addition attention should be given to all associated errors, especially in the gastro-intestinal tract, in order that the nutrition, irrespective of the hypothetical functional disorders of the pancreas and adrenals, may be improved, and thus by improving the general nutrition improve the nutrition and the functional capacity of the thyroid. Appropriate "organ therapy" ineffective as it often must be from our ignorance of its mechanism, seems theoretically best.

Patients with thyroidism who show a blood-pressure above 140 mm. of Hg and some signs of myxedema, especially headache, insomnia, constipation, a dry skin and asthenia, generally are more benefited by feeding with the combined pig thyroid proteids or the commercial tablets made from the desiccated gland, both of which contain a preponderance of the nucleoproteid element, than by the administration of thyroid globulin or the combined sheep thyroid proteids. Or the adrenal nucleoproteid, alone or combined with the thyroid nucleoproteid, may prove most satisfactory, especially if there is diarrhea and much cutaneous pigmentation and the symptoms directly referable to thyroid activity are not marked.

One or another form of pancreas feeding seems usually a necessity in myxedema and is generally beneficial in thyroidism although occasional instances of intensification of symptoms may occur in typical Graves' disease.

As remarked before, the antithyroid serum is almost as specific in cases of acute toxemic thyroidism as is the antitoxin for diphtheria. Theoretically at least, by its cytotoxic element it checks or inhibits the abnormal proliferation of the epithelium and by its antiglobulin neutralizes the colloid. But after the subsidence of the acute symptoms it should not be pushed, as it may damage the already weakened gland. Rest and supporting therapy are more often indicated.

The serum should be used with more caution in the frequent acute exacerbations of a chronic thyroidism. It is exceedingly valuable in a crisis, but a gland which may be supposed to be almost devitalized although dangerously overactive, can withstand but little interference.

The operation of ligation and division of the blood-vessels and nerves of the thyroid at favorable opportunities is both theoretically and practically indicated, as it insures rest for the gland by cutting off not only auto-activation, but all stimuli. The operation has not received as much attention as it should because the two inferior thyroid arteries are usually not disturbed and are often larger and so more important than the superior. All four vessels with their accompanying nerves and the superior thyroid veins (there are no veins accompanying the inferior arteries) can be cut under local anesthesia and without appreciable risk, provided not more than two are cut at one sitting.

Partial thyroidectomy in exophthalmic goiter apparently cures by removing at once the excess of abnormal secretion and so allowing the remaining portion of the gland to rest and regain its ability to metabolize iodin. But it will invariably fail to cure when undertaken in a symmetrically diseased gland and unless the convalescence is most carefully guarded. To be successful the portion of the gland which is allowed to remain must possess excellent vitality and show some approach to normal structure; otherwise the patient is left with only half a gland which is even less able to withstand fatigue than the whole organ was originally.

Thyroidectomy is essential, however, in cases of localized or partial thyroid disease in which the diseased tissue, not only by constant auto-activation of the whole gland by the secretion from its abnormal portion, but by pressure on the approximately normal portion of the gland by the diseased part so damages it that complete degeneration may follow. Furthermore, pressure on surrounding structures, especially the trachea, may so interfere with general vitality that this alone renders operation imperative. At the same time in the presence of dyspnea from goiter, operation will benefit or cure any co-existing thyroidism through improvement in the general, constitutional nutrition, which in turn benefits the thyroid and enables it to regain its ability to metabolize iodin properly.

But radical operation should be undertaken with far more caution than is usually the case and should be followed for a long time by thyroid feeding, preferably with the combined sheep thyroid proteids, to relieve the strain on the remaining portion of the thyroid and enable it to undergo the necessary compensatory hypertrophy.

Rest is as essential in the successful management of hypothyroidism as it is in hyperthyroidism. But the treatment of myxedema, especially in some of its atypical aspects, is far from being as simple a matter as seems usually believed. The ordinary commercial thyroid tablets, when given in sufficient amount to relieve some of the symptoms, will often excite the characteristic signs of thyroidism apparently by auto-activation of the gland through its sympathetic nerve-supply. This results in an exaggeration of the fatigue and in a worse condition than the myxedema. The combined thyroid proteids of the sheep gland, with their abundance of the globulin element, are to a large extent free from this disadvantage, but even these may fail to prove satisfactory. If there are indications of probable pancreatic deficiency in persistent headache, insomnia and constipation, it will generally be found that the addition of one or another pancreatic preparation will be successful. Or if there is a high blood-pressure with headache and occasional or constant diarrhea and cutaneous pigmentation or extreme pallor without noticeable anemia, the adrenal nucleoproteid, alone or in combination with the thyroid nucleoproteid, is often most beneficial. There are some cases, however, in which nothing seems capable of affording benefit except a solution given hypodermatically of the thyroid proteids obtained from the human gland.

The simple hypertrophies of the thyroid which are most common in young people, especially girls, are, of course, to be regarded as a protective rather than a pathologic phenomenon, except that the hypertrophy is compensatory to some deficiency in the thyroid itself or the organs associated with it, and as fatigue is a part of the process, rest is essential in the treatment. In addition, every care must be expended to recognize and remedy all nutritional errors. But these hypertrophies carry with them the ever-existing dangers of thyroidism, and should, therefore, be regarded with concern and seldom or never dismissed as of trifling importance. Nor, on the other hand, should they be subjected to radical thyroidectomy, which ruthlessly destroys the attempted compensation and often does irreparable damage.

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FACTORS INFLUENCING THE SAFETY OF OPERATION FOR GOITER *

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No form of treatment for goiter has stood the test of years as has surgery since 1885, when Kocher reported the first considerable number of operations. Numerous patients treated for years by drugs, serums and other measures have later sought relief in surgery, and the number of enlightened internists who, like Osler, refer their patients for operation after three months' unavailing medical treatment is rapidly increasing. A further increase in the amount of goiter surgery will depend on our success in convincing the general practitioner and the patient of the safety of operation. A study of my recent methods with no mortality in 167 consecutive cases in comparison with earlier work, which was much less successful, may offer some suggestions to those interested in this subject.

EARLY OPERATION FOR SAFETY

As in many pathologic conditions, the safety of the patient may depend in large part on the early recognition and appropriate treatment of the disease by the general practitioner, and if this is unsuccessful, refering patients early for operation. If the physical condition is fairly good, the risk of surgery is slight. On the other hand, with delay there is danger of development of hyperthyroidism; of a dilated heart with irregular and intermittent pulse; a wrecked nervous system; eyes permanently bulged; growth of an intrathoracic goiter until emphysema has developed. No surgeon can operate with entire safety in such cases. The safety of the patient is in the hands of the internist who first sees and advises him.

PRELIMINARY STUDY OF DOUBTFUL CASES

The general physical examination is of greater importance than in most borderline conditions, and for the safety of the patient, it should be thorough and comprehensive. In our preliminary investigation, we have not merely the question of diagnosis of the disease with definite certainty that operation is indicated as soon as the diagnosis is established. A number of doubtful cases are entitled to further trial of medical treatment. With another group, the safety of our patient depends on deferring surgical treatment: a patient who may be greatly benefited by a suitable operation after a week or a month's proper preparatory treatment, might very readily succumb to an immediate radical operation. A third group of patients are best suited for the many-stage operation. In a fourth group of cases, immediate partial thyroidectomy may be advised with entire safety.

A decision as to what can be done with greatest safety should not be based on any single factor, for example, a study of the blood, but on the entire clinical

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

picture. Wilson and several other recent observers have questioned the value of blood-findings in goiter. The blood has been examined in the majority of my own cases by competent laboratory men, a considerable number of them from the laboratory of Dr. S. H. Burnett of Cornell University, whose book on the blood will be familiar to most workers in this line. The results have been entirely confirmatory of Kocher's statements, and my experience leads me to consider the preliminary blood examination of great value in determining what our course should be in the advanced exophthalmic cases. In nearly moribund cases, lymphocytosis may well be absent because the patient's power of reaction is destroyed. After operation, I have found in a number of examinations that the blood-picture again becomes normal.

The use of the *x*-ray as a curative measure has gained relatively few adherents and as a preliminary treatment is no longer advocated. In diagnosis it may prove an important aid, however. There can be no question about the possibility of outlining the position of many intrathoracic goiters by the *x*-ray. It may readily add greatly to the safety of operation to know exactly the location of some of the difficult growths. In connection with the *x*-ray diagnosis it is interesting to note that Garre of Bonn and other German workers believe that enlargement of the thymus has an important influence in the development of exophthalmic goiter, and Schultze has been able to outline the thymus in eighteen out of twenty cases with the fluoroscope.

The preliminary study is much more valuable when several workers, experienced from observation of a large series of cases, compare their findings. The internist who has examined a considerable number of cases preliminary to operation and who has kept himself informed as to the outcome in these cases; the laboratory man who makes the blood examination, which should include differential count and coagulation time as well; also examination of the urine; and the surgeon who sees most of the actual conditions inside the neck, should, for the safety of the patient, compare their findings. A single general physical examination is not always adequate to give an idea as to the safety of operation.

THE FATIGUE TEST

The character of the pulse, blood-pressure, heart's action, even the differential blood-findings and conditions of the urine may vary greatly at different times and under different conditions. Examination of a patient who has been kept at perfect rest for days or weeks and whose heart's action is relatively quiet and regular, may give an erroneous impression as to the safety of operation. On the other hand, a patient coming from a distance, fatigued and nervously distressed by a long journey, strange surroundings and what is regarded as an important consultation, may easily give the impression of a far worse operative risk than is actually the case. The exertion of going up stairs somewhat rapidly will give a better idea as to how the circulation will behave on the operating table in some cases. In other cases the exercise should be far less active; and in some it is evident that no extra exertion would be safe. After taking a somewhat long and careful history or after exciting conversation an idea may be gained of nervous and mental condition. Those not equal to an extra fatigue are obviously unfitted for radical, if for any, surgery; those reactng poorly are equal only to slight operations. Such tests of the effects of slight fatigue will often show that the patient is less fit for operation than at first appears.

The safety of operation, if after careful preliminary study immediate operation is decided on, is influenced by many of the factors under consideration before any surgical operation: the skill and experience of the surgeon, the care as to aseptic and antiseptic preparation; the choice of anesthesia to be used, etc.

ANESTHESIA

Probably a large proportion of the patients could be safely operated on by an experienced surgeon under almost any form of anesthesia, but to save the patients whose cases are critical some discrimination is necessary. Kocher for many years has used local anesthesia as a routine method with general ether anesthesia in a few selected cases. Mayo uses local anesthesia for some excisions, for ligations in toxic cases, and ether by the drop method as a routine, but so light an anesthesia that the patient frequently struggles and sometimes protests. Crile uses local anesthesia in combination with scopolamin and morphin hypodermically and nitrous oxid inhalation. Ochsner prefers to put the patient well under ether before beginning the skin incision and then completes the operation without further anesthesia. An increasing number use local anesthesia in selected cases. Practically all experienced men who use general anesthesia really only partially anesthetize their patients. The majority of operators still have a favorite general anesthesia which they employ in a favorite way (which varies anywhere from the open-drop method to breathing in and out of a closed bag), and this anesthesia and method they use in every case.

That such undiscriminating use of general anesthesia in goiter has resulted in many needless deaths, can scarcely be questioned. The angulation and compression of the trachea which is unavoidable with many growths, the rise in blood-pressure greatly increasing hemorrhage, the not infrequent degeneration of parenchymatous organs, the profound toxemia in the advanced exophthalmic cases—all of these factors certainly contra-indicate general anesthesia in many cases. The fact that the experienced men mentioned use such very light anesthesia or partial anesthesia really concedes the risk of general anesthesia. The fact that at least one-third of the goiter operations can be performed without any serious discomfort under proper methods of local anesthesia, and the number of obvious advantages in this mode of procedure, lead me to prefer it as a routine. Not only is there no interference with respiration in deeply located growths and less danger in toxic cases, but in all cases the hemorrhage is greatly reduced and the danger of injuring the recurrent laryngeal nerve is almost entirely obviated. I have not found it necessary to tie or strap my patients to the operating table as some do who prefer partial anesthesia. Many patients, even those who make considerable complaint, are really deeply in scopolamin-morphin sleep and do not later remember anything of the operation. It is frequently necessary to shout loudly to them to get a reply when working near the recurrent laryngeal nerve. Kocher has operated on over 600 consecutive simple goiters under local anesthesia without loss of life. I am not aware that so large a number of operations has ever been performed under general anesthesia without loss of life.

Crile's work seems to show that nitrous oxid-oxygen is the safest of the general anesthesia methods. In perfectly simple cases in which it is evident that general anesthesia would be relatively free from risk, I now give my patients the choice of nitrous oxid by the Gatch method or local anesthesia, though always expressing my preference for the local method. In very young or nervous patients, I also frequently use nitrous oxid. In quite a number of cases, it is of advantage to use local anesthesia for the major part of the operation, giving nitrous oxid gas at those stages in which there is discomfort from digging out very deeply located or adherent growths. If any general anesthesia is to be used, the necessity for care and experience is evident. With the local and gas anesthesia, so little gas is given, and over so short a time in most cases, that it adds slightly if any to the risk.

Control of hemorrhage was one of the bugbears of thyroid surgery in earlier days. While this is well managed in our best clinics, the essentials deserve mention, for nothing is more important to safe thyroid surgery. Picking up all bleeding points, as is necessary for accurate anatomical dissection, so that the field may not be obscured by smearing with blood, reduces hemorrhage to a minimum. In case of important bleeding, packing with gauze while the surgeon goes to another part of the field temporarily, usually makes it easy to secure small vessels later. The half-sitting posture at present used by practically all who are doing any considerable number of goiter operations greatly reduces bleeding, specially venous hemorrhage. Dislocating the gland from its bed, thus giving ready access to the deeper blood-supply early in the operation, is a great advantage in most cases. The rise in blood-pressure incident to the use of ether or nitrous oxid greatly increases hemorrhage, while the dryer and cleaner field under local anesthesia makes it easier to immediately secure the main arterial and venous trunks. This greatly increased ease in the control of hemorrhage is one of the greatest advantages of the use of local anesthesia.

ASEPTIC AND ANTISEPTIC METHODS

Perfect wound healing, desirable in all surgery, is specially important for the safety of goiter surgery, for these toxic hyperthyroid patients show very little resistance to infection. Iodin being readily absorbed by the skin (aside from its relative inertness as an antiseptic) is contraindicated in skin disinfection for the reason that there is already too much thyreoiodin in the circulation. The development of exophthalmic symptoms from local use of iodin painted on the skin or applied as an ointment has recently been mentioned.[1] For the same reasons iodin catgut should be used sparingly in toxic cases. When gauze is used in packing the wound in the stage operation, plain gauze has proved entirely satisfactory. Iodoform gauze would certainly seem contra-indicated because of the iodin often set free from it. The use of Harrington's solution or other strong antiseptics to swab out the wound, with the idea that absorption of thyroid secretion is thereby lessened, has now been discarded by its originator.

ANATOMY

Familiarity not only with the normal but with at least the most common anomalies is highly important for safeguarding important function as well as life. Anatomic structures entering into every goiter operation, familiar to all workers in this field, but seldom requiring consideration in other operations of general surgery, are the platysma muscle with its influence in producing an invisible, or if neglected, an ugly scar; the superior cervical nerves, which if thoroughly infiltrated with anesthetic solution give freedom from pain in the entire superficial dissection of the neck; the descendens hypoglossi nerve (formerly descendens noni), the motor nerve-supply of the sterno- and omohyoid muscles and the thyrohyoid muscles. The relations of the very common intrathoracic goiters to the pleura and the innominate and subclavian vessels and to the deep sympathetic, vagus and phrenic nerves may be of vital importance to the safety of our patient. Probably every experienced worker in this field has met troublesome hemorrhage from tearing off branches of these deep vessel trunks and disturbances of breathing from tugging on the respiratory nerves. Upward prolongations and deposits of masses of thyroid tissue in the region of the base of the tongue, the territory of the thyroglossal duct in the embryo, while not as common as intrathoracic goiter, is not infrequently met in my experience (5 per cent. of my first series of 100 and 2 per cent. of later series). The importance of the relations of the recurrent laryngeal nerve and the parathyroids has called forth a number of interesting papers. Probably the importance of injuring the parathyroids has been somewhat exaggerated, but if the thyroid is stripped from its capsule along the inner and posterior surface, the danger of injury must be slight. Saving the posterior capsule also safeguards the recurrent laryngeal nerve.

TEAM WORK

Team-work is as important for surgery as for any college crew or football team. No surgeon, however skilful, can do certain difficult operations to advantage without skilled assistance. Good team-work may easily make the difference between death or recovery in operations for desperate goiter. The essential members of the team, starting from the surgeon, are the assistant, operating-room nurse and the anesthetist, if general anesthesia is given. The surgeon who operates with an assistant, nurse and anesthetist of his own choosing, selected not on the basis of competitive examination but on tried fitness, has the decided advantage over the surgeon working with a team constantly changing personnel or with no team at all.

Great things could undoubtedly be accomplished for the progress of surgery in this country by the establishment of long-term surgical and medical resident services and more or less permanent assistantships in more of our leading hospitals, instead of the present system of short-term internships with the resulting horde of half-trained and ambitious men who come out to get their surgical experience at the expense of their patients. The long-term resident plan in Europe has been at the foundation of much progressive and efficient clinical work; it gives the trained team-work necessary to the highest success in much besides goiter surgery.

THE MANY-STAGE OPERATION

The situation in goiter surgery is quite different from that in surgery in many parts of the body. In the treatment of cancer of the stomach, it would be impossible to divide our operation into stages, opening the abdomen at one time, ligating a few important vessels at another and completing the operation at a third stage. Fortunately for our success, this is readily possible in the surgical treatment of goiter. What I have on several occasions termed the many-stage operation, seems to me a most important factor of safety in the surgical treatment of exophthalmic goiter. Many years ago, Kocher advised preliminary ligation and others have followed his example. I was not aware that the surgical treatment of goiter had been divided into several minor stages at different times, varying from a few days to several weeks until I used this method, over three and a half years ago. During the past three years, I have operated in many desperate cases with ultimate satisfactory recovery. Many had hearts dilated to the axilla; at the beginning many were extremely anemic; nearly all of these had abumin and casts in the urine; persistent cough and diarrhea were present with a few; in several the heart's action was irregular, intermittent and feeble. All of these patients were treated by preliminary rest, tonic and hygienic measures. The operation itself was divided into many stages; in some, first, ligation of the superior thyroid on the least affected side; second, ligation of the artery on the side of greatest enlargement. Further treatment depends on the improvement after preliminary rest and ligation. In some the gland can be removed at once. In others the gland is simply exposed and the wound packed with sterile gauze. In these cases of worst risk, the fourth stage consists in removing the gland and again packing with gauze, and closing the wound at a fifth stage. The number of stages should be made as few as possible, but it is always better to keep within the limits of safety than to do too much. How far it is safe to go can be determined only by careful preliminary study of the case and a good deal of experience. It is certain that only a few patients in the most desperate condition are so ill that they cannot safely undergo a short skin incision and ligation of a superior thyroid vessel. This accomplished, the skin flap can be reflected in a few minutes, exposing the gland. If the sternohyoid and thyroid muscles are left undivided, no very troublesome adhesions are formed, after preliminary ligation. This is an improvement over my technic as reported a year ago when I was accustomed to divide the muscles and expose the gland. Sometimes after such division of the muscles when the patient's condition seemed to indicate considerable delay before completing the operation, adhesions became dense and troublesome. In several cases, I have left the gauze packed in place for a week or more before attempting closure as a fifth stage. In all cases the importance of a prolonged rest-cure is urged on the patients. They are given to understand that this is just as much a part of the treatment as the operation itself and unless they are willing to follow advice until a cure is obtained, operation has been refused. That many patients otherwise doomed to certain death can be rescued by the stage operation, I am thoroughly convinced. In my opinion, the two most important factors concerning the safety of the operation itself are the use of local anesthesia in the desperate cases and the many-stage operation; doing a little and getting out; carefully estimating what the patient is able to stand.

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[1] Kocher: Brit. Med. Jour., 1910, ii, 931.

AUTHOR'S RESULTS

During the past eighteen months of my work at Ithaca and at Clifton Springs, Dr. Howard L. Prince, my associate, and I have performed 167 consecutive operations for exophthalmic goiter without loss of life (105 excisions and 62 ligations and partial operations). These were cases with unmistakable symptoms and it is, I believe, the largest number of operations for exophthalmic goiter yet reported without fatality. The cases have not been selected, the only patients refused operation being those in a desperate state who died medical deaths without surgical interference, in from twelve hours to three weeks from the time when they were seen and advised not to undergo operation. The results have come, I believe, more from the methods adopted, cooperative study of the probable resistance of each patient, and attention to many details, than from any special operative skill. That a later equal number of operations, including as many desperate cases, would result as fortunately is doubtful, but I believe the risks from operation itself are slight and mostly accidental. Kocher has shown from experience in about 5,000 operations, and several of his followers in series of several hundred cases, that the mortality rate need not exceed a small fraction of 1 per cent. in simple goiter. Personal experience convinces me that with attention to the details mentioned a 1 per cent. mortality (far less than for medical treatment in similar cases) is well within the range of possibility in exophthalmic goiter. This degree of safety is equaled in few other conditions of equal gravity.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. ROGERS AND TINKER

Dr. A. J. Ochsner, Chicago: Until recently our views regarding exophthalmic goiter have been based on a rather crude conception of hyperthyroidism, which we have received from Moebius. What this hyperthyroidism in itself represents we do not know, although the work that Dr. Rogers is doing will undoubtedly explain the elements of this condition. After we have Dr. Roger's analysis and that of many others who are working in this direction, our conception will undoubtedly be clear. Whether this can happen in the immediate future remains to be seen. There are many most acute, active and industrious observers who are working in this field.

Up to the present time we find all of the tissues of the body burdened with this hyperthyroid poison. It is a condition very much like poisoning with venom, which you can see pass over the patient. Occasionally a patient shows definite periods of poisoning. A period of excitement will be followed by an increase in the thyroid circulation, and within a few hours this patient will be almost overcome by the presence in his circulation of this substance which Dr. Rogers has partly analyzed, and which he will undoubtedly analyze completely.

So far as we were concerned up to the present time it was possible in some instances to reduce this hyperthyroidism by supplying the most favorable possible conditions of hygiene, rest and absence of excitement, and especial forms of nourishment. In other cases it was possible to prevent the formation of this substance by mechanically obstructing the blood-supply. In severe cases this was the first thing to do, to reduce as much as possible the blood-supply by ligating one or two or even three of the superior and inferior thyroid arteries and veins, so that the gland would have less material out of which to produce this poisonous substance. The next step was to remove a portion of the secreting glands, if we could determine what portion caused this hypersecretion, and if it seemed from the general condition of the patient that this could be done with safety. When we know more about the character of this secretion then we may be able to approach it from an entirely different side.

As regards the subject considered by Dr. Tinker, I would say that almost all of us who have operated in a large number of these cases considered our success to be due to this, that or the other feature, and after a while we dropped each of these features and our patients recovered precisely as rapidly and with precisely the same lack of danger as they did when we considered those the important elements in our success. There was a time when, following Kocher's method, almost everyone considered local anesthesia as the only safe means of performing this operation. There are several elements in the use of local anesthesia which are exceedingly valuable, namely, in the first place, you are compelled to pay closer attention to your operation when the patient is awake than when he is asleep. It is not possible to sit and think while you are trying to make out what to do. Again you must do the operation, if it is performed under local anesthesia, with the least possible amount of traumatism. I believe that any surgeon who tends to be violent in his operative procedures should operate under local anesthesia, because the patient will not submit to a violent operation, and the surgeon will thus be prevented from doing harm. In my own clinic I have repeatedly operated under local anesthesia, but only rarely during the past four or five years, because experience has shown that this does not increase the safety. The method that I have found safe and satisfactory consists in giving the patient ¼ gr. morphin hypodermically, and 1/100 gr. atropin one-half hour before the anesthesia is given. The patient is then thoroughly anesthetized with ether by the drop method, placing the patient in a horizontal position until fully anesthetized and then elevating the head by placing the patient in the inverted Trendelenburg position at an angle of 45 degrees, causing an anemia of the brain, which lasts throughout the operation. The atropin prevents the accumulation of mucus in the larynx and that does away, virtually, with any possibility of pneumonia. So that these patients do not have pneumonia after the use of the anesthetic. The morphin prevents the sensitiveness and reduces the amount of anesthetic required.

The heart is improved by the use of ether. I have never yet seen a case in which the heart was not better after the anesthetic than before; and being under the influence of this morphin for half an hour before the anesthetic is begun, the patient goes under the anesthetic without the slightest excitement. Thus we make use of the principle which our distinguished President brought out some years ago.

Dr. John Rogers, New York: I wish to call attention to the comparative simplicity of these phenomena. They may all be referred to the thyroid alone or to the thyroid in connection with the associated glands. I must warn against operating on patients indiscriminately. Thyroidism can often be relieved by feeding substances not found in the thyroid. These preparations to which I have referred, which cannot be obtained commercially now, the Cornell Medical College will supply to you on request. There are many times when the use of the commercial thyroid is injurious; in fact, in the majority of cases it is injurious, on account of the chemical composition of the substance, as it does not contain all the normal ingredients of the gland.

In spite of what Dr. Ochsner has said, I must strongly advise against the use of ether. It is very easy under local anesthesia to make whatever division of vessels is necessary, or under nitrous oxid to remove whatever part of the thyroid you desire.

Dr. Martin B. Tinker, Ithaca, N. Y.: I have for many years championed the use of local anesthesia for this work and for much other surgery. A final decision as to its value may safely be left to those men who have had surgical experience, and who will take the trouble to see the work done properly under local anesthesia and compare it with the work done under general anesthesia. Not one, but many men have been converted to the use of local anesthesia in these cases after seeing it properly employed.

I have had experience in doing the work and seeing it done under both methods; not that I have had a great deal of personal experience with ether, but I had to give it in my early experience for others. If any of you see the relative simplicity of the local anesthesia method, the comfort and the safety of your patients, many of them desperate cases, and are not convinced, then I have nothing further to say.

Protozoa.—Verworn in 1888 made the statement that protozoa seem to have been especially adapted by nature for the purposes of the physiologist, for here, in the single cell, are performed all of the functions which higher animals perform. —Calkins in *Science.*

THE PHENOLSULPHONEPHTHALEIN TEST FOR ESTIMATING RENAL FUNCTION *

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INTRODUCTION

In July, 1910,[1] we presented our original communication on the results obtained on our experimental and clinical studies of the functional activity of the kidneys by means of phenolsulphonephthalein. Some additional data were presented in subsequent papers.[2] The present communication is a summary of our experience with the test during the past two years,[3] and deals particularly with its value in relation to nephritis.

Phenolsulphonephthalein,[4] which was first prepared by Remsen, is a bright red crystalline powder somewhat soluble in water and alcohol, but readily soluble in the presence of alkalies. The drug, as determined by Abel and Rowntree, is non-toxic, excreted with extraordinary rapidity, and appearing in the urine normally within a few minutes of injection. In alkaline solution a brilliant red color is produced, which is ideally adapted for quantitative colorimetric estimations.

TECHNIC

Twenty minutes to half an hour before administering the test, the patient is given 300 to 400 c.c. of water in order to insure free urinary secretion, otherwise delayed time of appearance may be due to lack of secretion.

Under aseptic precautions a catheter is introduced into the bladder, and the bladder completely emptied. Noting the time, 1 c.c. of a carefully prepared solution of the phenolsulphonephthalein containing 6 mg. to the cubic centimeter is accurately administered subcutaneously, intramuscularly or intravenously by means of an accurately graduated syringe. (We have used the Record 2 c.c. syringe, which is graduated in fifths of a cubic centimeter.)

The urine is allowed to drain into a test-tube in which has been placed a drop of 25 per cent. sodium hydroxid solution, and the time of the appearance of the first faint pinkish tinge is noted.

In patients without urinary obstruction, the catheter is withdrawn at the time of the appearance of the drug in the urine, and the patient is instructed to void into a receptacle at the end of one hour, and into a second receptacle at the end of the second hour.

A rough estimate of the time of appearance can be made by having the patient void urine at frequent intervals, without the use of the catheter. In prostate cases it is wise to have the catheter in place until the end of the observation.

When a catheter is to be employed, it is well to previously have the patient under the influence of hexamethylenamin.

Sufficient sodium hydroxid (25 per cent.) is added to make the urine decidedly alkaline in order to elicit the maximum color. The color displayed in the acid urine is yellow or orange, and this immediately gives place to a brilliant purple-red color when the solution becomes alkaline. This solution is now placed in a liter measuring-flask and distilled water added to make accurately 1 liter. The solution is then thoroughly mixed, and a small filtered portion taken to compare with the standard which is used for all of these estimations.

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* From the Genito-Urinary and Medical Clinics of the Johns Hopkins Hospital and the Pharmacological Laboratory of the Johns Hopkins University. Read before the New York Academy of Medicine, May 4, 1911.

[1] Rowntree and Geraghty: Jour. Pharm. and Exper. Therap., July, 1910, i, 579.

[2] Rowntree and Geraghty: Ann d. mal. d. Org. genito-urin., 1911, i, Nos. 4 and 5; Geraghty and Rowntree: Tr. Assn. Am Gen.-Urin. Surg., 1910, p. 59.

[3] Detailed reports of our later studies will shortly appear.

[4] Am. Chem. Jour., vi, 280.

Recently the Hellige hemoglobinometer, especially modified for use in connection with phthalein work, has been utilized. A standard alkaline solution, 6 gm. to a liter, is placed in the wedge-shaped cup. The urine collected is diluted to a liter and a small filtered portion poured into the rectangular cup. The wedge-shaped cup is now manipulated by means of the screw until the two sides of the color field are identical. The percentage on the scale is now noted. This instrument is much cheaper than the Duboscq and approximately accurate. Fairly accurate estimations, however, can be obtained by means of graduated cylinders—equal quantities of the standard solution and the diluted urine being used in separate cylinders, and the denser solution being diluted until the colors become identical. The amount of drug in the solution being known, the amount in the urine can be readily calculated.

When the collected urine has been made strongly alkaline, it is necessary to estimate the phthalein within a few hours, as the red color fades gradually under these conditions. When it is desirable or necessary to defer the estimation for some hours or days, it is better to make the urine distinctly acid, under which condition the phthalein remains unchanged. It should, of course, be made alkaline again when the estimation is made.

EXCRETION IN NORMAL INDIVIDUALS

The excretion has been studied in several hundred normal individuals. In our earlier work subcutaneous administration was used exclusively, the drug appearing in the urine in from five to eleven minutes, 38 to 60 per cent. (average 50 per cent.) being excreted in the first hour after its appearance in the urine, and 60 to 85 per cent. for two hours. In health the elimination is practically complete in two hours, only a trace being present during the third and fourth hours.

Recently intramuscular and intravenous injections have been employed. The time of appearance following the intramuscular administration is practically the same as that after the subcutaneous, but the output averages 5 to 10 per cent. more for the first hour. Following the intravenous injection, the drug normally appears in from three to five minutes, and from 35 to 45 per cent. of the drug is eliminated in the first fifteen minutes, 50 to 65 per cent. in the first half hour, and 63 to 80 per cent. during the first hour. This rapidity of the excretion, following intravenous administration, is exceedingly striking, and when this method is employed, observations for a quarter-hour or half-hour period only should be employed. For general use, however, we advocate the lumbar intramuscular method (the latter particularly when edema is present), as the technic involved is much simpler and the results obtained are reliable. The technic of the test is exceedingly simple. The injection is given, time of appearance noted, and collection of urine made for one or two hours. To each sample sufficient sodium hydrate is added to insure alkalinity and maximum intensity of color; then the urine is diluted to 1 liter, a small amount is filtered, the reading made, and the percentage of drug excreted is calculated.

INFLUENCE OF AMOUNT OF URINARY SECRETION

The excretion of the drug does not run parallel to the excretion of urine. It is immaterial as far as the excretion of the drug is concerned whether the urinary output is 50, 200, 400 or 500 c.c. Similarly, the output does not seem to be much influenced by the previous administration of the different diuretics. Experimentally, on animals it was found that those diuretics (caffein, urea, dextrose, phloridzin, calomel) which are thought to exert a stimulating influence on the cells of the renal tubules, slightly increase the phthalein output, whereas those diuretics (hypertonic sodium chlorid, potassium nitrate and digitalis) which act entirely by mechanical factors as by changes in osmotic tension, or changes in blood-pressure, slightly decrease or cause no change in the excretion of phthalein. No definite influence was noted in man, following the dosage usually employed for diuresis, one-hour estimations being made.

THE STUDY OF NEPHRITIS

Heretofore, functional tests have not been considered of any great value to the clinician in relation to nephritis. In fact, hyperpermeability to methylene blue, indigo-carmin and rosanilin has been shown to exist in acute and in chronic parenchymatous nephritis, while, on the other hand, decreased permeability with slow appearance and prolonged excretion has been demonstrated in the chronic interstitial variety.

ACUTE NEPHRITIS

An opportunity to study only five cases of acute nephritis has presented itself.

While no conclusions can be drawn from five cases, it is sugestive that in none of them was there increased permeability, but that, on the contrary, the permeability was markedly decreased when the condition was considered clinically grave.

CHRONIC PARENCHYMATOUS NEPHRITIS

In all, twenty-one cases belonging to the clinical type of parenchymatous nephritis have been studied. These cases represent different grades of severity and the duration of the disease varies from a few weeks to seven years.

In two very mild cases of short duration showing only slight edema, with albumin and casts, but with a normal urinary output, the time of appearance of the drug and the amount excreted was normal. In one of these cases the time of appearance was eight minutes and the output 52.5 per cent. for one hour. The second patient was a student who considered himself perfectly well, but in whose urine albumin and casts were discovered by chance. On close inspection, a slight edema about the eyes was detected. No other evidence or suggestion of the disease could be found. In this instance 53 per cent. for the first hour and 8.6 per cent. for the second hour was excreted following subcutaneous injection.

In cases of longer standing, or those in which the disease is of ordinary severity, the time of appearance has always been delayed slightly (ten to twenty-five minutes) and the amount excreted is definitely below normal.

In the most severe grades of chronic parenchymatous nephritis, or those in which the disease is of long standing and associated with secondary sclerotic changes, the output is reduced very markedly, and in some instances no trace of the drug can be found in the urine. Here, also as in the interstitial type, the absolute failure of excretion, or the excretion of a mere trace, has been followed within a short time by death from renal failure.

Although the number of cases of chronic parenchymatous nephritis has not been very large, sufficient data have been collected to indicate that the test is of decided value in revealing the functional efficiency of the kidney in this condition. In the mild cases very little disturbance of function is indicated, and it may be impossible from the test alone to differentiate this condition from albuminuria. When there is a marked decrease in the phthalein output, marked renal changes are present, and when only excreted in traces, or not at all, a grave prognosis should be given, though no signs of uremia exist.

CHRONIC INTERSTITIAL NEPHRITIS

Twenty-two cases of the type clinically classed as chronic interstitial nephritis have been under observation. In many of these cases, previous to the administration of the phthalein test, no accurate idea of the degree of involvement of the renal function could be ascertained even after the most careful clinical study. The phthalein test has proved itself of immense value in revealing the degree of destruction of the renal substance, and has demonstrated itself to be of extreme importance from the standpoint of both diagnosis and prognosis.

In most of the cases of this series the time of appearance has been markedly delayed and the output of phthalein markedly decreased; where the output is lowest, the delay in appearance is most pronounced. The time of appearance, however, is not so important as the amount of excretion.

The following case is cited as an example of the accuracy of the test in revealing the true renal condition:

Case 1.—*Patient.*—S. B. G., aged 55, surgical No. 25,174, was admitted Dec. 21, 1909, complaining of difficulty and frequent urination. These urinary symptoms were dependent on prostatic enlargement, the residual urine amounting to 440 c.c.

Examination.—Patient was apparently in good physical condition, well nourished, but slightly anemic. Urine slightly cloudy, acid, specific gravity 1,010, no sugar, slight trace of albumin and no casts. Urinary output 2,000 c.c. in twenty-four hours, urea ranging from 20 to 30 gm. for twenty-four hours. The phthalein test was given, a faint trace appearing in forty minutes, and at no time was more than the merest trace detected.

Repeated subsequent tests yielded always the same result. One week after administration the patient began to exhibit signs of uremia, which gradually increased until deep coma ended in death.

Autopsy.—Both kidneys presented marked atrophy, neither organ weighing one-third of normal, a severe grade of interstitial nephritis being present.

This case is of particular interest because of the fact that the urinary output, the urea, the total solids and the total nitrogen were normal and casts were also absent.

In the following case the diagnosis was exceedingly obscure until the evidence brought forward by the test was added. Before the administration of the test, nephritis was only one of many possibilities entertained.

Case 2.—*Patient.*—Mrs. O., aged 47, admitted March 23, 1911, noted fatigue and dyspnea on slight exertion, together with slight edema of lower extremities. In December nausea and vomiting developed and have been present almost constantly since.

Examination.—The patient was poorly nourished and showed marked anemia; no edema of extremities. Urine was pale yellow, specific gravity 1,011, albumin, a trace; no casts on repeated examinations. Blood-pressure was 135. Eyegrounds were negative. Although nauseated, the patient was mentally bright and seemed in no immediate danger.

The phthalein test showed no output in three hours. Two days later the patient became irrational, dying within forty-eight hours in uremic convulsions. No autopsy was obtained.

The following case shows even more strikingly the ability of the phthalein test to reveal the presence of nephritis in the absence of any definite clinical evidence.

Case 3.—*Patient.*—L. G., aged 12, admitted March 27, 1911, presented an interesting case of diabetes insipidus. The past history contained nothing of importance, except that large quantities of urine had been voided for some time and he experienced marked thirst.

Examination.—He was well nourished, not anemic, and apparently a normal-looking boy. His blood-pressure ranged from 80 to 90 m.m. Hg. Some thickening of the radial arteries was noted. No eye changes. The urine on admission was large in amount, 2,000 to 2,500 c.c., clear, specific gravity 1.005 to 1,010; no albumin, no casts. At this time no suspicion of nephritis was entertained. The phthalein test, performed March 28, showed an output of only 7 per cent. for two hours. Three days later only 2 per cent. was excreted. With the exception of the phthalein findings, absolutely no evidence of nephritis was present at this date. A week later the patient developed headache and a trace of albumin appeared in the urine. He rapidly became uremic and died April 9, 1911.

Autopsy.—A most intense grade of chronic interstitial nephritis was present, with almost complete disappearance of the cortex. A slight grade of acute nephritis was superimposed.

Chronic nephritis can exist over a long period without recognition, and may even exist in the absence of albumin and casts in the urine. The following is another case illustrating the presence of nephritis in the absence of positive clinical proof, and also the value of the phthalein test in revealing its existence.

Case 4.—*History.*—F. G., aged 71, who had had six previous admissions for malaria, febricula, acute rheumatic fever and arthritis deformans during the last five years, was again admitted Nov. 7, 1910, for vertigo and attacks of loss of consciousness. Numerous urinalyses during these admissions failed to demonstrate any anomaly, except a trace of albumin at one single examination. An advanced arteriosclerosis and high blood-pressure were recorded on previous admissions.

Examination.—Urine was pale, 1,012, acid, albumin, occasional trace, no casts. Phthalein examination showed an output of only 5 per cent. for the first hour and 10 per cent. for the second, indicating a severe grade of nephritis.

Shortly afterward patient died of bronchopneumonia.

Autopsy.—Atrophy of the right kidney as the result of an old thrombosis of right renal artery, with chronic diffuse nephritis on the left side, small granular kidney.

UREMIA

In twenty-one cases under study, uremia has been present. Of this number, in fourteen uremia was grave; the patients exhibited nausea, vomiting, drowsiness or coma, and in several instances convulsions. In the remaining seven, mild symptoms only were present and had persisted over prolonged periods. Nine of the fourteen patients with grave uremia died during the attack. In all of these cases the phthalein elimination was zero or a faint trace only for two hours.

In two of the five patients recovering from their uremia, the output was 20 per cent., the uremia being the result of an acute exacerbation of a chronic nephritis. In two the output was 14 per cent.; in both of these the uremia was precipitated by a double pyelonephritis. The fifth case was one of acute exacerbation of chronic pyelonephritis in a man previously having had a nephrectomy. This last patient has greatly improved, and at present has a two-hour excretion of 13 per cent.

In the seven mild cases, exhibiting slight but persisting symptoms of uremia, the excretion respectively was as follows: 10 per cent. in one, 7 per cent. in three cases, a trace in two, 2 per cent. in the other for two hours. Five of these patients died within three months of the performance of the test. Those living are still exhibiting evidences of chronic uremia, four months having intervened in one instance.

Of four patients not exhibting uremia at the time of the test, but in which the phthalein output was below 8 per cent. for two hours, one excreting 6 per cent. died within two months, another within three months, and the other two are still living, in one two months, and in the other three weeks intervening, but both are exhibiting evidence of chronic uremia.

THE STUDY OF CARDIAC AND CARDIORENAL CASES

An attempt has been made to differentiate by means of this test between those cardiac cases with broken compensation or with passive congestion associated with the presence of albumin and casts in the urine and those cases in which cardiac insufficiency is associated with varying grades of true nephritis. In this connection thirty-three cases have been studied. From this study there appears to be no doubt but that decrease in function accompanies marked passive congestion of the kidneys in the absence of any true nephritis. As the cardiac condition improves, however, the passive congestion becoming less marked and edema subsiding, the output of phthalein increases, and in one case rose from 16 per cent. to normal in the course of one week, the patient in the meantime losing 70 pounds in weight with the disappearance of a general anasarca. We feel that the phthalein test will prove of value in determining what degree of renal efficiency exists in this class of disease, and subsequently with improvement in the cardiac condition and the disappearance of edema, a continued low phthalein excretion will indicate with considerable certainty the presence of permanent organic changes in the kidney. We feel, however, that a much larger series should be studied clinically and at autopsy before very definite conclusions can be drawn.

MISCELLANEOUS CASES

A large number of miscellaneous medical diseases have also been studied from the standpoint of phthalein excretion, among the number being ten cases of lobar pneumonia. In pneumonia the output is little if any decreased, and does not run parallel with the chlorid excretion. Three cases of persistent albuminuria have shown a normal output. In no disease other than renal, so far studied, has a marked reduction of the phthalein excretion been encountered.

THE RELATION OF PHTHALEIN OUTPUT TO BLOOD-PRESSURE, TO CHANGES IN THE EYE-GROUNDS AND TO THE BLOOD-PICTURE

In the majority of cases of chronic nephritis in which the blood-pressure has been high, the phthalein elimination has been markedly decreased, but no exact parallelism exists, inasmuch as not a few instances have been encountered in which the systolic pressure has been over 200 mm. Hg; and the phthalein output one-half of normal, while on the other hand there have been instances in which the blood-pressure has been normal while the phthalein output has been zero or nearly so, the patients shortly after dying in uremia. While a high blood-pressure, when present, is considered of diagnostic and prognostic value taken in conjunction with other clinical data, yet many patients died of renal insufficiency and exhibited a blood-pressure which was normal or practically so. Nor is the blood-pressure, even when high, increased in inverse proportion to the decrease in renal function.

While in some instances marked changes in the eye-grounds, choked disk, tortuous vessels, hemorrhages, etc., have been present coincident with a very low phthalein output, in many cases, even of the most advanced and even fatal nephritis, no changes whatever in the eye-grounds could be detected, the patient at the same time failing to eliminate the phthalein.

Moderate or rather severe grades of secondary anemia in the absence of disease of the kidneys can be present without any diminution in the phthalein elimination; for instance, two patients, one with 2,500,000 red cells, and hemoglobin 30 per cent., the other with hemoglobin 30 per cent., eliminated 61 and 57 per cent. for two hours, respectively.

VALUE OF TEST FROM A SURGICAL STANDPOINT

Through the encouragement of Dr. Hugh H. Young we have been enabled to study the phthalein excretion in a large series of cases of urinary obstruction, in order to determine the value of the test in revealing the functional capacity of the kidney in these cases. This is a consideration of grave importance in this connection, since the development of uremia or renal failure has been responsible for a great part of the mortality following surgical interference.

As a result of obstruction in the lower urinary tract, pathologic changes may occur in the ureters and kidneys, dilatation of the ureters, varying grades of hydronephrosis, and as a result of the continued high pressure, atrophy of the parenchyma of the kidney. Not infrequently, infection occurs with the development of a pyelitis, a diffuse or localized pyelonephritis, or pyonephrosis. The occurrence of these complications is often difficult of recognition, and is often overlooked, particularly in the absence of symptoms of renal inadequacy. A large proportion of these cases of urinary obstruction have cystitis associated with albuminuria. The presence of casts in the urine is no contra-indication to operation. The urinary output may be normal, also the urea and total solids, and yet the patient may be on the verge of renal failure and disastrous results may follow surgical interference.

The test has been used in 100 cases of urinary obstruction, mostly cases of prostatic hypertrophy. The technic involved in these cases necessitates the use of a catheter, otherwise it does not differ from that described above.

In the majority of cases, the test indicates a more or less degree of renal impairment, and taken in conjunction with the clinical condition it is of more value than the study of urine output, total solids, total nitrogen, and urea estimations combined.

A marked decrease in the amount excreted invariably means severe derangement of renal function, which may be of either a temporary or permanent character. Under such conditions one should proceed with extreme caution, and no surgical intervention should be attempted without further study together with preliminary treatment. Under this regime, repeated functional tests will demonstrate eventually the nature of the derangement, for in true interstitial nephritis the output will continue low, whereas if the derangement is purely functional or secondary to pyelonephritis, usually improvement will follow as a result of the treatment and will be indicated by a decrease in the time of appearance of the drug and simultaneously an increase in the amount eliminated.

The functional derangement due to infection in these cases is a much more dangerous condition than is the presence of even a fairly advanced condition of interstitial nephritis. The use of the test enables one to select the most favorable time for operation. In cases exhibiting a continued suspiciously low output, the use of nitrous oxid gas, or spinal anesthesia, is suggested as preferable to ether in order to protect the kidneys. When only a trace of the drug continues to be excreted, prostatectomy should not be attempted, even though the patient presents no evidence of uremia.

In our original paper we stated that a dropping phthalein output was a contra-indication to operation except in cases of necessity. This decrease in function usually means some change in the renal condition and in most of our cases it has been caused by the development of a pyelonephritis or an exacerbation of an old process. It is obviously wise to wait until the kidneys have recovered from this acute shock before subjecting them to further injury through operation.

The test can be used to equal advantage preliminary to any surgical procedure, when it is deemed important to know the true functional capacity of the kidneys.

TECHNIC OF THE PHTHALEIN TEST AS APPLIED TO ESTIMATION OF THE FUNCTION OF THE INDIVIDUAL KIDNEY

Functional tests have already demonstrated their value in this connection. But they have at most been able to determine only the relative working capacity of each kidney and have shed very little light on the absolute functional capacity of each organ.

The phthalein test in association with ureteral catheterization has been used in seventy cases of unilateral or bilateral disease.

Twenty minutes previous to examination 600 to 800 c.c. of water are given to the patient in order to insure a free flow of urine. The ureters are then catheterized.

As it is essential to collect all the urine secreted by each kidney during a definite period of time, in order to do accurate quantitative work, a form of ureteral catheter especially devised for this purpose has been used. The flute end catheter of Albarran, No. 6, or preferably No. 7, has been found to be most satisfactory. The catheters which have only side openings and no end opening cannot be depended on for this purpose.

The catheters are passed up into the ureters to a distance of four inches. The cystoscope is then withdrawn, leaving the ureteral catheters in position. A small ureteral catheter is now passed into the bladder and the bladder thoroughly emptied, so that leakage, should it occur, can be detected.

The time of injection is recorded, as is also the time of the appearance of the drug on each side. Starting from the time of appearance, the collection is then continued for one hour following subcutaneous or intramuscular injection. The amount of drug in each specimen is then estimated by the technic described above.

RESULTS OBTAINED WITH THE PHTHALEIN TEST

In normal cases the time of the appearance of the drug from the two sides has been almost always the same, and in the majority of cases this has been five to ten minutes following subcutaneous and three to five minutes following intravenous. The time, of course, will vary somewhat with the rate of urinary secretion. Normally the amount excreted by each kidney will be practically the same. The series of cases studied include tubercular or pyogenic infection, unilateral or bilateral, calculi, hydronephrosis, hypernephromata, etc.[5]

UNILATERAL OR BILATERAL SURGICAL DISEASE OF THE KIDNEY

It has been demonstrated that the time of appearance and the percentage of output is practically the same for the two healthy kidneys. When one kidney only is diseased, the time of the appearance of the drug is delayed on the diseased side, and the amount excreted is not only relatively but absolutely decreased. The amount of delay in the time of appearance is comparatively of little value. Reliance is only to be placed on the quantity excreted during a period of one-half or one hour, depending on the method of administration.

Although in the majority of these cases of unilateral disease the combined output is equal to that of two normal kidneys, the greater part of the excretion is shown to be performed by the healthy kidney. In proportion to the decrease in function on the diseased side, approximately there is a proportionate increase in the function on the healthy side. In such cases following nephrectomy the remaining kidney eliminates after the lapse of two or three weeks an amount of drug which is normally excreted by two healthy kidneys. In all cases studied, the output from the remaining kidney has been greater than the combined output from two kidneys prior to operation.

In bilateral disease it has been found possible to determine the individual function (absolute or relative) of each kidney. It is in this class of cases particularly that the shortcomings of other functional tests have been most apparent, as one kidney may be doing twice or three times the amount of work of the opposite kidney, and still be unable to assume the additional work of the other kidney. It may be doing the major part of the work at the expense of all, or nearly all, of its reserve power, but the phthalein test determines whether the kidney has a functional capacity which is normal, less than or greater than normal and to what degree. In three cases of double renal tuberculosis, in which the amount of pus from each side was practically the same, the test permitted it to be determined that one kidney in each instance had a function greatly in excess of the other, indeed sufficient functional capacity to allow of successful nephrectomy, marked improvement in general condition occurring subsequently in each case.

In six cases out of seventy we have found that the catheters caused some inhibitation of function, as was also observed by Keyes Jr. and Stevens. This influence can readily be estimated by taking the total function either before or after catheterization.

The test has been used by us simultaneously with cryoscopy, phloridzin, indigo-carmin, and the polyurea test of Albarran. No particular advantage was added by combining with one or all.

CONCLUSIONS

1. The phenolsulphonephthalein as used by us has many advantages over all other functional tests thus far proposed.

2. Phenolsulphonephthalein itself is better adapted for use as a functional test than any other drug previously employed for the same purpose on account of its

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[5] The details concerning forty-two of these cases are considered in previous communications, Tr. Am. Assn., G.-U. Surg., 1911, and Ann. d. mal. d. org. génito-urin., February and March, 1911.

early appearance in the urine and the rapidity and completeness of its elimination by the kidney and the reliance to be placed on its findings.

3. The method of quantitative estimation of the amount of drug excreted is simple and exceedingly accurate.

4. It is of immense value from a diagnostic and prognostic standpoint in nephritis, inasmuch as it reveals the degree of functional derangement in nephritis whether of the acute or chronic variety.

5. In the cardiorenal cases the test may prove of value in determining to what degree renal insufficiency is responsible for the clinical picture presented.

6. The test has proved of value not only in diagnosing uremia from conditions simulating it, but has also successfully indicated that uremia was impending when no clinical evidence of its existence at the time was present.

7. The test has proved of great value in revealing the true renal condition in cases of urinary obstruction. It is here of more value than the urinary output of total solids, urea or total nitrogen and enables the surgeon to select a time for operation when the kidneys are in their most favorable functional condition. The improvement in the renal condition in cases of urinary obstruction, following the institution of preliminary drainage, is strikingly indicated by this test.

8. In unilateral and bilateral kidney disease the absolute amount of work done by each kidney, as well as the relative proportion, can be determined when the urines are obtained separately. We do not feel that this is always mathematically accurate, but in our series it has indicated the functional capacity to a degree not attained by any other test.

It is with the greatest pleasure that we thank Dr. Young for his early and continued interest in this work, and for the generous supply of clinical material referred to us by him, by Dr. Barker, Dr. Thayer and the other members of the hospital medical staff for the opportunity of studying the cardiac and nephritic cases, and Dr. F. W. Hobleman for his valuable assistance in carrying on the work, and Dr. Dunning of Hynson, Westcott, for kindly furnishing us with the phenol sulphonephthalein used throughout this study.

SOME OBJECTIONS TO THE USE OF ALUM BAKING-POWDER*

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I. INTRODUCTION

During a period of about seven years I have occasionally conducted experiments on the effects of aluminum salts. These studies have convinced me that the use in food of alum or any other aluminum compound is a dangerous practice. That the aluminum ion is very toxic is well known. That "aluminized" food yields soluble aluminum compounds to gastric juice (and stomach contents) has been demonstrated. That such soluble aluminum is in part absorbed and carried to all parts of the body by the blood can no longer be doubted. That the organism can "tolerate" such treatment without suffering harmful consequences has not been shown. It is believed that the facts in this paper will give emphasis to my conviction that aluminum should be excluded from food.[1]

II. EXPERIMENTS BY HOUSE AND GIES ON THE EFFECTS OF ALUMINUM COMPOUNDS ON THE GROWTH OF SEEDLINGS

Several years ago, in collaboration with House, I published the general results of a study of the influence of aluminum compounds on typical seedlings. The essential facts in that connection were summarized in the appended statement and accompanying table (Table 1).[2]

> Although aluminum compounds appear to exist in small proportions in many plants, and occur in traces in some animals, relatively little has been learned regarding the biological effects and significance of aluminum. The authors have begun a series of studies in this connection, the first of which has been an investigation of the influence of aluminum on lupin seedlings. The methods described by True and Gies[3] were used, and the following compounds were taken: aluminum sulphate, aluminum nitrate, aluminum chlorid, aluminum-sodium chlorid, potassium alum, and ammonium alum. The accompanying table (1) presents some of the more significant results, which represent the average of very many observations for periods of forty-eight to seventy-two hours.
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> In nearly all cases, in these experiments, little or no effect was produced at a concentration of m/65,536 [i. e., per liter the molecular weight in grams divided by 65,536]. In concentrations greater than m/65,536, growth usually was markedly inhibited. In concentrations less than m/65,536 and down to m/1,048,576, or m/2,097,152, growth was stimulated as a rule.

TABLE 1.—DATA SHOWING THE COMPARATIVE EFFECTS OF ALUMINUM COMPOUNDS ON THE GROWTH OF LUPIN SEEDLINGS

Aluminum Compound	Greatest Molecular Concentration that Permitted Slight Initial Growth	Least Molecular Concentration in Which There Was No Growth After 24 Hours	Greatest Molecular Concentration in Which Growth Was Equal to that in the Pure Water Control	Molecular Concentration in Which Initial Stimulation Took Place	Molecular Concentration in Which the Maximum Stimulation Occurred
	m/x	m/x	m/x	m/x	m/x
$Al_2(SO_4)_3$ ...	8,192	16,384	65,536	131,072	1,048,576[1]
$Al(NO_3)_3$	1,024	16,384	65,536	131,072	1,048,576
$AlCl_3$........	2,048[2]	2,048[2]	65,536[3]	131,072[4]	131,072
$AlCl_3NaCl$ ...	16,384	32,768	65,536	131,072	131,072
$KAl(SO_4)_2$ ...	1,024	4,096	32,768	65,536	131,072 524,288
$NH_4Al(SO_4)_2$..	8,192	16,384	131,072	262,144	524,288

1. The concentration of aluminum in a m/1,048,576 $AlCl_3$ solution is 0.000,003 per cent.
2. The concentration of aluminum in a m/2,048 $AlCl_3$ solution is 0.001,3 per cent.
3. The concentration of aluminum in a m/65,536 $AlCl_3$ solution is 0.000,04 per cent.
4. About midway between m/131,072 and m/65,536. The concentration of aluminum in a m/131,072 $AlCl_3$ solution is 0.000,02 per cent.

These results showed clearly that compounds of aluminum, such as the chlorid, even when present in very minute proportions, are strong protoplasmic poisons and very toxic to growing plants.

III. MALLET'S EXPERIMENTS ON THE SOLUBILITY, IN GASTRIC CONTENTS, OF ALUMINUM COMPOUNDS CONTAINED IN BREAD MADE WITH ALUM BAKING-POWDER

Two years ago I was asked by Prof. J. W. Mallet to examine and discuss some results of Professor Mallet's investigation on the "solubility, in the stomach, of aluminum compounds contained in bread made with alum baking-powder." These results were summarized in the appended personal statement by Professor Mallet (dated Aug. 27, 1909):

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[1] This paper is purposely restricted to a discussion of the work of the author and his collaborators.

[2] House and Gies: Am. Jour. Physiol., 1906, xv; Proc. Am. Physiolog. Soc., December, 1905, p. 19.

[3] True and Gies: Bulletin of the Torrey Botanical Club, 1903, xxx, 390. Also Gies and Collaborators: Biochemical Researches 1903, i (reprint No. 37).

EXPERIMENTS PERFORMED BY PROFESSOR MALLET

The baking-powder used was of the "Bob White" brand—a "straight alum" powder—and was purchased in the open market. After addition of water the reaction was slightly alkaline. The flour selected was of choice quality for family use, prepared by the roller process. Bread was made with

	Gm.
Flour[4]	550
Common salt	8
White sugar	5
Baking powder (2 heaping teaspoonfuls)	16
Water	231

Great care was taken to secure uniform mixture of the solid materials by repeated siftings before water was added, and the dough was very thoroughly kneaded. The quantity of water stated is that remaining in the baked bread as eaten, allowance being made for the carbon dioxid gas expelled. The bread was baked as a batch of rolls to a light yellowish-brown crust. The porosity was uniform and satisfactory. The bread was palatable, notwithstanding the omission of any shortening ingredient.

Three persons were selected as subjects for experiment, viz.:
A.—J. N., white, male, aged 21. In normal health and condition.
B.—L. B., white, male, aged 21. In normal health and condition.
C.—W., Negro, male, aged 23. In normal health and condition.
Each of these subjects, having eaten nothing since the previous evening, ate in the morning a portion of the specially prepared bread, taking with it a limited quantity of water, avoiding great dilution with the latter.

A took about 128 gm. of bread and 175 c.c. of water.
B took about 85 gm. of bread and 175 c.c. of water.
C took about 171 gm. of bread and 325 c.c. of water.

An hour after eating, the contents of the stomach were in each case withdrawn by means of a stomach-tube, the turbid liquid obtained measuring:

In the case of A..................156 c.c.
In the case of B..................182 c.c.
In the case of C..................197 c.c.

This turbid material was at once carefully filtered through muslin and then through paper, until a clear liquid was obtained. The filtration was slow, and the residue was lightly washed with a small quantity of water. The reaction of the liquid was in all three cases markedly acid.

The whole of the filtrate was in each case evaporated to dryness in a platinum dish over a water-bath, the dry residue carefully incinerated in the same dish, and the ash fused with sodium carbonate and a minute quantity of sodium nitrate, to destroy the last traces of organic matter. The fused residue was dissolved by nitric acid, the phosphoric acid radical removed by ammonium molybdate, and aluminum hydroxid precipitated by ammonia. The precipitate was again dissolved by nitric acid, again thrown down by ammonia, treated with pure sodium hydroxid to separate iron, once more precipi-by ammonium chlorid, thoroughly washed, dried, ignited and weighed. All parts of the process involving the use of heat were carried out in platinum vessels. In this way there was recovered from the contents of the stomach:

In the case of A.........21 mg. of alumina (Al_2O_3)
In the case of B.........23 mg. of alumina (Al_2O_3)
In the case of C.........13 mg. of alumina (Al_2O_3)

In each case of alumina, after weighing, was fused with sodium carbonate, dissolved by hydrochloric acid, reprecipitated as hydroxid by ammonia, and fully identified by the use of all the chief tests for aluminum in its compounds.

Assuming the baking-powder to have been uniform in composition and to have been uniformly distributed in the bread, the three subjects had swallowed aluminum in the following amounts:

In the case of A............107 mg. of Al_2O_3
In the case of B............ 71 mg. of Al_2O_3
In the case of C............143 mg. of Al_2O_3

and hence of this there was recovered in solution from the portion of the stomach contents obtained:

In the case of A............19.6 per cent.
In the case of B............32.4 per cent.
In the case of C............ 9.1 per cent.

PROFESSOR MALLET'S CONCLUSIONS

The differences between these figures are not surprising in view of the unknown and variable quantities of gastric juice secreted in a given time, its variable degree of acidity, and the different proportions of diluting water. It will be seen that the smallest amount of aluminum—both absolute and in proportion to the amount swallowed—was recovered from the contents of the stomach of subject C, who ate most bread and took the largest absolute amount of water with it. It is to be borne in mind that not the whole, but only a part, of the contents of the stomach was in each case removed by the tube, and that hence the quantity of aluminum recovered in soluble form represents but a part of that which was actually dissolved.

The general result is plainly apparent, that a part, and no inconsiderable part, of the aluminum in the ingested bread made with alum baking powder was, under the action of the gastric juice, present in dissolved form in the stomach of each of the subjects of the experiments.

THE PRESENT WRITER'S OPINION OF PROFESSOR MALLET'S EXPERIMENTS AND OF THE SIGNIFICANCE OF THEIR RESULTS

In response to the request for an opinion regarding the possibly harmful effects of aluminum in the proportions (in gastric contents) that occurred in the experiments described above, I wrote in this connection to Professor Mallet as follows (Oct. 11, 1909):

The results given in your statement show clearly that well-baked bread, made with an alum baking-powder, contains aluminum in a form that will yield a surprisingly large proportion of a soluble aluminum compound or compounds to human gastric juice under normal conditions in the stomach. In one of your experiments, as much as 32.4 per cent. of the amount of aluminum introduced with the ingested bread was found in 182 c.c. of gastric contents removed "an hour after eating"—which volume was not, of course, the entire volume in the stomach at the time, to say nothing of prior natural intermittent removals of partly digested matter into the intestine. These facts suggest that in many instances more than one-third of the aluminum in the ingested portion of such bread may occur, at a time, in a *soluble* form in the digestive contents of the stomach. These data being before one—and your determination of them is conclusive assurance of their accuracy—what may be said regarding the "physiologic effects" of the aluminum that thus appears in the gastric juice in dissolved form?

I believe that aluminum, if present in the stomach, day after day, in dissolved form in such proportions would tend to modify unfavorably the gastric secretory and digestive processes. There would be repeated attacks on the mucous membrane, especially through the astringent and protein-precipitating properties of the dissolved aluminum. The associated presence of much protein material would tend to diminish such action, however, by causing the production of less toxic forms of *combined* aluminum.

I am satisfied that people with "poor digestions" would be influenced ultimately to their further disadvantage, as a rule, by meals usually containing aluminized bread. It is true that multitudes are able to withstand the deleterious influence of various poisonous substances, even for long periods, without exhibiting *distinguishable* detriment. Such seeming lack of direct harmful influence, however, is often insidiously mislead-

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[4] The flour used in these experiments was examined for aluminum and yielded in the ash the equivalent of less than 1 mg. of Al_2O_3 for the largest quantity of bread eaten by any of the subjects.

> ing, as in the case of various auto-intoxications which, until lately, have unwisely been regarded indifferently as "normal" ones and, erroneously, as without permanent, harmful influences. Unless we know *positively* that a substance which is foreign to natural foods and not intended particularly for medicinal effects, can be introduced into the stomach, repeatedly in small amounts, without *possibly* causing harmful results in some cases, either immediately or in time, I believe it is in the public interest to urge "hands off" until such supportive evidence for the substance in question is convincingly produced.
>
> I believe that aluminum, if present in the stomach day after day, in the soluble proportions you have found, would disturb the integrity of the secretory gastric cells, just as traces of soluble aluminum compounds strikingly prevent growth in plants by poisoning the cells. The fact that aluminum is normally contained in plants must not be considered apart from the very significant circumstances that the amount in which it occurs in any edible vegetable material is very minute; and practically all of that exists in forms which are there insoluble. The data in the footnote attached to your statement regarding the presence of the merest trace of aluminum in the flour you employed in your experiments, emphasize this point.
>
> Your statement does not indicate the proportion, or the conditions, of the acid in the aluminized gastric contents which you examined. Your figures for the proportions of contained aluminum may be much greater in subsequent tests, if the acidity of the gastric contents you examine later happens to be higher, as might be the case.
>
> In short, I believe such bread as you mention is likely to induce harmful digestive effects, especially if used throughout comparatively long periods, and particularly in people whose digestive processes are not vigorous or normally effective. I also feel that the public should be given the benefit of any possible doubt in this matter until it is shown, without question, that aluminized bread as commonly used cannot possibly be inimical to the health, not only of those who are robust and who apparently "can stand anything," but especially of those who are most susceptible to injury and disease. I am convinced, from a careful study of the literature on the subject, that the reasonable doubts on this score that relate to alum baking-powder have not been removed.

The correspondence with Professor Mallet also developed the fact that the aluminum in filtered gastric contents, in experiments like those conducted by Professor Mallet, is readily diffusible through parchment membranes, an observation suggesting, though not proving, that soluble aluminum compounds such as aluminum chlorid are diffusible through membranes in living organisms.

At Professor Mallet's suggestion I lately directed some experiments on the passage of aluminum from the alimentary tract into the blood. A recent paper by Prof. Matthew Steel[5] gives the results of this particular study and also presents additional data which show that aluminum passes from the blood into the feces. In the appended review of our procedure and results, free use is made of Professor Steel's paper.

IV. STEEL'S EXPERIMENTS ON THE ABSORPTION AND EXCRETION OF ALUMINUM

Professor Steel's investigation consisted of fifteen experiments on dogs. Eleven of the experiments pertained to the passage of aluminum into the blood from aluminized food, and four experiments related directly to the passage of aluminum from the blood into the feces. In Experiments 1 to 9 (described below) alum was administered in powdered form in balls of hashed meat. In Experiments 10 and 11 biscuits baked with alum baking-powder were fed. In Experiments 12 to 15, inclusive, aluminum chlorid in physiologic saline solution was injected intravenously. All the experiments were performed on full-grown, normal, healthy dogs. The animals, while under observation, were confined in cages of the kind now in constant use in this laboratory.[6] The daily food of the animals with two exceptions (Experiments 10 and 11) consisted of a mixture of hashed lean beef, lard, cracker meal, bone-ash, and water. The raw beef was taken from large supplies preserved in a frozen condition.[7]

In Experiments 10 and 11 biscuits prepared with alum baking-powder were substituted for the cracker meal. The biscuits, which were made by the process that Professor Mallet employed in his experiments, were baked with special thoroughness. The ingredients were mixed in the following proportions:[8]

	gm.
Flour	550
Sodium chlorid	8
Sucrose	5
"Bob White" baking-powder	16
Water .... Enough to make a biscuit dough	

EXPERIMENTS SHOWING THAT ALUMINUM PASSES FROM THE ALIMENTARY TRACT INTO THE BLOOD

Eleven experiments were performed to determine whether aluminum passes from aluminized food into the blood. In Experiments 1 to 9, inclusive, the aluminum was added to the food as powdered alum in balls of hashed beef.

Experiment 1.—The weight of the dog was about 24.5 kilos. He was given 0.9047 gm. of alum in order to administer aluminum equivalent to that in 100 mg. of Al_2O_3.[9] Three hours after feeding, 800 gm. of the dog's blood were taken. This quantity of blood contained the aluminum in 1.3 mg. of Al_2O_3.[10] (The dog was used in Experiments 2 and 3.)[11]

Experiment 2.—Eight days later (Experiment 1), when the dog used in Experiment 1 had practically regained his normal weight, he was given 1.8094 gm. of alum (2×0.9047 gm.). Five hours after feeding, 726 gm. of his blood were removed. This quantity of blood contained the aluminum in 1.9 mg. of Al_2O_3. (The dog was used in Experiment. 3.)

Experiment 3.—Although the dog used in Experiments 1 and 2 had regained his normal weight within five days, no alum was given until eleven days after the termination of Experiment 2. At this time the dog received 3.6188 gm. of alum (4 × 0.9047 gm.). Seven hours after feeding, 857 gm. of his blood were obtained. This quantity of blood contained the aluminum in 5.9 mg. of Al_2O_3.

Experiment 4.—A dog weighing 13.4 kilos was given 1.8094 gm. of alum (2 by 0.9047 gm.). Six and one-half hours later,

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[5] Steel: Am. Jour. Physiol, 1911, xxviii, 94.

[6] Gies: Am. Jour. Physiol., 1905, xv, 403.

[7] Gies: Am. Jour. Physiol., 1901, v, 235; Proc. Soc. Exper. Biol. and Med., 1908, vi, 27.

[8] The flour contained the merest trace of aluminum. The "Bob White" brand of baking-powder is a "straight alum" powder. Our samples were purchased in the open market.

[9] This quantity of Al_2O_3 was selected empirically. It is less than the equivalent amount of aluminum which is often ingested by one person in the aluminized bread of an ordinary meal.

[10] Oxidation of the blood (Experiments 1-2) was effected by running the blood from a saphenous artery through a rubber tube directly into a tared Kjeldahl flask and weighing to determine the amount of available blood, then adding concentrated nitric acid solution and heating, slowly at first, and finally boiling, until the solution was clear. A moderate excess of nitric acid solution was then added and the liquid boiled down to a small volume. The fluid was then treated with a fairly large volume of concentrated sulphuric acid solution for the expulsion of the nitric acid and to complete the oxidation of the residual organic matter. When necessary, small quantities of ammonium nitrate were added from time to time to facilitate the oxidation process. The sulphuric acid mixture was boiled for at least two hours after it became colorless, in order completely to eliminate NO_2. The residue was then dissolved in water and made up to volume, and the iron and aluminum determined by the Mixer-Dubois modification of the Zimmerman-Rheinhardt method: Jour. Am. Chem. Soc., 1895, xvii, 405. With this method it was found that the blood of dogs is normally free from aluminum.

[11] In order to avoid any disturbing effects of general anesthesia a local anesthetic was employed in all the surgical operations. Less than 1 c.c. of a 2 per cent. solution of cocain was used at any one operation. In no case did the dog exhibit any sign of pain.

540 gm. of his blood were withdrawn. This quantity of blood contained the aluminum in 2.6 mg. of Al_2O_3.

Experiment 5.—A dog weighing 19 kilos was given 3.6188 gm. of alum (4 × 0.9047 gm.). Seven hours later, 787 gm. of his blood were subjected to analysis. This quantity of blood contained the aluminum in 10.9 mg. of Al_2O_3.

Experiment 6.—A dog weighing 17 kilos was given 2.7141 gm. of alum (3 × 0.9047 gm.). Five and three-quarters hours later, 736 gm. of his blood were analyzed. This quantity of blood contained the aluminum in 6.7 mg. of Al_2O_3.

Experiment 7.—A dog weighing 17.6 kilos was given 3.6188 gm. of alum (4 × 0.9047 gm.). Six and one-half hours later, 996 gm. of his blood were secured. This quantity of blood contained the aluminum in 3 mg. of Al_2O_3.

Experiment 8.—A dog weighing 13.4 kilos was given 0.9047 gm. of alum *daily for eight days.* On the eighth day, six hours after the last dosage, the animal was bled to death. One thousand and fifty-eight (1,058) gm. of his blood were available. This quantity of blood contained the aluminum in 3 mg. of Al_2O_3.

Experiment 9.—A dog weighing 10 kilos was given 0.9047 gm. of alum *daily for eight days.* On the eighth day, five hours after the last dosage, the animal was bled to death and 996 gm. of his blood were secured. This quantity of blood contained the aluminum in 4.3 mg. of Al_2O_3.

In Experiments 10 and 11 aluminum was administered in biscuits baked with alum baking-powder. In these experiments (10 and 11) the dogs ingested portions of the same supplies of meat, lard and bone-ash that were available for the previous experiments, but, instead of cracker meal, they were given alum baking-powder biscuits, which were made of the ingredients that are specified in the summary in the first part of this section of the paper. The biscuits were very thoroughly baked.

Experiment 10.—A dog weighing 13 kilos was given daily, *for ten days,* about 5 gm. of alum baking powder (in baked biscuits). On the tenth day he was bled to death and 650 gm. of his blood were oxidized. This quantity of blood contained the aluminum in 2.6 mg. of Al_2O_3.

Experiment 11.—A dog weighing 11.1 kilos was given daily, *for nine days,* about 4 gm. of alum baking-powder (in baked biscuits). On the ninth day he was bled to death and 572 gm. of his blood were analyzed. This quantity of blood contained the aluminum in 1.5 mg. of Al_2O_3.

TABLE 2.—DATA SHOWING THE PASSAGE OF ALUMINUM FROM THE ALIMENTARY TRACT INTO THE BLOOD

Exp. Number	Weight of Dog (kilos)	Dose of Alum (gm.)	Time Between Dosage and Bleeding (hr.)	Weight of Blood Taken (gm.)	Total Weight of $FePO_4$ + $AlPO_4$ (gm.)	Weight of $AlPO_4$ (mg.)	Weight of Al_2O_3 from the Total Amt. of Blood Taken* (mg.)
1	24.5	0.9047	3	800	0.9644	3.2	1.3
2	24.4	1.8094	5	726	0.8820	4.5	1.9
3	24.5	3.6188	7	857	0.9450	14.1	5.9
4	13.4	1.8094	6½	540	0.7650	6.0	2.6
5	19.0	3.6188	7	787	1.0170	26.0	10.9
6	17.0	2.7141	5¾	736	1.3980	15.0	6.7
7	17.6	3.6188	6½	738	0.8960	7.0	3.0
8	13.4	0.9047	6	1058	1.1330	7.1	3.0
9	10.0	0.9047	5	996	1.0285	10.5	4.3
10	13.0	†5	6	650	0.7854	6.2	2.6
11	11.1	†4	7	572	0.5136	3.6	1.5

* See the second paragraph after the description of Experiment 11.
† Alum baking-powder in biscuits.

The essential data of Experiments 1 to 11, inclusive, are summarized in Table 2. The results there tabulated make it evident that aluminum passes into the blood in considerable proportions from alum in the diet. They also show that aluminum does not tend to accumulate in the blood.

These analytic data apply, of course, to the blood only at the moment of its removal from the body. Under the conditions of the experiments, it is certain that aluminum passed into and from the blood in much larger *total* quantities than those indicated. In Experiments 1 to 7, inclusive, the quantities of available blood ranged from 2.9 per cent. to 4.3 per cent. of the body weight. From three to four times as much aluminum as the quantity shown in the table was therefore contained in the whole volume of blood of the corresponding animal at the moment of bleeding (Experiments 1 to 7).

The results of Experiments 10 and 11 show clearly that the aluminum in alum baking-powder is not rendered wholly insoluble in the bread-baking process. Amounts of aluminum equal to some of those recovered after the administration of plain alum in powdered form (Experiments 1 to 9, inclusive) were found in the blood of the dogs that received the alum baking-powder biscuits.[12]

EXPERIMENTS SHOWING THAT ALUMINUM PASSES FROM THE BLOOD INTO THE FECES

The results of the foregoing experiments suggest that aluminum was not only absorbed from the gastro-intestinal tract and distributed in the blood throughout the body, but also was eliminated fairly rapidly from the circulation. In considering the matter of its excretion from the body, we concluded to ascertain, first, whether aluminum passes into the feces after the parenteral introduction of aluminum chlorid.

The animals selected for four experiments in this connection were normal, vigorous dogs, weighing between 8 and 10 kilos. The daily diet was similar to that for the dogs in the first nine experiments. In each case the animal was kept on our standard diet for about ten days before feces were collected for analysis. Thereafter all the feces for the six days previous to the introduction of aluminum were carefully analyzed for aluminum.[13] *None was found in any instance in the feces passed prior to the corresponding injection.*

We selected aluminum chlorid as the salt for intravenous injection in these experiments, because it is probable that aluminum chlorid is produced from aluminized food in the stomach. A dilute solution, containing the aluminum equivalent of 0.9 mg. of Al_2O_3 per c.c. of physiologic saline solution, was very slowly

TABLE 3.—DATA SHOWING THE PASSAGE OF ALUMINUM FROM THE BLOOD TO THE FECES[1]

Experiment Number	Weight of Dog (kilos)	Amount of Aluminum injected (calculated as mg. of Al_2O_3)	Dry Weight of Feces Eliminated During the Three Days Following the Injection (gm.)	Amount of Aluminum Found in the Feces During the 6 Days Previous to the Injection	Amount of Aluminum Found in the Feces During the 3 Days Following the Injection (mg. of Al_2O_3)	Percentage of the Injected Aluminum that Was Recovered
12	10.0	9	67.5	None	1.0	11.11
13	9.4	18	64.0	None	1.1	6.11
14	8.2	36	47.5	None	1.9	5.27
15	9.2	82.8	56.0	None	4.6	5.55

1. A dilute solution of $AlCl_3$ in physiologic saline solution was injected into a saphenous vein.

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[12] The reader is again reminded of the fact that special care was taken to subject the biscuits to very thorough baking.

[13] The feces (Experiments 12 to 15), prior to the precipitation of any aluminum contained in them, were incinerated in a platinum dish. The ash was dissolved in dilute hydrochloric acid solution. This solution was directly subjected to the analytic procedure described in Footnote 10.

injected into a saphenous vein.[14] That a portion of the injected aluminum passed from the blood into the feces under these conditions can be seen from the results of our four experiments, as summarized in Table 3.

V. GENERAL DISCUSSION

We found, in Dr. House's study of the effects of aluminum salts on germinating plants, that the aluminum ion is very destructive of protoplasm. Our results warrant the conclusion that aluminum is especially toxic to growing cells in general. That many plants contain traces of aluminum, and that some plants contain even larger proportions of that element, are well-known facts. That these proportions of aluminum occur in the living cells of plants, or that the aluminum exists in plants in soluble forms, remains to be shown, however. It is well known that the proportion of available aluminum in soluble form in fertile soils is very slight. Then, too, plants which happen to be exceptional in the matter of proportional content of aluminum are similar in that respect to animals which are unusual in their capacity to use advantageously such a poisonous element as copper. Thus the blood of the horseshoe crab contains a large proportion of copper in the form of a respiratory compound which is chemically and physiologically analogous to hemoglobin in the blood of the higher animals. No one would think of using this fact, however, as an argument in favor of the free introduction of copper sulphate into the human stomach, or its injection into the blood of a man, or its use in food. On the contrary, in spite of the fact that the blood of some animals contains copper, it is generally agreed that the administration of copper compounds to man and other mammals, even in minute quantities, induces poisonous effects. There is even less justification for the administration of substances containing aluminum.

We found in Professor Steel's experiments that when alum was administered in aluminum-free food to dogs, or when dogs ingested biscuits baked with alum baking-powder, aluminum in comparatively large amounts promptly passed into the blood. This result was obtained in each of eleven experiments. The daily diet in each of the first nine of these experiments was a full meal of hashed lean beef, cracker meal, lard and water, in quantities sufficient to maintain both constancy in weight and equilibrium in nitrogen metabolism. This diet contained bone-ash in a quantity sufficient to induce daily movements of comparatively dry, inoffensive fecal matter.[15] In the last two of these eleven experiments, biscuits made with alum baking-powder were substituted for the cracker-meal.

In spite of the presence, in the food, of these large proportions of protein and bone-ash, and of the tendencies of these materials to form insoluble products with alum, our data show that aluminum occurred in soluble form in the gastro-intestinal tract in each case of alum administration and was absorbed into the blood. It is especially important to note that this result was also obtained in the analogous experiments with the biscuits made with alum baking-powder. The biscuits had been more thoroughly baked than the bread which commonly appears on the market. The tendency of the baking process to transform the aluminum in the baking powder into an "insoluble modification" was carried to an extreme that is rarely equaled in every-day life. Nevertheless, absorption of aluminum occurred.[16]

Two objections might be raised against this conclusion regarding the absorption of aluminum from the gastro-intestinal tract into the blood. It might be assumed that our analytic method was inaccurate. Such an assumption is always in order in the consideration of any method, for none is perfect. Our preliminary work with the analytic method employed and the checks against error that were instituted, give us complete confidence, however, in the practical accuracy of the process. If slight and unavoidable errors occurred, we believe that, from the general nature of the method, they must have caused loss of aluminum and consequent diminution of the numerical result, rather than the reverse.

It might also be urged that our figures representing the amounts of aluminum which passed into the blood are too small to mean anything. It might be thought that the proportions are too minute for the causation of deleterious effects. It might even be suggested that such small proportions of aluminum are beneficial because of the possible "stimulating" action which traces of poisons frequently induce. But none of these assumptions could be shown to accord with the whole truth in the matter. The amount of aluminum in the blood at any moment, after the ingestion of aluminized food, is but a fraction of the quantity that may occur in the blood of the individual during a given hour or a given day—larger quantities circulate throughout the body meanwhile, under such conditions. Excretion seems to occur continuously in cases of this kind. If the aluminum which is thus carried into the blood were of any value to the organism it is improbable that the absorption of a minute proportion of aluminum would be promptly followed by the elimination of much of it. The prompt excretion of aluminum under such circumstances implies a decided physiologic repugnance.

We found, further, that absorbed aluminum circulated freely, but, as it did not show any pronounced tendency to accumulate in the blood, it is obvious that its full effects must have been registered outside of the circulation. The organism "tolerates" a great amount of injury, but it has not been shown that the development of tolerance for aluminum is either a common achievement or a desirable attainment.

It should not be forgotten that the influence of a given substance must be considered, in its practical aspects, from the standpoints of actual conditions attending its introduction into an organism. What are its effects on individuals, for example, who are temporarily ill or permanently diseased? Again, what effects are registered in a perfectly healthy individual, who takes a small quantity of the substance under consideration with similarly small quantities of equally toxic or even more noxious materials? What, for instance, may be said of the effect of aluminum from bread made with an alum baking-powder, when the bread is eaten with butter colored by a "coal-tar" dye, with jam sweetened by saccharin, with soup made from "stock" preserved by sodium salicylate and salicylic acid, with peas greened by copper sulphate, with vegetables kept from spoiling by sodium benzoate and benzoic acid, in one case, by borax and boric acid in another, to say nothing of other deleterious substances such as formaldehyd, sulphurous acid, sodium sulphite, "ether flavors," and the like, in various portions of an ordinary meal as it may happen to be served. Even if it may be reasonably urged that the effects of any one of these "foreign" substances "in the quantities eaten" are negligible, who can say that their collective action after such a meal is of no physiologic consequence? We frequently hear its said with assurance that "people go on eating all these things without ever knowing it, and yet where is the case of damage done by any of these products?" But may it not be asked in turn: Are not many cases of illness probably due to the effects of such substances in food quite unknown to those who ascribe the sickness in any instance to a different cause? It is easy to understand that relatively very slight absorption of aluminum, day after day, may ultimately (as in chronic auto-intoxications) develop biochemical incoordinations leading to perverted function, defective structure, decreased resistance to disease, or other undesirable modifications of one or more qualities or parts of the body. How many people have been obviously injured by saccharin, for example? Perhaps millions have eaten it without noting any hurtful result. Nevertheless, saccharin has recently been officially declared a dangerous sweetening agent because it does exert injurious influences, and its use as a sweetener will soon be prohibited by law. Yet, if this decision had depended on authentic reports of cases of sickness arising from the ordinary use of saccharin as a sweetening substance, its prohibition would probably never have been announced! So it is with aluminum. Alum baking-powder may be injuring thousands without affording any obvious sign of injury. While doubt remains, its use should be avoided.

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[14] The wound healed promptly in each case.

[15] This diet, with its contained bone-ash, has been given daily to dogs in this laboratory for nearly ten years with perfectly satisfactory results. Published reference has frequently been made to the physiologic advantages of this diet and to the utility of the bone-ash given with it.

[16] This observation accords fully with Professor Mallet's findings on the solubility of aluminum from aluminized bread in the stomach, as described on a preceding page.

Professor Steel found that, when aluminum chlorid was administered intravenously in very small doses, from 5.55 per cent. to 11.11 per cent. of the aluminum passed from the blood into the feces during the three days immediately after the injection. Whether this fecal aluminum passed directly through the walls of the intestine or was excreted by the liver, or whether both channels (or others) were followed, has not yet been ascertained. The possibility that the fecal excretion of aluminum takes place by way of the bile is now under direct investigation in this laboratory.

That absorbed aluminum may be distributed to all of the tissues, and that such aluminum may accumulate there, to some extent, is a probability which has been considered but which has not yet been adequately investigated. We have already inaugurated a study of this particular problem and hope to continue the investigation until the essential facts regarding the distribution of aluminum and its possible accumulation in parts of the organism can be definitely and clearly established. We have not yet studied the quantitative excretion of aluminum in the urine.

We have supposed that when aluminum enters the blood it combines there, in part at least, with protein. We have lately prepared various aluminum-protein products. Their qualities promise to reveal the combination tendencies of aluminum when it is absorbed into the blood and carried to the tissues.

Discussion of the toxic symptoms induced in animals by aluminum will be reserved for a future consideration.

I believe the foregoing observations justify the general conclusion that, unless it can be shown definitely, and beyond a reasonable doubt, that aluminized foods are harmless, the use in food of such aluminum carriers as alum baking-powders should be prohibited by law in the interest of conservation of the best of our natural resources—the public health.

437 West Fifty-Ninth Street.

A NEW OPERATION FOR URETERAL ANASTOMOSIS

A PRELIMINARY NOTE: ANASTOMOSING THE PROXIMAL END OF A DIVIDED URETER INTO THE SIDE OF THE URETER OF THE OPPOSITE SIDE *

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I am carrying out some experimental work on an operation for anastomosing the proximal end of a divided ureter of one side with the side of the ureter of the opposite side, with the idea of saving if possible a sound kidney in individuals in whom the lower end of the ureter is badly injured or diseased as in the following conditions; namely, when the lower end of the ureter is destroyed in operations for stricture of the ureter, or in the removal or dislodgement of an impacted ureteral calculus (especially when there is a large amount of inflammatory exudate so that the ureter is apt to be too badly injured to be repaired); when the ureter is involved in disease of the pelvic structures, or otherwise injured during operations performed in the pelvis, when the continuity of the ureter cannot be restored or implanted into the bladder; and when necessary for the correction of certain urinary fistulas involving the ureter. Implanting the ureter into the intestine is unsatisfactory and the formation of a urinary fistula by stitching the ureter to the skin is undesirable unless it is absolutely necessary.

I performed this operation for the first time on a colored male cadaver in the dissecting room of the Medico-Chirurgical College, in the following manner:

The abdominal cavity was open in the median line and the ureters were exposed by making longitudinal incisions, about one inch in length, in the parietal peritoneum over each ureter as it crosses the brim of the pelvis. The right ureter was drawn up and cut at a point about two inches from the bladder. The distal end was tied with silk thread. A pair of closed hemostatic forceps was passed through the incision in the parietal peritoneum over the left ureter and gently pushed across in front of the sacrum, loosening the parietal peritoneum and pushing it forward until the point of the instrument emerged through the incision made over the right ureter. (The parietal peritoneum can be elevated even more easily by using one's fingers.) The proximal end of the right ureter was then grasped with the forceps (or one may do so with the fingers), and drawn across in front of the sacrum and behind the parietal peritoneum to be anastomosed to the side of the left uterer. The ureteral anastomosis was then completed according to the method of Van Hook, except, of course, it was an end-to-side and not an end-to-end anastomosis. The anastomosis was made by grasping the sides of the left ureter with small dissecting forceps; the walls of the ureter were thus separated and a small longitudinal opening in the ureter was made with a pair of small, sharp-pointed scissors (or one may use a scalpel) without injuring the posterior wall of the ureter. A single thread of silk armed with two straight needles was used for the anchoring suture.

The needles were introduced from within the lumen of the proximal end of the divided ureter and brought out on its anterior wall about two or three millimeters from the cut end. Then the little slit in the wall of the other ureter was held apart with small dissecting forceps,

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* Read before the Philadelphia County Medical Society, June 14, 1911. From the Laboratory of Experimental Surgery Medico-Chirurgical College.

thus opening its lumen, and the two threaded needles were passed into its lumen and brought out on its anterior wall two or three millimeters below the end of the incision. The end of the ureter was then drawn into the other ureter and the suture tied. A suture was passed through the edges of the incision in the ureter and the wall of the other ureter at the upper end of the incision and one or two interrupted stitches were also passed through the outer coats along the sides of both ureters, forming the anastomosis. The incisions in the parietal peritoneum covering the ureters were then closed, and the operation was completed by closing the abdominal wound. If the divided ureter is too short to form the anastomosis the intact ureter may be lifted from its bed and drawn over slightly to form the union.

After performing the operation on the cadaver, I performed it on a dead dog and followed this by operating on live dogs. In the dog the serous coat of the ureter is stripped up with the ureter and carried with it; the same thing can be done on the human ureter except the peritoneum is not so adherent, and then it would be necessary to close the rent in the peritoneum caused by lifting the ureter. In this case, it would be possible to carry the ureter across in front of the peritoneum covering the sacrum, and the peritoneum could then be closed about the anastomosis.

There is one thing that those who have worked on the ureter have found—at least, it is my experience—that the ureters tolerate very little traumatism as necrosis and perforations take place under seemingly slight injury to the serous coat.

As the practical application of this procedure depends not only on its immediate results but also on its ultimate effect—that is, on the kidneys, ureters, etc.—I shall give the result in a future communication.

This operation must be thoroughly tried on animals before considering its employment on human beings, as all experimental operations on the ureters have been disappointing. At the present time it seems to me that nephrectomy under such conditions as I have mentioned above is still probably the best procedure.

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A CASE OF POTASSIUM CHLORATE POISONING

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Damage by borrowed medicine is frequently met. The following is an instance:

May 21, 1911, I was called to see a twenty-day-old baby with the following history: The mother knew of a neighbor's having some medicine that I had prescribed about a year previous for sore mouth, borrowed it and used it in large amounts locally on the membrane of the baby's mouth, and internally. She said that the child became irritable and began to vomit. Gradually the skin became blue in color and the stain of urine and fecal matter on the napkins became black. When I first saw the child it was cyanotic, very irritable and apparently had abdominal pain. The skin over the entire body was a deep yellow black. The conjunctivæ were yellow and the eyes had lost their luster. There was vomiting and the napkins were stained almost black. No urine for laboratory examination could be obtained. The pulse was 190. The child's condition on the second day was much worse. The pulse was 208 and temperature 99.5. The respiration was short and jerky. To Dr. Whyte, of Watertown, Wis., who was in town and who kindly consented to see the case, and to me, it seemed as if the child would surely die. The mother was very faithful in carrying out directions for elimination and on the third day the pulse fell to 180 and the deep color of the skin showed signs of fading. May 26, the color had markedly diminished and the urine began to clear. The child, however, vomited occasionally and developed a diarrhea which improved after the administration of a dose of castor oil and the withholding of all food for twelve hours. The pulse was then 140, temperature, 99. June 22, the child was back again in normal condition.

From the clinical findings, from the condition of the urine and feces, and from the history of giving potassium chlorate, the case appears to have been one of poisoning. The treatment was purely eliminative. The child was sponged frequently, given plain boiled water by mouth and rectum, put in bed near an open window and kept absolutely quiet. The second day a dose of atropin sulphate, 1/3000 grain, was given every two hours, because of its recent recommendation in collapsed condition of infants. Whether or not it did any good, I cannot say. The drug would seem contra-indicated because of the increasing pulse-rate and checking secretion. Had I had an infant stomach-tube, I should have washed out the stomach. It is possible that the reason the condition became worse on the second day was that the stomach had not been completely emptied and the cathartics failed to do what lavage could do. The child made a perfect recovery, however. This report, which, I think, illustrates the reckless use of drugs among the laity, may be of service to some one.

RUPTURE OF LEFT RECTUS MUSCLE

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History.—About 1 p. m., July 16, J. C., an intelligent Austrian, aged 40, was pushing a heavily loaded truck from the platform of an elevator. The elevator platform was several inches above the floor so that when he pushed the truck on to the floor, it rebounded and struck him in the abdomen. Pain and distress were marked at the time, but passed off and the patient worked the rest of the afternoon. On the morning of July 17, he reported at the office complaining of an intense pain over the site of the injury. He walked in a stooped position which seemed to ease the abdominal distress.

Examination.—The patient was well muscled and nourished. Examination indicated a moderate degree of arteriosclerosis; the pulse was 110, but of good volume and tension; temperature was 99.1. The abdomen was exquisitely tender over a spot about 2 inches square, ½ inch below and 1 inch to the left of the umbilicus; there was rigidity and a noticeable swelling at this point, and tenderness on both deep and superficial pressure.

The patient was sent to the hospital and an ice-bag applied, but by July 18 pain had increased, rigidity and tenderness had become more localized and swelling had increased. Notwithstanding a good bowel movement, an exploratory laparotomy was decided on. There was no scratch, abrasion or ecchymosis of the skin of the abdomen at any time.

Operation.—July 18, an incision was made over the swelling; as soon as the rectus muscle was reached, a considerable quantity of dark blood and recent clots welled up into the incision. The hematoma was wiped out, and the left rectus was found to be torn completely across and badly lacerated. The sheath of the muscle was intact, the peritoneum was opened, but no injury to any hollow viscus found. The muscle was sewed to the sheath and the bleeding points ligated. The abdomen was closed with drainage. There was a good recovery.

As before stated the man was pushing a heavy load and both recti were contracted to their full extent, this probably accounts for the rupture of this muscle without other internal injuries.

Therapeutics

EPIDEMIC CEREBROSPINAL MENINGITIS: SPOTTED FEVER

The present generation of medical practitioners has witnessed no greater revolution in the therapeutic measures employed in a disease, nor in the results following the use of such new treatment, than has taken place during the last five years in the case of epidemic cerebrospinal meningitis. This disease, also known as spotted fever, and more concisely designated as epidemic meningitis, is an infectious disease characterized by a purulent inflammation of the inner covering of the brain and spinal cord. It has been known to medical observers for about a century, and has been recognized as a terrible affliction, and dreaded by the profession and the laity alike.

Weichselbaum, in 1887, described an organism which he found in this disease, to which the name *Diplococcus intercellularis meningitidis* was given, and which has also been known by the shorter designation of meningococcus. Jäger, in 1895, demonstrated that this organism is the cause of epidemic cerebrospinal meningitis. It is found in the cerebrospinal fluid in well-developed cases of the disease. It is an organism of rather delicate vitality, and its activity seems to be impaired by fresh air and sunshine. It is sometimes found in the crypts of the tonsils and pharynx of persons who do not have an acute attack of the disease. It is probably transmitted through the secretions from the nose and mouth, and is received in this way by persons who subsequently become ill with the disease.

It has been found rather difficult to demonstrate the directly contagious nature of the disease. It was for many years the custom to admit patients with the disease to the wards of general hospitals, and for a long time it was believed that new cases did not arise from cases so present in the wards. Later, more careful observation has seemed to show that occasional cases do arise in wards from direct transmission, so that at the present time it is customary not to admit patients with this disease to the general wards of the hospitals, but to send them to hospitals designed especially for contagious and infectious diseases.

Approximately 15 per cent. of the patients with this disease are children under 2 years of age (and about 60 per cent. are children between the ages of 2 and 15.

Predisposing causes to this disease seem to be unhygienic surroundings and "crowd poisoning." In other words, it seems most likely to occur in epidemic form in cold weather and among children who are living in crowded apartments where there is but little sunlight, and where the windows are kept closed to keep the apartments warm. While it sometimes seems that a debilitated state of the system predisposes to this disease, it is also true that during epidemics some robust and apparently very well children acquire the disease.

An epidemic does not seem to spread out or develop from a single focus, but, like influenza, may attack people in different parts of a region at the same time.

Not infrequently the infection has been found to start from the pharyngeal tonsil, and thus enter the cranium through the sphenoid bone, and then along the vessels through the sphenoidal foramina into the base of the brain and sella turcica. Some investigations have seemed to show that the infection traveled along the lymph-channels rather than the blood-channels, and these investigations did not show that the infection went through the cribriform plate of the ethmoid.

In an acute attack of the disease the organs most affected are the meninges of the brain and spinal cord. The pia-arachnoid membrane is most affected, and it may show all grades of inflammation, but there is almost always more or less purulent exudate. The pus varies greatly in amount, and some parts of this membrane may be more affected than other parts. The region where there is the greatest amount of inflammation and pressure is indicated by peripheral nerve signs. As soon as there is exudate enough to cause pressure, the pressure alone accounts for many of the symptoms. The exudate does not, as a rule, penetrate into the brain or spinal cord tissue, but by pressure on the nerves at the base of the brain or spinal cord causes local paralysis.

At post-mortem examinations in this disease, the pia mater will be found covered with thin, yellowish pus, and there may be small petechial hemorrhages on the surface of the brain. The ventricles are also generally found filled with an exudate. The rapidity with which this condition can take place and cause death in some fulminating cases makes it one of the most serious diseases that we have to treat.

Although manifestations of this disease in its acute variety is limited to the cerebrospinal system, if the disease is protracted, there is hardly a part of the body that may not become affected. The lymph-glands and spleen generally do not enlarge, and metastatic abscesses do not occur, but pleurisy, pneumonia, endocarditis, pericarditis, nephritis, arthritis, neuritis, blindness and deafness can occur, to say nothing of later signs of cerebral degeneration.

The symptoms, as in all infectious disease, vary greatly in different cases. Sometimes the disease is so mild as not to confine the patient to bed. In other instances the patient is sick, but not seriously so, and soon recovers. These cases are distinguished as abortive cases, and no doubt they are frequently the direct cause of the inexplicable spread of the disease. The majority of cases, however, are very serious. The temperature is irregular; it may be high, if there is a condition of irritation or excitement of the nervous system, or may be low, if there is a condition of shock. The pulse is often very irregular; rapid if the patient is alert, and slow and gradually weakening, if the patient is in more or less stupor. Often the first symptoms are a slight congestion of the nose and throat and perhaps of the conjunctivæ, and often slight deafness. There may be some pains referred to the joints and lower extremities. There may be intense backache, shoulder pains and pains down the arms. There is always severe headache, with soon more or less stiffening of the muscles of the back of the neck. There is irritability, restlessness, often photophobia, and before the deafness perhaps a hypersensitiveness to aural impressions. In some instances the initial symptom may be a severe convulsion followed by unconsciousness. Such a case is of course a severe one. In some instances the nervous symptoms are preceded by a chill, followed by a quick rise in temperature.

The secondary symptoms depend entirely on where the greatest inflammation is located in the cerebrospinal axis and where the first pressure and the greatest pressure from exudates is exerted. Motor symptoms due to irritation of the roots of the motor nerves are early seen. These are, besides the rigidity of the muscles of the back of the neck and sometimes of the trunk, the so-called Kernig sign. This consists of an inability to extend the leg in line with the thigh, the latter having been flexed at a right angle with the body, without causing pain and contraction both of the muscles of the leg and of the back.

Besides the above symptoms, disturbances of the stomach and intestines are frequent, and reflex, or projectile vomiting, due to cerebral irritation, is a common symptom. There is generally constipation due to retarded peristalsis; often retraction or flattening of the abdominal wall. Petechial spots occur in about 25 per cent. of these patients, and are more or less distributed over the body. This gives the name to the disease of spotted fever. There is frequently observed the so-called *tache cérébrale,* which consists of a red mark which persists for several minutes after the finger-nail has been rubbed across the skin; or it may occur on the face on the side on which the child may be lying. Delirium is a frequent and early symptom, and is generally succeeded by coma, if the disease does not abate or the pressure of the exudate on the brain is not removed. The pupils are generally at first contracted due to the irritation, then often become unequal, and later, if the disease progresses to exudate and pressure, are dilated and will not then react to light.

If the pressure on the floor of the fourth ventricle and on the medulla becomes increased, the pulse becomes slow and intermittent, and Cheyne-Stokes respiration occurs.

After recovery there is often a lingering stiffness of the muscles, stiffening of the joints, maybe neuritis, and maybe some deafness, and, as above stated, there may be actual deterioration.

The discovery of the *Diplococcus intercellularis* as a cause of this disease, and this germ being almost invariably found in the spinal fluid obtained from lumbar puncture, when the disease is present, makes a presumptive diagnosis require the backing of the bacteriologic fact. In hospitals lumbar puncture is an exceedingly simple matter, but in private practice a physician may not think it immediately advisable, even if he has the technical knowledge to puncture the spinal canal properly, to apply this test, even if some symptoms look meningeal. However, if the meningeal symptoms are positive, or if doubtful symptoms do not in a few hours clear up, lumbar diagnostic puncture should be done.

While the most characteristic symptoms, when they are present, of a cerebrospinal meningitis are the early occurrence of a convulsion, with fever, and rigidity of the muscles of the back and neck, accompanied by projectile vomiting, headache, and photophobia, a correct diagnosis of the particular germ that is causing the disease can be made only from a lumbar puncture.

At the beginning of an epidemic, or when sporadic cases are encountered, the possibility of the occurrence of this disease is frequently overlooked, and a diagnosis of some other form of disease may be made and even persisted in until the death certificate has been written. On the other hand, in the presence of an epidemic of the disease, it frequently happens that other diseases are mistakenly called epidemic meningitis, until irrefutable evidence proves that it is not.

The diseases with which epidemic meningitis are most likely to be confounded are lobar pneumonia, gastro-intestinal intoxication, anterior poliomyelitis, otitis media, encephalitis, and typhoid fever. Besides these, other forms of meningitis which are not caused by the meningococcus must be taken into account in making the differential diagnosis. The most common of these diseases is tuberculous meningitis. Less common forms are the pneumococcus meningitis, streptococcus meningitis, and influenza meningitis.

Where the symptoms are less striking than in the group which is enumerated, the difficulty of diagnosis is often very great, and can be made only by a careful examination of the patient and by a gradual exclusion of other diseases. In every case, if possible, lumbar puncture should be done, and by examination of the fluid so obtained a definite diagnosis can generally be promptly made. The fluid is, as a rule, somewhat turbid, and the meningococcus can generally be found. Polymorphonuclear cells are also usually present.

Since the discovery, in the Rockefeller Laboratory by Flexner and Jobling, in 1908, of the antimeningitic serum, there seems to be but one way of treating the disease, viz., by the injection of this serum. The working rule is as follows: When the presence of this disease is suspected, a lumbar puncture should at once be made. If the fluid obtained is turbid, the serum should at once be administered. This is usually done with a syringe and through the same needle through which the cerebrospinal fluid has been obtained. It is customary to inject an amount not larger than has been withdrawn. This is usually about 30 c.c. While some prefer to inject with a syringe, others prefer to administer it through a glass funnel connected with the needle, believing that in this way they are less likely to produce injurious pressure on the central nervous system, which has sometimes been observed. These injections are generally repeated daily until four injections have been made, unless the patient is obviously convalescent before the later injections are due. If the patient grows worse after the first injection, a second may be given after twelve hours instead of waiting twenty-four. If the first injection does not show positive benefit, a larger amount, 45 c.c., may be given at the second injection. After the four injections it is customary to wait for two or three days, and, if the symptoms are still serious, to give another series of injections.

Previous to the introduction of this serum the mortality from the disease seems to have been practically about 75 per cent., although various observers, basing their conclusions on a limited number of cases, have represented the mortality to be less than this. Under the use of the serum, the mortality, taking a large number of cases together, has been reduced to about 25 per cent. Comparing small groups of cases, it is found that the earlier the injections are commenced, the less the mortality. The results obtained in children under 2 years of age are not so good as those obtained in older children, from 2 to 15 years of age. However, this representation of the improved statistics of mortality does not give a complete picture of the advantages to be obtained from the serum treatment. While these statistics indicate a very greatly increased benefit as regards the prevention of death, they do not show, what observers constantly report, the very great improvement in the results obtained by treatment, in that fewer patients become chronic invalids from hydrocephalus, from deterioration of mental power, and from deterioration of the general health. Under the old forms of treatment the condition of many who did not die was so bad that it was frequently said that the patient who died was more fortunate than the one who lived. The blindness, the deafness, the localized paralysis, the impaired mentality which were commonly seen in patients who recovered under old forms of treatment, are rarely seen after recovery from the serum treatment. The duration of the disease also is greatly lessened by this treatment.

Under old forms of treatment cases frequently persisted for weeks or months. Now such cases are rare.

Besides the specific treatment, the child's throat should be sprayed, or he should gargle with an antiseptic such as hydrogen peroxid solution in dilution of 1 part to 5 of warm water. The nostrils should be sprayed and cleansed with a warm, weak alkaline solution such as a diluted liquor antisepticus alkalinus. The eyes, if there is conjunctivitis, should be bathed with boric acid solutions. Painful joints should be wrapped up in cotton, and the child's body and limbs should be placed in the position that causes the least pain and is found the most comfortable.

A calomel purge should be given, followed perhaps by a gentle saline. If there is vomiting or entire loss of appetite, food should not be urged for the first two or three days, as the child is better without it. Plenty of water should be given him. If vomiting persists and nausea is severe, and especially if there is severe pain, morphin should be given to the point of relieving these symptoms. The amount and frequency depends on the age of the child and the intensity of the pain. It should be remembered that there is no more excuse for allowing a child to suffer pain than there would be for trying to compel an adult to suffer pain. The morphin should be administered hypodermatically. If the pain is not severe, bromids or chloral will cause much-needed sleep, muscle relaxation, and nerve rest, all of which three factors are exceedingly necessary in any meningitis.

After the first day or two, the simplest nutriment, in small amounts should be given, at three-hour intervals. The best nutriment for this disease is milk, oatmeal gruel, egg albumin, and later on, meat juice.

The medicinal treatment that will aid in relieving the inflammation caused by the disease while the antitoxin is combating the specific germ, is ergot, administered hypodermatically. This drug quiets cerebral excitement and delirium, contracts the blood-vessels, especially of the central nervous system, and can be contra-indicated only when the heart is excessively active and the blood-pressure high. If such contra-indication was present, the symptoms would be relieved by nitroglycerin, or better, by blood-letting. Such a contra-indication, however, is rarely present, and the ergot should be given intramuscularly into the deltoid, or into the calves of the legs if many injections must be made. The amount advisable is a hypodermic syringeful of a good aseptic ergot; this dose for an adult. A child of ten should receive half this dose, 1 c.c. (15 minims), and a child five years old one-fourth of this dose (7½ minims); or each a proportionate part of a more concentrated solution of ergot as occurs in an aseptic ampule. This dose should be repeated in three hours, if there seems to be no action from it, and then after that once in six hours until there is a marked improvement of the symptoms. The ergot not only acts satisfactorily on the nervous system in relieving congestion and quieting the patient, but also increases and prolongs the action of any dose of morphin which it is necessary to give. In other words, less morphin need be given for severe pain in meningitis if ergot is given coincidently. If the injection of ergot causes temporary local pain and swelling, an ordinary wet dressing of 1 part of alcohol to 3 or 4 parts of warm water bandaged over the part will soon cause relief. If the skin is properly cleaned and the needle and syringe aseptic, and the preparation of ergot a good one, there will never be an abscess.

Alcohol is never indicated; neither should any drug that would excite the brain or spinal cord be given, such as quinin, strychnin, caffein, etc.

A very useful local treatment is ice. The ice-cap to the head and the spinal ice-bag, if the child will allow it, is certainly good treatment. If the child will not allow these cold applications, or if the child is young and is easily depressed by an ice-cap on the head, or if the temperature is low, and especially if the patient is stupid, hot sponge baths are better than ice applications. The more the blood is brought to the surface of the body, the less will be the internal congestion.

Besides the lumbar puncture for diagnostic purposes and for the injection of the antitoxin, the relief of cerebral pressure from lumbar puncture should not be forgotten, and many a life has been saved, before the antitoxin was discovered, by one or more removals of this extra fluid allowing relief from dangerous pressure and coma. In other words, prolonged coma from pressure should not be allowed, if its removal by way of the spinal canal is possible. It is quite probable, however, at times when lumbar puncture is not satisfactory, if properly done, that a purulent plug has stopped the free exit of fluid from the brain to the spinal canal.

The general care of the patient is the same as for any serious illness. The sick-room should be a large, thoroughly ventilated room, quiet if possible, and not too dark. It is better properly to shade or even screen the patient's eyes and allow the sun to enter the room. No talking, no unnecessary noise, and no officiousness of nurses or parents should be allowed to occur. The feet should never be allowed to become cold. The bowels should be moved daily, after the first purging, in the easiest possible manner, perhaps with a glycerin suppository. An albuminuria may occur, but it requires no special treatment, except possibly the administration of more water to cause the urine to be less concentrated. Also, if albuminuria occurs, ice applications to the back should probably be stopped.

As soon as the patient begins to recover, the ergot is of course stopped, and an iodid seems advisable. It seems to be a clinical fact that small doses of iodid aid in the resorption of exudates. At any rate, they apparently work only for good. Sodium iodid is the salt that should be selected, and the dose should be small, not more than 0.10 gm. (2 grains) three times a day, for a child 5 years old. Large excessive doses of iodid are absolutely not indicated in any meningitis, unless it is syphilitic.

Convalescence calls for iron in small doses, and possibly for some bitter tonic. The patient should remain in bed at least a week after the cessation of all active symptoms. Later convalescence should be very slow, and the resumption of any work or duty postponed as long as possible. Any muscles or joints that are stiff should receive massage, and any paralyzed muscles should be given electricity soon, lest they atrophy. The early applications, however, should be mild, lest too much stimulation be given to the nervous centers. If there are later any adhesions in or around joints, chloroform should be administered and they should be forcibly broken up.

Derivation of the Word Epilepsy.—The word "epilepsy" is derived from the Greek. The original word in that language was *epi lambeino*, meaning "to fall on." The original spelling more nearly approached the Greek word than does the present; instead of "epilepsy" it was "epilency." Trevisa, in 1398, writing of it as was the custom in the fourteenth century, spelled it epilency.—E. L. Hunt in *Medical Record*.

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[*For other information see second page following reading matter*]

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EPIDEMIC DROPSY

The so-called "epidemic dropsy" of India first attracted attention in 1877, when an outbreak took place in Calcutta. The succeeding few years witnessed a somewhat limited spread of the disease, but it apparently died out completely, and for about twenty years no fresh cases were reported. In 1901, however, cases clinically similar to the earlier ones were again observed in Calcutta, and in the following decade the disease attained such importance as to cause a government investigation. A report of the results obtained so far has been made recently by Greig,[1] and his findings are of considerable interest in view of the close similarity shown by this affection to beriberi.

Although some resemblance between epidemic dropsy and beriberi had long been noted, the infrequency of peripheral neuritis in the former led some observers to consider it an entirely distinct disease, and indeed its clinical aspects would seem to warrant such a conclusion. The most constant and characteristic symptom, as the name indicates, is the marked edema, for the most part confined to the skin and subcutaneous tissues, though the serous cavities also are invaded in severe cases. The occurrence of neuritis is noted by different observers, but all agree that it is by no means so important a feature of this disease as of beriberi. Greig calls attention to the fact that the clinical picture resembles very closely that of "ship beriberi," in which dropsy is the chief symptom, and neuritis of relatively secondary importance. Besides ship beriberi, the "prison dropsy" of the early part of the nineteenth century also bears marked resemblance to the Indian affection.

The investigation attacked the problem on several distinct sides. Although the non-infectivity of epidemic dropsy has been commonly acknowledged, this was made the subject of experimental work, with entirely negative results. Monkeys inoculated with freshly obtained blood gave no evidence of infection, and all attempts at isolation or observation of a peculiar organism in blood, urine, feces and dropsical effusion were unsuccessful. The distribution, too, of the epidemic gave evidence of its non-infectiousness. Practically all cases occurred among Bengalis, while the Marwaris (Hindus) living in the heart of the affected portions of the city remained almost wholly free from the disease. So, too, none of the better class of Europeans contracted it; and although in the hospitals no attempt at segregation was made, no dissemination to other patients occurred. A map giving the distribution of the fatal cases illustrates these features strikingly. Five of the more populous wards were either wholly free from fatal cases or almost so. Of these, two are inhabited mainly by Marwaris, and the remainder form the European quarter of Calcutta, while the heavily affected wards are those occupied by the Bengalis. Such a distinction might, of course, argue for racial susceptibility, were it not for the fact that Eurasians and poor Europeans at times contract the disease, and that a much more obvious and probable explanation is forthcoming.

In the dietary of the Bengalis rice is the predominant feature, supplemented to some extent by "ata"—finely sifted wheat flour. The Marwaris, on the other hand, live mainly on the pulse-grains, and the varied diet of the well-to-do European needs no comment. Since the advent of steam mills into India, the rice is for the most part polished, with the result that the phosphated elements of the grain are largely removed, as is also the case with the wheat flour used by the Bengalis. The pulses are comparatively rich in phosphatic elements, and a comparison between the typical dietary of a Marwari and a Bengali shows from three to four times the amount of phosphoric anhydrid in the former as in the latter.

Additional evidence in favor of dietary one-sidedness as a cause of the disease is afforded by the fact that those among the Bengalis who most frequently eat meat—the men, and children of both sexes—showed the fewest fatalities, while among the adult females, who eat meat seldom, they were much more numerous, and among the widows, who by religion are allowed no meat, deaths were most frequent. Animal experiments, too, showed the harmful effects of the Bengali dietary. The symptoms so produced, however, resemble those of beriberi more closely than epidemic dropsy, and are similar to those observed by previous investigators.

As to the epidemic character of the affection, Greig notes that the outbreaks occur at the time of high food prices, and cease coincidently with the fall in food values. The Bengali, he considers, lives normally in a state of "nutritional instability," and it needs only the extra strain of famine to overwhelm the balance and bring on acute disease.

Why, with causes apparently so similar, the disease should differ to such an extent from beriberi in symptomatology, is difficult to say. The fact may be of significance that Megaw,[2] in reporting cases of epidemic dropsy observed in Eurasians and poor Europeans, gives neuritis as a marked and constant symptom. So it is possible that race, or such minor dietetic difference as may result from it, may be a factor in this phase of the subject.

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[1] Scientific Memoirs by Officers of the Medical and Sanitary Department of the Gov. of India, 1911, p. 45.

[2] Megaw: Indian Med. Gazette, 1910, xlv, 121.

PELLAGRA

Medical and press reports indicate the increasing prevalence of pellagra in different sections of the country. From Kentucky, Tennessee, North and South Carolina and Georgia come reports of increasing numbers of cases, some of them in localities where the disease had not previously been detected. These reports in all probability mark the annual recrudescence of the disease, and indicate that it is increasing from year to year, at least in some localities, and at a rate that demands serious consideration.

The evident increase in the number of cases, the high mortality attending the disease, and the lack of knowledge regarding its etiology and prevention, have created some feeling of alarm among the people of infected localities lest the disease might become widely epidemic. Judging from the experience of Italy, such an event is not impossible, since in that country the disease, soon after its appearance, became wide-spread and was attended by a high rate of mortality.

Accurate data regarding the prevalence of the disease in this country would at the present time be of the greatest value, but unfortunately these are not available since in only four states is pellagra required to be reported, and in only one of these are such reports required by law. Were these data available for the period since pellagra was first reported in the United States, it is probable that some idea would be gained as to the extension of the disease, and some light might also be thrown on the etiology and other phases of the problem.

No appreciable advances have been made in our knowledge of etiology and prevention in the recent past. The maize theory of the origin of the disease appears to be attracting less attention on the part of students of the disease. Sambon's hypothesis regarding the agency of flies of the genus *Simulium* appears as yet to have few supporters in this country, although Roberts[1] of Atlanta in a recent paper states that, from observations made in his section, conditions are very similar there to those described by Sambon in Italy where the disease prevails.

Alessandrini of Rome, on the other hand, attributes pellagra to a water-borne trematode of the genus *Filaria*.

Neither of these interesting views as to the parasitic origin of the disease has been confirmed. In fact, definite knowledge regarding the etiology of pellagra is utterly lacking, and the problem is one, therefore, that calls for urgent study and early solution.

Any true estimate of the significance of pellagra in the United States and its importance in future must be based largely on knowledge of its cause. The adoption of adequate preventive measures also depends on this factor.

The practically universal view of the non-contagiousness of pellagra renders quarantine inadvisable and unnecessary, and so far as known this measure has not been adopted by experienced authorities in their struggles against the disease. That health authorities and physicians generally are alive to the necessity of vigorous action, however, is shown by the interest taken by them in the subject. On the other hand, press reports and editorial comments indicate that the public is becoming much exercised over the situation. In an editorial in one of the southern papers,[2] the situation in North Carolina is referred to as alarming, and the medical profession is called on to devote more of its time and thought to the problems involved.

On the whole, the pellagra situation must be viewed with serious concern. The disease has been reported from more than thirty states, its area is extending, and its presence is a menace to the physical and mental integrity of large numbers of people. It therefore becomes one of the most, if not the most, important public health problem of the present, and as such, adequate provision should be made for its thorough investigation by federal and state health authorities.

THE FRENCH MARRIAGE LAWS

As mentioned[1] by our Paris correspondent, Dr. Bertillon, *chef de travaux* of the municipal statistics of Paris, believes that the success of the present French marriage laws in promoting marriage shows how much laws can do to improve social customs and conditions, and thereby justifies legislation to promote increase in the birth-rate. An "administrative nihilist" of Herbert Spencer's school would perhaps have said that the results of the change in the law showed how much law could do to hamper social progress, since the improvement noted since 1907 seems to be due to the removal of burdensome formalities and restrictions with which the old law surrounded marriage. We are inclined, on the whole, to agree with Dr. Bertillon; but in the operation of the old law and the new we see, in addition, how much legislators can accomplish which they did not desire or foresee.

The French ideal of the family has, to most English-speaking people, an archeologic interest. We ourselves look on the family in the stricter sense as normally subject to growth and decay during a single generation. It comes into existence with a marriage; it has its fullest bloom while the children of that marriage are under their parents' care; it begins to undergo autumnal decadence as those children leave the home circle to found families of their own or to live their independent lives; and it comes to an end with the death of the parents or last remaining members of the home circle. In the ancient world, on the other hand, the family was immortal, or as nearly so as pious care could make it. The *patria potestas* never lapsed; the personality of the head of the family might change, but there always was an absolute head. Individual members of the household might die, but the family existed from generation to generation, held together under one central authority, united by common interests and common experiences.

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[1] Roberts, S. R.: THE JOURNAL A. M. A., June 10, 1911, p. 1713.

[2] Danville (Va.) Bee, July 29, 1911.

[1] THE JOURNAL, June 10, 1911, p. 1734.

Something of this antique permanence and solidarity it was the object of the French law to preserve in the French family. That law and custom both were instrumental in rendering family ties especially strong and permanent in France is the testimony of the French themselves and of foreign observers best qualified to judge. The marriage law contributed to this end by requiring candidates for marriage, whatever their age, to produce either the consent of their parents or proof of their death. It is true that the law did permit a son or daughter of marriageable age to dispense with the parents' consent after going through a process known as *sommation respectueuse;* but this was considered "respectful" only in name. Sooner than subject a parent to such an indignity, any right-feeling French son or daughter would submit to lifelong celibacy; in fact, the scandal of an irregular union seems to have been less dreaded in some instances than that of a *sommation respectueuse* to the parents of one or the other of the pair. Thus, while on the one hand the old law was indeed most powerful in preserving the old family ideals (within, apparently, a sphere constantly narrowed by the celibacy of those whom it prevented from marrying), on the other hand it lent a kind of desperate sanction to those irregular households which could not be called families. And thus perhaps is partially explained the apparent contradiction between the views of those who consider the French the embodiment of all the domestic virtues and those who find in them the antithesis of all domesticity.

The ancient ideal of the French family, beautiful as it is in many aspects, seems an anachronism, and attempts to preserve it longer by artificial means would have been as disastrous as the attempt to preserve the Macedonian phalanx in modern warfare. The simplification of the French marriage law has apparently come none too soon. The old form of the family, admirable as it was in its own day, could be preserved in this age only at the cost of growing demoralization.

Current Comment

"H. L. HARRIS" AND DR. WILEY

Our old friend, "H. L. Harris," is again "on the job." The newspaper editors over the country are receiving a stock letter signed "H. L. Harris," the tenor of which is to the effect that Dr. Wiley is not the efficient public servant most people think he is. After explaining what a negligible quantity Dr. Wiley is in the enforcement of the Food and Drugs Act, H. L. Harris delivers himself of this gem:

> "There is really no danger to health and life from partaking of adulterated condiments, etc., and the bulk of food which mankind consumes, such as bread, meat, potatoes, fresh vegetables, fresh fruits, nuts, etc., never has been adulterated. . ."

Many newspapers know the true inwardness of Mr. Harris' communications. Some newspapers do not. As we have explained to our readers on several[1] occasions, "H. L. Harris" is one of the names under which the press agent for the borax trust—The Pacific Coast Borax Co., 100 Williams Street, New York City—writes. He sometimes uses the name "H. H. Langdon" and on the stationery which carries this name, calls himself a "Food Expert," and writes from a different address—427 West 22nd St. A few years back many medical journals printed H. L. Harris' articles on "Food Preservatives" under the belief that the author was a chemist instead of a publicity agent for the manufacturers of chemical food preservatives. After the reading pages of the medical journals were closed to this form of advertising, "H. L. Harris" sent letters to the newspapers on the subject of ptomain poisoning. Every case of alleged ptomain poisoning reported in the newspapers was collected by the borax concern and a stock letter signed "H. L. Harris" was immediately dispatched to the newspaper containing the report. These letters addressed "to the editor" first referred to the case of poisoning that had been recorded and then went on to tell how many thousands of cases of ptomain poisoning there had been since the pure food law had prohibited the use of borax in foods! Of course, it may be remarked, there is no particular reason why manufacturers of chemical preservatives should not send out articles to the daily press extolling their wares and criticizing the government officials who are trying to protect the public against those who would sell "medicated garbage" as foodstuffs. There is an excellent reason, however, why such articles should bear the name of the concern in whose interest they are written and not the variable cognomen of a "publicist." If the Pacific Coast Borax Co. should send out, on its own stationery, a letter signed by the company, stating: "We think Dr. Wiley a very undesirable man for the position of Chief of the Bureau of Chemistry, and we are fully convinced that borax is one of the most harmless and necessary ingredients of foodstuffs"—if, we say, such a letter were sent to newspapers there would be no grounds for criticism. But unfortunately, food dopers don't do business that way.

THE SANATORIUM AND THE DISPENSARY IN TUBERCULOSIS WORK

In a communication in this issue, Lawrason Brown calls attention to the need of accurate figures to prove or disprove the value of sanatorium and dispensary treatment of tuberculosis in its ultimate results. With the tremendous number of consumptives throughout the country it is impossible that all should be treated in sanatoriums, and besides, the solution of the economic problems involved is almost impossible by any state or community. Many private sanatoriums have been established for the treatment of tuberculosis, and a number of states have also established institutions of this sort. Besides these, lodges and philanthropic societies have also established sanatoriums for the purpose. On account of the large number of patients who need this sort of treatment none can remain long in these institutions, and whether they secure permanent benefit in a sufficient number of cases to justify our faith in the method, there are no accurate figures to show. Consumption is not cured in a few months. It requires three, four or even five years to effect a cure, whereas few consumptives stay in sanatoriums longer than six months. To overcome this difficulty, dispensaries have been established really more for the guidance and advice of patients and their families than to give individual treatment with the hope of cure. These dispensaries have no doubt done much good in the way of informing the patient as to the proper mode of life and habits for him to follow both for his own good and for the protection of those with whom he comes in contact. They have been the means, also, of aiding in the early diagnosis of many cases in patients who would otherwise have gone to physicians or to sanatoriums too late for much good to be done them in the way of care or treatment. But it is important to know accurately what the results of this treatment are. It is not the statistics covering the results of a few months of treatment, but the ultimate results, which constitute the actual test of the value of the treatment. Our correspondent, therefore, makes a plea for concerted work by sanatoriums and dispensaries in treating and following up these patients for a considerable period of time to ascertain the exact value of the treatment in saving the lives of consumptives. The sanatorium and dispensary idea has been gone into quite enthusiastically, and much money and energy are being spent by public and private charity for this form of treatment, without exact knowledge of its ultimate value.

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[1] Editorially in THE JOURNAL A. M. A., Oct. 5, 1907; Feb. 13, 1909; Jan. 1, 1910; March 12, 1910. Some of this matter has been reprinted in leaflet form and will be sent on receipt of stamp.

COMPULSORY NOTIFICATION OF POLIOMYELITIS.

At present, twenty-three states require that the health authorities be notified of cases of infantile paralysis. Other states will no doubt soon be in line. While the disease in epidemic form has prevailed in some countries of Europe for a longer time than in this country, and notification has been and is required, France seems to be one of those in which this has not been a requirement of the health authorities. The Paris Academy of Medicine, a little while ago, appointed a committee to consider the question of the propriety of obligatory notification of acute anterior poliomyelitis. On the recommendation of this committee, the academy advises that notification be made compulsory and that it should apply not only to typical cases, but also to doubtful ones, and furthermore, that it should be made at all times even in the absence of an epidemic. It is also recommended that children who have been in close relation with patients suffering from the disease be forbidden attendance at school for three weeks and that disinfection of the rooms at the termination of the disease be undertaken. Although the exact cause of this disease and the precise method of its transmission have not been determined, yet its infectious nature is so well established by clinical observation and experiment that compulsory notification is justified and should be required wherever the disease exists.

Medical News

CALIFORNIA

Medical Shop for Hospital.—Dr. Charles E. Zerfing, police surgeon of Los Angeles, is planning the establishment of a medical shop in the basement of the Receiving Hospital, in which will be made all the apparatus and equipment necessary to be used in all cases of emergency surgery. During the last year more than 21,000 patients were treated in the Receiving Hospital.

The Campaign Against Squirrels.—Dr. Friench Simpson, U. S. P. H. and M.-H. S., the federal expert in charge of the squirrel extermination campaign for the Visalia district, reports that in more than one hundred places under reinspection in the district, fifty were found to be absolutely free from squirrels. Assurance was given that while it will require several years of persistent effort squirrels can finally be exterminated.

Personal.—Dr. George W. Lasher, Los Angeles, is reported to be critically ill with cerebral hemorrhage at the home of Dr. William F. Perry, Los Angeles.——Dr. William W. Cross, Fresno, has been placed in charge of the branch of hygienic laboratory of the State Board of Health at Fresno.——Dr. Edwin B. McKillop of the Los Angeles County Hospital was struck by a car and painfully injured August 11.——Dr. Harold A. Miller and Dr. James A. Ellis have resigned as members of the Alameda Board of Health.——Dr. Henry C. Peterson, Stockton, has returned from abroad.——Dr. J. Perry Lewis, San Diego, fractured his leg and clavicle while cranking his automobile August 8.

COLORADO

Personal.—Dr. Maynard C. Harding, Ault, has been placed in charge of the Medical Mission of the Presbyterian Board at Soon-Chun, China.——Dr. William W. Arnold has been elected president of the Indiana Society of Colorado Springs.——Dr. Willis G. Mudd has been appointed a police surgeon of Denver.

New State Board Members.—Dr. Arnold Stedman has been appointed a member of the State Board of Health to succeed Dr. Lewis E. Lemen, Denver; Dr. James R. Arneill, Denver, to succeed Dr. Josiah N. Hall, Denver, and Dr. Charles S. Morrison, Colorado City, to succeed Dr. Vivian Russell Pennock, Longmont.

State Medical Society Meeting.—The forty-first annual meeting of the Colorado State Medical Society, held in Steamboat Springs, August 15 to 17, resolutions were unanimously adopted endorsing the policy and the work of Dr. Harvey W. Wiley, Chief of the Bureau of Chemistry of the Department of Agriculture, Washington, D. C. Pueblo was selected as the next place of meeting and the following officers were elected: President, Dr. Walter A. Jayne, Denver; vice-presidents, Drs. William F. Singer, Pueblo, Horace C. Dodge, Steamboat Springs, Frank L. Dennis, Colorado Springs, and Benjamin B. Beshoar, Trinidad; secretary, Dr. Melville Black, Denver (reelected); treasurer, Dr. George W. Miehl, Denver; publicity committee, the secretary and Dr. Edward Jackson, Denver; councilors, Drs. Jacob C. Chipman, Sterling, and Arthur G. Taylor, Grand Junction, and delegate to the American Medical Association, Dr. Hubert Work, Pueblo.

ILLINOIS

Inspection of Dairies.—An inspection of all dairies in the state, containing four or more than four cows, is being made by Dr. Charles E. Crawford, Rockford, chief inspector of the State Board of Health and his assistants, and on its completion the board will have an original report on every dairy in the state and full information as to its sanitary condition.

Personal.—Dr. Joseph P. Pecival has retired from the superintendency of the Cook County institutions, Dunning; the institutions are at present under the care of Dr. Carl F. W. Eberlein, assistant physician.——Dr. Chauncey Sherrick has been made chairman and Dr. Edward L. Mitchell a member of the committee of arrangements for the dedication of the new Monmouth Hospital.

Money for Children's Home.—It is announced that James A. Patten, Evanston, has donated $10,000 toward the purchase of a building for the Frances Juvenile Home Association, Chicago. The object of the home is to care for children afflicted with contagious or infectious diseases, and is intended to supplement the work of Cook County Hospital. The capacity of the home at present is fifteen, but the plans contemplate the accommodation of two hundred patients.

Conference of Charities and Correction.—The sixteenth annual State Conference of Charities and Correction will be held in Urbana, Ill., October 21 to 24. The social hygiene section will hold a mass meeting in the University of Illinois auditorium Sunday afternoon, at which Drs. Woods Hutchinson, New York, and George F. Butler, Chicago, and Mrs. Albion Fellows Bacon of Indiana will speak. In the evening Dr. Charles Henderson of the University of Chicago will deliver the conference address. Monday afternoon the county farm superintendents will hold a meeting, presided over by Mr. William C. Graves, formerly secretary of the Illinois Board of Charities; at the superintendents' meeting in the evening Hon. L. Y. Sherman, president of the State Board of Administration, and Chief Justice Harry Olson of the Chicago Municipal Court will speak. The exhibits are expected to be on a large scale.

Chicago

Personal.—Dr. F. Curt Harnisch sailed for Europe August 22.——Dr. Alexander H. Ferguson, who has been seriously ill, is reported to be improving.——Dr. Charles F. Yerger was operated on recently and is reported to be doing well.——Dr. I. S. Trostler has taken charge of the *x*-ray laboratory of St. Joseph's Hospital.——Dr. B. Barker Beeson has returned from Europe.

New Sanitarium.—One hundred and sixty acres of land has been purchased west of Rose Hill Cemetery for the new municipal tuberculosis sanatorium, on the building and grounds of which about $1,000,000 will be expended. Harlow N. Higginbotham is chairman of the committee which has the matter in charge. The law under which the sanatorium is being erected empowers any municipality in the state to raise funds for such purposes, if the people by referendum vote so decide.

Industrial Care of Tuberculosis.—The Chicago Tuberculosis Institute in its August bulletin calls attention to the efforts made by the institute during the last two years to interest large employers of labor in the physical examination of their employees with a view to reducing the amount of tuberculosis. The firm of Sears, Roebuck & Co. erected a six-bed cottage at the Edward Sanitarium, Naperville, about two years ago, for the care of their employees suffering from tuberculosis. At the same time they put into practice a system of examination for all employees who showed traces of the disease.——Montgomery Ward & Company built a model six-bed open-air cottage at the same institution for the care of their employees.——The International Harvester Company has adopted the plan of Dr. Theodore B. Sachs for the systematic examination of employees in manufacturing establishments. The list of suspected tuberculosis patients will include employees in whom the diagnosis of tuberculosis has previously been made; employees whose poor general condition, in connection with other suspicious symptoms suggest the presence of the disease; employees with histories of protracted cough and expectoration and employees in whose families tuberculosis exists, or in which a death from the disease has recently occurred. Dr. James A. Britton and Miss M. J. Flannagan have been placed in charge of the special tuberculosis clinic to be inaugurated for the benefit of the employees of the company. The institute announces that it is now ready, through its advisory committee, to act in an advisory capacity with other large employers of labor to secure a more general adoption of the plan proposed.

INDIANA

Isolation Hospital for Military Post.—The War Department has ordered that an isolation hospital be established at Fort Benjamin Harrison, near Indianapolis.

Daily Bulletin.—The City Board of Health of Indianapolis has begun the publication of a *Daily Bulletin*, touching on health subjects; thus far bulletins on care of infants, sewage, garbage cans and house flies have been issued.

State Association Meeting.—The meeting of the Indiana State Medical Association will be held in Indianapolis, September 28 and 29, under the presidency of Dr. Frederick C. Heath, Indianapolis. United States Senator Robert L. Owen of Oklahoma, and Dr. William Welch of Johns Hopkins University, are announced as special speakers on the program.

Personal.—The farm home of Dr. Simon P. Scherer, near Noblesville, was destroyed by fire August 10, the loss amounting to about $9,000.——Dr. Hugh T. Montgomery, the oldest practitioner of South Bend, announces that he will soon retire.——Dr. Charles S. Goar, Indianapolis, who has been ill for several months as a result of an automobile accident, is reported to have recovered sufficiently so that he can take out-door exercise.

Health Officers' Authority Limited.—The Attorney-General of Indiana has given an opinion to the State Board of Health at the request of Dr. Eric A. Crull, health officer of Fort Wayne, that a health officer in the absence of an ordinance giving him such powers is not vested with the authority of a police officer. Dr. Crull desired to know whether he has the right to go out and make arrests for violation of the health laws or whether he should depend on the police.

Increase in Poliomyelitis.—Infantile paralysis increased markedly during the month of July, thirty-seven cases having been reported to the State Board of Health. The secretary of the board is in communication with the State Board of Health of Illinois in an endeavor to locate the origin of the epidemic. The focus last year was Fowler, Ind., from which several cases have been reported this year, with a spread of the disease in a southeasterly direction. Shelby County hogs have been afflicted with a similar disease and in Carroll County a cow had the same symptoms. The Rockefeller Institute has been asked to carry on experiments in regard to the transmission of the disease from animals to man.

Sanitary Survey.—The State Board of Health is conducting a sanitary survey of the region along the Ohio River on account of the increased amount of disease in that vicinity. Statistics show that the death-rate is higher along the Ohio River than in the interior of the state, due to the amount of typhoid fever. In the town of Rockport the highest death rate is shown, which is 34.4 deaths per 1,000. The death-rate from typhoid alone at Vevay is 134 per 100,000. The Ohio River from the Ohio line to Louisville shows fecal contamination. From the examination of samples of well water, shallow wells, taken from widely scattered communities throughout the state, Dr. Barnard, the State Food and Drug Commissioner, asserts that fully 50 per cent. of the shallow wells in Indiana are polluted and impure for drinking purposes. White River, which flows through Indianapolis, is polluted by sewage. The mayor is cooperating with the city board of health in an effort to establish a municipal sewage disposal plant.

MARYLAND

Personal.—Dr. Charles H. Diller, Detour, was operated on for disease of the intestine, August 23.——Dr. James M. Goodman, Frederick, had a man arrested for blocking the road and not allowing him to pass while on his way to see a patient. The man was held under $50 bonds to the grand jury.——Dr. James L. McCormick, Trappe, has been adjudged insane and committed to the Springfield State Hospital.

Baltimore

Herter Lectures.—The annual Herter Lectures will be delivered October 4, 5 and 6, by Prof. Dr. Albrecht Kossel of the University of Heidelberg, who was awarded the Nobel prize last year for important discoveries in medical chemistry.

Personal.—Capt. Robert P. Bay, M.C., N.G., Md., assigned Fifth Infantry, has been made chief surgeon with rank of major, and assigned to the First Brigade, vice Maj. Alexius W. McGlannan, resigned.——Dr. Gustav A. Thiede has been appointed a health warden vice Dr. George B. Scholl, resigned.——Dr. George Heller has recovered from his recent severe illness.

MISSOURI

Headquarters Established for Tuberculosis Society.—The Buchanan County Society for the Relief and Prevention of Tuberculosis has established permanent headquarters at 2137 South Sixth Street, St. Joseph, where reports will be received, or information may be obtained, regarding the treatment of tuberculosis.

Personal.—Dr. M. C. Stone, Kansas City, has been appointed state bacteriologist to succeed Dr. Newton McVey.——Dr. Albert H. Myerdick, formerly city dispensary physician of St. Louis, has been appointed physician to the State Penitentiary at Jefferson City, succeeding Dr. James A. Waterman, who has been recently appointed superintendent of State Hospital No. 4, Farmington.——Dr. Price, assistant physician at State Hospital No. 3, Nevada, has resigned and will practice in Independence.——Dr. J. R. Van Atta has been appointed pathologist to the Kansas City General Hospital, vice Dr. M. C. Stone.——Dr. Albert B. Stone, Lamar, has been appointed a member, and elected secretary, of the Barton County Board of Health.

Hospital Staff Named.—The following medical and surgical staff is announced for the Kansas City General Hospital, for the year beginning September 1: superintendent, Dr. Louis W. Luscher; attending surgical staff, Drs. Jabez N. Jackson, John F. Binnie, John M. Frankenburger, Hermann E. Pearse, Jefferson D. Griffith, Howard Hill, Ernest F. Robinson and William D. Foster; attending medical staff, Drs. John L. Robinson, Charles C. Conover, Robert T. Sloan, Frederick McK. Lowe, Franklin E. Murphy, Hugh D. Hamilton, Arthur C. Leonard and Scott P. Child; consulting staff: pediatrics, Drs. Clay S. Merriman, Frank C. Neff and Jesse E. Hunt; orthopedics, Drs. C. B. Francisco and Robert McE. Schauffler; gynecology, Drs. George B. Norberg and C. Lester Hall; otology and laryngology, Drs. Flavel B. Tiffany, Andrew W. McAllester, Jr., and Joseph S. Lichtenberg; dermatology, Drs. Halsey M. Lyle and William Frick; neurology, Drs. John Punton and Henry O. Hanawalt; attending physician, Dr. G. Wilse Robinson; assistant attending physician, Dr. Rush E. Castlelaw; skiagraphy, Drs. Edward H. Skinner and Oliver H. McCandless; obstetrics. Drs. Caleb A. Ritter and George C. Mosher; genito-urinary diseases, Drs. Ernest G. Mark and F. M. McCallum; pathologists, Drs. William K. Trimble and Edward L. Stewart; oral surgery, Dr. Harold P. Kuhn, and dentists, Drs. W. T. Stark and H. B. McMillan.

NEW YORK

Changes at Matteawan.—Dr. James V. May, the newly appointed superintendent of the Matteawan State Hospital for the Criminal Insane, assumed charge of the institution August 14.——Dr. Raymond F. C. Kieb, first assistant physician at the Dannemora State Hospital, has been appointed temporarily as first assistant physician at Matteawan.——Dr. Dr. John W. Russell, for sixteen years a member of the staff of the Willard State Hospital, has been appointed assistant physician at Matteawan.

To Prosecute Cold Storage Men.—Following investigations made by state inspectors in the larger cities the State Health Department has made public a statement that there are millions of pounds of butter, eggs, poultry and fish held in cold storage beyond the limited time and in a condition unfit for food. The Brennan Cold Storage Law, in addition to limiting the time during which food may be kept in cold storage, provides that food once exposed for sale shall not be restored and that all storage food must be labeled with the date of its receipt in storage and of its delivery therefrom, and that when sold, it shall be represented as cold storage food. The most flagrant violations of this law have been found in New York, Syracuse, Albany, Utica, Rochester and Buffalo. The offenders will be prosecuted and the State Department of Health will use all its powers to see that the law is enforced in the future.

New York City

Addition to Hospital.—The new addition to the Margaret Fahnestock Training School of the New York Post-Graduate Medical School and Hospital is completed, and the building now provides accommodation for 139 nurses.

Cholera Steamer in New York Harbor.—Cholera caused three deaths on the steamer *Re d'Italia* which arrived from Naples and Palermo, August 17. Two other passengers in the hospital show signs of the disease. The steamer is detained in quarantine, pending examination of the passengers.

Work of the Diet Kitchen Association.—This association has more than 1,500 babies under its care and has dispensed as much as 24,650 quarts of milk in a week. It supports nine milk stations and renders efficient help to the board of health. There has been practically no mortality among the babies cared for by this organization this summer.

Ridding City of Stray Animals.—The Society for the Prevention of Cruelty to Animals has been busy since June 1 gathering up homeless cats and dogs. During a single night as many as 866 cats have been captured. Since August, 12,500 have been caught and since the beginning of the work 113,186 animals have been collected. It is generally admitted that cats may be carriers of disease and the crusade has seemed necessary on this account.

No Public Cups After October 1.—A new sanitary code ordinance will go into effect on October 1, which abolishes drinking cups in all public places, public schools, railroad stations and theaters. School children will have to furnish their own cups and it will be considered a violation of the law for any person to loan his or her cup to another. In order to assist in this movement a large department store is making a free distribution of several hundred thousand pocket drinking cups to school children.

Personal.—Dr. H. C. Cohen, ambulance surgeon of the J. Hood Wright Hospital, suffered a dislocation of the shoulder and serious injuries of the head and face in a collision between the ambulance on which he was riding and an Amsterdam Avenue car.——Drs. William Linder and O. Kruskal, Brooklyn, have returned from Europe.——Dr. Frederick L. Flynn, Bronx, Brooklyn, was injured August 19, in a collision between his automobile and a milk wagon.——Dr. Hoffman, ambulance surgeon at the Bellevue Hospital, was injured in a collision between his ambulance and a street car, August 23.

The Typhoid Situation.—For the week ended August 26, sixty new cases of typhoid fever were reported in the Borough of Manhattan as against eighty-eight for the previous week. In the Bronx there were thirty-one new cases reported as against forty-seven for the previous week. During the past month there have been thirty-five cases reported from the Roman Catholic Asylum in the Bronx. The investigations of the health department seem to indicate that the milk and water-supply cannot be held responsible for the outbreak in the Bronx, and that it is probable that flies and mosquitoes have been instrumental in spreading the infection. Some of the cases in Manhattan have been traced to the milk supply.

Hospitals Under New Charter.—The proposed new charter for the city of New York provides for the transfer of Bellevue and the Allied Hospitals from the present trustee system to a commission to be appointed by the mayor. This would be a reversion to the old state of affairs and the condition of the hospitals is so much better under the present system that there is much opposition to this proposed change. At a recent hearing on this phase of the charter many charitable and philanthropic organizations appeared against the change but no one spoke in its favor. Representatives of some of these charities urge all who are interested in the welfare of the sick poor or in the hospitals to use their efforts to obtain the defeat of this provision at the coming session of the legislature.

NORTH DAKOTA

Personal.—Dr. Arthur A. Husser, Berthold, fractured two ribs and sustained serious bruises in an automobile accident near his home August 20.——Dr. Benjamin R. McAllister, superintendent of the State Hospital, Jamestown, has resigned and will practice at his old home at King City, Mo.

PENNSYLVANIA

State Meeting.—The Medical Society of the State of Pennsylvania will hold its annual convention in Harrisburg, September 25 to 28, under the presidency of Dr. John Boyce Donaldson, Canonsburg.

Making Progress on Sanitarium.—More than 100 men are now employed on the State Tuberculosis Sanitarium at Cresson, and the first building, the dining hall, is now nearly completed. It is a two and a half story structure in the form of a Maltese cross. The east ward, administration building and power plant are also in course of construction.

Philadelphia

Bequest.—The executors of the estate of Max Bamberger have sent $10,000 to the Jewish Hospital Association and $5,000 to the Jewish Foster Home and Orphan Asylum.

Cholera Suspects.—The North German Lloyd Steamship Brandenburg from Bremen, arrived at Philadelphia, August 23, and was placed in quarantine because of a case of suspected cholera in a second cabin passenger.

Addition to Hospital.—Plans are being prepared for a three-story addition to the Northwestern General Hospital. The annex is to be in the rear of the present hospital building and will contain a dispensary, an operating room and private rooms.

Typhoid Traced to Milk.—The report of contagious diseases to the health department gives a total of fifty-eight typhoid fever cases, of which five were reported from the Twenty-second ward and nine from the Thirty-second ward. These were traced to milk infection and steps have been taken to cut off the supply of infected milk.

Memorial Tablet Unveiled.—A bronze tablet, to mark a bequest by the late Mrs. Estelle P. Melville, wife of Rear Admiral George W. Melville, was unveiled in the women's ward of the Episcopal Hospital on August 21. The tablet bears the following inscription: "Comfort the Sick. In memory of three sisters—A. V. Palis Truitt, Melina Palis and Estelle Palis Melville." The bequest endowed three beds in the ward.

City Babies for Adoption.—The children's wards of the Philadelphia General Hospital are so overcrowded that Dr. Joseph G. Neff, Director of the Public Health and Charities, has advertised in the German and Italian newspapers of the city for foster mothers, who will receive $3 per week and carfare for a certain period. Each woman will be obliged to report weekly with the child after it has been placed in her care and both will be examined.

Gift of Gymnasium.—Jacob Disston, who recently donated the site of the old Disston residence at Tacony to the city of Philadelphia for use as a public playground, has made an additional gift of $10,000, which will be utilized in making a model playground, erecting an up-to-date gymnasium, the construction of which was begun August 24. The building is to be of brick, two stories in height, 40 by 40 feet, with two one-story wings, 29 feet 6 inches by 33 feet.

Infant Mortality Declines.—Nearly one-third of the deaths of the city for the week ending August 26 were of children under 2 years of age. The total number of deaths was 464 and the total of children under 2 years was 149, of which 104 died of enteritis. But despite these figures the infant mortality in the city for the first three weeks of August was reduced 36 per cent., as compared with the corresponding period of last year. This is accounted for by the fact that the milk supply has been greatly improved by refrigeration in transportation, by better equipment of hospitals and by the city's corps of visiting nurses. In the first three weeks of August, 1910, there were 688 deaths of children under 5 years and in the same period of this year there were 434.

Personal.—Drs. Penn Gaskell Skillern and William W. Keen have sailed for Europe.——Dr. John F. McCloskey was badly injured in an automobile accident on August 18.——Dr. Herbert A. Bolan, who sustained a concussion of the brain from a fall, August 22, is recovering.——Dr. Gertrude A. Walker has recently given to the hospital connected with the Women's Medical College of Pennsylvania $1,000 for the endowment of a baby's crib in the College Maternity.——Dr. Herbert A. Bolan suffered a cerebral hemorrhage August 21, and was taken to the Presbyterian Hospital.——Dr. John F. McCloskey had three ribs broken and sustained severe contusions and scalp wounds when his automobile ran into a fallen tree, near Philadelphia, August 19.

WASHINGTON

State Meeting.—The annual meeting of the Washington State Medical Association will be held in Spokane, September 7, 8, 9, under the presidency of Dr. Wilson Johnston, Spokane. A public meeting is to be held under the auspices of Dr. J. B. Anderson, city health officer.

Personal.—Dr. George T. Boyd, Palouse, fractured his right arm, August 2, while cranking his automobile.——Dr. Frank A. St. Sure, formerly of Madison, Wis., has been appointed surgeon for the Chicago, Milwaukee and Puget Sound Railway at Ellensburg.——Dr. William L. Hall, Spokane, who recently fractured his ankle, is recuperating at his orchard home in Green Bluff Prairie.

Antituberculosis Association Election.—At the annual meeting of the Washington Association for the Prevention and Relief of Tuberculosis the following medical men were elected to office: president, Dr. Christen C. Quevli, Tacoma (reelected); vice-president, Dr. Wilson Johnson, Spokane; secretary, Dr. Walter C. Lippincott, Seattle; and directors the president and Drs. James R. Yocom, Tacoma; William S. Durand, Everett; Cornelius J. Lynch, North Yakima; Edward B. Nelson, Spokane; William C. Cox, Everett; James Sutherland, Spokane; Elmer E. Heg, Seattle; Eugene R. Kelley, Seattle, and Dr. Lee M. Ganson, Odessa.

GENERAL NEWS

Missouri Valley Physicians to Meet.—The twenty-fourth annual meeting of the Medical Society of the Missouri Valley will be held in Omaha, September 7 and 8, with headquarters at the Rome Hotel, under the presidency of Dr. Donald Macrae, Council Bluffs, Ia.

Eye, Ear and Nose Specialists to Meet.—The sixteenth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology will be held in Indianapolis, September 25 to 27, with headquarters at the Claypool Hotel, under the presidency of Dr. John J. Kyle of Indianapolis. Dr. Albert Gray of Glasgow, Scotland, will be the guest of the academy.

Pathologists and Nurses Wanted for Philippines.—The United States Civil Service Commission, Washington, D. C., will send to those interested circulars concerning vacancies. To a bacteriologist and pathologist at Manila a salary of $2,000 is offered. An examination will be held September 23. The same commission desires trained nurses for the Philippines and the Indian Service.

Meeting of Pure Food Departments.—At the annual convention of the Association of State and National Pure Food Departments, held in Duluth, Minn., August 21 to 24, Seattle was chosen as the site of the next meeting, and a telegram expressing confidence in Dr. Harvey W. Wiley, and promising support of his official acts was ordered sent to the President. The following officers were elected: Lucius P. Brown of Tennessee, president; H. E. Barnard, C. H. Billingsby and Joel G. Winkjer, Jr., vice-presidents; W. M. Allen, secretary; James Faust, treasurer; and Edwin De Barr, and Dr. Samuel J. Crumbine, Topeka, Kan., and Dr. Charles D. Woods, executive committee.

International Municipal Congress.—The preliminary program of the International Municipal Congress and Exposition to be held at the Coliseum in Chicago, September 28 to 30, announces the following general subjects for discussion: September 28, morning, "Methods of Controlling a Milk Supply;" afternoon, "Control of Contagion and School Inspection;" September 29, morning, "Protection of Water and Disposal of Sewage;" afternoon, "Yard Sewage and Slaughter Houses;" evening, "The Law in Relation to Health Work;" September 30, morning, "Disposal of Garbage;" evening, "Cost of Health Department Per Capita." Dr. William A. Evans, former health commissioner of Chicago, has been appointed chairman of the Health and Sanitation Division of the congress.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Aug. 18, 1911.

The Sanitary Situation with Regard to Cholera

During the last session of the permanent commission of the superior council of hygiene, which was held a few days ago under the presidency of Dr. Roux, director of the Pasteur Institute, M. Mirman reported the sanitary situation with regard to cholera. He emphasized especially the fact that aside from some isolated cases which have occurred in the departments of Bouches-du-Rhône and l'Hérault (The Journal, Aug. 19, 1911, p. 667), no case of cholera has appeared in France, notwithstanding various recent reports in the papers, which may be due to the instructions issued by the government that every case of choleriform diarrhea shall be examined and treated as a suspected case of cholera. Cases of choleriform diarrhea are particularly numerous this season, and the newspapers, judging from imperfect information, have concluded that these cases were cholera. The commission passed a resolution that all possible means of publicity be used to remind the public, in all cities where cases of summer cholera appear, of the utility of boiling water for drinking and of eating vegetables only when cooked and of taking all precautions of individual hygiene.

Moreover, as a precaution, the minister of the interior has just prohibited the pilgrimages to Lourdes. The sanitary situation in l'Hérault where Lourdes is situated has, however, become satisfactory. The epidemic has disappeared and the few cases reported during the last few days are progressing toward recovery. At present there is only one epidemic focus, which is that at the insane asylum at Marseilles, but there the conditions make isolation as effective as possible.

Dr. Doyen and Foot-and-Mouth Disease

For some time an epidemic of foot-and-mouth disease has been raging in several departments, owing to the reluctance of cattle owners to report cases and to isolate the affected animals. Dr. Doyen has made use of this occasion to seek notoriety once more. Unfortunately Dr. Doyen is not content with the deservedly high reputation which he enjoys as a skilful surgeon, but periodically breaks forth in the daily papers with sensational accounts of miraculous cures that he alleges he has obtained in all kinds of infectious diseases and in tuberculosis especially by the employment of a certain *solution phagogène* of his own preparation. From the beginning of the present epidemic of foot-and-mouth disease Dr. Doyen has been asking from the minister of agriculture letters to the prefects of the infected departments authorizing him to carry on treatment of foot-and-mouth disease by his *solution phagogène*. The minister of agriculture complied and Dr. Doyen, after having carried on a series of experiments, has addressed an open letter which is of course reproduced in all the daily papers, in which he declares that "foot-and-mouth disease is definitely conquered" and that the application of his treatment "is going to end infallibly in the revision of the rules of the sanitary police." At the same time with this letter, however, there were received at the ministry of agriculture reports from the presidents of the agricultural committees and letters from farmers stating that the results obtained by Dr. Doyen, although satisfactory in part, ought to be received with much reserve. The agricultural department, therefore, has thought it best to publish a note declaring that Dr. Doyen's results are not yet sufficiently attested and that until the efficacy of his treatment has been well established by methodical experiments it would be imprudent to relax the strictness of our sanitary legislation in respect to foot-and-mouth disease.

Abdominal Pneumococcic Septicemia

At the last session of the Société médicale des hôpitaux de Paris, Dr. Triboulet drew attention to the fact that while pneumonia, in the child as in the adult, represented the spontaneous and relatively benign fixation of the pneumococci, the case is quite different when the pneumococcic septicemia is localized in the abdomen. In addition to severe diarrhea, a duodenal catarrh (bilious diarrhea) is noticed which is particularly frequent in serious and prolonged cases with or without complications (otitis, purulent pleurisy, etc.). A diarrhea may also be associated with the peritoneal syndrome from the beginning, the diagnosis being uncertain and the symptoms recalling appendicitis or typhoid fever. Such cases demand continued treatment by colloidal silver. The patients, moreover, should be watched for a long time for the possibility of some development demanding surgical operation. These observations were confirmed by Dr. Caussade. The possibility of pneumococcus septicemia should be kept in mind in forming a diagnosis, since it is much more frequent than is generally believed.

The Rôle of the Nervous System in the Pathogenicity of Arteriosclerosis

Arteriosclerosis during the last two years has been the subject of a great number of experimental researches, but there has been no inquiry into the possible agency of the nervous system in causing these arteriosclerous lesions. On this subject M. Y. Manouélian recently made an interesting report to the Académie des sciences. He first divulsed a nerve fiber arising at the level of the solar plexus and running to the abdominal aorta in dogs and killed the animals at the end of a period varying from twenty days to two months. At the autopsy he found sclerous plaques in the region of the aorta corresponding to the nerve fiber divulsed, the rest of the aorta remaining absolutely unaffected. Another experiment consisting in divulsing a large nerve fiber running into the pulmonary artery after opening the thorax and making an incision in the pericardium. The dog having been killed sixty-five days after this operation, the autopsy showed a sclerous plaque in the region corresponding to the nerve fiber removed. Manouélian concludes that nervous lesions play an important rôle in the production of arteriosclerosis.

A Resolution with Regard to Criminals Acquitted on the Ground of Irresponsibility

At the close of the last session of the assizes of the Seine, the jury which had just acquitted a murderer on the ground of irresponsibility, sent to the minister of justice a note communicating a resolution, signed by twenty-eight of the thirty-one members of the jury, that the law should permit criminals acquitted on the ground of irresponsibility to be shut up in a special sanatorium until they ceased to be a danger to the public.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Aug. 11, 1911.

Personal

Professor Stähelin, first assistant at the Berlin Medical Clinic I, has been appointed director of the medical clinic at Basel, succeeding Professor Gerhardt. Professor Sauerbruch of Zurich has been appointed director of the surgical clinic at Königsberg, which position was refused by Professor Enderlen of Würzburg. Professor Trendelenburg, in Leipsic, who, as I have written already, resigned at the end of this semester, has received the title of privy councilor, with which is connected the title of *Excellenz.*

Professor Dr. Levy of Strassburg, the former assistant of Professor Foster, has received an extraordinary professorship in social hygiene. Professor Passow, the director of the Berlin Ear Clinic, has obtained an extraordinary professorship in rhinology. It is evident that this is meant to be a consolation for Passow's failure to obtain the management of the laryngologic clinic, to which position he aspires.

Unusual Jubilee

August 6, Privy Sanitary Councilor Friedrich Körte celebrated a very unusual jubilee, the seventieth anniversary of his doctorate. Körte, who is the father of the well-known surgeon, has for many years occupied a prominent position in Berlin medical circles. When only a young man he was elected president of the Gesellschaft für wissenschaftliche Medizin, a proof of his high repute among colleagues. Later, he succeeded in uniting this society with the Gesellschaft Berliner Aerzte (founded by Albrecht v. Gräfe) to form the Berliner medizinische Gesellschaft. Körte was president of this socity, and was later succeeded by his friend Rudolf Virchow. In the professional life of Berlin, Körte was for a long time a leading figure. When in 1887, in Prussia, the Aerztekammer was founded as a professional representation, Körte was the first president of the Berlin Aerztekammer. Now, at the age of 93, he enjoys comparatively good health, physically and mentally.

Conflict Between Physicians and Krankenkassen

In Halle a conflict has broken out between the physicians and the Krankenkasse organization, the former demanding a family insurance and also the free choice of physicians. The central meeting of the Krankenkassen rejected the propositions, as it was claimed to be impossible to pay the total sum of 10 to 12 marks ($2.50 to $3.00) for each insured individual.

The Warfare Against Sleeping-Sickness

As reported, the chief of the colonial health-board, Professor Dr. Steudel, has just left Marseilles for German East Africa where he will pursue the study of sleeping-sickness. The route is from Mombassa via the English Uganda railroad to Lake Victoria, where an inspection of the sleeping-sickness camps along the eastern shore will take place. From here Dr. Steudel will travel to Muansa, by the same lake, this point offering special interest, being an endemic seat of the disease. In Bukoba, also by the lake, will be visited the two oldest of sleeping-sickness camps in German East Africa, which have existed since 1907. Thence the journey will continue to Kissenji, by Lake Kiwu, from the south end of which the road goes through the Russisi Valley to Usambara, at the northern end of Lake Tanganyika, the government seat of Urundi. The Russisi Valley is of especial interest because it is the main road from Tanganyika, from which direction the disease is spreading; for protection much timber has been cleared here. Six sleeping-sickness camps will be visited at the northern end of Tanganyika where the disease claims the most victims in the German territory. From Ujiji, the terminal point of the East African Central Railroad, the journey will lead over Tabora to the angle of the road and then with the Central Railroad, as far as it is completed, back to Daressalam. Thus, the hygienic conditions along the railroad as well as in the capital, Daressalam, will be studied; especially the preventive measures against malaria will be tested. A visit is planned to the high altitude sanatorium Wugiri and perhaps also to the settlement at Kilimanjaro. The trip is planned to last about five months.

Infant Mortality in the Large Cities

According to statistics compiled at Amsterdam, that city has the lowest infant mortality among twenty large European cities, namely 8 per 100 births. Next comes Paris with 9 per cent.; third, London with 10.2 per cent.; and fourth, Milan with 12.4. The highest figures are furnished by Moscow, 32.6 per cent., and St. Petersburg, 25 per cent; then follows Breslau with 20.7; Munich, 19.2; Leipsic, 17.2; Vienna 16.4; Budapest 16.2; Berlin 14.6; Hamburg, 13.8; Dresden 13.3, after which follow Rome, Naples, Manchester, Liverpool, Birmingham and Glasgow. As a whole, the infant mortality in the twenty cities during the last three decades has decreased as follows: In Munich from 36.9 to 19.2; in Breslau from 35.0 to 20.7; in Berlin from 31.3 to 14.6; in Dresden from 24.3 to 13.3; but in Moscow only from 34.6 to 32.6; in St. Peterburg from 29.9 to 25.0; in Vienna from 18.8 to 16.4; in Rome from 18.8 to 13.4; in London from 15.8 to 10.2; in Paris from 18.4 to 9.4, and finally, the very remarkable decrease in Amsterdam, from 24.5 to 8.0 per 100 births.

Marriages

Leo Barton Allen, M.D., Canandaigua, N. Y., to Miss Eugenia Steelman of Manayunk, Philadelphia, August 16.

Marmaduke D. McComas, M.D., Fall River, Kan., to Miss Myrtle Boughton Ide of Topeka, Kan., August 14.

Beecher B. Baldwin, M.D., Elkhorn, Neb., to Miss Roma Romine of Marshall, Mo., at Omaha, August 16.

Nicholas Bacon Wagner, M.D., Eveleth, Minn., to Miss Kjistem Olson of Manitowoc, Wis., August 15.

Andrew Packer, M.D., Brooklyn, N. Y., to Miss Sophie Graham Booker of Raleigh, N. C., August 16.

Johannes M. Bacher, M.D., San Jose, Cal., to Miss Lillian A. Parker of Salinas, Cal., August 9.

Paul Eugene Gwin, M.D., Dolomite, Ala., to Miss Lulu Allen of Bessemer, Ala., August 17.

Ernest Morris Seydell, M.D., to Miss Margaret M. Carter, both of Wichita, Kan., August 8.

Charles Ford, M.D., to Miss Olive Green, both of Waggoner, Ill., at St. Louis, recently.

Arnold Burkelman, M.D., to Mrs. Mary J. Schallert, both of Los Angeles, Cal., August 17.

Franklin Raymond Dray, M.D., to Miss Anita Meyer, both of San Francisco, August 10.

C. B. Wycoff, M.D., Greensburg, Kan., to Miss Rose Snyder of Topeka, Kan., August 9.

Kate Armstrong, M.D., Kewanee, Ill., and Leroy Ewan of Cuba, Ill., August 24.

Frederick Amon Berry, M.D., to Miss Amy H. Gust, both of Chicago, July 26.

Deaths

Charles Voorhees Butler, M.D. New York University, New York City, 1893; of New Brunswick, N. J.; a member of the American Medical Association; a member of the staff of St. Peter's Hospital, New Brunswick, and Wills Memorial Hospital, Philadelphia; acting assistant surgeon, U. S. Army, during the Spanish-American War; died in Paris, France, July 15, from septicemia following a carbuncle, aged 42.

Herman P. Bender, M.D. University of Freiberg, Germany, 1879; a member of the Medical Society of the State of New York; a well-known surgeon of Brooklyn; radiographer to the German Hospital and president of its medical board, and also a member of the staff of Kings County Hospital; while alighting from a trolley car in Brooklyn, August 15, was struck by a speeding automobile and instantly killed, aged 54.

Guy Abbott Grafton, M.D. University of Minnesota, Minneapolis, 1899; of Hayward, Wis., formerly of Winona, Minn.; a member of the American Medical Association; died in St. Joseph's Hospital, Ashland, Wis., August 9, from acute peritonitis, following fracture of the leg in an automobile accident, a week before, aged 34.

John Henry Korff, M.D. College of Physicians and Surgeons, New York City, 1869; formerly a specialist on diseases of the eye and ear of New York City, and later an employee of the U. S. Subtreasury, Manhattan; died at the home of his son in East Orange, N. J., August 16, from cerebral hemorrhage, aged 67.

Edward O. Gratton (Years of practice, Illinois, 1878) hospital steward and acting assistant surgeon U. S. Army, assigned to the Seventy-Second Illinois Volunteer Infantry during the Civil War; a member of the first Board of Trade of Chicago; died at his home in Harvard, Ill., August 18, aged 84.

Edward Bernard Coburn, M.D. Albany (N. Y.) Medical College, 1890; a member of the Medical Society of the State of New York and the New York Academy of Medicine; surgeon to the New Amsterdam and Cornell dispensaries; died at his home in New York City, August 10, aged 43.

Patrick R. Bailey, M.D. University of Nashville, Tenn., 1868; a Confederate veteran; for thirty-four years an employee of the United States postal service; head of the mailing division of the Nashville Post Office; died at his home in Nashville, August 16, from heart disease, aged 64.

Benjamin Wilson, M.D. College of Physicians and Surgeons, New York, 1863; a member of the American Medical Association; surgeon of U. S. Volunteers during the Civil War; died at his home in Rochester, N. Y., August 13, aged 71.

Rudolph Frederick Bauer, M.D. Hahnemann Medical College, Philadelphia, 1885; University of Pennsylvania, Philadelphia, 1894; a member of the American Medical Association; formerly a member of the staff of the Wills Eye Hospital; chief of the eye clinic of St. Agnes Hospital and ophthalmologist to the German Hospital, Philadelphia; died at his home in Philadelphia, August 10, aged 49.

John Randolph Quinn, M.D. Long Island College Hospital, Brooklyn, N. Y., 1872; a member of the Medical Society of the State of New York and for forty years a practitioner of Brooklyn; died at his home, August 10, from cerebral hemorrhage, aged 64.

F. W. Van Dyke, M.D. Bellevue Hospital Medical College, 1875; formerly first mayor of Grants Pass, Ore., and president of the Oregon State Medical Association in 1910; died at his home in Grants Pass, August 11, from disease of the intestines, aged 59.

Frank Ellsworth Bratt, M.D. Medical College of Ohio, Cincinnati, 1896; of Cincinnati; a member of the Ohio State Medical Society; physician of the Fourth School District; died suddenly in Newport, Ky., August 20, from heart disease, aged 45.

Henry William Sheetz, M.D. Jefferson Medical College, 1869; for two terms a member of the South Bethlehem Burough Council; a member of the Medical Society of the State of Pennsylvania; died at his home in South Bethlehem, August 14, aged 65.

Charles Albert Bourk, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1880; a member of the Teller County Medical Society; died in Victor, Colo., July 17, seven days after an operation for appendicitis, aged 55.

John T. Kennedy, M.D. Tulane University, New Orleans, 1868; for more than twenty years vice-president of the Fannin County (Tex.) National Bank; died at his home in Bonham, August 17, from heart disease, aged 71.

Quincy Adams Lowe, M.D. Long Island Hospital College, Brooklyn, 1873; a veteran of the Civil War; for twenty-six years a practitioner of Crookston, Minn.; died at his home in Riverdale, Cal., August 5.

Ralph N. Gordon, M.D. University of Michigan, Homeopathic College, Ann Arbor, Mich., 1897; for thirty-five years a practitioner of Arlington, Ill.; died at his home in Seattle, Wash., August 7, aged 69.

Lewis Almon Harmon, M.D. Grand Rapids (Mich.) Medical College, 1905; of Marshall, Mich.; died in a hospital in San Antonio, Tex., August 10, shortly after an operation for acute peritonitis, aged 34.

Exeter P. Vaux, M.D. University of Louisville, Ky., 1876; a member of the Medical Society of the State of California; died at his home in Santa Cruz, April 14, from cerebral hemorrhage, aged 59.

William Joseph Mason, M.D. Atlanta (Ga.) Medical College 1884; of Riderville; a member of the Medical Society of the State of Alabama; died at Selma, in July, from nephritis, aged 50.

Samuel Reed Richey (license, Indiana, 1897); died at his home in Donaldson, Ind., August 1, from ulceration of the pylorus, complicating chronic gastro-intestinal catarrh, aged 70.

James J. Gleeson, M.D. University of Pennsylvania, Philadelphia, 1898; of New Haven, Conn.; died in St. Raphael's Hospital in that city, August 12, from pneumonia, aged 36.

Samuel O. Moore, M.D. University of Louisville, Ky., 1886; of Winnsboro; a member of the State Medical Association of Texas; died at Mineral Wells, Tex., August 16, aged 54.

Michael John Crilley, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1869; of Prescott, Ariz.; a vetern of the Civil War; died in Foster, O., August 13, aged 64.

Patrick J. Byrne, M.D. Bellevue Hospital Medical College, 1888; a member of the American Medical Association; died at his home in Bronx Borough, New York, August 3.

Alphonso Armstrong, M.D. Medical College of Ohio, Cincinnati, 1871; died recently at his home in Kewanna, Ind., from heart disease, aged 67.

Snowden Robertson, M.D. Atlanta (Ga.) Medical College, 1873; died at his home in Dallas, Ga., May 31, from cerebral hemorrhage, aged 71.

Morse Stewart, M.D. Detroit (Mich.) Medical College, 1878; of Petite Côte, Que.; died in the Hotel Dieu, Windsor, Ont., August 10, aged 58.

Edward R. Tevis, M.D. Louisville (Ky.) Medical College, 1880; died at his home in Brooksburg, Ind., June 30, from uremia, aged 55.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

JAROMA

A New, Euphonious Name for an Old, Ill-Smelling Drug

It has been frequently pointed out that most nostrums contain well-known drugs as their essential constituents. These are often disguised under fanciful names and sold under extravagant claims and at exorbitant prices. As examples may be mentioned:

Cane sugar for curing tuberculosis (Hydrocine, Oleozone, Oxydase).

Milk sugar for hay fever (Plantoxine).

Epsom salt for "softening the skin" (Spurmax).

Boric acid for deodorizing purposes (Amolin deodorant powder).

About eighteen months ago the attention of THE JOURNAL was called to a preparation called "Jaroma," marketed by the Jaroma Company of New York City, and advertised to physicians as a specific for sleeplessness. The general tone of the reading matter indicated that Jaroma probably belonged to the same class of humbugs as Oleozone and Plantoxine. As the efforts of the promoters at that time appeared to be devoted more assiduously to the sale of Jaroma Company stock than to the exploitation of the remedy, it was not considered worth while to make an analysis of the preparation. Recently, however, an advertising campaign for the sale of the remedy has been inaugurated both in the lay and to a limited degree in the medical press. A quarter-page advertisement has been appearing in medical journals often supplemented by a "reader" which still further sets forth the supposed merits of the nostrum. In the advertisements in the daily papers the assertion is made that Jaroma is indorsed by the medical profession and in support of this, parts of the "reading notices" from the medical journals are quoted. Once more then we have the edifying spectacle of medical journals lending their pages to the exploitation of a fraudulent "patent medicine" and aiding and abetting in humbugging the public.

One medical journal which carries advertisements for this nostrum describes Jaroma in part as follows:

> "A DISTINCT ADVANCE IN THE TREATMENT OF INSOMNIA
>
> "Recently a new hypnotic has become available to the profession and careful investigation seems to indicate that an ideal sleep-producer has been discovered. This new product, called Jaroma, is of vegetable origin and is obtained from a gum resin, in turn secured from narthex, a species of umbelliferous plant grown in provinces of Persia and Beloochistan. This gum resin from which Jaroma is prepared has long been used in the Orient for special purpose, while in Great Britain it has been successfully employed medicinally as an antispasmodic.
>
> "Through the use of Jaroma in appropriate dosage, natural sleep is obtained from which in four to eight hours a patient awakens refreshed and vigorous. No after-effect is produced and this eligible remedy is totally devoid of any depressing or toxic action. Its full physiological effect can be obtained as long as necessary without having to increase the dose and it has no habit-forming tendencies."

The circulars accompanying the nostrum are evidently intended for the laity, as may be seen from the following:

> "Are you nervous? Take Jaroma Vegetable Tablets.
>
> "Can't you sleep? Take Jaroma Vegetable Tablets."
>
> "Jaroma Vegetable Tablets, the new & wonderful specific for the 'AMERICAN DISEASE' NERVOUSNESS in its various forms."
>
> " . . . Jaroma is the needed special nerve food to counteract the special strain of modern American business and social life."
>
> "For the discovery of the Jaroma formula we are indebted to an eminent German Nerve Specialist who has had most gratifying results from this compound in his private practice."

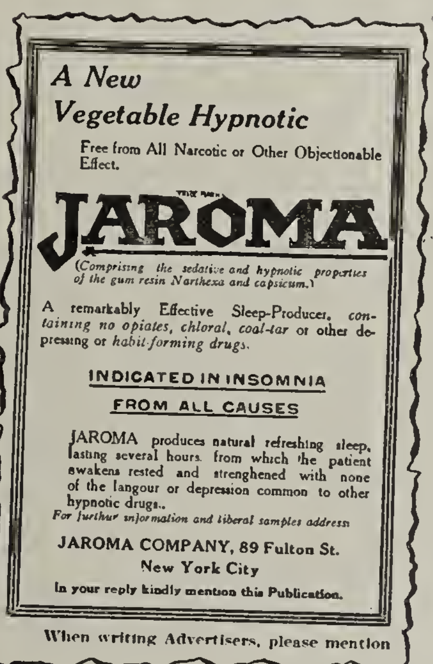
Jaroma having gone to the medical profession its examination was taken up by the Association's chemists who reported as follows:

LABORATORY REPORT

Narthex, the alleged source of Jaroma, is a nearly obsolete name for a genus of plants from some species of which the well-known drug asafetida is obtained. Physicians who are familiar with the origin or sources of drugs will have little difficulty in recognizing this substance from the mysterious description given in the "readers" that appear in certain medical journals, while no one could fail in identifying it by breaking one of the Jaroma tablets!

It is put up in tablet form in packages to be retailed at 10, 25 and 50 cents, the 10-cent size containing two and the 50-cent size twelve of the tablets.

Qualitative tests demonstrated that the medicinal portion of the tablets consists of asafetida, calcium sulphate (gypsum) and powdered capsicum, the greater proportion consisting of the two former ingredients. The absence of hypnotic alkaloids, bromids and chloral was demonstrated and other hypnotics such as diethyl-barbaturic acid (veronal) and sulphonmethane (sulphonal) were not found. Although no exact quantitative separations were made it is believed that a tablet containing asafetida 3 grains, gypsum 2 grains and capsicum 1/10 grain, would have properties similar to Jaroma. As gypsum has been frequently employed as an adulterant of asafetida the analyst has no means of demonstrating whether the calcium sulphate found in the tablets had been added as a "make-weight" or whether it is a part of the "formula" of the "eminent German Nerve Specialist."



A New
Vegetable Hypnotic

Free from All Narcotic or Other Objectionable Effect.

JAROMA

(Comprising the sedative and hypnotic properties of the gum resin Narthexa and capsicum.)

A remarkably Effective Sleep-Producer, containing no opiates, chloral, coal-tar or other depressing or habit-forming drugs.

INDICATED IN INSOMNIA

FROM ALL CAUSES

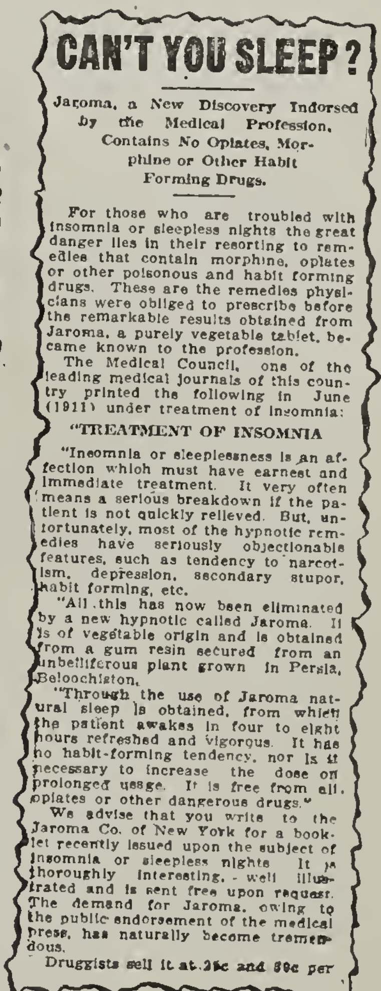
JAROMA produces natural refreshing sleep, lasting several hours, from which the patient awakens rested and strenghened with none of the langour or depression common to other hypnotic drugs.

For further information and liberal samples address

JAROMA COMPANY, 89 Fulton St.
New York City

In your reply kindly mention this Publication.

When writing Advertisers, please mention



CAN'T YOU SLEEP?

Jaroma, a New Discovery Indorsed by the Medical Profession. Contains No Opiates, Morphine or Other Habit Forming Drugs.

For those who are troubled with insomnia or sleepless nights the great danger lies in their resorting to remedies that contain morphine, opiates or other poisonous and habit forming drugs. These are the remedies physicians were obliged to prescribe before the remarkable results obtained from Jaroma, a purely vegetable tablet, became known to the profession.

The Medical Council, one of the leading medical journals of this country printed the following in June (1911) under treatment of insomnia:

"TREATMENT OF INSOMNIA

"Insomnia or sleeplessness is an affection which must have earnest and immediate treatment. It very often means a serious breakdown if the patient is not quickly relieved. But, unfortunately, most of the hypnotic remedies have seriously objectionable features, such as tendency to narcotism, depression, secondary stupor, habit forming, etc.

"All this has now been eliminated by a new hypnotic called Jaroma. It is of vegetable origin and is obtained from a gum resin secured from an unbelliferous plant grown in Persia, Beloochiston.

"Through the use of Jaroma natural sleep is obtained, from which the patient awakes in four to eight hours refreshed and vigorous. It has no habit-forming tendency, nor is it necessary to increase the dose on prolonged usage. It is free from all opiates or other dangerous drugs."

We advise that you write to the Jaroma Co. of New York for a booklet recently issued upon the subject of insomnia or sleepless nights. It is thoroughly interesting, well illustrated and is sent free upon request. The demand for Jaroma, owing to the public endorsement of the medical press, has naturally become tremendous.

Druggists sell it at 25c and 50c per

Photographic reproduction (reduced about one-half) of typical advertisements of Jaroma. On the left is the advertisement that has appeared in such medical journals as the *International Journal of Surgery, American Medicine, Medical Council, American Journal of Clinical Medicine*, and possibly others; on the right is a typical newspaper advertisement. This particular one appeared in the Buffalo *Evening Times*.

Thus according to the chemists' report this "new vegetable hypnotic" and "special nerve food" is, essentially, asafetida. Although in rational medicine no hypnotic powers are claimed for this drug it is often prescribed in certain forms of hysteria, while as a condiment, it has been known and used from prehistoric times. Therefore, the only new thing about the stuff is its name and the fraudulent use to which asafetida is put. Jaroma is another of those nostrums which are used to humbug both the public and the medical profession.

Miscellany

The Hemoleukocytic Formula in Human Tuberculosis.—The investigation of the changes which the blood undergoes in consumptives has given rise to many studies, and their authors have come to such divergent conclusions that up to the present it has been impossible to establish a well-defined hemoleukocytic formula which might serve as a standard for instituting a more or less exact hematologic diagnosis, as in the case of other diseases. Tuberculosis is a disease which develops between periods of calm and of exacerbations more or less intense, and it is precisely in these intervals that the infection progresses and changes its phases, so that if, in addition to the clinical observation, a repeated examination of the blood is also made, a type of hemoleukocytic desequilibrium may be established which will permit useful deductions to be made respecting the course of the infection, the reactional energy on the part of the organism, the therapeutics and even the provisional prognosis. Following these ideas M. Dominguez (*Sanidad y Beneficencia*, April, 1911) made an attempt to study the question. He has been able to follow thus far the course of forty observations, including adults and children in various stages of the disease. The greatest possible amount of data in relation to the phases of the infection has been obtained, and note of the clinical symptoms has been taken before making the analysis of the blood. In all patients the presence of the Koch bacillus in the sputum was confirmed. The results obtained from the globular count in his cases were as follows: The number of red cells per cubic millimeter oscillated between 2,612,500 (case with hemoptysis, intestinal invasion and bloody diarrhea) and 5,400,000. In only one case of pulmonary and laryngeal tuberculosis, cavitary and with cardiac hypertrophy, did the number reach 7,231,250. The most constant oscillation was between 4,187,000 and 5,921,250. The alterations in the size of the globules were very exceptional; the megalocytes and microcytes occurred only in cases of intense anemia; the achromia and polychromatophilia were slight. The red globules rarely exceeded the normal limits. In tuberculosis the changes in the blood were not constant, but variable from one case to another, and depending on multiple factors differently associated. When there really was anemia, it was moderate. Anemia was rarer and less intense in articular, osseous and vertebral tuberculosis. In exceptional cases, tuberculosis may produce profound anemia and there are two types; anemia at the beginning, frequent not only in the pulmonary but also in the ganglionic form, in which there is a slight hypoglobulia, a marked decrease in hemoglobin and a relative or absolute lymphocytosis. This is the hematologic type of which chlorosis has been made the characteristic and in which many of the so-called chlorotics are only sufferers from anemia due to incipient tuberculosis; the second group includes the anemia of the majority of consumptives who have reached a more or less progressive period of the disease, without hectic fever, and who only present slight alterations of the blood, with an almost normal globular value, and in which the toxemia and cachexia leave no doubt respecting the existence of a globular destruction, which when it does not appear at once, is because it is concealed by an inverse process. Advanced consumptives with hectic fever are generally anemic and the destruction of the blood in these cases is due to septicemia, the disglobulizing process being the same as that of the common septicopyemias. Hyperleukocytosis in consumptives without fever was rarely found, the highest figure being 18,750; in cases of hemoptysis and anemia, hypoleukocytosis more or less pronounced was found. The lowest figure was 3,125; the most frequent variations in different clinical forms oscillated between 6,250 and 12,000. In chronic apyretic tuberculosis or in slightly febrile forms, a polynucleosis of from 66 to 88 per cent., a mononucleosis of from 11 to 15 per cent., and an eosinophilia of from 3 to 10 per cent. were found. In laryngeal tuberculosis, the eosinophilia at times reached 0. In asthmatic consumptives, the figure found was 6.14 per cent. In a child with closed coxalgia and asthma, 8.09 per cent. Lymphocytosis rarely exceeded 46 per cent., the large and medium-sized cells predominating. Persistent lymphocytosis in closed coxalgias was notable, the figure varying between 31 and 40 per cent. Large mononuclears varied between .62 and 15.67 per cent., the most constant figures being from 9 to 12 per cent. In a general way, therefore, Dominguez finds that unadvanced consumptives with small hemorrhages, with fever and scant expectoration and tendencies to regression, present a leukocytosis of 9,000 to 12,500, a low mononucleosis of 12 to 15 per cent., and an eosinophilia which at times reaches over 5 per cent. when the manifestations cease and which maintains itself more or less in relation to the period of apparent recovery. In the laryngeal forms there is a lymphocytosis of between 25 and 35 per cent. In tuberculous coxalgias in children, there is a slight or no hypoleukocytosis, 37 to 55 per cent. polynuclears, and 4 to 8 per cent. polynuclear eosinophilia, the characteristic of these forms being the lymphocytosis, at times reaching 46 per cent.

Prophylaxis of Epidemic Poliomyelitis in Norway.—The authorities in Norway published in June an appeal to physicians to be on the lookout for acute poliomyelitis, saying that it has recently appeared at different points throughout the country and the number of cases and the virulence of the disease as observed now surpass all experiences since the epidemics of 1905. After referring to the circular, issued by the authorities in 1904, the appeal calls attention further to the necessity for isolation of the sick and their attendants during the acute stage (as a rule, for three weeks after the first symptoms). Especial care must be taken to sterilize the secretions from the nose and throat, and the dishes and spoons, etc., used by the sick must be boiled at once. All who have been in recent contact with the sick should be advised to gargle frequently with solutions of potassium permanganate or hydrogen dioxid, and the sick should do this also to render their secretions harmless for others. A terminal disinfection of the room is necessary as for other infectious diseases. Although there is no certain evidence of transmission of the disease by foodstuffs, yet this possibility should not be disregarded, as also the possibility of healthy carriers. The frequency of sore throat as an early symptom of poliomyelitis should be borne in mind, and persons with sore throat who have been exposed to poliomyelitis should be regarded as suspects. Mild abortive cases of poliomyelitis play an important part in the spread of the disease. Physicians are requested to notify the authorities of every new case, with a detailed case-history and remarks on the etiology which the case may suggest, and they are also asked to report the ultimate outcome. The appeal is published in detail in the *Tidsskrift for den Norske Lægeforening*, July 1, 1911, page 92.

Columbia University Quarterly.—This interesting publication often takes up matters of wide general interest. A recent number has several articles of general interest in the educational world, some pictures pertaining to the university and excellent pictures of two physicians who have recently died, Drs. Hermann Knapp and Edward G. Janeway. In a brief sketch of the career of Edward G. Janeway, Dr. Horst Oertel especially points to the eminence of Janeway's lifework as a pioneer in the development of scientific medicine in this country. His position in the field of pathologic anatomy is compared with the work Virchow was doing contemporaneously in Europe; both men breaking with the old scholasticism in the conception of disease. Oertel says that to Janeway a disease was never a type or a collective name given to pigeonholed association of fossilized ideas, but a living localized anatomic process for whose proper understanding one had to reconstruct former experiences. He approached his cases, therefore, with the attitude of the natural scientist. Among his achievements are mentioned that he was the first in this country to champion the infectious nature of tuberculosis; that he gave a description of leukemia for the first time in America, based on his own observations; and that to him we owe the first comprehensive, systematic presentation of syphilitic fever made anywhere. His activity in the establishment of pathologic anatomy as the objective basis of all rational medical thought and practice, may, however, be regarded as his greatest contribution to medicine.

The Malarial Cycle.—Reviewing Professor Ross' "Prevention of Malaria," E. A. Minchin says in *Science Progress* that "the malarial theorem, as Ross aptly terms it, may be stated briefly as follows: Malaria in man or animals is a disease caused by a minute parasite which lives and multiplies in the blood, passing its trophic phase within the red blood-corpuscles. The parasite is propagated from one vertebrate host to another by the agency of certain mosquitoes, which, on sucking the blood of an infected vertebrate, take various stages of the parasite into their stomachs with the blood; one stage of the parasite resists the action of the digestive juices of the mosquito and passes through a sexual process of generation and multiplication within the body of the mosquito, the cycle ending after some days with the production of many thousands of minute germs ('photospores,' Ross) lodged in the salivary glands. If the mosquito then succeeds in biting a vertebrate of the right kind, that is to say, of the kind which is a specific host of the parasite in question, the germs pass down its proboscis and are inoculated into the blood, thus bringing about a fresh infection of the disease. Every statement made in the foregoing sentences is based on rigorous experiment or accurate microscopic investigation. It only remains to add that the various species of malarial parasites are specific to certain hosts, vertebrate or insect; those of birds, for instance, can be transmitted only by mosquitoes of the subfamily Culicinæ; those of men only by the subfamily Anophelinæ." The aims of the principles of malarial prevention must be to interrupt the complex chain of circumstances on which the existence of the parasite depends. If the parasite cannot pass from man into the mosquito, or from the mosquito into man, it becomes extinct with the death of its host, if not before, says Professor Ross, and he offers three general principles of prevention: (1) mosquito reduction; (2) treatment of human beings with quinin; (3) protection of human beings against mosquitoes. Of these three principles—of which neither can be carried out completely—he regards the first-named (mosquito reduction) as giving the best results.

The Investigator's Curiosity.—As children we all have an instinctive curiosity concerning the world about us, a curiosity which most of us gradually lose as we fit ourselves into the social conventions. The investigator is one, however, in whom his natural curiosity still persists. He has never got past the annoying stage of asking "Why?" The events occurring on every side which are matters of course to most men, startle him into wonderment. Why does the spinning top not fall? Why do animals breathe faster when they run? Why does disturbed water take the form of waves? Why do roots grow downward? Why does the mouth become dry when one speaks in public? Such are the questions that arise. The answers to them may be incalculably valuable to mankind. The microscope revealed to Pasteur strange organisms in bad tasting wines. Why may not the disease of the wine, he asked himself, be due to the growth of these unusual germs within it? And later when he found germs also in silkworms, the further question was suggested: Why may not animals likewise become diseased in exactly the same manner? Whether the surmises of the investigator are true, the testimony of other men usually does not tell. He must turn to Nature herself and put the idea to the test of observation and experiment.—Cannon in *Science*.

Woman's Vital Resistance.—Woman excretes less carbonic acid and therefore is in less need of oxygen and needs it less vitally than man. This is thought to be a factor in woman's greater capacity to endure heat, especially the heat of rooms of high temperature, as is seen in bakeries and in the manufacture of charcoal, where it is said that women are little inconvenienced by a very high temperature. This is thought, also, one of the reasons why women experience less discomfort than men in breathing the rarefied air of high altitudes, and why, too, that women suffer less from chloroform anesthetics; and, for want of a better explanation, it has been given as the reason why women criminals more often survive hanging than men.—Stewart in the *Medical Record*.

Correspondence

Concerning Sanatorium and Dispensary Treatment of Tuberculosis

To the Editor:—Advocates of sanatorium treatment of tuberculosis have attempted to prove its value by giving the immediate results of treatment. The fact that immediate results are of slight importance in comparison with the ultimate results does not yet seem to be realized. The very name, sanatorium, indicates that it is a place where patients go to be cured, yet few men realize that tuberculosis is not cured in six months, but that it requires three, four or five years. The ultimate results, therefore, in patients who have undergone sanatorium treatment, are really the true test of its value. The economic importance of this question is great, for the cost of maintenance in the sanatorium, while probably less than that in the general hospital, is undoubtedly high. It is impossible to establish sanatoriums in sufficient numbers to accommodate all patients suitable for admission, and further, were this possible, the expense of maintenance would be a grievious tax on the public.

Many attempts have been made to solve this difficult problem of the treatment of tuberculosis among the masses, but not until a few years ago, when special dispensaries for the free treatment of the tuberculous were first established, was any real attempt made to treat tuberculosis outside of the sanatorium. In these dispensaries, not only medical advice but also material assistance and advice in regard to many questions pertaining to the home have been given freely. While the object of these dispensaries was at first to treat the tuberculous, it is now recognized that their main object is to prevent tuberculosis in the communities in which they are situated. However, for a time, the dispensary, in which many more patients could be treated than could ever be admitted to the sanatoriums, was looked on as vastly more important in the treatment of tuberculosis among the poor than the sanatorium. Many reasons were advanced to uphold this view. When a patient applied to the dispensary for treatment, the other members of his family were subjected to examination. Many early cases of tuberculosis were thus discovered and the problem arose at once as to what steps should be taken. In a large majority of instances, these patients could not afford to give up work, or leave home, and the question at once arose as to the efficacy of the dispensary treatment of tuberculosis.

A large number of individuals among the families of the tuberculous poor who apply for treatment at the dispensary, are found to show physical signs in the lungs. Some of them have symptoms and should be treated. Others have no symptoms and there is grave doubt as to whether these patients need anything more than careful watching. There can be no doubt that some of the good results obtained in dispensary or sanatorium treatment are due to the fact that such individuals have been subjected to treatment. It certainly seems unnecessary to treat patients for a disease of which they present no symptoms. They do, however, need careful watching and here the dispensary may do work of inestimable value. A number of dispensaries in America have published reports of the immediate results of treatment but such figures carry far less weight than the percentages of living, dead and untraced among a number of carefully classified patients. There is no doubt great difficulty in following these patients either to their death or to recovery at the end of five years, but with the excellent facilities at the disposal of many modern dispensaries, such, for example, as the visiting nurses, the various relief associations and the hearty cooperation of the boards of health, such work should present no insurmountable difficulties.

As yet, few, if any, carefully worked out statistics from dispensaries, showing the ultimate value of dispensary treatment, have been published. This method need not necessarily be pursued by every dispensary, but a number of dispensaries in, for instance, Baltimore, Boston, Chicago, New York and Philadelphia, could undertake this work for a series of years. There is no doubt that the class system introduced by Pratt adds the breath of life to many dispensaries. It will be of great value to compare results obtained in the dispensaries before and after the introduction of this method. Many patients from the dispensaries are sent to sanatoriums; on return they should report to the dispensary. These patients should be studied separately and the problem of the best treatment of tuberculosis might then be solved.

There are few figures with which to compare the ultimate results obtained in sanatoriums. In a recent letter to the Lancet (1910, ii, 1446), Davies compares the results in 278 patients who did not go to a sanatorium with fifty who did. Excluding eighty-eight who died within three months, he was able to trace 116 patients, of whom 100 had died at the end of four years, and apportioning the seventy-four untraced patients in a similar manner, 14 per cent. of them were estimated to be alive, while 50 per cent. of the sanatorium-treated patients were living.

Many of the first class might not have been accepted in a sanatorium; still the very great difference (an increase of 250 per cent.) is very suggestive. Careful classification by dispensary physicians could render their figures exactly comparable in the two classes.

When seeking to compare the ultimate results of sanatorium treatment with other figures, Elderton and Perry ("A Third Study of the Statistics of Pulmonary Tuberculosis: The Mortality of the Tuberculosis and Sanatorium Treatment," Dulau & Co., London, 1910), on account of the paucity of more recent statistics were forced to refer to Williams' 1,000 cases reported among the well-to-do in 1872, and to the figures obtained from Pollock's "Elements of Prognosis," published in 1865. The results of this study show that whereas the death-rate in the sanatorium patients is about fourteen or fifteen times the ordinary death-rate, the patients treated by Williams and by Pollock had a death-rate only two or three times the ordinary.

The question is an important one. The sanatorium workers cannot solve it alone and must turn to others for aid. The organization of many dispensaries is at present so perfected that such work as we have outlined, while laborious, should be easy of accomplishment.

Lawrason Brown, Saranac Lake, N. Y.

Alopecia—Baldness

To the Editor:—An article on this subject in The Journal (Aug. 12, 1911) gives the causes of this very common and annoying trouble. As personal experience counts for much, I will give the treatment which in my own case has up to 70 years of age preserved a full and even growth of hair over the entire head, with no "skating rink" visible, or even thinness of hairy covering on the vault of the cranium. By inheritance I should have been bald at 45 or 50 years, as all my near relatives have shown that peculiarity; in fact, I know of none of the male members of my family as far removed as cousins who was not more or less deficient in hirsute covering of the head.

At about 40 years of age I began to notice that my hair was becoming somewhat dry and lifeless, and did really begin to drop out in rather alarming amount, so that I set about trying some means to prevent it. A friend advised me to get a wire brush, which I immediately did, and every morning I dampened (not soaked) the entire scalp with cold or lukewarm water. I used a comb only in the parting of the hair, the wire brush did the rest. About once a week I have used a little oil or grease, having tried several kinds; the most satisfactory effect was produced by cocoanut-oil. It keeps the hair soft and silky and does not mat the hair or plaster it down. Usually about once a month, when at the barber for a hair-cut (a trim, not a shingle) I get a good shampoo; I think that is often enough for a thorough scrubbing.

The wire brush keeps the scalp pretty free from dirt and dandruff, in fact I think the brush is the main factor in the treatment. By its gentle and not disagreeable friction of the scalp, it promotes the circulation and thus brings nourishment to the hair-bulbs, and gives vigor to the growing hair.

S. Hendrickson, M.D., Brooklyn.

Certified Butter in California

To the Editor:—I have read with interest the article by Dr. Hess on "The Need for a Certified or Pasteurized Butter," in The Journal, August 12, 1911.

It may be of interest to your readers to know that the California State Association of Medical Milk Commissions, April 19, 1911, adopted a full set of rules for the production of "certified butter," in accordance with a recent act of the legislature delegating the certification of butter to medical milk commissions. At a milk conference held in July, 1911, at the University of California, there was exhibited "guaranteed butter," labeled, "This butter is made from efficiently pasteurized cream. Guaranteed by the Regents of the University of California under the Food and Drugs Act, June 30, 1906, Serial No. 38,491." The experimental work leading to the adoption of both these measures is reviewed in The Journal, March 18, 1911, under the title, "Certified Butter in California." This communication states that the certification was to be on a basis of pasteurization. In conference, however, the milk commissions of the state decided that a pasteurized butter could not qualify as "certified."

John N. Force, Berkeley, Cal.

Excision as a Method of Treating Spider Bites

To the Editor:—The treatment of spider bites with medicine has proved so extremely unsatisfactory in my experience that I have tried excising a small piece of tissue in three cases during this year and in all cases the results have proved satisfactory. Reasoning that the tissue would slough and that excising is the best treatment in carbuncle or in any condition of sloughing, I thought that excision would prove best in cases of spider bites and so it has. The part can be rendered painless by injecting 1/10 of 1 per cent. solution of cocain or some local anesthetic and if this is done properly the wound gets well rapidly. The low resistance of fat makes it necessary to excise a larger piece than one would at first think necessary. It is best to go to the underlying muscle or else sloughing may occur at the bottom of the wound. The amount of tissue necessary to be excised depends on conditions present, the length of time after the bite, and so forth. As a rule the pain stops and the patient is comfortable after the operation.

John W. Matlock, Frost, Tex.

Royal Order of Lions Fraud

To the Editor:—I saw the statement of Dr. Charles F. Brigham in The Journal, August 26, regarding the "Royal Order of Lions" fraud. The promoter of this concern was in our town May 15, and showed me the receipts of half a dozen physicians of surrounding towns who had signed his contract. After discussing the matter with my father, who was present, and to whom the contract also seemed good, I "bit."

I received a bunch of blanks and other printed matter setting forth the benefits to be derived from a membership in the order, etc., with the stamped address 209½ Brady St. (Phone N. 4402-L), supposedly Decatur, Ill. I sent a letter to Decatur which was forwarded to Madison, Wis., and from there to Green Bay, Wis., and then returned unclaimed.

Louis H. Miller, M.D., Pana, Ill.

Southerners Being Separated from Their Money

To the Editor:—There is a sharper who has been working the physicians here in the south. He pretends to be an old graduate and usually states that he wants a draft endorsed so that he may obtain money to pay the burial expenses for some of his relatives, or to have a relative operated on. He is about 5 feet 10 inches in height and of a swarthy complexion. If you will call attention to this in The Journal and ask anyone that he tries to bunco to have him arrested and wire the chief of detectives in Nashville you will be conferring a great favor.

Lucius E. Burch, Nashville, Tenn.

Chalk Paste Not a Good Substitute for Bismuth Paste

To the Editor:—In THE JOURNAL, July 29, Dr. James R. Mitchell advocates the use of chalk paste as a substitute for Beck's bismuth paste. Though my experience with bismuth paste has been slight, and with chalk paste none at all, still I would caution against the substitution of the latter for the former. Whoever has had experience with bismuth subnitrate and calcium carbonate in various inflammatory conditions, knows that chalk cannot do what bismuth salts can do. In subacute or chronic gonorrhea, in simple diarrhea, in cholera infantum or cholera morbus, in various dermatologic conditions we cannot substitute chalk for bismuth, for bismuth possesses siccative, granulation-promoting and astringent properties which chalk does not possess. That it is not the nitrate radical that is responsible for these desirable properties is evident from the fact that the same properties are possessed by other bismuth combinations, such as the subcarbonate, the oxid, the hydrate (milk of bismuth), the salicylate, etc. The statement, therefore, that the bismuth in the bismuth paste acts merely as a mechanical stimulant seems to me unwarranted, and the caution against the substitution recommended by Dr. Mitchell is, in my opinion, a very necessary one.

WILLIAM J. ROBINSON, M.D., New York.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

OPERATION ON AN ANKYLOSED KNEE

To the Editor:—Can you give me any information regarding the operation on an ankylosed knee by which some function is restored to the joint?

JOHN J. MCKENNA, Philadelphia.

ANSWER.—It is assumed that the term "ankylosed knee" in the above question refers to one in which true synostosis has taken place. The principle underlying the successful treatment of synostosed joints consists in the interposition, between the separated ends of the bones forming the joint, of some nonabsorbable material which will prevent the bones from reuniting. The knowledge that the accidental interposition of fascia or other soft tissue between the fractured ends of a long bone frequently leads to non-union with the formation of a false joint, is undoubtedly what gave rise to the idea of interposing similar material between the ends of the bones to prevent the reunion of the bones in the ankylosed joint. The materials which have been introduced for this purpose are numerous, and are both inorganic and organic. The introduction of inorganic materials, such as Payr's magnesium plates, etc., has not been followed by very encouraging results. The use of organic material, on the other hand, has been followed by much more favorable results. Organic material may be used in the shape of dead membrane, such as hog's bladder acted on by chromic acid, or it may be used in the shape of living tissue consisting of transplanted flaps taken from the same individual. The latter method is the one which has given the best results. The tissue in the latter method may consist of entirely detached flaps of periosteum, or of attached flaps consisting of the fascia lata, together with subcutaneous fat.

If periosteal flaps are used the knee-joint is opened by a suitable incision which freely exposes the entire joint; the synostosed bones are separated with a chisel, the raw bony surfaces made as smooth as possible, that on the tibia being made slightly concave and that on the femur slightly convex, so that the one will fit the other approximately in the normal manner. An incision is then made over the inner surface of the tibia, usually at the upper part. A flap of periosteum is raised from the bone so as to include its osteogenetic layer. This detached periosteal flap, which should be large enough to cover the denuded surfaces of the bone, is then transferred to its proper surface, where it is stitched with catgut to hold it in place. A similar periosteal flap is then applied to the denuded surface of the other bone in the same manner. If motion of the joint is limited by cicatricial or contracted ligaments or bands, these are removed. The joint is then closed by properly suturing the soft parts around it, the operation wound over the tibia is likewise closed, and the leg is placed in a plaster cast.

In using attached flaps there may be used a single unilateral flap consisting of the fascia lata and fat covering it, which may be dissected up and turned into the joint, or bilateral flaps may be made. The latter is preferable, as the single long flap is more likely to undergo destructive absorption than two shorter bilateral flaps. The bones, of course, are prepared as already mentioned, and the flaps are sutured in place, the joint closed and the leg placed in a plaster cast. In order to be successful, this operation requires a high degree of technical skill, much experience and good judgment in the selection of proper cases for the operation.

WHAT IS THE "LAST ILLNESS"?

To the Editor:—There is a statute in my state which gives priority in favor of the claims of physicians for services rendered during the last illness of a decedent to an amount not exceeding $50. Please inform me what is meant by the phrase "services rendered during the last illness of the decedent." Would it cover any fixed period of time, for example, if a man suffered from consumption or Bright's disease for one or more years and then died of pneumonia or uremia?

D. P. C., Va.

ANSWER.—A "last illness," under such a statute, according to Pennsylvania decisions cited in "Five Words and Phrases Judicially Defined," 4007, means the immediate illness resulting in the decedent's death. It does not include the illness caused by a serious injury from which he so far recovers that he is able to attend to business, but has a subsequent relapse. Nor can it be construed to include a lingering illness that has stretched across many months or many years. Men sometimes die from diseases of the heart, lungs or other organs, which commence with infancy, terminating only with old age. They are never well, always complaining, but lingering on throughout the usual period allowed to human life. In other instances the disease runs its course in a shorter time, but still the patient lingers, down at times, up and about at others. Such cases, where the illness is so protracted, the statute certainly does not contemplate. Where the disease assumes a fatal form, runs its course rapidly, the patient virtually prostrated, and the services of a physician constantly necessary, the case just as certainly is contemplated. Where a person suffered from softening of the brain, the progress of the disease being gradual and slow, the patient living for more than a year after the physician's attendance commenced, going about the house, waiting on herself generally, once visiting abroad for several weeks, the disease manifesting itself only in weakness and irritability up to within a short time of her death, when it resulted in apoplexy, prior to which the physician's attendance was irregular, he going only when called, but subsequent to the apoplexy his visits were regular and pretty constant, the latter period was the "last illness" for the services during which the physician was entitled to preference.

The term "last illness," however, has been held to include medical services rendered to a patient for a year and a half prior to his death, where he was suffering during the period from an incurable, progressive disease which resulted in his death.

TRICHOMONAS INTESTINALIS

To the Editor:—Please tell me whether or not *Trichomonas intestinalis* has any pathologic possibilities. I have a patient whose blood shows a most profound anemia with an increase in the eosinophils; white count normal. Repeated examinations of the stool show large numbers of the *Trichomonas intestinalis*. Is there any recent literature relative to this?

N. R. HARLAN, Freeport, Ill.

ANSWER.—*Trichomonas intestinalis* is commonly found in the intestinal canal, especially in cases of diarrhea. Hence the organisms are often seen in stools in cases of typhoid fever, cholera, chronic enteritis, etc. They are also not infrequently found in normal stools. Because they are so sensitive to acid, they do not ordinarily occur in the stomach but in conditions of diminished acidity, as for example, carcinoma, they may be found there in large numbers. Thus, their presence may be of some significance for diagnosis. Their pathogenic possibilities seem to be limited to sustaining or aggravating already existing catarrhal conditions, though some difference of opinion seems to exist regarding this point. Cases of severe chronic enteritis have been reported for which no cause could be found other than the large number of these parasites constantly found in the stools. For example, Askanazy (Aschoff's "Pathologische Anatomie," 1909, i, 183), mentions such a case which resulted fatally and in which autopsy revealed no other cause for the intense chronic ulcerative enteritis found. He states further that these parasites seem to be able to cause diarrhea in children. There seems to be no evidence that they may directly cause anemia.

References in the literature to the pathogenesis of *Trichomonas intestinalis* are not numerous. Hare's "Practice of Medicine," 1907 edition, says that it is not important from a clinical point of view. Anders' "Practice," 1909 edition, says that the organism is not important from a pathogenic standpoint. Ricketts and Dick, in the last edition (just issued) of "Infection, Immunity and Serum Therapy," 1911, say: "It seems to be of not much pathogenic significance but finds in the liquid stools and in alkaline reaction conditions which favor its proliferation. It may be transmitted as a contagion." This book gives Epstein as the authority for the latter statement. An article in THE JOURNAL, Oct. 15, 1910, p. 1377, by G. C. Dalley, assigns *Trichomonas intestinalis* as the only discoverable cause of a case of gangrene of the lung.

DOSAGE OF SODIUM BICARBONATE

To the Editor:—Hale found that caffein was useless and sometimes even harmful when given with acetanilid to antagonize its harmful effects, but that sodium bicarbonate lessens the toxicity of acetanilid. However, I have seen no mention of the amount or the dose that was best given for this purpose as determined by experimentation. Can you give me any light on this?

C. E. MCREYNOLDS, M.D., Goodrich, N. D.

ANSWER.—On writing to Dr. Hale, we learn that he is not able to answer definitely the questions concerning the relative doses of acetanilid and sodium bicarbonate, but that he believes, from his experimental work, that fairly large doses of the bicarbonate are indicated. He suggests at least 3 grains to every 2 of acetanilid. In case of poisoning he suggests giving as an antidote sodium bicarbonate in divided doses up to 15 or 30 grains, depending on the effect produced. He states that so far as he knows, his laboratory findings have not been put to test by clinical trial.

THE NOGUCHI AND MUELLER MODIFICATIONS OF THE WASSERMANN TEST

To the Editor:—What is the present status of the Noguchi modification of the Wassermann reaction? Is it considered as reliable as the Mueller modification? Can you give the Mueller technic or tell where it may be secured?

L. O. T.

ANSWER.—In the opinion of European authorities and some American, the Noguchi test is not so reliable as the original Wassermann. Many Wassermann workers regard it as not to be depended on alone. The Mueller modification is much more reliable. Its chief difference from the original Wassermann lies in the use of smaller amounts of the various reagents—a drop method. A consideration of the Mueller method will be found in the *Wiener klinische Wochenschrift*, 1907, No. 17, p. 514; 1908, No. 9, p. 282; 1909, No. 40, p. 1376.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Aug. 26, 1911.

Van Poole, G. M., major, detailed to represent the Medical Department of the Army at meeting Association Military Surgeons of U. S., Milwaukee, Wis., September 26 to 30.

Clayton, George R., M.R.C., granted two months' and ten days' leave of absence.

Wilson, William H., major, granted fifteen days' leave of absence.

Brewer, Isaac W., M.R.C., granted one month and fifteen days' leave of absence.

Richard, Charles, colonel, granted thirty days' leave of absence.

Snyler, Henry D., lieut.-col., is detailed to represent the Medical Department of the Army at the meeting of the American Hospital Association to be held in New York City September 19 to 21.

Smith, Herbert H., M.R.C., granted ten days' leave of absence.

Patterson, Edwin W., M.R.C., on expiration of his present leave of absence ordered to Fort D. A. Russell, Wyo., for duty.

Appel, Daniel M., colonel, leave of absence extended one month.

Stone, Frank P., dental surgeon, returned to Presidio of Monterey, Cal., from temporary duty at Army General Hospital, San Francisco.

Eastman, William R., captain, relieved from duty as attending suurgeon, New York City, and ordered to Fort Riley, Kan., for duty.

Peed, George P., captain, granted thirty days' leave of absence.

Ford, Joseph H., major, so much of Par. 27, Special Orders No. 134, June 9, 1911, as relates to Major Ford, is revoked.

Brooke, Roger, major, on arrival at San Francisco, will report at General Hospital, Presidio of San Francisco, for duty.

Ashburn, Percy M., major, is ordered to Philippine Islands on transport Dec. 5, 1911, for duty on board, studying tropical diseases in the Philippine Islands.

Persons, Elbert E., major, relieved from duty as attending surgeon, Headquarters, Department of the East; and assigned to duty as attending surgeon, Eastern Division

Cutliffe, William O., M.R.C., is relieved from duty at Fort McIntosh, Texas, and will proceed to Fort Lawton, Wash., for duty as surgeon on transport *Dix*.

Bushnell, George E., colonel, is detailed to represent the Medical Department of the Army at annual meeting of New Mexico Tuberculosis Society at Las Vegas, September 6 to 9.

Lambie, John S., Jr., captain, on expiration of leave, will proceed to Fort McHenry, Md.

Robbins, Chandler P., major, is relieved from duty at Fort McHenry, Md., and will proceed to Fort Sill, Okla., for duty.

Duval, Douglas F., major, when relieved from duty at Fort Sill, will proceed to Fort Benjamin Harrison, Ind., for duty.

Suggs, Frank, M.R.C., having reported at Seattle, Wash., will proceed to Fort Lawton, Wash., for temporary duty.

Birmingham, Henry P., colonel, reports his departure, August 8, for Washington, D. C.

Casper, Joseph, first lieut., August 22, reports return from leave to sick in quarters this date, Fort Du Pont, Del.

Suggs, Frank, M.R.C., August 3, reports departure from Fort Egbert, Alaska, for Seattle, Wash.

Cooper, Wibb E., first lieut., August 5, reports departure for Manila on transport *Sheridan*.

Ferenbaugh, Thomas S., first lieut., August 16, reports departure from Langtry, Texas, for Barksdale, Texas, August 18, reports his arrival at Barksdale, Texas.

Gentry, Ernest A., first lieut., August 16, reports departure from Langtry, Texas, for Barksdale, Texas, August 18, reports arrival at Barksdale.

Usher, F. M. C., major, August 21, reports arrival at Fort Sam Houston, Texas, from Camp Mabry, Austin (Maneuvers Texas National Guard).

Pyles, W. L., captain, August 22, reports arrival at Fort D. A. Russell, Wyo.

Hall, J. F., captain, August 23, reports arrival at Fort Strong, Mass., for duty.

Denton, William, first lieut., August 21, reports arrival at Fort Sam Houston, from Camp Mabry, Austin, Texas (Maneuvers Texas National Guard). August 22, reports departure from Fort Sam Houston for temporary duty at Fort Bliss.

De Laney, Matthew A., major, granted leave of absence for one month to take effect about Aug. 24, 1911.

Medical Corps, U. S. Navy

Changes for the week ended Aug. 19, 1911.

Gatewood, J. D., medical director, commissioned medical director from July 11, 1911.

Gates, M. F., medical inspector, commissioned a medical inspector from July 11, 1911.

Shepard, G. W., P. A. surgeon, commissioned P. A. surgeon from Oct. 25, 1910.

Chambers, W., P. A. surgeon, commissioned P. A. surgeon from March 19, 1911.

Bacon, S., Melhorn, K. C., and McGuire, L. W., P. A. surgeons, commissioned P. A. surgeons from April 11, 1911.

Boland, M., P. A. surgeon, commissioned P. A. surgeon from July 12, 1911.

Phelps, J. R., and Clifton, A. L., P. A. surgeons, commissioned P. A. surgeons from July 15, 1911.

Henry, R. B., asst.-surg., detached from U. S. S. *Rainbow* and ordered to the naval hospital, Canacao, P. I.

Pratt, L. L., asst.-surg., detached from the naval hospital, Canacao, P. I., and ordered to the U. S. S. *Rainbow*.

Changes for the week ended Aug. 26, 1911.

Hoyt, R. E., surgeon, commissioned surgeon from June 11, 1911.

Jones, R. F., asst.-surgeon, commissioned assistant surgeon from Aug. 2, 1911.

Thomas, G. C., P. A. surgeon, detached from the navy recruiting station, Philadelphia, and ordered to the *Rhode Island*.

Schier, A. R., acting asst.-surgeon, appointed acting assistant surgeon from Aug. 16, 1911.

Donelson, M., P. A. surgeon, detached from the naval hospital, Newport, R. I., and ordered to the *Glacier*.

Dykes, J. R., P. A. surgeon, detached from the navy-yard, Portsmouth, N. H., and ordered to the naval hospital, Mare Island, Cal., for duty.

Diehl, O., medical director, commissioned medical director from July 20, 1911.

Lownes, C. H. T., medical inspector, commissioned medical inspector from July 20, 1911.

Evans, S. G., surgeon, detached from the *Pennsylvania* and ordered home to wait orders.

Baehus, J. W., P. A. surgeon, detached from the *Iris* and ordered to the *Pennsylvania*.

Owens, W. D., P. A. surgeon, ordered to duty at the naval hospital, Newport, R. I.

Giltner, H. A., asst.-surgeon, detached from the *Glacier* and ordered to the *Iris*.

U. S. Public Health and Marine-Hospital Service

Changes for the week ended Aug. 16, 1911.

Pettus, W. J., assistant surgeon-general, granted twelve days' leave of absence from Aug. 15, 1911.

Irwin, Fairfax, surgeon, granted nineteen days' leave of absence from June 27, 1911, on account of sickness.

Magruder, G. M., surgeon, granted seventeen days' leave of absence from Aug. 13, 1911.

Ceddings, H. D., surgeon, leave of absence for one month from June 23, 1911, on account of sickness, amended to read twenty-one days.

Nydegger, J. A., surgeon, granted two months' leave of absence from July 24, 1911.

Francis, Edward, P. A. surgeon, granted one day's leave of absence July 31, 1911; granted seven days' leave of absence from Aug. 11, 1911, under paragraph 191, Service Regulations.

Ebersole, R. E., P. A. surgeon, granted eight days' leave of absence from Aug. 5, 1911, under paragraph 191, Service Regulations.

Pettyjohn, Jos., P. A. surgeon, granted one month's leave of absence from Aug. 16, 1911.

Ashford, F. A., P. A. surgeon, granted one month's leave of absence from Aug. 17, 1911.

Preble, Paul, asst.-surg., granted one month's leave of absence from Aug. 14, 1911.

Grimm, R. M., asst.-surg., directed to proceed to Pineville, Ky., via Columbia, S. C., on special temporary duty.

Kolb, L., asst.-surg., granted seven days' leave of absence from Aug. 11, 1911, under paragraph 191, Service Regulations.

Boyd, Frank, A. A. surgeon, granted twenty-six days' leave of absence from Aug. 6, 1911.

Watson, Harry J., A. A. surgeon, leave of absence for thirty days from Aug. 14, 1911, amended to read thirty days from Aug. 2, 1911.

Wilbert, Martin I., technical assistant, detailed to represent the Service at the meeting of the American Pharmaceutical Association to be held at Boston Aug. 14 to 19, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

THE COMMON DRINKING CUP

One of the most significant features of the present campaign for better health conditions is the general and apparently spontaneous movement all over the country, against the use of common drinking cups, in railroad stations, trains, parks and public buildings. For years, the common cup has been the inevitable companion of the ice-water tank or fountain. Chained beside the water faucet, it might almost be said to be a national institution. But a sudden wave of public protest is rapidly sweeping it out of existence. The strange thing about this movement is that so little organized effort has been behind it, and that it is impossible to say exactly when or where the agitation for the abolition of the common drinking cup began. For these reasons, it is all the more gratifying, as an indication of growing public sentiment in favor of cleanliness and disease prevention. The substitution of individual glasses or of cheap temporary drinking utensils is so plainly in the interest of cleanliness and decency that but few of even the most confirmed conservatives have objected to this reform, nor has the most stubborn reactionary claimed that such legislation was inspired by selfish interests or due to the efforts of any "rings." The only explanation for the widespread general movement for the abolition of the common drinking cup is that the public became convinced that the common drinking cup was a filthy and disease-conveying utensil which belongs to an unsanitary past and that it should be dispensed with as soon as possible.

This campaign contains a lesson for those interested in progress in sanitary legislation and regulation. Education must precede legislation and regulation. Place the facts before the public in plain, every-day language, without exaggeration and with unmistakable proof, and the people will take care of the rest. Physicians and bacteriologists have for years known that disease could be transmitted by drinking vessels and that common drinking cups were a source of danger. These facts have become known to the general public and as soon as public opinion was educated to a sufficient point, legislation followed. These laws were not passed because physicians asked for them. The people did it.

A few extracts from recent papers are of interest in this connection. The Buffalo *Enquirer* grows philosophic and comments editorially:

"'What is one man's poison, signor, is anotner's meat or drink.' Likewise what is one period's improvement is another period's scorn.

"When an Erie train from Buffalo reaches the New Jersey line, the brakemen gather up the common drinking cups and put them out of reach and sight. When an Erie train starts from Jersey City, the cups are not in view. When the train crosses the New York line, the brakemen bring them from hiding and place them for use.

"It is law both ways. New Jersey, thoroughly down to date, has abolished the common drinking cup on railway trains. New York, a little slow, still requires by law, as a lawyer points out, that railroads shall supply water and drinking utensils to passengers. The common drinking cup is required by old law in New York, although it is forbidden by new law in New Jersey. So the Erie brakemen do the juggling act at the boundary line.

"No doubt it was considered a great blessing when the New York legislature decided to compel railways to supply a tank of water and a drinking cup on every passenger car. It was something over which to rejoice. Now, the drinking cup is a horror, a menace to health and life and its abolition is a measure of public safety.

"No doubt science and refinement will slaughter other customs. We do not know how vile and reckless we are until new revelations come along."

The Norfolk (Va.) *Pilot* says:

"It is a strange anomaly worthy the study of sociologists that sanitary reforms have to be forced on an unwilling, albeit an intelligent, people. . . . The common drinking cup must go. It is the dictum of all sanitary experts, physicians and students of public health. . . . As such abolition is not yet general throughout the states, as it doubtless soon will be, it has caused some inconvenience to passengers in interstate traveling. . . . Doubtless the railroads will shortly provide individual cups for passengers for the cost is infinitesimal and the inhibition of the 'cup of death' will soon obtain over a large section of the country if, indeed, it does not become the rule in every state. Convenient devices for obtaining individual cups at trifling cost are coming into use and it is a foregone conclusion that Virginia will not be far behind her sister states in adopting a system that makes for public health, refinement and civilization. The 'cup of death' must go."

Evidently the question has some theological aspects, as shown by the observation of the Peoria (Ill.) *Star*, which comments on the views of an Episcopalian bishop of Wisconsin:

"Bishop C. C. Grafton, of the Fondulac diocese, favors the action of the State Board of Health of Wisconsin exempting churches from the operation of the rule against the use of the common drinking cup. 'God prevents the transmission of disease through the use of the common communion cup,' says the good bishop. 'The good Lord would not permit the transmission of disease to any of His worshippers through the means of their worship of Him. There has never been an authentic case of the contraction of disease through the communion cup, though the common drinking cup elsewhere should be strictly forbidden.' In spite of the good bishop's belief, the use of a common drinking cup is filthy and should be abolished, whether at communions or elsewhere. God doesn't interpose to save people from their own foolish acts. Punishment follows the infraction of a natural law, whether the person be saint or sinner, and tuberculosis can be imparted from a common drinking cup to a deacon as soon as to a tramp."

The Bay City (Mich.) *Times* realizes that the reform is in the interest of cleanliness, good health and comfort:

"There is no dodging the issue. The private cup is the cup of peace. It is a movement in the direction of health. It is the outgrowth of a condition which medical science has demanded as a safeguard.

"And yet some people are heard objecting to the removal of the drinking cup from railroad trains and other places. If the public cup is a convenience, why not have a public handkerchief, a public towel, a public tooth brush and a public manicure set? One is as reasonable as the other, when you get down to brass tacks.

"Some city boards of health and some common councils that have not yet advanced very far in medical jurisprudence are holding back. The public drinking cup is an old friend and they are loath to part from it. It has served Tom, Dick and Harry, has accumulated germs and microbes, and a rare selection of tobacco juice, onion odors, contaminated saliva and what-not, and it ought to be respected. . . . These boards of health which have made a study of the dangers connected with the promiscuous use of a cup, are really getting so far advanced in their way of thinking that it may become advisable to hold a school of instruction or a conference, so that the kickers against abolishing the public cup, may be heard on this very important question. At such a school, the kickers might also have an opportunity for advocating the public tooth brush and the public towel, and especially the public handkerchief, all of which are closely related to, and allied with, the public drinking cup."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

Massachusetts: State House, Boston, September 12-14. Sec., Dr. Edwin B. Harvey.

Missouri: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

New York: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Constitution of the Association of American Medical Colleges

In the Educational Number of The Journal (Aug. 19, 1911) the Constitution of the Association of American Medical Colleges was published showing the various amendments which have been made from time to time since April 10, 1905. We discover, however, that Section 6, of Article 3, as printed shows that among other subjects, credit was allowed for "24 hours in osteopathy." Lest some captious reader may charge the Association with undue liberality in its allowance of credits, we hasten to say that the statement is due to a typographical error and that the clause should have read "24 hours in osteology." Further down the page is printed the section as it is now in force. This reads as follows: "Section 6.—No time credit shall be given to holders of a Bachelor's degree, but subject credit may be given on satisfactory examination. Four years of residence in a medical college shall be required of all candidates for the degree of Doctor of Medicine."

Book Notices

American Mineral Waters: The New England States. By W. W. Skinner, Chief, Water Laboratory. With a Chapter on Bacteriological Methods by G. W. Stiles, Jr., Bacteriological Chemist. Prepared Under the Direction of J. K. Haywood, Chief, Miscellaneous Division. Bull. 139, Bureau of Chemistry. U. S. Department of Agriculture. Paper. Pp. 111. Washington: Government Printing Office, 1911.

It is a valuable piece of work to take up American mineral waters in detail and give the chemical composition and the results of sanitary analysis and an inspection of the premises. The present bulletin covers only the springs of the New England States. The waters are classified according to their chemical character. Fortunately for the mineral water user, the organic purity of the waters of most of these springs is evident from the report of the analyses. In a few cases the water is reported to be of doubtful purity or the surroundings are said to suggest the possibility of contamination. In a few cases the presence of gas-forming bacilli in 1 c.c. of the water is noted, but the spring is not condemned on this account. The comments thus made should be a warning to the owners of such springs to remove objectionable features if they wish to sell their water. The report will be a valuable aid to the physician in selecting a mineral water, as he no longer needs to depend on the advertised analyses which were in most cases reliable, but in some cases failed to agree with the findings of the government chemists.

A List of Books on the History of Science, the John Crerar Library. January, 1911. Prepared by Aksel G. S. Josephson, Cataloguer. Paper. Pp. 297. Chicago, 1911.

The purpose of this list is to render easy the finding of the important classes of books with which it deals and the titles of which are now scattered through the public card catalogue. The list includes the social, physical, natural and medical sciences. It is gratifying to know that the John Crerar Library is especially rich in works on the history of the sciences of medicine. The material is well arranged. There is a complete index and the table of contents shows, at a glance, the groupings of the titles. The list is a distinct contribution to the bibliography of the history of science and will be of great value to students of that history and especially to the students of medical history, the interest in which is steadily increasing.

Infection, Immunity and Serum Therapy in Relation to the Infectious Diseases of Man. By H. T. Ricketts, M.D., Late Assistant Professor of Pathology, University of Chicago. Second Edition. Revised and Enlarged by the Author and by George F. Dick, M.D., Instructor in Pathology, University of Chicago, with Preface by Ludvig Hektoen, M.D. Cloth. Price, $2. Pp. 785. Chicago: American Medical Association, 1911.

The first edition of this work appeared in 1906; as a result of more recent progress along immunologic lines, a thorough revision became desirable, and in this Dr. Ricketts was engaged at the time of his death from typhus fever, contracted in the course of his work on that disease. The revision thus left unfinished has been completed by Dr. Dick, of the department of pathology of the University of Chicago.

The new edition presents several distinct advances over the old. An entirely new part is devoted to the principles of infection; in this are discussed in some detail not only the more general aspects of the subject, but the various mechanisms taking part in the conveyance of disease. A second part is devoted to the discussion of the principles of immunity, and a third to the special features presented by individual diseases. Each of these parts shows considerable elaboration over the corresponding part of the earlier edition—an elaboration necessitated by the new phases of the subjects that have been recently developed. Thus in the second part new chapters have been devoted to the subjects of complement deviation, opsonins and anaphylaxis, and in the third the discovery of spirilla as an important cause of disease has resulted in the introduction of a new etiological group.

The work as a whole presents a thorough summary of our present knowledge of the problems of infection and immunity. The condensation necessary to cover so large and intricate a subject in the limits of a volume of moderate dimensions has not resulted in an unduly dogmatic form of presentation, and as a rule disputed problems are presented with clarity and discretion. As a comprehensive survey of a subject whose literature is so scattered as to be ordinarily inaccessible, the work occupies a distinct and very valuable place. Not only is this true for the practicing physician who may wish to keep abreast of recent developments along these lines, but as well for the special worker who desires to obtain a more general view of his subject.

Die palpablen Gebilde des normalen menschlichen Körpers und deren Methodische Palpation. Nach eigenen Untersuchungen an der Leiche und am Lebenden von Dr. Toby Cohn, Nervenarzt in Berlin. III Teil: Hals und Kopf. Paper. Price, 8 marks. Pp. 585, with 92 illustrations. Berlin: S. Karger, 1911.

The present pamphlet of 200 pages is the third of a series, the first two covering 380 pages, and dealing respectively with the upper and lower extremities. The work is the result of an exhaustive study both of the cadaver and of the living subject and when completed will cover, as no other work does, the surface anatomy and its normal variations, of the whole body as it presents itself to the examining eye and finger. By his clear style and broad grasp and presentation, of what might seem a very dry subject, the author has made a very interesting as well as a valuable contribution to medical science. The internist, the neurologist, the pediatrist, the dermatologist and any other specialist will find the work of nearly the same interest and practical value as will the surgeon. The work is in a class by itself and merits the warmest commendation.

Mysteries of Life Series. By Isabelle T. Smart, M.D., Medical Examiner of Defective Children, Department of Education, City of New York. Book 1: What a Mother Should Tell Her Little Girl. Pp. 105. Book 2: What a Mother Should Tell Her Daughter. Pp. 105. Book 3: What a Father Should Tell His Little Boy. Pp. 116. Book 4: What a Father Should Tell His Son. Pp. 103. Cloth. $2.50 per set; 75 cents per volume. New York: The Bodmer Publishing Co., 1911.

This series of four little books is another evidence of the awakening interest of the public in instruction along all lines which lead to better health conditions. The number of books recently published on sex hygiene is an evidence both of the need and of the demand for adequate instruction on this subject. The duty of the conscientious parent to afford some kind of knowledge to the growing child is evident. The question as to the form such instruction shall take should be determined in each case by the parent. The number of books available for this purpose is rapidly increasing and this set should be considered in selecting suitable material.

Medicolegal

Liability for Malpractice in Delivery with Instruments—Skill Required

(Kline vs. Nicholson (Ia.), 130 N. W. R. 722.)

The Supreme Court of Iowa in this case affirms a judgment for the defendant for $459 damages on a counterclaim for malpractice to the plaintiff's action for compensation. The court says that the allegations in the counterclaim of negligence submitted to the jury were that the plaintiff, in effecting the delivery of the defendant's wife during child labor, negligently used instruments; that in the negligent and unskilful use of the instruments he lacerated and wounded the defendant's wife; that he afterward treated such laceration in a negligent and unskilful manner; that in treating the wound he was so negligent and unskilful that he failed to properly dress the same, and that by such negligent and unskilful treatment the wound was prevented from healing.

There was evidence tending to show that the plaintiff used forceps in effecting delivery without waiting a sufficient time to see whether by his assistance delivery could not have been effected without the use of such an instrument, and that, as the use of instruments was more likely to result in rupture involving the danger of subsequent operations, the plaintiff proceeded in a negligent manner. The court is justified in construing the allegation as to negligent use of instruments when in the exercise of reasonable care and judgment they should not have been used as well as the use of instruments as and when they were used. If the defendant's testimony was to be believed, the plaintiff used defective instruments; that is, forceps tied together after they were adjusted on the head of the infant with a string, rag, or piece of silk, with the result that the fastening broke and allowed the forceps to pull loose, causing a rupture of the parts, when, if the forceps had been of a proper kind or properly fastened, such result would not have followed. The evidence tended to show that the plaintiff used an amount of force and violence in attempting to extricate the infant from its mother's womb which was unnecessary and improper, resulting in unnecessary injuries to the patient, including rupture of the perineum and sphincter muscle. The evidence also tended to show an improper method of treatment after the rupture occurred with the result that injury has not been entirely repaired. The court reaches the conclusion that, under the evidence, there was no error in submitting the question of the plaintiff's negligence to the jury, nor in submitting to them each of the allegations of negligence as they were submitted.

The contention for the plaintiff running through the various divisions of his argument relating to the sufficiency of the evidence seemed to be that if he, having the knowledge and skill required in the practice of his profession, erred only in his judgment as to whether instruments should not at the time have been used in effecting delivery and in the method of using instruments to effect delivery, he was not liable for the reason that his duty was only to exercise reasonable care and judgment. But it was still for the jury to say under proper instructions whether, conceding the plaintiff to possess the requisite knowledge and skill, he did in the particular case use the care and judgment which as such a physician he ought to have used. If he was careless or did not use the judgment which a competent physician would ordinarily use under the circumstances of the case, then he was liable in damages. These questions were to be determined, of course, in the light of expert evidence as to what a reasonable, judicious and careful physician would do under like circumstances; but it was for the jury to say whether, in the light of the expert evidence, the plaintiff did exercise the care, skill and judgment required.

In three different instructions the jury were told in effect that, if the plaintiff possessed and employed in the treatment of the defendant's wife such reasonable skill and diligence as were ordinarily exercised in his profession at and in localities similar to that in which he practiced, then he was not responsible for the result of the operation. That statement of law was in accordance with the decisions of this court. But in one instruction the law was thus stated: "Negligence in this case as applied to plaintiff consists in the doing by plaintiff, in the treatment of the defendant's wife, of some act that a physician and surgeon possessing and exercising the average skill and care of the medical profession in the vicinity of the defendant's residence would not ordinarily do under like circumstances." This the plaintiff complained of on the ground that by it he was required to possess and exercise the care and skill usually possessed and exercised in the vicinity of the defendant's residence, rather than that usually possessed and exercised in similar localities. It might be that under some circumstances the rule as thus stated would be erroneous and prejudicial. But, unless the jury might have been led to exact of the plaintiff a higher standard of skill and care than required in similar localities, then he could not possibly have been prejudiced by the instruction, and that did not appear in this case. As supporting the view that such an instruction as above quoted, though erroneous, may be non-prejudicial in a case where the physician is appealing from a judgment against him, see Dunbauld vs. Thompson, 109 Iowa, 199.

Contract of Physician for Part of Amount Recovered by Injured Person Not Valid

(Sherman vs. Burton (Mich.), 130 N. W. R. 667.)

The Supreme Court of Michigan holds invalid a contract made by the defendant with the plaintiff, a physician, whereby the former agreed to pay to the latter, for professional services, one-third of any sum which the former might receive from an electric railway company as damages, arising out of an injury, and further agreed to pay to the physician the sum of $90, in addition to said one-third, if the amount received was $2,000 or more, that is, if the settlement was made outside of courts. The court says it thinks that it necessarily followed from the circumstances of the case as disclosed and the agreement that the parties contemplated that the physician should be a witness in case of suit, and should give a history of, and opinion on, the case in the event of a proposed settlement. His interest in the amount of the damages furnished a powerful motive for exaggeration, suppression, and misrepresentation, a temptation to swell the damages so likely to color his testimony as to be inimical to the pure administration of justice, so that the agreement must be held void.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of Johns Hopkins Hospital, Baltimore

August

1 *Studies on Peritoneal Adhesions with Contribution to Treatment of Denuded Bowel Surfaces. E. H. Richardson, Baltimore.
2 Primary Carcinoma of Pleura. T. P. Sprunt, Baltimore.
3 *Case of Puerperal Infection with Isolation from Uterus of B. Influenzæ and New Method for Making Blood Agar for Its Cultivation. W. Thalhimer, Charlottesville, Va.
4 *Hyperleukocytosis of High Grade in Bronchopneumonia in Child. C. R. Austrian, Baltimore.
5 Viability of Parasitic Ova in Two Per Cent. Formalin, with Especial Reference to Ascaris Lumbricoides. R. S. Morris, Baltimore.
6 Haven of Health. W. H. Bergtold, Denver.

1. **Peritoneal Adhesions.**—During the course of an operation for the relief of an enormous post-operative ventral hernia a situation arose which suggested to Richardson a new method of dealing with denuded bowel surfaces under certain conditions. After effecting the release of the intestine there remained two extensive raw areas, each measuring 2 to 3 inches in length, involving nearly one-half the circumference of the bowel, and separated from each other by 6 or 8 inches of practically normal intestine. The problem was practically solved by the accidental laceration and partial retraction of one leaflet of the mesenteric peritoneum just along its line of attachment to the bowel and adjacent to one of the raw areas on the surface of the latter, which occurred during its

separation from the hernial sac. There being a considerable deposit of fat between the two layers of mesenteric peritoneum, it was a simple and easy procedure to extend the separation of the torn leaflet and its attached fat in all directions from the underlying vessels and the opposite intact leaflet with its fat, thus obtaining a large, movable flap of normal peritoneum which was easily drawn up, without tension, spread out over the raw surface on the bowel, and tacked down with a few fine silk sutures. The result was satisfactory in every way. The patient's recovery was complete.

This experience led Richardson to investigate the idea further in order to determine accurately its limitations and to meet certain theoretical objections. His conclusions, based on such a study, are as follows: 1. The procedure is best applicable to that portion of the intestinal tract when, in such cases as the one described, present methods are inadequate, namely, from the upper jejunum to the lower ileum. It may be rationally applied, however, to any portion of the bowel possessing a mesentery of sufficient length to admit of its ready execution. 2. Care must be exercised at the duodenum, upper jejunum and lower ileum not to produce kinks of the bowel. 3. In cases exhibiting a scanty deposit of fat in the mesentery, plication is a rapid, safe and efficient substitute for separation of the two peritoneal leaves. 4. Aside from a slight spiral rotation, which in view of peristalsis and the mobility of the parts is entirely insufficient to produce obstruction, the procedure has no demonstrable effect on the bowel lumen. 5. It can safely be extended to include nearly one-half the circumference of the bowel and 3 to 4 inches in continuity. There is no apparent reason why it should not be repeated as often as necessary at different levels of the intestinal tract. 6. In view of the rich vascular anastomosis and the mobility of both the bowel and its mesentery, if care be exercised in placing the sutures so as to avoid the trunk vessels, the effect on the circulation is negligible. 7. Stability and permanence of the coaptation is readily secured through intelligent disposition of the sutures.

3. **Puerperal Infection with Isolation from Uterus of B. Influenzæ.**—A simple laboratory method for making a hemoglobin or blood medium capable of growing the *B. influenzæ*, is the following worked out by Thalhimer. Freshly-drawn beef blood obtained from an abattoir is collected in a wide-mouthed jar and defibrinated by shaking with a number of medium-sized marbles. This is laked by adding an equal part of distilled water and rendered free from bacteria by passing through a sterile Reichel filter as above. This yields a beautiful, clear, red fluid and 20 to 30 c.c. of this are added to 1 liter of sterile melted agar at 45 C. and poured into sterile tubes. The medium which results is also perfectly clear, bright red and of the same density of color as ordinary blood-agar. On this medium two organisms which were unsuccessfully tested on the hemoglobin agar, were successfully passed through ten subcultures by Thalhimer. The growth occurred in twenty-four hours, and was typical of the *B. influenzæ*, occurring in small, discrete, dewdrop colonies. Smears showed the typical morphology. Pneumococcus, streptococcus, *Streptococcus mucosus* and gonococcus also grew luxuriantly. This method is a modification of former methods, notably that of Pfeiffer, and is believed to be the simplest yet devised for making blood-agar. Its chief advantage over that of Pfeiffer is that the laking agent is one which does not interfere with growth of bacteria and does not have to be removed. From 40 to 50 c.c. of this laked blood can be filtered in twenty-four hours through a Reichel filter of 50 c.c. capacity. Should a larger quantity be needed a larger filter can be used. It is evident that the hemolytic qualities of an organism cannot be tested with this medium.

4. **Hyperleukocytosis in Bronchopneumonia.**—At the first count made by Austrian in this case the leukocytes numbered 130,000 per c.mm. Seven hours later, the leukocytes were 144,000 per c.mm.; on the following morning they hal increased to 183,000 per c.mm. and that evening reached a maximum of 206,000 per c.mm. During the following four days they varied between 126,000 and 156,000, but with the onset of a mastoiditis again rose to 192,000 per c.mm.

Medical Fortnightly, St. Louis

August 10

7 Obstruction of the Male Urethra. H. J. Scherck, St. Louis.
8 Self-Limitation. D. L. Feld, Jeffersonville, Ind.
9 Pseudo-Hermaphroditism. H. J. Scherck, St. Louis.
10 Epidemic Influenza. T. G. Stephens, Sidney, Iowa.
11 Glaucoma. E. E. Clark, Danville, Ill.
12 Practical Comments. W. T. Marrs, Peoria Heights, Ill.

Archives of Diagnosis, New York

July

13 Diagnostics. G. K. Dickinson, Jersey City, N. J.
14 *Elevation of Temperature—An Early and Often Enduring Symptom of Hyperthyroidism. H. Stern, New York.
15 Complement-Fixation Test in Gonorrhea. G. K. Swinburne, New York.
16 Significance of the Wassermann Reaction in Gynecology and Obstetrics, Its Bearing on Question of Inheritance of Syphilis. A. Stein, New York.
17 Diagnosis, Etiology and Prognosis of Infantile Scurvy. E. M. Sill, New York.
18 Advances in Diagnostic Methods. J. H. Barach, Pittsburg, Pa.
19 *Differential Diagnosis Between True Tube-Casts and Pseudo-Casts in Urine. L. Heitzmann, New York.
20 Cystinuria. F. E. Sondern, New York.
21 Sources of Error in Diagnosis in Senile Cases. I. L. Nascher, New York.
22 Tuberculosis of the Spine; Diagnosis and Differential Diagnosis. I. D. Steinhardt, New York.
23 *Tuberculosis of the Mucosa of the Hard Palate. E. W. Dittrich, New York.
24 Diagnosis and Prognosis of Epidemic Infantile Paralysis. E. M. Sill, New York.

14. **Hyperthyroidism.**—There is no doubt at all in Stern's mind that many cases which, in a slipshod manner, are designated as neurasthenia or hysteria, are expressions of acute or chronic thyrotoxicoses. He says that a minor case of hysteria and an early or mild thyrotoxic state have many symptoms in common. Some of the rarer hysterical phenomena, as hysterical fever, or hysterical tremor together with accelerated cardiac activity, clinically viewed, appear to be the immediate result of hyperthyroidism. Elevation of temperature is one of the early, if not the earliest, objective symptoms of many instances of hyperthyroidism. It seems to be a much more constant manifestation in the mild than in the more pronounced instances of the affection. In many cases the mouth temperature is raised but 1 degree, or a fraction thereof; in others the increase amounts to 2 or even 3 degrees. In some cases the temperature fluctuates, with occasional intermissions, between 99 and 99.4 F. for months and even years; in others, the slightest exertion or excitement drives it up from 99 to 100 F., or thereabouts. In a majority of instances the lowest temperature is recorded after a night's rest; continued rest in bed will occasionally reduce the temperature to normal for a brief period. The usual discrepancy of about ½ degree F. between the mouth and rectal temperatures does not exist in all cases; in some cases the discrepancy is less than 0.3 degree, and in a few there does not seem to prevail any discrepancy at all. Tyrotoxic temperature elevation never reaches the extreme height of hysterical fever, but it is enduring for a longer period. While there generally ensues a rapid decline of hysterical pyrexia, the slight thyrotoxic temperature increase abates slowly, as a rule. Like the fever of hysteria, however, that of hyperthyroidism may start abruptly, and like the former it is liable to appear, or to become augmented, in the wake of any exertion or excitement. Hysterical pyrexia may be differentiated from thyrotoxic temperature elevation by the following three main factors, viz.: Hysterical fever does not, as a rule, concur with physical decline and emaciation, thyrotoxic temperature elevation usually does; the urine in instances of hysteric fever exhibits a small urea and phosphoric acid quotient, whereas in the presence of hyperthyroidism it is increased; hysteric pyrexia is usually not influenced by the administration of preparations of thyroid or iodin, while these drugs are liable to prolong or aggravate the thyrotoxic fever.

19. **Tube-Casts and Pseudo-Casts.**—Heitzmann emphasizes that a diagnosis of the presence of true tubular casts in the urine should under no circumstances be based on the findings of cast-like structures alone. Such structures must always be associated with other evidences of a pathologic condition, such as red blood-corpuscles, leukocytes or pus corpuscles and epithelia from the uriniferous tubules, before the diagnosis of a tube cast becomes admissible.

23. **Tuberculosis of Mucosa of Hard Palate.**—A man suffering from a pronounced pulmonary tuberculosis about two years ago noticed a small red spot on the right side of the palate about ¼ inch behind the posterior border of the palate. It increased somewhat in size, was extraordinarily painful and refused to heal after becoming ulcerated. He consulted a physician who, after treating it for a while, told him that he could not do any more for him. Another colleague cauterized it with nitric acid. It disappeared after being treated for some time. About four months ago it reappeared, spreading rapidly; it was then that he consulted Dittrich. During all this time he felt good and worked every day. He showed the following condition: On either side of the median line there were aggregations of small papules of the size of pin heads which were somewhat acuminate, only little inflamed, did not bleed on touch, and were separated by a deep median furrow. They were more marked on the right than on the left side. The lesions were sharply defined anteriorly and merged into the tissues posteriorly with but very slight inflammatory reaction. Behind the anterior border there was an ulceration on either side of the furrow; the one on the left was the larger in size. These ulcerations were triangular in shape, had irregular margins, were superficial and spreading peripherally. Their bases were red, painful and slightly bleeding on touch and were very little indurated, with margins that were only moderately inflamed and covered with a dirty grayish material. They were first touched with 25 per cent. lactic acid, but when this failed to make an impression, 95 per cent. phenol (carbolic acid) was resorted to. While the right ulceration responded to the application of phenol and disappeared soon, the left one showed a decided tendency to spread and proved to be very recalcitrant. The ulcers finally disappeared leaving very little scar tissue and a somewhat tunicated condition of the mucous membrane, the papular, i. e., tubercular condition, spread laterally, at last almost touching the alveolar processes. The microscope showed the following: the epithelium presented a moderate amount of edema. In the connective tissue directly beneath the epithelium were distinct, isolated collections of small, round cells, in the center of which giant cells were discerned.

Lancet-Clinic, Cincinnati

August 12

25 Health Conservation of Policy-Holders. D. Lewis, Chicago.
26 Hypertrophy of the Prostate. J. E. Cannaday, Charleston, W. Va.
27 Icterus Neonatorum. D. Millikin, Hamilton, Ohio.
28 Flap Splitting in Cleft Palate Operations. J. F. Baldwin, Columbus, Ohio.
29 A New Departure. J. H. Landis, Cincinnati.

Annals of Surgery, Philadelphia

August

30 Case of Bilateral Temporomaxillary Ankylosis with Original Method for Approaching the Temporomaxillary Articulation. H. Lilienthal, New York.
31 Variations in the Anatomy of the Naso-Lachrymal Passages. J. P. Sehaeffer, Ithaca, N. Y.
32 Nerve Supply of the Anterior Abdominal Wall and Its Surgical Importance. J. P. Hoguet, New York.
33 Apparatus Designed to Facilitate Pelvic Surgery by Approximating the Abdominal Wound to the Depth of the Pelvis. W. H. Taylor, Port Arthur, Ontario.
34 *Penetrating Wounds of the Abdomen. J. R. B. Braneh, Macon, Ga.
35 Congenital Hypertrophic Stenosis of the Pylorus. R. Coombe, London.
36 Simplified Gastro-Enterostomy Clamp. W. Bartlett, St. Louis.
37 Pathology and Symptomatology of Cholelithiasis. A. J. Walton, Greenwich.
38 Double Gall-Bladder Removed by Operation. J. Sherren, London.
39 Primary Ovarian Pregnancy. C. F. Kivlin, Troy, N. Y.
40 *Treatment of Tumors of the Urinary Bladder with the Oudin High-Frequency Current. E. Beer, New York.
41 Approximation of the Ends of Fragments in Fractures with Contraction of Attached Muscles. P. B. Magnuson, Chicago.
42 Simple Fracture of the Pisiform Bone. R. B. Deane, Calgary, Canada.
43 Germicidal and Osmotic Actions of Picric Acid. O. W. H. Mitchell, Columbia, Mo.

34. Abstracted in THE JOURNAL, May 27, 1911, p. 1603.

40. **Oudin Current for Bladder Tumors.**—Beer has treated successfully up to date five cases of primary papillary tumors of the bladder, aggregating nine distinct tumors, with this new method. In addition he has treated two cases of recurrent papillary tumor of the bladder. One patient is still under treatment, and a large part of the very extensive growth has been thrown off. The original tumor was excised some years ago and was diagnosed as carcinoma by a competent pathologist. The other recurrent case could not be treated adequately, as the old suprapubic wound opened up and the patient gradually developed a fatal renal insufficiency. As the result of one treatment in this case, larger pieces of the papillary growth sloughed away, as in all the other cases. In two undoubted cases of carcinoma of the non-papillary type results were negative. Beer introduced the Oudin current through a catheterizing cystoscope. In the case of a patient 81 years old the condition was considered inoperable. The large papillary growth made up of three confluent tumors surrounded the right ureter. To remove the growth and reimplant the ureter would have been too severe a strain for this anemic old woman. In eight seances aggregating thirteen and a fourth minutes' application of the Oudin current, the tumor was painlessly destroyed and the patient has been completely restored to health. There is no sign of recurrence. In a second case there was a fair-sized sessile growth which was bleeding very actively. The very first application and the very first treatment controlled this, so that the urine was absolutely clear twelve hours after the treatment and has remained so ever since. There is no sign of recurrence.

Journal of Arkansas Medical Society, Little Rock

June

44 Family Physician, Then and Now. T. F. Kittrell, Texarkana.
45 Progress in Dermatology and Syphilology. S. E. Steer, Hot Springs.

Medical Herald, Kansas City

August

46 *Tuberculosis Treated with Carl Spengler's Tuberculosis Immune Blood. G. N. Ryan, Des Moines, Iowa.
47 Congenital Cystic Kidney. W. J. Friek, Kansas City.
48 *Care of the Hypertrophied Prostate. F. H. Clark, El Reno, Okla.

46. **I. K. (Spengler) Treatment of Tuberculosis.**—Very satisfactory results have been obtained from this method of treatment by Ryan. He reports forty-three cases.

48. Abstracted in THE JOURNAL, April 15, 1911, p. 1142.

West Virginia Medical Journal, Wheeling

August

49 Cancer of Uterus. O. F. Covert, Moundsville.
50 Surgery of the Tonsil. F. L. Hupp, Wheeling.
51 Local Anesthesia in Throat Operations. H. Lesieur, Chicago.
52 Skin Antisepsis. R. J. Hersey, Wheeling.
53 Ethical Hints. W. E. Neal, Huntington.
54 Dechlorination Cure. J. M. Lovett, Huntington.

Journal of Cutaneous Diseases, New York

August

55 *Etiology of Lupus Erythematosus. D. Friedlander, San Francisco.
56 St. Louis Museum for Diseases of the Skin. D. W. Montgomery, San Francisco.
57 Relationship of Vaccine Therapy to Treatment of Certain Diseases of the Skin. D. K. Smith, Toronto, Canada.

55. **Lupus Erythematosus.**—That the disease is not tuberculous *per se*, is evident to Friedlander, but the question as to whether it is due to a tuberculous or other toxin, he says, is not so clear. Probably the truth lies somewhere between the two extremes; that is to say, that the disease is caused by a toxin, carried by the blood, as evidenced by the fact that the blood-vessels are the first structures to be affected, and while tuberculosis or a tuberculous inheritance may predispose to lupus erythematosus by lowering the general resistance, it is certainly more of a predisposing than a causative factor. That it is a constitutional affection is clearly shown in those cases which pass over into the acute fulminating type, in which the patient shows all the symptoms of a profound toxemia with involvement of various internal organs, especially the kidneys; but the cause of the toxemia cannot be laid to any single toxin. That feeble or deranged circulation, trauma and irritation, are factors in the causation of this affection is also evident, but whether the toxemia precedes the local irritation and the external lesion is the exciting factor, or whether the skin damage by the external lesion presents less resistance than the remaining cutaneous envelope to the circulating factor, is a question to be determined.

Southern Medical Journal, Nashville

August

58 Treatment of Pellagra. C. C. Bass, New Orleans, La.
59 *Typhoid, with Case of Double Perforation. H. M. Folkes, Biloxi, Miss.
60 Tuberculosis. F. G. Rutherford, Mobile, Ala.
61 *Surgical After-Treatment of Anterior Poliomyelitis. R. C. Turck, Jacksonville, Fla.
62 *Surgical Treatment of Hepatic Cirrhosis. A. A. Herold, Shreveport, La.
63 Case of Gunshot Wound of Abdomen and Chest, Penetrating Stomach, Liver and Lung. F. G. Dubose, Selma, Ala.
64 *Review of Fifty-Eight Consecutive Operations for Fibroid Tumors of the Uterus. E. G. Jones, Atlanta, Ga.
65 Surgery of the Ovaries. J. A. Crisler, Memphis, Tenn.
66 The Eye, and Its Relation to Medical Inspection of Schools. F. P. Hoover, Jacksonville, Fla.
67 Treatment of Wounds, Surgical Dressings and Applications. L. Sexton, New Orleans, La.
68 *Episcleritis. O. Dulaney, Dyersburg, Tenn.
69 The American Medical Association: Its Organization, Its Policies and the Present Status of Its Work. M. Rogers, Birmingham, Ala.
70 Relation of Physicians to Life Insurance. W. D. Jelks, Birmingham, Ala.

59 and 62. Abstracted in The Journal, Dec. 3, 1910, pp. 2006 and 2007.

61. Abstracted in The Journal, June 17, 1911, p. 1841.

64. Abstracted in The Journal, May 27, 1911, p. 1603.

68. Abstracted in The Journal, Nov. 26, 1910, p. 1920.

Journal of Medical Society of New Jersey, Orange

August

71 Our Profession: The Progressive Changes of Forty Years. E. Hollingshead, Pemberton.
72 *Chronic Gastritis of Secondary Origin Presenting the Phenomenon of Achlorhydria Hemorrhagica Gastrica. J. T. Pilcher, Brooklyn, N. Y.
73 Poliomyelitis Anterior. G. E. Day, Collingswood.
74 Hospitals, Their Use and Abuse from General Practitioner's Viewpoint. A. Marcy, Riverton.
75 Certain Medicinal Agents: Their Value, Potency and Danger. J. J. Hering, Tenafly.

72. Abstracted in The Journal, July 22, 1911, p. 306.

Journal of Experimental Medicine, New York

August

76 *Method for Pure Cultivation of Treponema Pallidum (Spirochæta Pallida). H. Noguchi, New York City.
77 *Phagocytic Immunity in Pneumococcus Infections, and in Pneumonia with Relation to the Crisis. S. Strouse, Chicago.
78 *Infection of Rabbits with the Virus of Poliomyelitis. H. K. Marks, New York City.
79 *Ultimate Result of a Double Nephrectomy and the Replantation of One Kidney. A. Carrel, New York City.
80 *Patching of the Abdominal Aorta with Piece of Rubber. A. Carrel, New York City.
81 Cultivation of Tissue in Plasma from Alien Species. R. A. Lambert and F. M. Hanes, New York City.
82 *Studies on Immunity in Cancers of the White Rat. I. Levin, New York City.
83 Mechanism of the Formation of Metastases in Malignant Tumors. I. Levin and J. Sittenfield, New York.
84 Experimental Obstructive Jaundice. J. H. King, J. E. Bigelow and L. Pearce, Baltimore.
85 Formation of Precipitates in the Blood in Vitro by Acid Salvarsan Solutions. D. R. Joseph, New York City.
86 Experimental Immunity with Reference to Bacillus of Leprosy. C. W. Duval and F. B. Gurd, New Orleans.
87 Further Observations on Certain Features of Experimental Syphilis and Yaws in the Rabbit. H. J. Nichols, U. S. Army.

76. **Pure Cultivation of Treponema Pallidum.**—Noguchi reports the positive reproduction of syphilitic lesions in rabbits by means of pure cultures of *Treponema pallidum*. He employed the spirochete-containing testicular tissue of rabbits which had been inoculated with human syphilitic material for the purpose of cultivating the pallidum. The culture medium used was a serum water (sheep, horse, rabbit) to which a piece of sterile rabbit tissue is added. The rabbit tissues best adapted to this purpose are the kidney and testicle. The heart muscle is also good, but liver is unsuitable, since it is not only difficult to obtain in a sterile condition, but even when sterile, supplies enough carbohydrates to render the medium strongly acid in cases in which certain bacteria are simultaneously cultivated. Strict anaerobic conditions are very important in obtaining the first generation of pallida. To obtain the first generation of the *Treponema pallidum* in virulent form, the following conditions are essential: (1) the presence of suitable fresh sterile tissue in serum water; (2) strict anaerobiosis; (3) a slightly alkaline reaction as furnished by the serum and tissue, and (4) a temperature of about 35 to 37 C. The presence of agar or gelatin seems to interfere with the successful growth of the first generation of the spirochetes. On the other hand, when once adapted to the artificial serum-water tissue medium, the pallidum grows well under less strictly anaerobic conditions. In fact, certain strains even grow well in a medium containing agar, provided that suitable fresh tissue is placed low down in a high column of medium (serum-water or serum-agar), and that it is covered with paraffin oil. Certain pallidum strains refuse to grow in a solid medium for several generations, and none of Noguchi's pallidum strains grew in any medium without the presence of tissue. Thus all the pure pallidum strains are being cultivated in a tissue-containing medium. Out of ten strains of *Treponema pallidum*, six have been cultivated in the serum-water tissue medium. Except in one instance, the pallidum has grown together with other bacteria. So far only two strains of pure cultures have been carefully tested for their virulence. Both strains have produced typical lesions in the testicle of the rabbit.

77. **Phagocytic Immunity in Pneumococcus Infections.**—Strouse endeavored to show through animal experiments, that phagocytic immunity is to a high degree specific for the organism used in immunization, and that the amount of opsonin produced in the process depends to a great extent on the virulence of the organism. The negative results obtained with post-critical sera do not mean that opsonins may not be present (five positive cases indicated their presence), but they emphasize strongly the fact that they are not formed to any great extent. Therefore, this study adds further support to the view that although opsonic immunity is produced in pneumonia, it is not the only means of defense possessed by the body, and by itself it cannot explain the crisis.

78. **Infection of Rabbits with Virus of Poliomyelitis.**—The experimental results obtained by Marks would, it seems, leave no doubt that the virus of poliomyelitis can be propagated in certain individual rabbits, at least through a limited series of inoculations. They also show that the virus is not confined to the central nervous system in these animals, but occurs, perhaps in equal amount, in other organs—certainly in the liver and spleen.

79. **Double Nephrectomy and Replantation of One Kidney.**—A dog, after having undergone a double nephrectomy and the replantation of one kidney lived in excellent health for almost two and a half years. She died of an intercurrent disease which was without relation to the operation. The autopsy showed the kidney to be normal. Hence Carrel says the experiment proves definitely that the extirpation of the kidney in the dog, its perfusion with Locke's solution, the complete interruption of its circulation for fifty minutes, and the suture of its vessels and ureter do not interfere with its functions, even after a long period of time, and it indicates that from a purely surgical standpoint, the grafting of organs is a real possibility.

80. **Patching of Abdominal Aorta with Rubber.**—In two recent experiments Carrel attempted to patch an artery with inorganic and organic foreign substances in order to ascertain whether they can be used in the reparation or in the permanent intubation of large vessels. Under ether anesthesia a segment of glass tubing, about five centimeters long, coated with paraffin was introduced into the abdominal aorta of a dog. The pulsations of the femoral arteries remained normal. Six days after the operation, the animal was allowed to run. Paralysis of the posterior limbs developed and the pulsation of the femoral arteries disappeared. It was thought that the glass tubing had been displaced by the movements of the animal and that coagulation had occurred. Laparotomy was performed, the tube extirpated, and the aortic circulation reestablished. The glass tubing was obliterated by a soft clot of recent formation. But it was found that the glass wall, inside of which circulation had taken place for six days, was covered by a thin, whitish membrane. A tube having the appearance of a thin-walled artery could be extracted from the glass tubing. Microscopic examination showed that it was composed of a dense fibrin infiltrated by many leukocytes. Carrel thinks it is probable that if the dog had been quiet and the glass tubing had not been displaced, the fibrinous

tube would have become organized and would have formed inside of the glass tubing a new intima, in the manner of the canalization of a dissecting aneurism. In the second experiment, a piece of the anterior wall of the abdominal aorta was resected and replaced by a piece of rubber.

Experiment.—A medium-sized male dog. Feb. 7, 1910, 9:45 a. m., under ether anesthesia, transversal laparotomy; intestines wrapped in greased silk towels and a wool blanket. 10:05 a. m., dissection of the abdominal aorta below the renal arteries. Interruption of the circulation by two Crile forceps placed about 4 cm. from each other. Resection of a small piece of the anterior wall of the aorta. The opening was about 20 mm. long and 12 mm. wide. It was patched by a piece of thin rubber. At 10:36 a. m., the circulation was reestablished. There is some leakage at the line of suture, which is easily controlled by a few stitches. The abdomen is closed and the operation completed by 11:00 a. m. After the operation, there was no modification of the femoral pulse, and the animal remained in excellent health. May 26, 1911, the femoral pulse and the aortic pulsations were normal. There was a slight thickening of the anterior wall at the level of the patching, and the artery adhered to the thoracic duct. About fifteen months later the aortic segment bearing the rubber patch was extirpated and examined. The lumen of the vessel was normal; the wall was thickened. On the external side of the aorta there was no evidence of the patch, and the adventitia was thicker than normally. The intima was smooth and glistening. The piece of rubber was present in the wall. On its external side, a new adventitia had developed, while its internal side was covered by a thick layer of internal tissue. The experiment indicates, therefore, that a foreign inert substance, under certain conditions, does not produce an obliterative thrombosis, but can, indeed, be used in the reparation of the wall of a large artery.

82. **Immunity in Cancers of White Rat.**—Levin concludes that immunity to cancer growth is due to an active inhibitory influence of some substance present in the body fluids of the immune host, and not to any purely cellular activity. Immunity to growth of cancer must be very similar to, though not identical with, immunity in bacterial disease.

Mississippi Medical Monthly, Vicksburg

August

88 *Inguinal Hernia. J. Darrington, Yazoo City.
89 *Conservative Treatment for Advanced Cases of Carcinoma of Uterus. J. W. Barksdale, Winona.
90 *Diagnosis and Treatment of Chronic Affections of the Hip. W. C. Campbell, Memphis, Tenn.
91 *Some Unavoidable Postoperative Complications. J. A. Crisler, Memphis, Tenn.
92 *Some Unusual Symptoms in Malaria. B. F. McNeal, Ezra.

88, 89, 90, 91 and 92. Abstracted in THE JOURNAL, May 27, 1911, pp. 1611 and 1612.

American Journal of Obstetrics and Diseases of Women and Children, New York

August

93 Physical, Mental and Social Hygiene of the Growing Girl. J. R. Goffe, New York.
94 Dysmenorrhea Relieved by Nasal Treatment. J. Brettauer, New York.
95 *Malformation of the Female Genitalia. C. B. Miller, Washington, D. C.
96 Duties of the Gynecologist in Relation to the State Control of Vice. J. Milton Mabbott, New York.
97 Successive Tubal Pregnancies. M. Rabinovitz, New York.
98 Case of Hypernephroma. G. T. Vaughan, Washington, D. C.
99 *Case of Eclampsia. D. W. Prentiss, Washington, D. C.
100 *Abstraction of Calcium Salts During Pregnancy. J. G. Drennan, Arrochar, N. Y.
101 *Shock in Eclampsia. H. C. Bailey, New York.
102 *The Plaster Lace. H. Grad, New York.
103 *Double Dermoids and Pregnancy. W. P. Manton, Detroit.

95. **Malformations of Female Genitalia.**—In one case cited by Miller the malformation was a typical one of bicornuate uterus in which the septum had extended not only between the uterine chambers, but had also divided the vagina into two halves. A second case was one of congenital absence of uterus and vagina. Immediately below the external inguinal ring in the upper portion of the labium majus on each side was a small oval body the size of an ovary. These bodies were sensitive to pressure, but did not swell periodically and were not the seat of pain except on pressure. The inguinal canals were not patulous and there was no impulse on coughing. Miller took these bodies to be misplaced mal-developed ovaries. The case was apparently one of congenital absence of vulva, vagina, uterus and tubes, with misplaced rudimentary ovaries. The third case was one of pyocolpos due to atresia of the hymen. The fourth case was one of congenital atresia of the vagina and external os uteri. All of these patients were of the white race. Miller has seen only one congenital malformation in the negro race and that was of a minor character. It was a transverse septum not complete about halfway up the vagina.

99. **Eclampsia.**—In Prentiss' case there was a preeclamptic toxemia and postpartum eclampsia, the patient having one convulsion the day after delivery.

100. **Abstraction of Calcium Salts.**—Drennan says that if the abstraction of calcium salts from the mother's blood by the fetus is the cause of puerperal eclampsia in the former, then the eclamptic mother should not nurse her infant.

101. **Shock in Eclampsia.**—Bailey records certain observations made on six eclamptic and preeclamptic cases with special regard to the shock attendant on delivery and the shock caused by drugs used for the rapid reduction of blood-pressure. He found that rapid emptying of the uterus in eclampsia frequently produces a decrease in blood-pressure amounting to 100 mm. of Hg, causing a condition of collapse or shock. Veratrum viride given to its full physiologic effect may cause a drop of 145 mm. of Hg. in the blood-pressure, producing shock. The administration of veratrum viride combined with emptying the uterus in eclampsia may produce such profound shock that the patient cannot recover. While it is probable that the high blood-pressure of eclampsia is one of Nature's protective mechanisms, still if it is deemed advisable to lower it, nitroglycerin and erythrol tetranitrate should be used for their action is on the peripheral vessels and not on the medullary centers. One of the best means of temporarily lowering blood-pressure in antepartum or intrapartum eclampsia is the emptying of the uterus. The blood-pressure observations in Bailey's cases showed a marked hypotension immediately after delivery, and if it is deemed desirable to lower the blood-pressure in this disease, Bailey says, the best method would be the delivery of the child, but the question comes up as to the advisability of reducing blood-pressure in these cases. The system is nearly overcome by the circulation of some toxin or toxins and it is an open question as to whether the rise in blood-pressure is not one of Nature's protective mechanisms. If the blood-pressure is to be lowered why not dilate the splanchnic area without depressing the medullary centers. Dilation of this area is accomplished by an anemia of the brain which would be very desirable. Nitroglycerin, in 1/50 gr. dose, will depress the blood-pressure 11 to 14 per cent. within five minutes when given by mouth and action begins to take place within two minutes. Together with the nitroglycerin, 2 gr. of erythrol tetranitrate should be given because its action begins when the nitroglycerin action wanes and the depression of the blood-pressure is continued for about three hours. These drugs are especially active in high blood-pressure, and a single dose of each of them would bring the high pressure seen in these cases well within the limits of safety.

102. **Plaster Lace.**—Grad's method consists in coaptating the skin incision by lacing instead of suturing. To prepare the plaster lace two pieces of Z. O. adhesive plaster, 6 by 8 inches long, are pasted on a glass bottle 4 inches in diameter. Hooks used by dressmakers are then sewed to the edge of the plaster 1 inch apart. The flask with the plaster attached is then wrapped up securely and sterilized in a steam sterilizer. After the sterilization the plaster is ready for use. To facilitate the removal of the plaster, hot water is poured into the bottle, when the plaster can be stripped off from the glass easily. After the peritoneum and fascia are closed, the wound is dried and all bleeding stopped. The skin for 8 to 10 inches on either side of the wound is dried with ether. The plaster is then placed so that the hooks are an inch away from the edge of the skin incision and is made to adhere firmly to the

integument. With a suitable piece of sterile tape the lacing is begun in the center of the wound, as it is easier to close the wound smoothly if the lacing is begun in the center. The tension is adjusted so as to bring the edges of the wound in apposition, care being taken not to allow the edge of the skin to fold under or to overlap. The wound is then dried and a suitable dressing applied. Twenty-four hours later the wound should be inspected and the dressing changed, as it will be found that the gauze next to the skin is soiled by the drainage from the wound. The plaster lace is allowed to remain on the skin for some ten to twelve days, and in the meanwhile the wound can be inspected as often as may be desired. By the use of this method of closure the incision remains uncovered and admits of inspection at any time. The coaptation of the wound is under absolute control, as the tension of the wound can be regulated to a nicety. The scar is threadlike. There is no skin suturing and consequently no stitch abscesses.

103. Abstracted in The Journal, June 24, 1911, p. 1912.

St. Paul Medical Journal, St. Paul

August

104 Value of the Periodic Holiday. J. Knott, Dublin, Ireland.
105 Extraction of Lens in Its Capsule. Smith Operation. J. C. Harding, St. Paul.
106 The Undeveloped Field in the Life Insurance Business. H. J. Messenger.

Colorado Medicine, Denver

August

107 Laboratory Methods Adapted to Country Practice. C. N. Needham, Grand Junction, Colo.
108 Cerebellar Abscess of Otitic Origin. F. R. Spencer, Boulder, Colo.
109 *Narcotic Addiction and Its Treatment. E. W. Knowles, Greeley, Colo.
110 Case of Rheumatoid Arthritis of Almost Undoubted Syphilitic Origin. L. W. Ely, Denver.

109. **Narcotic Addiction.**—The following treatment has been used by Knowles for several years with good results: when the patient comes for treatment he is required to give up what morphin or other drugs he has with him, and he is given whatever drug he may need to make him comfortable during the first or primary stage. When the second or active stage is begun, the drug is withdrawn at once. On admission give one tablet of the following formula, at two-hour intervals until five are taken:

℞	Gm. or c.c.	
Hydrargyri chloridi mitis	13	gr.ii
Podophylli	01	gr.1/6
Phenolphthalein	06	gr.i
Atropinæ sulphatis	0003	gr.1/200
Strychninæ nitratis	0017	gr.1/40

Three hours after the last tablet has been taken give 5 ounces of a saturated solution of magnesium sulphate, or 3 ounces of castor oil. If the bowels do not move freely within two hours, repeat the dose. This Knowles has not found necessary unless the patient had loaded up on morphin before coming in. A high enema should be given a short time before starting the active treatment. It is absolutely necessary for the bowels to respond freely at this time. The treatment is discontinued until they do. Purging does these patients good instead of harm. During this stage no food is to be given until the bowels have been thoroughly emptied. After this a full tray may be given, and when this has digested the patient is ready for the active treatment.

From now on. Knowles says, the patient should be in bed, and the narcotic should be withdrawn. Give the patient hypodermically 8 drops of the following solution:

℞	Gm. or c.c.	
Hyoscinæ hydrobromatis	013	gr.1/5
Pilocarpinæ nitratis	12	gr.ii
Strychninæ nitratis	013	gr.1/5
Aquæ	16	ʒiv

Repeat the dose at half-hour intervals until the patient is asleep. This usually requires from two to three doses. On awakening repeat the dose, no matter how comfortable the patient feels. From now on govern the dose and time of giving by the patient's condition. Give enough to keep him asleep or quiet, or in a mild belladona intoxication. If this condition be kept up there is no suffering. The dose may have to be increased to 10, 12 or 15 drops, and the interval will vary from two to five hours. Never after the first sleep is it necessary to repeat the dose oftener than every two hours.

When the sleep becomes natural, and no nervousness, jerking or twitching of the muscles is present, the medicine may be stopped. This will require from sixty to ninety-six hours, depending on the condition, the daily dose and the duration of the addiction. Another important sign is that the patient acquires a tolerance for the prescription with the passing of the withdrawal symptoms. Green stools should appear at this time. When the patient awakens from his first sleep, which is from three to five hours after the hypodermic has taken effect, give 1 grain of calomel every three hours until 8 grains are taken, and at the end of the thirtieth hour give 3 ounces of castor oil or 5 ounces of a saturated solution of sulphate of magnesia, and repeat in two hours if free action is not obtained. At the end of the fifty-sixth hour repeat the dose of oil. When this acts the green stools should appear. If it be found necessary to continue the treatment beyond the seventy-second hour, give a like dose of oil or saline. It is important that the bowels move and move freely at these intervals. If this treatment be carried out to the letter, the patient should sleep through the entire time, only awakening to go to the toilet, or for his bath or to be given food.

Milk or other liquid food should be given at regular intervals during the entire active stage. Acids should be avoided as the stomach shows a hyperacidity. It is an excellent plan after the first twenty-four hours to give sodium bicarbonate every four hours, especially if there is a tendency to vomit. Hot tub baths are given every morning, followed by an alcohol rub. Hot packs may be given to the strong and robust to help elimination. When the habit is once broken, the return to health is rapid and sure, and an otherwise healthy patient is able to resume his ordinary vocation. The after-treatment with a great many consists of attention to the bowels, good nourishing food, moderate exercise and plenty of sleep. Do not give alcoholic stimulants, for the administration of stimulants is always followed by a depression, which gives rise to a desire for another dose of the stimulant.

Bulletin of the American Academy of Medicine, Easton, Pa.

August

111 *Latest Improvement in Medical Education—Prevention. C. S. Sheldon, Madison, Wis.
112 The Medical Profession and Community Social Work. F. Almy, Buffalo.
113 Possibilities of Social Service Open to Hospitals and Dispensaries. J. R. Shillady, Buffalo.
114 Social Service in the Work of a Hospital for the Insane. A. W. Hurd, Buffalo.
115 Potential Educational Influence of Hospitals. I. S. Wile, New York.

111. Abstracted in The Journal, July 22, 1911, p. 311.

Texas State Journal of Medicine, Fort Worth

August

116 Goiter and Its Surgical Treatment. C. H. Harris, Fort Worth.
117 Clinical Pathology and Surgical Phases of Goiter. W. D. Haggard, Nashville, Tenn.
118 *Simple and Safe Method for Performance of Partial Thyroidectomy. L. Freeman, Denver, Colo.

118. **Partial Thyroidectomy.**—In Freeman's method the gland is exposed through an ordinary collar incision, and the lobe to be removed is dislocated. In the average case there is but little hemorrhage or risk of any kind. Two pieces of wire are then cut, some inches longer than the length of the thyroid. Several loops (usually three) of strong, heavy catgut are next passed directly through the lobe, near the base, from one side to the other—one near each end, and one or more between these, according to the size of the gland. The loops are most conveniently inserted by plunging alligator forceps through the thyroid substance and grasping a strand of gut by its center; although a blunt needle, threaded with both ends of the loop, may be employed instead. A wire is then placed longitudinally along each side of the base of the lobe, passing through the loops on one side and between their free ends on the other. These are held at each end by the fingers of an assistant, thus firmly compressing the glandular substance while the free ends of the loops are being tied firmly over their corresponding wire. Additional

security may be obtained at each extremity by taking a turn around the projecting portions of the wires with the remaining ends of the loops after the first knots are tied. In some cases, especially when the goiter is a large one, the loops may be made double, thus increasing their holding power. When the wires are once in position they cannot slip or become displaced in any way because they are securely held by the catgut loops passing through both glandular substance and capsule. Their pressure is great enough, when properly applied, to check the circulation, so that the gland may be shaved off beyond them like a piece of cheese, without the slightest hemorrhage and with a satisfying sense of security. A small margin should be left, as a support for the wires and sutures.

The glandular stump is now replaced in its original position by the side of the trachea, the upward projecting ends of the wires being previously removed with wire-cutters. When necessary, the long ends of the wires, projecting downwards, are then bent forwards by means of pliers, in order that they may pass easily through the wound and over the upper end of the sternum without pressure on the skin. The various tissues are now united over the thyroid stump, the ends of the wires passing through the center of the skin wound, between the stitches and down over the sternum. They must be long enough to prevent the possibility of slipping beneath the skin, and, as a further precaution, their ends can be bent into a loop, through which a small strip of gauze may be pulled.

In applying the dressings a layer of gauze is placed beneath the wires in order to protect the skin. Other drainage than that afforded by the wires is unnecessary.

In a few days the wires become loosened, through absorption of the catgut and shrinkage of the compressed tissues, when they can easily be pulled out, the small opening through which they emerged soon closing spontaneously. They produce no particular discomfort, the patient being able to get up and walk about as freely as if ordinary drainage tubes had been employed.

The advantages of the method are said to be: (1) It is easily and quickly done. (2) The control of hemorrhage is complete. (3) There is no danger of injuring the recurrent laryngeal nerves or the parathyroid bodies. (4) There is reason to think that the uniform pressure may prevent the exudation of glandular secretion, a point of some importance in exophthalmic goiter. (5) Any desired amount of glandular substance can be excised from one or both sides, without danger of removing or leaving too much. (6) The wires do not crush the tissues—they simply compress them enough to control hemorrhage and stop the exudation of glandular secretion.

Military Surgeon, Washington

August

119 Influence of Rice Diet and Inanition on Production of Multiple Neuritis of Fowls and Its Bearing on Etiology of Beriberi. W. P. Chamberlain, H. D. Bloombergh and E. D. Kilbourne, U. S. Army.
120 The Army Hospital Corps: How Can Its Efficiency be Increased? G. M. Ekwurzel, U. S. Army.
121 Wassermann Reaction in Syphilis, Leprosy and Yaws. H. D. Bloombergh, U. S. Army.
122 Sick Report and Efficiency of the Army. Caduceus.
123 Report of Sanitary Conditions at Maneuver Camp, San Antonio, Texas. F. W. Foxworthy.
124 Duties of the Executive Surgeon of a Naval Hospital. E. H. Green, U. S. Navy.
125 The Antiseptic Value of Iodin in Surgery. J. S. Neate, Washington, D. C.
126 Report on Low Country Fever Diagnosed as Dengue. C. H. Halliday, U. S. Army.
127 An Oral Lesson in Apparently Cured Syphilis. G. I. Jones, U. S. Army.

Interstate Medical Journal, St. Louis

August

128 Lesions of the Mid-Brain, with Special Reference to the Benedict Syndrome. S. E. Jelliffe, New York.
129 Knee-Joint Tuberculosis in Adults. E. W. Ryerson, Chicago.
130 Few Points on the Morbidity and Mortality of the Newly-Born Infant. J. Zahorsky, St. Louis.
131 Estivo-Autumnal Malaria with an Unusual Anemia. L. M. Warfield, Milwaukee.
132 Treatment of Cancer High in the Rectum. C. B. Davis, Chicago.
133 Excision of the Clavicle for Small Round-Celled Sarcoma, in Child of Nine Years. N. B. Carson, St. Louis.
134 One Hundred Cases of Syphilis Treated with Salvarsan. F. C. Edgerton, New York.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

August 5

1 School Health. F. E. Fremantle.
2 *Cancer. C. J. Bond.
3 Diffused Cancer of the Female Mammary and Thoracic Integument. G. T. Beatson.
4 *Toxemia of Uncertain Origin and Its Treatment by Sea-Water Injection. I. C. Maclean and L. de C. Harston.
5 Angina Sine Dolore and Gastric Deflation. H. W. Verdon.
6 Melanotic Sarcoma of the Liver, Secondary to a Melanotic Sarcoma of the Eye Removed by Operation Ten Years Previously. C. H. Lilley.
7 Case of Congenital Hematoma. S. Sheill.

2. **Cancer.**—This paper is an analysis of the conditions under which the new cell characters which we associate with cancer arise in somatic cells; to inquire whether the three conditions which accompany variation and selection among other organisms are also concerned in the evolution of cancer. These are: (1) struggle for existence among cells; (2) cell proliferation; and (3) cell destruction. Bond describes blastomatosis as an adaptive response on the part of individual cells, or cell groups, to environmental change of three kinds: alteration in the stimuli which reach the cell from the outside world; alteration in nutrition; alteration in the activities of the other cells which compose the organism. This adaptive response may be "indirect," the result of variation among the cells exposed to the changed conditions, accompanied by selection of an intercellular kind, or it may be "direct," and the result of a process of variation in the physiologically differentiated parts which compose the individual cell, accompanied by selection of an intracellular kind, in which case it represents a "use acquirement." The new cell characters which so arise may be grouped in two main divisions—one characterized by typical growth, including all the histologic varieties of benign neoplasms from teratoma to neuroma, the other characterized by atypical growth including the malignant types. But between these two groups there are numerous tumors composed of cells presenting transitional characters. Yet, again, the second group, characterized by atypical growth, may be divided into neoplasms composed of cells of epithelial type, and neoplasms composed of cells of connective-tissue type. And between these two groups there are again connecting links, for the malignant tumors which arise from cells of primary mesoblastic and secondary epithelial origin tend to exhibit transitional characters.

Of the two factors concerned in the origin of malignant growth (cell potentiality and environmental influence), environmental influence plays a large part in the genesis of cancer, cell potentiality in the genesis of sarcoma. Of the environmental factors concerned, outside stimuli exert a much larger influence in the genesis of epithelial than of connective-tissue cancer. Bond believes that a comparison of this theory with others at present held shows that cancer, like all "new growth," must be regarded in the light of a response of an adaptive kind on the part of certain cells or cell-groups of varying potentiality, to changes in their environment. It suggests that in epithelial cancer, at any rate, this response takes place under the same conditions as those which are associated with the occurrence of variation and selection among other organisms when exposed to environmental change and where evolution of new characters is taking place, especially in response to changes in the external environment. And the suggestion is therefore made that blastomatosis, including cancer and certain other forms of cell multiplication, takes place under the influence of the same evolutionary factors, namely, variation and selection of the "inter-" or "intra-" cellular kind.

4. **Toxemia of Uncertain Origin.**—The symptoms in this case pointed to some inflammatory infection and possibly ulceration of the bowel, chiefly in the region of the cecum and ascending colon. There were some enlargement and tenderness of the liver. Drugs and vaccine-therapy failed utterly to give relief. Finding that in spite of all treatment the patient was losing ground rapidly, the sea-water injection was given, beginning with 25 c.c. of sea-water (plasma marina), injected under

strict aseptic precaution, in the right scapular region. As it was followed by no discomfort, it was subsequently increased from 25 to 50 c.c., and continued twice weekly for thirty injections. The temperature soon began to fall to normal, but at first after each injection it would fall and then rise again to 100 or therabouts before the next injection was given. This continued for a time until it came down and remained at normal. The patient began to increase in weight. Sleep became natural, although up to that time it had to be induced by hypodermic injections of morphin. The improvement continued, the stools became formed and regular, appetite gradually improved, and she thoroughly enjoyed her meals, and a more liberal diet was given. The apical murmur, previously present, disappeared, as did also the anemic condition. At the end of six weeks she was for the first time able to leave her bed and sit up daily in a chair. Each week she gained on an average a little over half a pound in weight. After each injection she described herself as feeling much stronger, and they seemed to act as a powerful tonic to her general system. Finally, six months after the beginning of the sea-water treatment, she was able to take outdoor exercise and live her ordinary life.

British Medical Journal, London

August 5

8 Complications of Rheumatism in Childhood. F. J. Poynton.
9 Four Cases Illustrative of Certain Points in Psychoanalysis. H. Wingfield.
10 Retinoscopy Without Atropin, and Ocular Headaches. J. A. Wilson.
11 Administrative Control of Tuberculosis. J. Robertson.
12 Sanatoriums. A. E. Lyster.
13 The Tuberculosis Dispensary. R. W. Philip.
14 Tuberculosis and Tuberculin. W. C. Wilkinson.
15 Domestic Hot-Water Supplies as Factor in Production of Lead Poisoning. F. E. Wynne.

Practitioner, London

August

16 Heart Strain. with Remarks on Training and Other Allied Cardiac Conditions. S. West.
17 *Celiac Disease. R. Hutchison.
18 *Abdomino-Pelvic Pain in Women Without Physical Signs of Disease. V. Bonney.
19 Sanatoria. Tuberculosis Dispensaries and the Government Insurance Scheme. F. R. Walters.
20 *Puerperal Septic Thrombophlebitis of the Pelvic Veins. W. B. Bell.
21 Intussusception. A. J. Walton.
22 Sliding Hernia of Sigmoid. W. Rankin.
23 Pulsation in the Neck. W. Broadbent.
24 *Case of Esophagismus. T. M. Tibbetts.
25 Permeating Mastoid Meningitis. J. B. Pike.
26 Treatment of Fistula-in-Ano by Passive Congestion. A. B. Fearnley.
27 Glycerin as an Antiphlogistic. L. Burges.
28 Magic and Medicine. D. McKenzie.

17. **Celiac Disease.**—Celiac disease is defined by Hutchison as a chronic wasting disease of childhood characterized by chronic diarrhea with large, pale and offensive stools, running a prolonged course with a great tendency to relapses, exhibiting often certain nervous complications, such as weakness of the legs and tetany. and ending either in death or in complete recovery, or in partial recovery with great impairment of growth and development (similar to or identical with the infantilism of Herter). The cause of the disease is obscure. Social surroundings seem to play little if any part in the etiology. Any acute attack of enteritis, whether from infection, poisoning, irritation of undigested food, or exposure to cold, seems able to serve as a starting point of the disease. The disease usually begins insidiously in the second or third year of life. The child is observed to be pale, listless and fretful, and to be losing flesh and strength. If inquiry is made into the state of the stools they will be found to be increased in number, usually about two or three in the twenty-four hours, and still more increased in bulk. They are usually of the consistence of porridge, pale or even quite white in color, and of an extremely offensive odor. Sometimes they contain streaks of visible mucus or blood, and undigested food particles can often be observed in them. The appetite is poor or capricious, and there is often considerable thirst. Physical examination reveals some degree of anemia, with wasting of the subcutaneous tissues and flabbiness of the muscles. The abdomen is distended and tympanitic. The temperature is often slightly elevated at night.

As the disease progresses certain nervous symptoms may become manifest. Chief of these is weakness of the lower extremities, which may be accompanied by loss of the knee-jerks. Attacks of tetany are not uncommon, and there may even be epileptiform convulsions. Edema, especially of the extremities, may occur without any evidence of renal disease, just as it does in other forms of chronic gastro-intestinal disorder in childhood. The mental condition is apt to be peculiar, there being often a high degree of precocity along with a tendency for the child to be unduly interested in his own symptoms, which is most unusual at this age. Sometimes, indeed, they are actual little hypochondriacs, and almost always they are spoilt.

If one makes a post-mortem examination of a fatal case of this disease, nothing at all is found by inspection except some atrophy of the intestinal wall. The condition most apt to simulate celiac disease is abdominal tuberculosis, and it is often extremely difficult to distinguish between them. In celiac disease, however, there are no enlarged glands to be felt and no thickened and rolled-up omentum, nor is there any ascites. A negative Pirquet's test is also of value in the diagnosis. The distinction is rendered still more difficult by reason of the fact that abdominal tuberculosis seems sometimes to supervene on the celiac disease after the latter has lasted some time. The course of the disease is an extremely chronic one, the duration extending to years with intervals of improvement, followed by the most disheartening relapses, which may take place in spite of every care. Complete and permanent recovery, however, may certainly occur. It took place in at least seven out of the sixteen cases which have been under Hutchison's observation, in some of which the disease had lasted for two or even three years. If a fatal result ensues it is usually the consequence of some intercurrent disease, such as bronchopneumonia. When the disease has lasted some time it leads to a retardation of growth, which may leave the child frail and stunted even when the intestinal symptoms have disappeared. In well-marked cases the interference with growth may amount to a condition of true infantilism, such as Herter described. Of this Hutchison has seen two pronounced examples, both of which were fatal. The way in which the arrest of development is brought about has already been discussed.

In the treatment of celiac disease a suitable diet is of the first importance. Owing to the impaired absorption of fats, the amount of fatty food must be greatly curtailed, and as starches are also badly borne these, too, must be avoided. and the diet should consist of raw or underdone meat, raw meat juice and skim-milk (preferably peptonized), gelatin in the form of jellies of different sorts and dextrinized foods. The raw meat and meat juice should form the basis of the dietary, and a child of 4 years may take as much as 6 ounces of the former and 10 of the latter daily. As improvement sets in, a little stale white bread and boiled rice may be added to the diet, as these contain starch in a form in which it is most easily borne. Under this regimen the stools usually decrease in number and amount and improve in color, while abdominal distention is lessened. In the general hygienic treatment great care should be taken to avoid chill. A warm binder should be worn over the abdomen, and the legs, which are very apt to be cold, should be warmly covered; it is sometimes even necessary to wrap them in cotton-wool and bandages. Special precautions should also be taken to avoid chill in bathing the child. Change of air to a bracing sea-side place is of great help, especially when the appetite is defective, and will often start an improvement when the case is "hanging fire." Medicinal treatment is of secondary importance, but opium is always useful. It may be given in doses of 1 minim of the tincture for every year of the child's age, along with bitters and carminatives. It tends greatly to lessen the offensiveness of the stools. If diarrhea be severe nitrate of silver is the most potent astringent. It may be given in doses of 1/6 grain with 1 or 2 drops of dilute nitric acid in a little glycerin and distilled water three times daily, and may be continued for weeks if necessary. Active preparations of pancreas are also of value, especially when the stools contain much unaltered fat.

18. **Abdomino-Pelvic Pain in Women.**—In the treatment of cases of pelvic pain without physical signs Bonney says one should begin with purgatives, for many women go about with an habitually overloaded colon although the bowels are open every day. Ordinary "white mixture" three times a day is as good as anything. Later, when it is assured that the colon is well emptied, the following prescription is used instead:

℞.

	gm. or c.c.			
Extracti cascaræ sagradæ	4			ʒi
Magnesii sulphatis	4		or	ʒi
Tincturæ hyoscyami	2			ʒss
Aquam menthæ piperitæ ad	30			℥i

One to two tablespoonfuls at night as required.

When flatulence is believed to play some part in the trouble he has found either of the two following very serviceable:

℞.

	gm. or c.c.			
Potassii bicarbonatis		60		gr. x
Tincturæ zingiberis		60		m x
Spiritus chloroformi		60	or	m x
Infusi rhei	2			m xxx
Infusi gentianæ	30			℥i

Sig.: T. d. s.

and

℞.

	gm. or c.c.			
Extracti aloes		060		gr. i
Essentiæ menthæ piperitæ		20		m iii
Tincturæ capsici		30		mv-
Aquam ad	30			℥i

Sig.: T. d. s.

The following prescription Bonney finds excellent, especially if gastric symptoms are present as well:

℞.

	gm. or c.c.			
Bismuthi salicylatis		60		gr. x
Sodii salicylatis		60		gr. x
Spiritus chloroformi	1		or	m xv
Aquam menthæ piperitæ ad	30			℥i

Three times a day.

In cases with evident neurosis sedative drugs are indicated, the bromids in particular. He looks on the following mixture as the most useful in cases of abdomino-pelvic pain without physical signs:

℞.

	gm. or c.c.			
Potassii bromidi	1	30		gr. xx
Spiritus chloroformi		60	or	m x
Infusii cinchonæ	30			℥i

Sig.: T. d. s.

A great number of these patients are out of health generally quite apart from their local complaints.. To such the administration of ferruginous tonics containing strychnin is always beneficial. Bonney finds that the best results are obtained with the milder preparations of iron such as the ammoniated citrate, because the digestion is usually too disordered to tolerate the more astringent forms. A favorite prescription of his is:

℞.

	gm. or c. c.			
Ferri ammoniæ citratis		60		gr. x
Liquoris strychninæ		30		m v
Spiritus chloroformi		30	or	m v
Aqua ad	30			℥i

Sig.: T. d. s.

20. **Puerperal Septic Thrombo-Phlebitis.**—Bell is fully persuaded that when every patient with septic thrombo-phlebitis of the pelvic veins is operated on in the early stages the mortality will drop to, say, 5 per cent. as against the 60 per cent. of those treated by expectant methods.

24. **Esophagismus.**—Tibbetts' patient was 59 years old; complained of pains in the knees and shoulders; had an urticarial rash scattered over the body, especially abundant on the face, arms and chest, and also complained of a cough, which, as the chest signs were normal and the fauces rather injected, Tibbetts attributed to pharyngeal catarrh. The temperature was 100 F., and the urine was normal. The patient was kept in bed and a milk diet and salicylates were prescribed. For the next three days there was no material change. On the night of the third day the patient was in great distress. His aspect was that of the gravest anxiety. Every few seconds there were retching efforts almost amounting to convulsions, and from his mouth saliva poured profusely. By gestures and broken speeches he intimated that under the lower part of the sternum there was severe pain, and that he thought he should be suffocated. All attempts to swallow provoked fresh paroxysms. Fifteen years before he had had a similar, but much milder, attack, and from this fact, as well as from the absence of abnormal physical signs at the previous examination and its association with rash and pharyngitis, Tibbetts ventured a favorable prognosis. Poultices were applied to the chest, steam inhalations administered, and a mixture of bismuth and soda prescribed. The saliva and dysphagia continued for five or six hours, both subsiding gradually and simultaneously, and until then the patient had been unable to swallow either milk or medicine.

Next evening all the symptoms returned, and they continued to remit and recur at irregular intervals of from six to twelve hours' duration. So severe were the attacks that the eyelids became suffused and the eyes ecchymosed to the extent that one sees in bad cases of whooping cough, or in prolonged parturition, and in a single attack the saliva lost amounted to ½ pint or more. For the pain during the second and succeeding attacks Tibbetts gave a hypodermic injection of morphin (gr. ¼). This always relieved the symptoms, and sleep usually resulted, lasting for two or three hours. Except at first, the temperature was normal throughout, but the pulse became progressively feebler and more rapid. Such drugs as might be expected to influence the attacks were tried, but, excepting as influenced by the morphin, the attacks of pain, the salivation, and the dysphagia persisted unchecked for over a fortnight. The rash was practically constant throughout. At the end of a fortnight Tibbetts first tried a hypodermic injection of atropin (1/100 gr.), with a view to reducing the ptyalism which had been so marked a feature during each attack. In a few minutes salivation and spasm abated, and in an hour or so the patient was able to take liquid food easily. The injection was repeated in four hours' time and atropin in small doses (liq. atropin, mj.) was further administered orally at intervals of four hours. In less than twenty-four hours the rash had vanished, soon the patient's convalescence became assured, and a month later he resumed his ordinary occupation in which he has been able to continue.

Clinical Journal, London

August 2

29 Some Cases of Anterior Gastrojejunostomy. G. R. Turner.
30 Tetany and Dilatation of the Colon. F. Langmead.

Medical Press and Circular, London

August 9

31 Practical Treatment in Infantile Anemias. L. Tixier.
32 Percussion-Auscultation Diagnosis in Pleuritic Effusions. A. von Koranyi.
33 Asthma, Its Varieties and Treatment. G. A. Gibson.

Annales des Maladies des Org. Génito-Urinaires, Paris

June 1, XXIX, No. 11, pp. 961-1056

34 Kidney with Double Pelvis. (Rein à bassinet double et à urétère incomplètement dédoublé; pyélonéphrite suppurée de la moitié supérieure du rein et du bassinet correspondant.) E. Bruci.
35 Fixation of Kidney by Two Pedunculated Strips of Muscle. (La myo-néphropéxie.) A. Jiano (Bucharest).
36 Operative Cure of Double Firearm Wound of Urethra. Uzac.

June 15, No. 12, pp. 1057-1152

37 *Intravesical Operations for Tumors of the Bladder. J. Doré and L. Croizier.

37. **Endovesical Operations for Tumors.**—Doré and Mock review, with fifty-eight illustrations, the various technics and instruments used in removing tumors in the bladder without incising it, paying special attention to Marion's method. This is only the first installment of the article, which won the Civiale prize last year.

Lyon Chirurgical, Lyons

June, V, No. 6, pp. 545-692

38 *Appendicitis and Traumatism. L. Bérard and P. Vignard.
39 *Roentgenoscopy of Kidney Calculi. (Importance des données radiographiques dans les interventions pour lithiase rénale.) Arcelin.
40 *Torsion of Spermatic Cord. (Volvulus du testicle.) G. Cotte and L. Croizier.
41 Benign Goiter with Malignant Metastases. H. Alamartine and P. Bonnet.
42 Unilateral Hematuric Nephritis. Ronot.

38. **Appendicitis and Traumatism.**—Bérard and Vignard study the clinical and medicolegal aspects of appendicitis following or aggravated by traumatism, thus analyzing twenty-nine cases, the majority previously unpublished.

39. **Roentography with Kidney Calculi.**—Arcelin states that instantaneous exposures are liable to show up the stones much better than longer ones unless the kidney is completely

immobilized. He insists further that the roentographer should always be present at the operation so that he can identify the stones by their shadows and see that none is overlooked. Arcelin gives twenty-six different views of kidney stones to show the various sources of error.

40. **Volvulus of the Testicle.**—The patient was a young man and the true nature of the trouble was not recognized at first. treatment being applied on the diagnosis of acute orchitis. He had had mumps in youth and acute articular rheumatism but there was no history of venereal disease. The first sign of trouble had been a sudden intense pain, with syncope, progressive swelling and tenderness in the region, but there was nothing to indicate general infection. The condition at last compelled an operation which revealed that the spermatic cord had twisted entirely around inside the vaginalis. The torsion was readily reduced but the disturbance in the circulation had been of such long standing that conservative measures were no longer possible.

Presse Médicale, Paris

July 12, XIX, No. 55, pp. 577-584

43 *Mammary Gland and Corpus Luteum. P. Bouin and P. Ancel.

Revue de Chirurgie, Paris

July, XXXI, No. 7, pp. 1-212

44 *Woody Thyroiditis. (Maladie de Riedel.) X. Delore and H. Alamartine.
45 Excretion of Bile in Normal Conditions and After Cholecystectomy. X. Delore and G. Cotte.
46 *Postoperative Intoxication in Echinococcus Disease. (Intoxication hydatique post-opératoire.) F. Dévé. Commenced in No. 5.
47 Snapping Hip Joint. (La hanche à ressort.) L. Heully. Commenced in No. 5.

43. **Relations of the Corpus Luteum and the Mammary Gland.**—Bouin and Ancel sum up their studies of the relations of the corpus luteum and the mammary gland with the statement that the corpus luteum is a gland of internal secretion which governs the development of the mammary gland both during pregnancy and in its absence. In mammals which have no spontaneous ovulation there is normally no corpus luteum except during pregnancy, and the mammary gland develops only during that period. In women and in other mammals with spontaneous ovulation, on the other hand, alternate enlargement and diminution of the mammæ are observed which correspond with the intergestational development of corpora lutea. These mammary crises manifest themselves from the beginning of puberty to the end of sexual life, in the course of the menstrual period in woman and during the heat in animals.

The mammary gland is, therefore, an organ under the influence of the corpus luteum outside of pregnancy and during the first half of gestation. The corpus luteum stimulates growth of the organ, but cannot induce secretion. The latter function is probably due to a hormone introduced into the maternal blood during the latter part of pregnancy. The authors advance the hypothesis that this hormone is the product of a gland which they have discovered in the uterine muscle and to which they give the name "myometrial gland."

44. **Woody Thyroiditis.**—Delore and Alamartine report a case of transformation of the thyroid gland into a hard mass causing serious symptoms from compression. On suspicion of cancer half of the gland was removed but the microscope revealed the woody texture of the thyroid and adjacent tissues which Riedel has described as chronic ligneous strumitis. Their patient succumbed to a fulminating hemorrhage six hours after changing the dressing, four days after the operation. They review thirteen cases on record, including six from Riedel's experience. In only one of the cases was tuberculosis evident, but Leriche and Cotte recently reported a case in which the ligneous thyroiditis was of syphilitic origin and subsided under mercury and iodid. Silatschek and Barjon have each reported a case in which a cure was realized under a course of Roentgen-ray treatment, and this should be advocated in the forms without menacing functional disturbance. This affection should be suspected when the thyroid swells rapidly and becomes extremely hard, early interfering with respiration. The patients are usually between 30 and 40. As it is a purely inflammatory affection, medical measures or partial operations prove effectual, without recurrence. Tracheotomy is useless or difficult; the best operative technic is by resection of a wedge from the isthmus to liberate the trachea.

46. **Postoperative Intoxication in Echinococcus Disease.**—Dévé's attention was called to this subject by the sudden death nineteen hours after operation for a hydatid cyst in the liver in a child of 5½. The urine contained no formaldehyd and this, with the results of extensive experimental research, excluded the possibility of intoxication from the small amount of antiseptic injected. He has found on record twelve cases of mild intoxication after puncture of an echinococcus cyst and fifteen cases of severe symptoms of the kind, with twelve fatal cases and three in which the patients died soon after puncture of a hydatid cyst in the lung. He reviews also thirty-six cases of mild postoperative intoxication of the kind and twenty fatal cases. Study of this material and of the symptoms presented have convinced him that the whole trouble is a manifestation of anaphylaxis. The echinococcus poison may have dialyzed through the walls of the cyst, sensitizing the patient, or this result may have been accomplished by a preceding puncture. As he reviews the symptoms, the analogy with the symptoms of anaphylaxis in experiments on animals and in veterinary practice is striking. In prophylaxis every effort must be made to prevent the escape of the toxic fluid from the cyst into the surrounding tissues—even a minute quantity is liable to set up the anaphylaxis. It may prove possible to immunize the patient before operating, by some preventive anti-anaphylactic treatment, such as Besredka has realized in animals by repeated injection of small amounts of the serum. Certain biologists maintain that anaphylaxis is not strictly specific; if so, general anti-anaphylactic measures might prove effectual. Some have suggested general anesthesia in treatment of anaphylaxis, but Marion's case may be regarded as a failure of chloroform in this respect; possibly general anesthesia with ethyl chlorid or ether might answer better. This treatment seems to be justified in the nervous form of hydatid intoxication with convulsions, whose prognosis is almost inevitably fatal. Chloral might be indicated in such cases.

Semaine Médicale, Paris

July 19, XXXI, No. 29, pp. 337-348

48 Affinity of Poisons for the Nervous System. (La fixation des poisons sur le système nerveux.) G. Guillain and G. Laroche.

Beiträge zur klinischen Chirurgie, Tübingen

June, LXXIII, No. 2, pp. 261-568

49 *Acute Disease of the Pancreas. J. Borelius.
50 *Endothelioma of the Stomach. V. Bagger-Jörgensen.
51 *Typical Injuries in Various Sports. (Typische Sportverletzungen.) G. v. Saar.
52 Amniotic Membrane in Plastic Surgery. (Verwendung von Amnion als plastisches Interpositionsmaterial.) H. Schmerz.
53 Operative Cure of External Fistula into Esophagus. (Aeussere Oesophagusfistel am Halse.) v. Hacker.
54 Ethyl Chlorid Anesthesia. (Verwendung des Stadium analgeticum der Aethylchloridnarkose.) D. Kulenkrampff.
55 Spur-Formation at the Elbow. (Ueber Spornbildungen am Olecranon.) Krüger.
56 Outcome of Gastroenterostomies for Gastric Ulcer. P. A. Albrecht.

49. **Acute Disease of the Pancreas.**—Borelius reports a case of acute pancreatitis and eleven of hemorrhage in the pancreas; the trouble in the latter was probably not of infectious origin. In the first case the acute suppurative pancreatitis was evidently secondary to the gall-bladder. A gall-stone had become impacted at the papilla of Vater and the pancreatic duct was full of pus, but there were no signs of fat necrosis. No operation was attempted; the case dates from 1899. Only four recovered of the eleven patients with hemorrhage in the pancreas. The ages ranged from 29 to 74; three were obese and five very stout and one was quite thin. Cholelithiasis was evident in three and arteriosclerosis in two. There was a history of trauma in only one case, and a cyst was found in the pancreas in another. Six of the patients belonged to the well-to-do classes and the others were bank messengers or coachmen. Alcoholism was manifest in two cases and four other patients were "high livers." The trouble generally came on suddenly with violent pain, like a perforation peritonitis, but some of the patients said that they had previously had

similar milder attacks which "blew over." The discovery of gall-stones, however, possibly accounted for the previous disturbances. One patient said he had had occasional gall-stone colics but no evidences of cholelithiasis were found at necropsy. The sudden intense pain was sometimes accompanied by vomiting and retching but the most characteristic feature is the shock-like, systemic depression while the abdominal findings do not suggest peritonitis of such severity as to account for it. The heart and kidney functioning suffer intensely and death may occur within a few hours or at once.

50. **Gastric Endothelioma.**—Jørgensen reports a case of successful resection of half of the stomach on account of an endothelioma in a woman of 58. The first symptoms had been noted two or three months before, an occasional sensation of oppression in the epigastrium, but with no connection with the meals, no eructation, vomiting or hemorrhage, but for a year there had been a few days of diarrhea every two or four weeks, and she consulted a physician on account of the intestinal trouble. He found a palpable tumor and she gained several pounds at once after the operation and had been in perfect health during the thirteen months since. Jørgensen states that he has been able to find only four certain cases of gastric endothelioma on record. The description of the microscopic findings in Maylard's and Anderson's case (1910) does not justify the assumption of endothelioma according to his opinion, and neither do the four cases published by Fick, Cignozzi, Aldegarman and Meinel. The only ones he accepts are those of Jungmann, Hansemann, Ssobolew and Donath, one in a woman of 28. Although the tumors were small yet there was extensive metastasis in this and in Donath's case. In one of these and in Jørgensen's own case the tumor was a solitary round growth, in another it was multiple and in Donath's case a flat cake, more like an adenocarcinoma.

51. **Coasting and Snow-Shoe Accidents.**—Saar describes the mechanism and aspect of the various fractures liable in these sports, and says that they throw light on fractures in general, as he explains in detail.

Correspondenz-Blatt für Schweizer Aerzte, Basel

July 1, XLI, No. 19, pp. 657-688

57 Definition of Hysteria. Dubois.
58 Sphygmometry. (Die Schulthess'sche Sphygmometrie.) T. Christen.

Deutsches Archiv für klinische Medizin, Leipsic

CIII, Nos. 1-2, pp. 1-198. Last indexed July 1, p. 53

59 *Clinical Picture of Pure "Indurated Endocarditis." (Flächenhafte Endo-Myokardschwiele.) C. Bäumler.
60 Apparatus for Study of Respiratory Interchanges. (Ein nach dem Regnault-Reiset'schen Prinzip für klinische Gaswechseluntersuchungen gebauter modifizierter Benedict'scher Respirationsapparat.) F. Rolly and J. Rosiewicz.
61 Metabolism in Fever and in Convalescence. F. Rolly.
62 Water Content of Human Fat Tissue. (Wassergehalt des menschlichen Fettgewebes.) O. Bozenraad.
63 *Treatment of Obesity by Restriction to Milk. (Entfettung durch reine Milchkuren.) L. Jacob.
64 Comparative Pathology of Paroxysmal Hemoglobinuria. F. Meyer-Betz.
65 *Relations Between and Means to Prevent Degeneration of the Liver and Pancreatic Fat Tissue Necrosis. (Beziehungen zwischen Leberdegenerationen und Pankreasfettgewebsnekrose an Tieren mit Eck'scher Fistel und über die Möglichkeit ihrer Verhütung.) F. Fischler.
66 *Determination and Proportion of Epinephrin in Human Blood. (Adrenalinnachweis und Adrenalingehalt des menschlichen Blutes.) E. Bröking and P. Trendelenburg.
67 The Electric Reaction of Degeneration. (Ueber die Umkehr des Zuckungsgesetzes bei der Entartungsreaktion.) D. H. Wiener.
68 Metabolism in Fever. (Zur Frage des Stoff- und Kraftwechsels im Fieber.) H. Senator and E. Grafe.

59. **Wall Endocarditis.**—Bäumler gives an analytic study of the four cases of this kind which he has encountered and compares them with similar ones on record. Among the various forms which strips of induration (*Schwielen*) in the endocardium and myocardium may assume, the form known as chronic wall endocarditis occurs almost exclusively in the left ventricle and it may develop without any trouble in the valves. Although the changes in the wall may be severe, yet the pulse may persist quite normal for years and the whole affection run a latent course. An acute commencement may be surmised but seldom can be proved. The principal manifestation of wall endocarditis is the dilatation of the left ventricle and development of a heart aneurysm, located mainly in the apex region. Extensive arteriosclerosis and chronic nephritis may be entirely lacking although they are otherwise so frequent with indurations in the heart. When compensation begins to fail, symptoms of cardiac insufficiency may be observed (dyspnea, cardiac asthma, stasis, relative mitral insufficiency, hydrops and albuminuria). But these symptoms can be made to disappear again and again under appropriate treatment. The deterioration of the left ventricle may be manifested—even without signs of cardiac insufficiency or after they have disappeared—by the attenuation of the first sound at the apex and by considerable weakening or total absence of the apex beat. Thrombi may develop in the spaces between the trabeculæ even without the development of an actual aneurysm. It sometimes happens also that thrombi may form in the right heart, owing to the insufficiency of the left ventricle or under the influence of some infection, and infarcts may develop from embolism in the lungs. According to the site and progress of the indurations the conducting system may become impaired. In a number of such cases the pulse became very slow but there was no lasting irregularity of the pulse-rate in Bäumler's cases and in a number of others on record of myocardium indurations. The prognosis becomes unfavorable when symptoms of cardiac insufficiency begin to manifest themselves. In quite a number of such cases in the literature sudden death occurred, sometimes without any preceding symptoms on the part of the heart.

63. **Treatment of Obesity by Restriction to Milk.**—Jacob reports eight additional cases of obesity in which the metabolic findings are tabulated during a course of exclusively milk diet at Moritz' medical clinic at Strasburg. These findings and the experiences with a large number of others all confirm the advantages of the strict milk diet in treatment of obesity in many cases. The simplicity of the method, its prompt efficacy while the patients have their appetite appeased and feel well, although the diet is so far below their normal needs—all these factors cooperate in the advantages of this method of reducing obesity. No by-effects or inconveniences have been observed with it. The deficit of protein does not seem to do any harm to the patients under the circumstances.

66. **Determination of Proportion of Epinephrin in the Blood.**—Bröking and Trendelenburg present evidence to show that epinephrin is present in normal blood in a proportion of about 1 to 2,500,000 and that this proportion is doubled and quadrupled in true exophthalmic goiter. In arteriosclerosis, in pregnant women and parturients the proportion persists normal while in chronic nephritis with arterial hypertension it is a little subnormal. They have devised a method for estimating the proportion in the blood which, they state, has proved constantly reliable. The principle of the new method of examination is to pass the blood through the vascular system of the frog kept functioning with Ringer's solution. The frog reacts with a vasoconstriction to epinephrin, and its presence is thus determined. The Ringer's solution is forced into the abdominal aorta of the frog whence it passes through the femoral arteries in the legs and out again through the femoral veins into the abdominal vein whence it passes into a glass cannula inserted in this vein, from which the fluid drips in a constant tempo. The drops automatically record themselves on a reviving drum. A curve of the drops is given showing how when epinephrin or blood containing epinephrin is added to the solution being forced into the abdominal aorta, vasoconstriction at once follows and it is plainly shown by the longer intervals between the drops as registered on the drum. This frog-flushing method has the advantage over other technics that it works physiologically; the epinephrin acts on the nerve terminals of the muscle cells in the vessels—its normal mode of action. The test is so sensitive, at least during the summer, that it reveals even minute proportions of epinephrin, while the same specimen of serum can be used over and over again even when it has commenced to putrefy. The vasoconstriction reaction seems to be specific for epinephrin; none of the numerous other substances tested give this vasoconstriction reaction in the same way and none except in a hundred or thousand-fold concentration, and the vasoconstriction is not so intense and does not subside so promptly.

Therapie der Gegenwart, Berlin

July, LII, No. 7, pp. 289-336

69 Predisposition to Infectious Disease in Children. (Ueber kombinierte Krankheitsbereitschaften oder Diathesen im Kindesalter.) M. Pfaundler. (Continued.)
70 *Diagnosis and Treatment of Perforated Gastric Ulcer. (Diagnose und Therapie des perforierten Magengeschwürs.) R. Mühsam.

70. **Perforated Gastric Ulcer.**—Mühsam remarks that there is comparatively little difficulty in diagnosing perforation of a gastric ulcer when there has been a history of stomach disturbances, nausea, oppression independent of the intake of food and acid eructations, even possibly years before. The aspect suggests peritoneal shock; a period of improvement may follow this before the paralysis of the intestines and peritonitis follow. He has found the blood-count of great assistance in confirming the diagnosis; the leukocytes generally run up to 12,000 or 30,000. The Arneth formula is also instructive. The more infectious the stomach content, the greater the danger of progressive peritonitis and the more the body summons its reserves to combat the infection, so that the qualitative changes in the blood-picture with perforated gastric ulcer are even more instructive than the quantitative. He cites some typical cases to illustrate this. In one case a man of 38 was sent to the hospital with the diagnosis of perforated gastric ulcer. He had had occasional mild stomach trouble previously and there was a history of syphilis twelve years before. The pulse was 37.92 C. (100 F.) and the leukocyte-count normal, as also the pupil reflex and the knee-jerk. On the basis of the normal leukocyte-count Mühsam differentiated the trouble as a tabetic gastric crisis and the course of the case confirmed this assumption. In another case a young man with articular rheumatism suddenly developed symptoms suggesting perforation of the stomach, with fever, high pulse and 16,000 leukocytes, but a prompt operation failed to disclose the slightest cause for the peritonitis and the young man soon recovered. In Mühsam's last twelve cases of operative treatment of gastric ulcer, only two of the patients succumbed, while nine died of a preceding series of twelve. His mortality has thus dropped from 75 to 16.6 per cent. He believes that the best means for combating the shock are to close the perforated ulcer and clean out the abdominal cavity, so he operates, if at all, as soon as the diagnosis is certain. As the perforation is so high, the abdominal cavity is more liable to be extensively contaminated than with perforation lower down.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVIII, No. 2, pp. 261-589. Last indexed June 3, p. 1696

71 Combined Malformations of Urinary and Genital Organs in Women. (Kombinierte Missbildungen des Harn- und Geschlechtsapparates beim Weibe.) M. Bolaffio.
72 Chorio-Epithelioma. (Zur Klinik und Histologie des Chorionepithelioms, nebst anatomischen Untersuchungen über Ovarialveränderungen.) F. Heimann.
73 Pubiotomy and Suprasymphyseal Cesarean Section. R. Roemer.
74 Bacteriology and Local Treatment of Febrile Abortions. M. Traugott.
75 The Ash of Ovaries. (Aschenbestandteile der Ovarien.) W. Benthin.
76 Ovarian Endothelioma. (Tubulöse Endothelialgeschwulst im Ovarium.) E. Kraus.
77 Histology of Metastatic Ovarian Carcinoma. H. Küster.
78 Radical Operation for Pubiotomy Hernia and Suture of the Bones. (Ueber die Radikaloperation der Hebosteotomiehernie und die Knochennaht der Diastase.) S. G. Luenberger.
79 Retro-Uterine Hematocele. (Fall von Haematocele retrouterina, bedingt durch Follikelblutung aus einem kleincystisch degenerierten Ovar.) A. F. v. Winiwarter.
80 *Management of the Arms with Breech Delivery. (Ungünstige Armverlagerungen bei Steissgeburten infolge von Ziehen, Drehen, Hebeln am Rumpfe und ihr "Redressement" durch entsprechende Gegenbewegungen.) H. Sellheim.
81 Gas Bacillus in Puerperal Infection. (Der E. Fraenkelsche Gasbazillus in seiner Bedeutung für die puerperale Infektion.) T. Heynemann.
82 Treatment of Injury of Intestine and Mesentery, Especially of the Sigmoid Flexure, in Course of Obstetric and Gynecologic Operations. I. I. Grekow.
83 New Technic for Cesarean Section. (Ueber Sectio caesarea abdominalis inferior.) F. Heimann.
84 *Hemostasis by Momburg's Belt. (Die Momburgsche Blutleere.) A. Steiger.

80. **Management of the Arms with Breech Presentation.**—Sellheim discusses the mechanism of normal breech presentation, the deviations from normal and the ways in which to restore normal conditions, especially by "rotation," illustrating the various points emphasized. The various maneuvers to alter the presentation may bring the arms into very unfavorable positions and systematic rotation, opposite to the direction of physiologic freedom of movement, is able, he says, to bring an arm thrown up over the head down toward the shoulder with other advantages. He does not hesitate to state that rotation deserves to rank high not only as a measure to prepare and aid and render delivery easier but sometimes as the only means to correct the very unfavorable position of the arms.

84. **Hemostasis by Momburg's Belt Constriction.**—Steiger has found records of 163 cases in which waist-line constriction has been used to arrest hemorrhage, including sixty-six obstetric cases. In three cases diarrhea followed, showing some irritation of the intestines, and in one case there was paralysis of the rectum for which, however, the constriction should not be held responsible. In one of 160 cases in the literature there was disturbance in micturition afterward. Complications on the part of the lungs were observed in three cases, and fatal arrest of respiration in one case; but the operator does not venture to decide whether the general anesthesia or the constriction should be incriminated for the fatality. In the sixty-six obstetric cases the method proved a brilliant success in fifty-two, while it failed constantly in nine cases, all reported by a single obstetrician. It is one of the few methods at our disposal for arresting hemorrhage, Steiger adds, in which there need be no danger of infecting the patient.

Wiener Medizinische Wochenschrift, Vienna

July 22, IX, No. 30, pp. 1910-1927

85 Congenital Cranial Defects. (Luckenschädel.) C. Hochsinger.
86 *Diphtheria Antitoxin in Erysipelas. O. Polak.
87 Apparatus (Patellar-Reflectometer) for Measuring Knee Reflex. J. Kitaj.
88 Analogy of Ergotism and Tetany. A. Fuchs.
89 Determination of Functional Activity of the Heart. R. Kleissel.

86. **Diphtheria Antitoxin in Erysipelas.**—Polak reports forty-three cases of erysipelas in which diphtheria antitoxin was used for therapeutic purposes. The result on the whole was a most satisfactory one although the author points out that good results are obtained with every treatment of erysipelas. The temperature falls within forty-eight hours after the injection of the serum and ends by crisis in a few hours. The general condition of the patient is very much improved; the local symptoms of the disease are rapidly lessened in severity and within a few days the patient is well. In complicated cases the further progress of the disease after the injection was not such a favorable one. The author believes that this treatment does much to prevent recurrences. The serum was also used in other streptococcic infections but the result was not such as to warrant further trial. Death occurred in five cases as a result of sepsis, pneumonia and meningitis.

Wiener klinische Wochenschrift, Vienna

July 27, XXIV, No. 30, pp. 1079-1098

90 *Nature of Rigor Mortis. O. v. Fürth and E. Lenk.
91 *Sputum Filtrate in Treatment of Pulmonary Tuberculosis. F. Passini and H. Wittgenstein.
92 *Blood-Alkali Bouillon—An Elective Culture Medium for the Cholera Vibrio. R. Kraus, Z. Zia and J. v. Subrzeiky.
93 Symptomatology of Diseases of the Second Sacral Segment. Neuritis Due to Lead, Alcohol, Zinc and Ether. A. v. Sarbó.
94 *Sterilization of Rubber Gloves. E. Juvara and Jianu.

August 3, XXIV, No. 31, pp. 1115-1133

95 Chemistry of Tuberculin. T. Pfeiffer, H. Trunk and J. Leyacker.
96 *Action of Thyroid Extracts. L. Haskovec.
97 Acute Leukemia and Diabetes Insipidus in Status Thymicohypoplasticus. R. Lenk.
98 Trichopilar Muscle Crises in Tabes Dorsalis. A. Neumann.

90. **Rigor Mortis.**—The authors agree with other observers that rigor mortis is caused by a swelling of the muscle fibers due to the retention of acids in excess in the muscles. This swelling of the muscle elements leads to shortening of the muscle fibers and contraction of the muscles. Hitherto it has been quite generally believed that rigor mortis was caused by coagulation of albuminous substances in the muscles. Furthermore, when coagulation of these albuminous substances contained in the plasma does occur the muscles relax. The post mortem changes take place in the muscles and the continuous deposition of acids leads to this coagulation. The experiments performed by the authors which lead them to formulate these conclusions are reported in full.

91. **Treating Tuberculosis with Patient's Sputum.**—After having determined experimentally, in the case of animals, the harmlessness of injecting intramuscularly, intraperitoneally and intravenously the filtrate of tuberculosis sputum, the authors proceeded to make use of the procedure clinically. The sputum of the patient was filtered and toulol added to the filtrate. This mixture was injected subcutaneously, only 2 c.c. being given at the commencement of the treatment. A second injection was not given if a reaction followed the first until four days after the subsidence of the reaction. A larger amount was injected the second time. The reaction following these injections is at first local in character, consisting in reddening of the skin and deep-seated swelling. The râles in the lungs are increased in intensity. The general reaction consists in slight elevation of the temperature, as occurs when tuberculin is injected. This elevation is first noted in from four to six hours after the injection and does not exceed 2 degrees. It subsides both suddenly and gradually in different cases. The patient complains of lassitude, headache and expectoration is increased. After these symptoms have subsided the patient feels better, eats better and coughs less. In several cases there was a distinct gain in weight after four injections, which had not previously been noted with other treatment. Only such patients as did not respond to tuberculin treatment were treated by sputum filtrate injections.

92. **Culture Medium for Differentiating Cholera Vibrios.**—For the purpose of differentiating the cholera vibrio from the colon bacillus, the authors made use of a blood-alkali bouillon which was really an adaptation of Deiudonne's blood-alkali agar. To 100 c.c. of neutral bouillon are added 25 c.c. of blood-alkali albumin. The mixture is exposed to a temperature of 50 C. for three hours and 37 C. for twenty-four hours. It is important not to use the mixture too soon because when this was done the results were invariably unsatisfactory. The cholera vibrio grows well on the medium in pure culture. The colon bacillus does not grow at all. Therefore, this medium is particularly suited for securing the cholera organism from the stool.

94. **Sterilizing Rubber Gloves.**—The authors subjected rubber gloves that had been infected with various organisms to sterilization in the autoclave at a temperature of 100 C. for thirty minutes, with the following results: five pairs of gloves infected with streptococci remained sterile. Five pairs infected with staphylococci also remained sterile. Of four pairs infected with the *B. pyocyaneus*, three remained sterile, the fourth pair showed a growth of pyocyaneus. In the case of six pairs infected with *B. subtilis*, sterilization proved ineffective. The same was true of five pairs infected with *B. mesentericus vulgatus*. It is apparent, then, that a thirty minute exposure to 100 C. in the autoclave without pressure is not sufficient to effect sterilization. In a second series of experiments, infected rubber gloves were exposed to a temperature of 120 C. with a pressure of 1 atmosphere for thirty minutes. All the gloves remained sterile.

96. **Action of Thyroid Extract.**—The action of thyroid extract was very thoroughly studied by the author and he reaches the conclusion that it has a characteristic effect on the heart muscle and cardiac nervous apparatus. In the case of the dog, this is manifested by lowered blood-pressure and increased frequency of pulse-beat. The former is the result of direct weakening of the heart action by vasodilation. The acceleration is believed to be due to the irritation of the accelerating nerve apparatus. Further, a small dose of alcohol disturbs the thyroid acceleration and depression. A large dose increases the depressor action of thyreoiodin. The author cautions against the indiscriminate use of thyroid extract, particularly in combinations with other substances.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 22, XXXII, No. 75, pp. 795-802

99 *Simplified Tuberculin Skin Test. (A proposito del mio metodo speciale di reazione tubercolinica.) P. Barabaschi.

July 2, XXXII, No. 79, pp. 827-842

100 Normal Urine. F. Bottazzi.
101 When Should Patients Get Up After a Laparotomy? (Sul soggiorno a letto degli operati all'addome.) A. Cosentino.

July 4, XXXII, No. 80, pp. 843-850

102 Diagnostic Value of Blood-Count in Helminthiasis with Symptoms Suggesting Meningitis. A. Mazzuoli.

July 6, No. 81, pp. 851-858

103 Gravity of Burns on Infants. (Intorno alle scottature nei bambini.) R. Sabelli.

July 9, No. 82, pp. 859-874

104 Medicolegal Questions in Industrial Lesions. (Lavoro generico oppure lavoro specifico nella valutazione medico-legale della lesioni da infortunio?) L. Borri.
105 Biologic Reactions in Pellagra. M. V. Carletti.

99. **Simplified Tuberculin Skin Test.**—Barabaschi rubs the region with alcohol until the skin is red. Then in the center of this area he spreads a thin layer of tuberculin without rubbing it in and lets it dry. In 114 cases in which he has applied this test there never was any general reaction, while the local reaction seemed to be a reliable index of an active tuberculous process even when the process was in its incipiency. He gives the details of eighty-nine cases to show the reliability of the test. His previous communication was summarized in The Journal, Sept. 10, 1910, page 977.

Policlinico, Rome

June, XVIII, Surgical Section No. 6, pp. 241-288

106 *Origin of Neoplasms. (Sui recenti contributi alla dottrina del neoplasmi.) G. Fichera. Commenced in No. 3.
107 Rat Cancer. (Sul potere oncolitico nei ratti.) S. Gussio.
108 Branchial Cysts. (Su talune cisti congenite del collo di origine branchiale e parabranchiale.) O. Cignozzi.
109 Experimental Research on Fixation of the Intestine. (Sulla enteropessia.) G. Razzaboni.

June, Medical Section No. 6, pp. 241-284

110 Chronic Hemolytic Jaundice. (Nuovo contributo allo studio degli itteri cronici emolitici.) E. Marchiafava and A. Nazari.
111 Functioning of the Liver in Tuberculosis in Children. (Studio della funzionalita epatica nella tuberculosi infantile.) A. Longo.

July 16, XVIII, No. 29, pp. 905-936

112 Staphylococcus Septicemia and Meningitic Syndrome from Pure Hyperemia. Recovery. A. Fedeli.

July, Medical Section No. 7, pp. 285-332

113 Percussion of the Spine in Diagnosis of Compression of the Trachea. (Nuovo segno fisico di compressione tracheale ricavato dalla percussione delle vertebre.) G. Stradiotti.
114 Pseudochylous Ascites. M. Barberio.
115 Blindness of Mental Origin. (Caso di cecita psichica.) G. Franceso. Commenced in No. 5.

106. **Origin of Neoplasms.**—Fichera here concludes the report of his research in this line which was mentioned in The Journal, June 10, 1911, page 1769. The communication issues from the surgical clinic at Rome in charge of Durante, and is the sixteenth Fichera has published on the origin of cancer as a result of premature senility of the cells, and treatment by what he calls histogenous chemotherapy; that is, with embryonal tissues as the opposite extreme. Besides the facts and experiences cited by Pearce Gould, there are others which he claims prove his statements that study of the efficiency of unaided Nature to effect a cure in certain cases of cancer is the only means to learn how to cure malignant disease. Several investigators have confirmed the destructive action on tumor cells of normal serum while the tumor cells do not seem to be influenced by even prolonged contact with the serum from persons with malignant disease. Gussio of Rome has found that fragments of rat sarcomas kept a day in blood-serum at body temperature or implanted in the peritoneal cavity of sound rats never take root and grow, while they do take root when the serum in which the scraps were kept had been taken from a cancer rat. Study of the variations in the tumor cell-destroying property of the serum may give interesting results, especially systematic investigation of the serum of roentgenologists who are so often victims of cancer. This property declines toward the end of a pregnancy, which confirms anew the principle that active development of fetal or neoplastic tissues is always accompanied by a lower cytolytic index in the host. Fichera cites Hochenegg's experiences with cancers developing at once after a pregnancy, and Fichera has encountered a case in which a cancer developed immediately after a pregnancy but was successfully removed. Seven years later another cancer developed under similar conditions after another pregnancy. He sums up his theory as the tumor-producing loss of balance and cell-producing chemotherapy,

equilibrio oncogeno e chematerapia istogena. The extract he uses is made from two to six months' fetuses from the maternity, triturated and placed in salt water until autolysis is complete.

Riforma Medica, Naples

July 10, XXVII, No. 28, pp. 757-784

116 Case of Umbilical Adenoma of Gastric Structure. G. Negroni.

Hospitalstidende, Copenhagen

May 31, LIV, No. 22, pp. 585-616

117 Comparative Mortality of Boys and Girls. (Dødsaarsagernes Forhold hos de to Køn indenfor Barnealderen.) H. P. T. Ørum.
118 Treatment of Scabies. (Om Fnatbehandling.) H. Petersen.

June 7, No. 23, pp. 617-648

119 *Technic for Operative Treatment of Peritonitis. L. Kraft.

June 14, No. 24, pp. 649-680

120 *Pathogenesis of Glaucoma. J. Bjerrum.

119. **Treatment of Peritonitis.**—Kraft is an advocate of suturing the peritoneum at once after having swabbed out all effusion or rinsed the cavity clean, and his series of parallel cases with and without drainage apparently confirm the superiority of this technic. It is not applicable, of course, with a gangrenous process or suppuration in the connective tissue below the peritoneum. But when it is possible to suture the peritoneum at once, normal peristalsis generally starts up again while a drain checks it. Active peristalsis promotes absorption of any peritoneal effusion and the bowels resume normal functioning, all of which is liable to be lacking when the peritoneum is drained.

120. **Glaucoma.**—Bjerrum presents evidence to sustain the assumption that glaucoma is not exclusively merely exaggerated intra-ocular pressure but that an irritative process is involved besides. This irritation seems to affect essentially the ciliary body. Excessive secretion follows, and this hypersecretion is the cause of excessive intra-ocular pressure. The primary irritation is probably of a toxic nature. He cites some typical cases to show this connection and the lesions encountered.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

PATHOLOGIC TECHNIC. A Practical Manual for Workers in Pathologic Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D.,, Director of the Pathological Laboratory of the Massachusetts General Hospital. Fifth Edition. Cloth. Price, $3. Pp. 507, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1911.

INFECTION, IMMUNITY AND SERUM THERAPY IN RELATION TO THE INFECTIOUS DISEASES OF MAN. By H. T. Ricketts, M.D., Late Assistant Professor of Pathology, University of Chicago. Second Edition. Revised and Enlarged by the Author and by George F. Dick, M.D., Instructor in Pathology, University of Chicago, with Preface by Ludvig Hektoen, M.D. Cloth. Price, $2. Pp. 785. Chicago: American Medical Association, 1911.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York. Seventh Edition. Cloth. Price, $2 net. Pp. 407, with 362 illustrations. New York: William Wood & Co., 1911.

VETERINARY BACTERIOLOGY. A Treatise on the Bacteria, Yeasts, Molds and Pathogenic for Domestic Animals. By Robert Earle Buchanan, Ph.D., Professor of Bacteriology in the Iowa State College of Agriculture and Mechanical Arts, Division of Veterinary Medicine. Cloth. Price, $3. Pp. 516, with 214 illustrations. Philadelphia: W. B. Saunders, 1911.

SIXTIETH ANNUAL REPORT OF MERCY HOSPITAL, CHICAGO. Jan. 1, 1910. Covering the Period from Jan. 1 to Dec. 31, 1909. Conducted by the Sisters of Mercy, Under the Patronage of the Most Reverend Archbishop of Chicago. Prairie Avenue and Twenty-Sixth Street, Chicago. Paper. Pp. 95, with illustrations.

LAWS PASSED AT THE TWELFTH SESSION OF THE LEGISLATIVE ASSEMBLY OF THE STATE OF NORTH DAKOTA. Begun and Held at Bismarck, the Capital of Said State on Tuesday, the Third Day of January, A. D. 1911, and Concluding March Third, 1911. Cloth. Pp. 599. P. D. Norton, Secretary, Bismarck.

ANNUAL REPORT OF THE LYNN TUBERCULOSIS ASSOCIATION. A Brief Summary of the Work that Has Been Done the Past Year Among the Tuberculosis Cases at Lynn. March 1, 1910, to March 1, 1911. Paper Pp. 17, with illustrations.

SEVENTEENTH ANNUAL REPORT NEW ENGLAND BAPTIST HOSPITAL. With the President's Address, Reports of Officers and Statistics of the Hospital, to which is Added the Report and List of Officers of the Woman's Auxiliary. For the Year Ending Dec. 31, 1910. Paper. Pp. 30, with illustrations.

TWELFTH BIENNIAL REPORT OF ST. MARGARET'S HOSPITAL OF KANSAS CITY, KAN. Under the Charge of the Sisters of the Poor of Saint Francis. For the Years 1909 and 1910. Paper. Pp. 18.

BY-LAWS OF THE EPISCOPAL EYE, EAR AND THROAT HOSPITAL, Washington, D. C. Rules and Regulations. Copy of Charter of Jan. 18, 1897. Revised to May, 1908. Paper. Pp. 35.

FOURTEENTH ANNUAL REPORT OF THE EPISCOPAL EYE, EAR AND THROAT HOSPITAL, 1147 Fifteenth Street, Washington, D. C. For the Year 1910. Paper. Pp. 38, with illustrations.

HIERONYMUS FRACASTOR'S SYPHILIS from the Original Latin. A Translation in Prose of Fracastor's Immortal Poem. Cloth. Price, $2. Pp. 58. St. Louis: The Philmar Co., 1911.

A MEDICAL HISTORY OF THE STATE OF INDIANA. By G. W. H. Kemper, M.D. Cloth. Price, $2.50. Pp. 393, with illustrations. Chicago: American Medical Association, 1911.

SIXTY-FIRST ANNUAL REPORT OF THE CHICAGO ORPHAN ASYLUM, 5120 South Park Avenue. For the Year Ending Dec. 1, 1910. Incorporated Nov. 5, 1849. Paper. Pp. 40.

REPORT OF THE NORTH SHORE BABIES' HOSPITAL, SALEM, MASS. For the Year 1910. Incorporated in 1905. Paper. Pp. 26, with illustrations.

ANNUAL REPORT OF THE HEALTH DEPARTMENT OF THE CITY OF RICHMOND, VA. For the Year Ending Dec. 31, 1910. Paper. Pp. 149.

FIRST ANNUAL REPORT OF THE PROVIDENCE CITY HOSPITAL. For the Year Ending Dec. 31, 1910. Paper. Pp. 58.

New Patents

New Patents of Interest to Physicians

987,122. Prescription file. Sterak G. Eghan, Ogden, Utah.
987,133. Obtaining lecithin, lecith-albumin and their by-products out of raw material containing lecithin. Josef Habermann and R. Ehrenfeld, Brunn, Austria-Hungary.
987,375. Making nitrogen-oxygen. Karl Kaiser, Wilmersdorf (near Berlin), Germany.
987,147. Manufacture of carbonic oxid. Oscar Loiseau, Sclaigneaux, Belgium.
987,497. Adjustable crutch. Fred E. Shadell and F. W. Cassidy, Philadelphia.
987,189. Operating table for use of physicians and surgeons. Bernard D. Thorner, New York.
987,658. Electric heater and sterilizer. Johann G. Wallmann, Oakland, Cal.
987,204. Inhaler. James Wilkie, Detroit.
987,276. Machine for holding and dispensing soda-water straws. Roy J. Woodbury, Fulton County, Georgia.
986,178. Disinfecting device. Theodor Druzbach, Hoboken, N. J.
988,082. Pill machine. Frank M. Edwards, Portsmouth, Ohio.
987,805. Metabolizer. John von der Kammer, Washington, D. C.
987,893. Artificial limb. Henry L. Lawrence, New York.
988,120. Dilator. John B. Lott, Anderson, Ind.
987,902. Apparatus for producing ozone. Clifford D. Meeker, East Orange, N. J.
988,140. Cutting and cauterizing device. Stephen J. Phillips, Glencoe West, South Australia, Australia.
987,910. Syringe. Virginia W. Piper, Jamestown, N. Y.
988,031. Means for introducing microbe cultures into bottles or other vessels. Pierre N. E. Remy, Paris, France.
988,036. Eye-testing machine. Joseph Savoie, Central Falls, R. I.
987,749. Clinical thermometer casing. Ralph F. Schneider, New York.
988,057. Toy and lung tester. Wilhelm Zolper, Wilmington, Del.
988,701. Perfume vending machine. Windred C. Finn, Bagnall, Mich.
988,939. Surgical forceps. William H. Hudson, Montgomery, Ala.
988,352. Inhaler. James D. Kerr, Greens Fork, Ind.
988,733. Formaldehyd compound and making same. Wilhelm Osborne, Munich, Germany.
989,322. Disinfecting composition. Oscar Bernheimer, Vienna, Austria-Hungary.
989,234. Surgical needle. Cleveland G. Davis, Manistee, Mich.
989,137. Drying apparatus for alimentary pastes. Giovanni Falchi, Biella, Italy.
989,141. Pasteurizing apparatus. Frederick Gettelman, Milwaukee, Wis.
989,255. Surgical instrument for cutting bandages. Otto Hasselmann, Wiesbaden, Germany.
989,012. Outdoor sleeping apartment. Jennie Hoyt, Santa Paula, Cal.
989,526. Artificial limb. William G. Kelly, Los Angeles, Cal.
989,019. Fumigator. Lorenzo S. Livingston, Johnstown, Pa.
989,178. Pill-making machine. Jesse C. Morgan, Cliffside Park, N. J.
989,189. Making diabetic bread. August Pfeffer, Ulm, Germany.
989,337. Apparatus for the manufacture of sulphuric acid. Otto Proelss, Kansas City, Mo.
989,463. Crutch. Percy R. Wilde, Bath, England.
989,550. Vaginal syringe. David L. Aber, Pittsburgh.
990,206. Foot-warming attachment for electrothermal garments. Phyllis Charles, Portland, Ore.
990,116. Dehydrating sodium sulphate crystals. John Davis, Laramie, Wyo.
989,839. Ear irrigating device. Edmund P. Fowler, New York.
989,621. Ice bag. Virginia C. Madigan, Columbus, Ohio.
990,006. Tip for canes or crutches. Joseph H. Reading, Chicago.
989,875. Invalid bed. Mary J. Relff, Los Angeles, Cal.
989,651. Manufacture of camphor. Jacob Schmitz and G. Stalmann, Dusseldorf, Germany.

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CLINICAL PHYSIOLOGY—AN OPPORTUNITY AND A DUTY

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NEW HAVEN, CONN.

The time has come for the formal recognition of clinical physiology as a distinct subject and a field of work of the first importance. More or less inchoate, more or less dimly recognized, it already exists. The function which I wish to assume toward it to-day is rather that of a priest at the christening than that of a midwife at the birth of this latest-born and most neglected of the family of the medical sciences. I wish to give it the distinction of a name.

In the progress of medicine during the past decade, no feature has been more striking than the rapidity with which the advances in theoretic knowledge made in the laboratories of pathology and bacteriology have been adapted to the uses of clinical medicine. Physiology, on the contrary, has to a large extent led a life of mere self-development—like a proud virgin, beautiful, cold and sterile. I know that I risk the vigorous dissent of other physiologists in making this criticism. But I believe that it is needed not only for the good of medicine but for the best interests of physiology itself.

Science uncontaminated by any contact with the practical business of the world has in recent years been extolled in many an eloquent period. Priceless in their practical results have been the investigations made by great thinkers with no practical end in view. Nevertheless, I hold that none of the sciences, certainly none of the medical sciences, can long remain wholly divorced from contact with practical aims and yet continue fertile.

The appeal of clinical physiology is both to physiologists and to clinicians. Physiologists now and in the next few years will find their richest and most fruitful problems in the field of clinical, rather than in that of purely abstract, physiology. In the golden age of physiology our great predecessors, Claude Bernard, Brown-Séquard, Marey, Ludwig, Fritsch and Hitzig, and many others worked at topics which were at that time essentially problems of clinical physiology. Where in the literature of their day will you find anything to compare in ineptitude with the ponderous discussion of the mathematics of a membrane manometer, on which some of their successors in Germany now spend their time? Had not Voit's life work on nutrition a broadly utilitarian object? Was not Bernard working at the problem of diabetes when he discovered glycogen? And at animal heat with the problem of fever in mind, when he found the vasomotor nerves? We have dug enough ore from the depths for the present. Let us devote ourselves for a time to extracting some of the gold which it contains.

To clinicians in nearly all departments, physiology offers to-day a brilliant opportunity. The progress of medicine in overcoming the secrets of disease is like the siege of a walled city. The clinicians are the infantry. The laboratory workers are the sappers and miners, the heavy siege artillery and the aviation corps. It is useless to hurl infantry against an unbroken wall. When, however, a mine has been sprung or a bastion battered down, then is the time when good generalship will lead the infantry to the assault through the breach and over the fallen ramparts. The great breaches of the past few years, into which the infantry have stormed, have been those opened by pathology and bacteriology. Meanwhile physiology has not been idle. It has burrowed under and overthrown many of the strongest towers. What is needed now is the massed assault of the infantry. In simple words, there is in physiology to-day a great mass of knowledge and a wide range of methods readily adaptable to clinical uses and needs. If clinicians will acquaint themselves with this knowledge, and adopt, adapt and employ these methods, they will be able to march rapidly over obstacles now insurmountable.

Such a development of clinical physiology might well be the greatest event in the progress of medicine during the second decade of the twentieth century.

What the entire volume of clinical physiology should be in the future may most easily be shown by instancing such of its chapters as might be written even now. Such a chapter might be written about the clinical use of the sphygmomanometer, the significance of its measurements and the conceptions of circulatory functions which center in it. How valuable are these conceptions and measurements I need not emphasize before this audience! That which should be emphasized is the fact that physiologists began measuring blood-pressure in millimeters of mercury more than half a century ago; yet the clinical modification and utilization of the method is a matter of yesterday—perhaps I should rather say of to-day, or even to-morrow. Thus, by this example, it takes at least fifty years for a physiologic conception or method to find its way from the laboratory to the clinic. Many pathologic and bacteriologic methods complete the arduous journey in as many weeks.

It is only five years since I had the pleasure of attending a meeting of the British Medical Association at Toronto and of sitting in a great hall packed with clinicians, listening with open-mouthed interest to the wonderful news that the blood was under pressure in its vessels, that the pressure could easily be measured and

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* Chairman's Address before the Section on Pathology and Physiology, at the Sixty-Second Annual Meeting of American Medical Association, held at Los Angeles, June, 1911.

that such measurements have a meaning. On this occasion a number of eminent authorities who had crossed the broad Atlantic, or traveled thousands of miles from the four quarters of Canada and the United States for this special purpose, thought it necessary to explain in words of one syllable how the heart pushes the blood through the arteries and how this pressure is measured by the raising of mercury in a tube of glass. Then arose one most eminent in authority who informed the audience in effect that using an instrument for such a purpose was all "bosh." For himself, he believed that the "tactus eruditus of the trained finger" told any competent physician or surgeon all that he needed to know!

I suppose that no one, however eminent, would dare make such an assertion to-day. We do not now have to explain what arterial pressure is. But turn for a moment from the clinical aspects of the circulation to those of respiration. Here is a function of the first importance; a function subject to manifold alterations in health and disease; easy to observe, relatively easy to measure; a function about which physiologists have locked in their laboratories a considerable amount of information. Yet look through all the hundreds of well-appointed hospitals between Los Angeles and Eastport in the state of Maine; look in all the elaborately equipped consulting rooms of all our eminent internists. Where will you find an instrument for anything more than the crudest observation and measurement of respiration? Nowhere, I believe! What do the clinicians of to-day—even the most learned—know of respiration? Next to nothing! And this little is mostly wrong.[1] If a patient pants for breath do not most of them order as many gallons of oxygen as his purse will allow to be blown off somewhere in the neighborhood? As well might they burn so many Chinese prayers printed on rice paper—except that it is profitable for the concern that supplies the oxygen. If, on the contrary, a patient's respiration is failing, oxygen may likewise be ordered; and a grim humor attaches to the fact that this oxygen, in order to comply with the requirements of the Pharmacopeia, has been carefully freed from every trace of carbon dioxid—the one substance which might act for a time to restore the respiratory center to its normal activity. Great is the medicine of to-day in its knowledge of man's parasites; great in its acquaintance with the appearance of his tissues after he is dead. But do we not lack an adequate comprehension of the functions of man himself, and a control of the working of the machine while, although somewhat damaged, it is still a "going concern?"

I am convinced that the now unutilized opportunities which modern physiology offers are so promising that any capable and well-trained physician or surgeon, if he will but take the trouble to acquaint himself with some one line of the subject—say respiration for example—and to work at it in connection with his practice, may make a notable contribution to practical medicine. What can be done in many lines may best be shown by instancing what has been done in a few. Consider the work of James Mackenzie, at first only a country doctor. With no better opportunities for work than a rural practice afforded he took the sphygmograph and applied it clinically. To-day his work on the application of graphic methods to the clinical study of diseases of the circulation stands as one of the finest chapters of clinical physiology.

The electrocardiogram is affording a similar opportunity for advancement in the clinical physiology of the heart, an opportunity which fortunately a number of internists in this country have seen and utilized. The new work of Hirschfelder of the Johns Hopkins School on diseases of the heart and aorta is throughout essentially a treatise in clinical physiology.

On the side of surgery one of the most brilliant events of the past few years has been the development of methods allowing a ready access to the interior of the thorax. The work of Sauerbruch and Brauer, and of the other surgeons who have worked in this field, is a striking example of the profitableness of clinical physiology. So also is the work of Crile on surgical shock, and that of Cushing on the functions of the pituitary gland, normal and abnormal.

In a similar manner I might illustrate the sort of work which I believe that physiologists ought to do by examples of what some have done. Here may be mentioned the work of Erlanger on heart-block; of Cannon, not only on the normal movements of the stomach and intestines, but also on those after the performance of gastro-enterostomy, and of Meltzer in developing intratracheal insufflation from a method of mere laboratory interest into one which may prove of the greatest clinical utility.

All of these illustrations are drawn from the physical side of physiology. The physiologic chemists of to-day would easily afford ten times as many examples. In fact, the greater part of the flood of work which at present is almost swamping the journals of physiologic chemistry is essentially of this, to my mind, the right sort. It is directed to the solution, not of mere esoteric problems, but of topics of broad and pressing medical and human interest—diabetes, metabolism in disease as well as in health, and to those problems of nutrition which are of such tremendous import for the welfare of mankind.

It was a fortunate day for medicine when Emil Fischer turned his attention to the proteins. Almost at a stroke he lifted the pure and esoteric problems of biochemistry to a plane on which the great majority of chemical physiologists are incapable of working. Only a specially trained organic chemist can do this work. So our chemically-minded brethren, greatly to the profit of medicine and of their own scientific fortunes, have been forced to devote themselves to the cultivation of fields which will bear and are richly bearing fruit for to-day and to-morrow, rather than to that deeper ploughing and sowing from which the slow-growing harvest will indeed be of priceless value, but chiefly for generations yet unborn.

For the development of clinical physiology in America three conditions seem to be of special importance:

1. Internists and surgeons, and especially the professors of medicine and surgery in our medical schools, must be more interested, better trained and more widely read in physiology. It were better if they read less in the clinical and more in the scientific journals; better if they talked and practiced less, and investigated a great deal more.

2. Physiologists must assume the duty of teaching not only normal but also abnormal physiology. Both, in my opinion, should be taught in the second year of the medical course and as successive parts of one and the

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[1] So far as I am aware, the first paper ever written by an American clinician, based on a study of respiration in disease by precise physiologic methods, was presented as the oration in medicine at this meeting of the American Medical Association by Dr. C. F. Hoover

same subject. We cannot leave this for the pathologists to do. A man trained by autopsy and microscope is inevitably a morphologist. Just in proportion as he is fitted to deal with morphologic processes, he is unfitted to handle and expound functions of a physical nature—unless, of course, he happens to be an all-around genius.

3. Finally, I hold that in the future students who are being trained to be physiologists, whether in the field of physical and nervous or of chemical physiology, ought to have the M.D. degree. In our better medical schools the improvement of the curriculum in the last few years has been so marked that even the clinical courses have, to a great extent, lost that deadening influence on the students' ability to think scientifically which they formerly exerted. Furthermore, the elasticity introduced into the curriculum by the elective system, as practiced at Harvard and at Johns Hopkins, affords opportunities for the student who plans to be a physiologist to take little of what he will not need and to devote himself largely to his special interests.

I do not regard the Ph.D. degree alone as insuring a sufficiently broad training for a physiologist, either in the chemical or physical line. It is true that many American physiologists are merely doctors of philosophy. I am such myself. But I know, by the sad experience of years wasted in filling in the gaps in an utterly insufficient technical training, how great a handicap this is. Any doctors of philosophy who profess a different view I am compelled to regard as like the fox in the fable who lost his tail. If they, like this cunning animal, claim that a condition of taillessness is an advantage, I would like to warn all the young physiologic foxes to beware. Grow a good bushy tail in the form of an M.D. after your name, and let no tailless old fox beguile you out of growing it.

400 Prospect Street.

SPINAL FRACTURES

OPINIONS BASED ON OBSERVATIONS OF SIXTEEN OPERATIONS *

A. F. JONAS, M.D.
OMAHA

There are no graver injuries than fracture of the bony structures of the spinal column. No class of fracture presents more difficult problems for solution. In none is there greater uncertainty as to diagnosis, management and ultimate outcome.

Surgeons who have had a considerable experience with spinal fracture have not become wildly enthusiastic as regards treatment and prognosis. If a surgeon has operated frequently, he has learned that a fracture dislocation usually causes a partial or complete division of the cord, and that complete recovery is extremely rare. He may count a considerable number of operative recoveries and some patients who have regained a partial functional activity, but complete restoration of function is uncommon.

However, when we carefully review our cases and consider the extensive destruction of the cord in a large percentage of instances and the long periods of delay that are only too common before active interference is resorted to, and again when we recall the unusual handling of many cases of spinal fracture, while being transported home or to the hospital, often increasing the bony displacement and cord compression and augmenting the laceration of meninges and spinal vessels, it is not strange that our results are no better.

I desire to record briefly my personal experiences with injuries to the spinal column. During a period of thirty years there have come under my observation forty-two cases of spinal injury that involved the bony structures of the spinal column, as shown by spinal deformity and complete motor and sensory paralysis of all the structures below the seat of fracture. In this number are included all that I have examined as my own cases and those that I have seen in consultation with other practitioners. Of this number only sixteen have come to operation. In the light of our modern conceptions of the surgical treatment of compression fractures, too many of these have been allowed to be unoperated on. And yet those of us who have witnessed much of accident surgery and particularly of spinal fractures, and have learned to know of the severe crushing of the cord and its membranes in a large percentage of cases, understand too well the hopelessness of the greater number of them. Not only are surgeons not enthusiastic about spinal operations, but the laity is loath to give its consent, owing to the well-known uncertain prognosis. You and I have been compelled to admit that the final outcome is uncertain when we advise a laminectomy as the only chance. We cannot even give an approximate estimate as to the prospects. We have no means of knowing how extensive is the traumatism to the cord and its envelopes. We are fairly certain, in a given case of deforming fracture with paralysis, that the cord is certainly damaged and still we cannot ascertain, with certainty, if it is compressed or lacerated or completely divided. It may be fair to assume that the cord is completely divided where there is a pronounced angular deformity and complete motor and sensory paralysis, and yet moderate cord injury has been found with extreme posterior angular deformity. We may say that the spinal deformity does not always indicate the extent of the cord injury. Consequently we have to deal with an uncertainty. I have met with cases in which there was no spinal deformity and yet there existed complete paraplegia and a laminectomy demonstrated actual cord destruction. And again I have examined one case of marked posterior lumbar deformity causing complete paraplegia immediately after the accident with entire relief of paralysis after traction had been made on head and pelvis and a partial restoration of the deformity by digital pressure. The patient was able to walk about in spite of marked angular deformity. Between these two extremes we have every variety of clinical picture presenting a great array of traumatisms that are often at variance with the physical findings. The traumatisms may amount to a simple transient concussion or may consist of a complete division of the cord. Unfortunately the vast majority of fracture dislocations have produced partial or complete cord division. In my operative work complete division occurred in the greater number of cases and in none of them, with the exception of an occasional temporary improvement, did I see a patient completely recover. We were convinced that recovery of these cases was absolutely impossible. Practical experience and experimental research seemed to indicate that the spinal cord never regenerated until the publication of Hart and Stewart's case[1] of severed cord in the dorsal region operated on by them in 1901. We had been taught by Ludwig, Wiesman, Ballance and others that

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Tr. Am. Surg. Assn., 1902, xx.

ganglionic non-neurilemmatous nerve cells once destroyed never regenerated, that a complete division of the cord, at any point between the atlas and twelfth dorsal vertebra, was hopeless, because in this part of the cord, the cell elements were non-neurilemmatous. We had learned that regeneration was possible only in the cauda equina and in the spinal nerve roots external to the cord which meant that, when improvement did take place, it was due to the nerve anastomoses between the spinal segments above and below the injury. All experimental research seemed to coincide with clinical observations that a divided spinal cord never underwent complete anatomic and physiologic restoration, that we were quite unprepared for the report of Hart and Stewart's case. They had done a myelorrhaphy in a cord divided by a bullet and, while the outcome was not a complete restoration of function, the result seemed to indicate, at least, a partial regeneration of the cord and we began to have some doubts as to our well-fixed convictions regarding regeneration.

This observation was sufficient, however, to awaken the hope that there was some error in the experimental findings of the workers in this field. More recently Estes has reported two cases of resection of a completely divided cord where a myelorrhaphy had been done, with marked improvement in both cases, so that spinal fractures are apparently not as hopeless as past experience seems to indicate. Later observations of these reported cases show that recovery was not complete in any of them; while improvement was marked and gratifying to a certain point, motion and sensation did not become normal and we are obliged to admit that, after all, these cases have not changed our scientific knowledge and that the non-neurilemmatous elements of the cord do not regenerate and the improvement must be attributed to the extra-spinal nerve anastomoses.

The important problem consists in determining what to do in a given case. We have to do with a part of the human anatomy that seems to have been provided in its construction, with every safeguard to prevent injury; a column made up of short, strong, bony segments held together by tremendously strong ligamentous and muscular bands; a flexibility secured by three anteroposterior curves, a series of twenty-four ribs insuring a wonderful lateral support. It is clear that a tremendous force, either direct or indirect, is necessary to effect a fracture.

We have learned that direct violence often produces a simple fracture, which means fractures of the transverse processes, the laminæ, pedicles and spinous processes and sometimes the bodies. These fractures sometimes cause comparatively trivial disturbances, which occasionally consist only of an irritation of spinal nerve roots and at other times extensive cord destruction with complete paralysis of motion and sensation due to pressure of bony fragments or hematomas and later to transverse myelitis. The clinical manifestations are so variable that the diagnosis is often only a matter of speculation.

Indirect violence producing forcible bending forward, is caused often by the falling of weights on the back while working in a stooping position (like a coal miner, where masses of coal fall from the ceiling of a mine), producing comminuted and complicated fractures. They are attended by extensive laceration of muscles, ligaments, cord envelopes, spinal nerves, and the cord itself and considerable hemorrhage. The vertebral bodies may be crushed, the pedicles fractured, the bone fragments are usually displaced and there exists the inevitable cord lesion usually complete division and the nature of the injury appears quite clear. But let us for a moment consider the average spinal injury.

We are presented with a recent case. We are informed as to the nature of the accident, direct or indirect violence. There is immediate and complete motor and sensory paralysis below the point of injury. There may or may not be a posterior angular deformity, or one or more movable spinous processes, the local pain may be intense or mild or absent. There may be severe lancinating pain in the course of the spinal nerves, springing from the seat of injury or immediately above it. Tendon reflexes may be exaggerated, enfeebled or absent. Now we ask ourselves what structures are damaged? We may be certain that there is cord compression, but can we be certain whether the pressure is due to bone fragments or to hematorrhachis or hematomyelia? If we see the case at a later period, a few days or a few weeks or months later with the same train of symptoms to which have been added the following, the bladder and anal sphincters are paralytic if the lesion is high, there may be priapism; pain at seat of injury may have increased and may have become lancinating and peripheral; trophic changes are unmistakable and vasomotor disturbances are marked. There are secretory changes in the skin, ankle-clonus and planter reflexes uncertain. Babinski's sign, although absent in early cases, may have developed. Now, are we certain of the exact nature of the injury? It is true that we are fairly certain in the presence of the clinical picture containing the greater number of the above symptoms, that we have a grave injury to the cord. But in the present light of our knowledge, we cannot state with certainty whether we have compression or a partial or complete division of the cord.

In dealing with spinal fractures, especially those that we have operated on, it was possible in the majority to state that the cord was injured, but it was not possible to know to what extent before the spinal canal was opened. In some, where a destruction of the cord seemed certain, the operation disclosed a large clot pressing on the cord and in others where one or two spines were depressed, a laminectomy revealed pressure but no destruction, and again in the presence of moderate deformity a single sharp fragment had caused extensive meningeal and cord laceration. In one case with a marked posterior angular deformity involving the sixth, seventh and eighth dorsal vertebræ and complete and immediate motor and sensory paralysis, a complete destruction of the cord, at point of injury, seemed certain. It was found, on opening the spinal canal, that the cord was compressed but not destroyed. No visible lesion could be made out. A laminectomy was done and a complete restoration of motion and sensation ensued. Now in the presence of this wide discrepancy between clinical and anatomic findings, what are we to do? I have wavered between the extremes of non-interference on the one hand and operative intervention in all cases of spinal injury whose chief clinical manifestation was paraplegia. It has been difficult to carry out the latter plan in practice, partly on account of the deeply rooted prejudice of the laity against operations, owing to the well-known high mortality in spinal fracture, and the uncertainty of the outcome after surgical interference. Then the surgeon himself had to confess that a spinal injury with paralysis and no deformity does sometimes recover. In cases where there may have been a concussion with no tissue destruction, recovery may occur in a few hours or days. There may have been an extra dural clot which may have become absorbed, and restoration of function may be complete in a few days or weeks.

There seems to exist much uncertainty with individual operators as to what is best to do. Very few or no surgeons can count their spinal operations by the hundred, and to lay down positive working rules for our guidance may be hazardous and yet we have several unmistakable indications that we cannot ignore. When carefully studying only a part of the published cases, we find that all operators must agree as to the uncertainty of the anatomic findings in most cases, especially where undoubted deformity exists. There may be an extensive osseous lesion with little or no cord destruction, or an apparently limited bony lesion and much cord destruction. We all agree that the osseous lesion is no guide to the extent of the intraspinal condition.

Now in view of this uncertainty there appears only one thing to do and that is to open the spinal canal in all cases of spinal injury with deformity and paralysis. Do an exploratory laminectomy. Accurate asepsis and exact surgical technic have made operative intervention a safe procedure. It should be done immediately and if possible as near the place of accident as can be. Much damage can be done while the patient is being transported. Rough handling or long continued jolting over a rough road can increase the vertebral displacement, augmenting a pressure or a laceration, increasing the damage and thereby changing a curable to an incurable condition. I have known of at least one case in which this occurred, as will be noted in the following record of cases with operations. Delay is usually dangerous. While there are recorded some cases in which later operation was done for compression of the cord, they are the exception. Many patients have been operated on after lapse of weeks and months, who were not benefited on account of degeneration of the cord though the initial lesion consisted solely of compression. Therefore it would seem that the best practice is to open the spinal canal as soon as the diagnosis is made; delay in actual cord injuries is not advisable on account of the liability of early degeneration of cord elements.

I have attempted to arrange my cases under the following heads:

1. Contusion of the cord due to a momentary pressure of a fracture of one or two laminæ, where the spinal arch springs back into place almost instantly causing paralysis but leaving only moderate external deformity—in some instances a movable spinus process.
2. Compression in the presence of non-reforming fracture due to hemorrhage in the spinal canal (hematorrhachis).
3. Compression due to hemorrhage both on and in the cord (hemorrhachis, hematomyelia).
4. Compression without destruction of cord elements.
5. Partial destruction of the cord at the seat of injury.
6. Total destruction of the cord at the seat of injury.

The following cases are not arranged in the order in which they came under observation but according to their pathologic findings. Only those that came to operation appear. No cases of concussion or shock of the spinal cord are here recorded; only those are discussed in which the clinical findings indicated a fracture of the osseous structures.

1. Contusion of the cord due to a momentary pressure of a fracture of one or two laminæ, where the spinal arch springs back into place almost instantly, causing paralysis but leaving only little external deformity, in some instances a movable spinous process.

Under this head we will find two cases.

Case 1.—A. B., aged 45, laborer, while occupied in the construction of a building, fell from the second to the first floor striking on his back. He was picked up unconscious and carried to his home a few blocks away. He regained consciousness in a few hours, but found himself paraplegic from the nipples down.

Examination.—I saw him ten days later at the M. E. Hospital. There was found complete abolition of motion and sensation from the nipple line downward. There was no control of the sphincters. The sixth dorsal spine was found to be freely movable.

Operation.—An operation was advised and quickly agreed to. A trap door skin incision and blunt separation of the muscular and ligamentous structures exposed the spines and laminæ of the fifth, sixth and seventh dorsal vertebræ. The sixth spine was loose and it was removed. The laminæ of all the vertebræ seemed firm and not depressed. On close examination, however, the left lamina of the sixth vertebra showed a fissure and the bone was slightly depressed. The lamina was removed with a chisel. The meninges appeared thickened with a hemorrhagic infiltrate extending slightly into the cord. The parts were gently flooded with normal salt solution, clearing away much of the infiltrate. It appeared that the lamina on one side was fractured and had been crowded down on the cord, then instantly sprung back into its normal position. There was very little tendency for the incised meningeal margins to separate and no suture was used. The wound was closed.

Result.—There was gradual return of sensation of motion in the course of two months, so that he was able to leave the hospital, walking well, with crutches.

Case 2.—C. A., laborer, aged 40, fell from a wagon, striking on his back. There was temporary mental confusion but no unconsciousness. He was unable to move. When assistance arrived, it was found that he could move his arms fairly well but his lower extremities had lost all movement and sensation.

Examination.—I saw him at his home, four weeks after his injury. All sensation and motion absent below the ensiform appendix, both sphincters incompetent. A bed sore on the sacrum. The fourth and fifth dorsal spines were movable and manipulation was painful.

Operation.—(At home.) The spinal canal was opened as in the preceding case. The spines together with the lamina were easily removed after dissections of the soft parts. It was found that the laminæ were not compressing the cord, but evidentally had momentarily done so. There was a hemorrhagic infiltrate in the meninges and slightly in the cord and several small clots between meninges and laminæ. Flooding with normal salt solution and careful swabbing, cleared the field fairly well. Several sharp bone spiculæ were clipped away. Meninges not sutured. The wound was closed.

Result.—There was gradual return of sensation and motion. In a year, with the aid of a cane, he was walking.

The foregoing two patients might possibly have recovered without operation, but it was impossible to estimate the extent of the lesion before the spinal canal was opened.

2. Compression in the presence of non-deforming fracture due to hemorrhage in the spinal canal. (Hematorrhachis.)

There was only one case of this nature.

Case 3.—F. D., farmer, aged 35, fell from a hay-loft a distance of about ten feet, falling on his back. There was complete motor paralysis when he was found an hour later. Sensation was diminished but not absent. It disappeared, however, in 24 hours..

Examination.—I saw him ten days later at his home where all preparation for an operation had been made. The patient stated that he did not become unconscious at the time of the accident. And he thought, but was not absolutely certain, that he could move his legs for a few moments, but that he did not try again on account of the great pain in the back. All sensation and motion were absent below the epigastrium;

there was very little sphincteric control. There was much ecchymosis over the middorsal region, but no evidence of vertebral fracture. Considering that compression was apparently not instantaneous and the absence of deformity, we concluded that we had to deal with a hematorrhachis.

Operation.—The patient was anxious for an operation. Accordingly the spinal canal was laid open by removing the laminæ of the sixth and seventh dorsal vertebræ. A large, rather firm blood-clot was found; it was extradural and was partly picked away with an anatomic forceps and partly washed away with a stream of normal salt solution. The cord coverings were found uninjured. The wound was closed.

Result.—The operative recovery was uneventful. Sensation and motion gradually returned. In a year he was able to walk fairly well with a cane.

3. *Compression due to hemorrhage both on and in the cord. (Hemorrhachis, hematomyelia.)*

Under this head there were two cases.

Case 4.—M. S., farmer, aged 32, fell from a tree, striking the back, middorsal region. He was found half an hour later, with complete paralysis of both lower extremities.

Examination.—I saw him a week later. Complete paraplegia. No sensation or motion below nipple line. Sphincters paralytic. Much tenderness over the third, fourth and fifth dorsal vertebræ. Spines slightly movable and depressed.

Operation.—The spinal canal was opened; the laminæ were pressing on the cord. They were removed. An extradural clot was found, the meninges seemed contused. The longitudinal incision exposed the cord and more blood-clots beneath the dura which appeared to occupy a part of the cord itself. They could not be all washed or swabbed away. The meninges were not sutured. The wound was closed.

Result.—The patient died in one week, apparently from meningitis.

Case 5.—D. F., bricklayer, aged 40 years, fell from a scaffold striking his back on some bricks, and became unconscious. He was removed to his home, regained consciousness in a couple of hours, having lost motion and sensation from the costal arches down.

Examination.—I saw him about ten days later. There was complete absence of motion and sensation below the costal arches. Both sphincters were incompetent. There was a slight depression over the seventh and eighth dorsal vertebræ.

Operation.—The spinal canal was opened; the laminæ of the seventh and eighth dorsal vertebræ were removed. The findings were similar to those in the preceding case.

Result.—The patient made a good operative recovery but died two months later, with no improvement in motion or sensation.

4. *Compression without destruction of cord elements.*

Under this head we had one case.

Case 6.—M. J., laborer, aged 36. While engaged about a building during the course of construction, a beam fell, striking him across the shoulders, doubling him forward. He was picked up unconscious. Four hours later, when consciousness recurred, he found himself paraplegic.

Examination.—I saw him about two weeks later. Temperature 103 F. Pulse 130. Paraplegic. He complained of great pain in his back. I found distinct posterior angular curvature, sixth, seventh and eighth dorsal spines prominent.

Operation.—An immediate laminectomy was done. The meninges and cord were apparently uninjured. The meninges were incised but the cord was found normal; two catgut sutures closed the coverings. The wound was closed and dressed. A plaster cast was applied with aid of a Bradford frame.

Result.—The operative recovery was uneventful. There was gradual improvement. At the end of six months he could walk with a cane.

5. *Partial destruction of the cord at the seat of injury.*

Under this group there were four cases.

Case 7.—O., farmer, aged 30, while diving into a shallow swimming hole, struck his head on the bottom, he was helpless immediately and it was with difficulty that he was rescued by his companions. All his extremities were paralyzed, the upper as to motion and the lower as to motion and sensation.

Examination.—He was brought to the M. E. Hospital ten days later. There was absence of motion in both upper extremities and partially as to sensation. In the lower extremities and trunk, there was no motion nor sensation. Bladder and rectal sphincters were incompetent. The neck was stiff, movements caused pain. A skiagram indicated a fracture, displacement of the fourth and fifth cervical vertebræ.

Operation.—Through a longitudinal incision, the loose laminæ were easily removed after the soft parts had been dissected off. The dura was lacerated by the sharp, fractured laminæ. The posterior columns were partly torn. After cutting away the lacerated tissues, the wound was closed.

Result.—Operative recovery was uneventful. He gradually regained sensation and motion, first in the upper extremities, then partially in the lower extremities. One year after the accident, he was able to stand on his feet but not to walk. He was able to get about in a wheel chair.

Case 8.—S. P., aged 40, brakeman, fell from the top of a box car, fracturing the laminæ of the fourth and fifth dorsal vertebræ, causing complete paraplegia.

Operation.—He was seen twenty-four hours after the accident. Laminectomy revealed torn meninges, a destruction of the left lateral half of the cord. Torn tissues were trimmed with scissors. The wound was closed with silk-worm gut drain.

Result.—The patient died one week after operation, from meningitis.

Case 9.—P. D. H., aged 29, brakeman, fell between two standing freight cars, striking the lower dorsal region on the rail. There was immediate and complete paraplegia.

Operation.—He was seen the day of the accident. I performed laminectomy of the seventh and eighth vertebræ. Partial destruction of the posterior columns was found. The lacerated structures were trimmed with scissors. Irrigation. Closure of wound. Silkworm gut drain.

Result.—There was recovery from the operation but no improvement, and he died in six weeks.

Case 10.—F. J., laborer, in a runaway, was thrown from his wagon, falling on his back. Immediate paralysis of both lower extremities resulted.

Operation.—When I saw him, about a week later, the ninth and tenth dorsal spines were movable. Laminectomy showed lacerated membranes and destruction of posterior columns. After removal of lacerated tissues and irrigation, the wound was closed. Chromic gut drain.

Result.—Operative recovery. For two months there was return of sensation, then he rapidly became worse and died ten weeks after his operation.

6. *Total destruction of the cord at the seat of injury.*

Under this head there were five cases of fracture and one a gunshot wound with complete division of the cord. None of these patients recovered. All died in periods varying from one week to eight months. In none of them was there improvement in sensation or motion. Four of them developed large bed sores. Death seemed to be due to gradual exhaustion, emaciation, and sepsis that apparently originated in the bed sores. One patient, with a marked posterior angular middorsal deformity and complete transverse destruction of the cord, died one week after his operation.

One patient, in whom a gunshot wound fractured the lamina of the sixth dorsal vertebra and lodged in its body, completely dividing the cord, lived four months.

Case 11.—C. D., aged 32, a coal miner. While at work, a mass of coal fell on his back, bending him forcibly forward. When removed from the mine, he was completely paraplegic.

Operation.—I saw him about five weeks later. Laminectomy of eighth, ninth and tenth dorsal vertebræ. Cord crushed.

Lacerated tissue was trimmed away leaving a defect of one-half inch. Suture of the ends of the cord was attempted but failed. Wound closed. Chromic gut drain.

Result.—Death in three weeks.

CASE 12.—J. D., aged 31. While at work in a stone quarry a stone fell on his back, striking the lower dorsal region. He had great pain at seat of injury. When picked up a few moments later, he was conscious and he stated that he could move both feet, although they felt numb. While being lifted into a wagon he received a severe jolt, and his legs at once became paralyzed. He was positive that the jolt caused the motor paralysis. He was taken to his home where I saw him the following day.

Operation.—A laminectomy, tenth and eleventh dorsal vertebræ, disclosed a complete destruction of the cord. Whether the laminæ were driven inward by the stone or by the jolt may be an open question. The laminæ, no doubt, were fractured by the stone, but it was probable that the dislocation of the laminæ was increased by the rough handling. The sharp fragments divided the cord. A curable patient was made incurable. After the torn fragments had been cut away, suturing with chromic gut was attempted but was not satisfactory, because the consistency of the cord was not firm enough to hold the suture. Wound closed as usual.

Result.—The patient died a week later.

CASE 13.—J. J. S., laborer, aged 27, was struck in the back of the neck by a falling tree, causing immediate paralysis, complete of legs, partial of arms.

Examination.—I saw him four days later. Tenderness was pronounced over the fifth and sixth cervical vertebræ. The skin was discolored at this point. The spines were movable.

Operation.—A laminectomy revealed a crushed cord to the extent of an inch. The wounds were treated in the usual manner.

Result.—Patient died ten days later.

CASE 14.—J. R., aged 28, clerk, was shot in the middorsal region, causing immediate motor and sensory paralysis from the costal arches down.

Operation.—Laminectomy of the fifth and sixth dorsal vertebræ. The cord had been cut by the bullet, which was deeply embedded in the vertebral body. The cord defect was cleansed from blood-clots and lacerated tissue. Wound closed.

Result.—The patient made an operative recovery, but died four months later from exhaustion and sepsis due to a very large bed sore on the sacrum.

CASE 15.—G. M., coal miner, aged 50. A mass of coal separated from the roof of a tunnel, falling on his back. When rescued by his co-laborers, it was found that his lower extremities had lost both motion and sensation.

Examination.—Two weeks later, when I saw him, paraplegia was complete. There was a distinct posterior angular deformity in the lower dorsal region over the tenth and eleventh vertebræ.

Operation.—Laminectomy disclosed fractured laminæ complete, laceration of the cord and crushed vertebral body, the tenth dorsal. It was not possible to correct the spinal deformity by either extention or pressure. The ragged cord ends were trimmed and the wound closed.

Result.—The patient died in four weeks, showing no improvement.

CASE 16.—D. S., farmer, aged 35, fell down a flight of stairs. He found it impossible to get up. After being put to bed, it was discovered that he had lost both motion and sensation.

Examination.—About one week later he was brought to the M. E. Hospital. He was found to be paraplegic. The fifth dorsal spine was movable, there was much pain in this region.

Operation.—Laminectomy. The fifth and sixth laminæ were removed, the meninges were contused. The latter were opened and the cord was found to be pulpefied. Wound closed in the usual manner.

Result.—Operative recovery was uneventful. He died from exhaustion and septic absorbtion from a large bed sore two months later.

SUMMARY

We had two cases with a contusion of the cord due to momentary pressure of one or two laminæ, where the spinal arch sprang back into place instantly, leaving no permanent cord destruction. One patient recovered both motion and sensation, walking out of the hospital in three months. The other was able to walk with the aid of a cane at the end of a year.

There was one case of compression in the presence of non-deforming fracture due to hemorrhage in the spinal canal. In one year he was able to walk fairly well with the aid of a cane.

Two patients were operated on in whom there was compression of the cord due to hemorrhage on and in the cord. One died one week after the operation, the other two months later with no improvement.

There was one case with paralysis due to compression of the laminæ of the sixth, seventh and eighth dorsal vertebræ without cord or meningeal injury. Recovery. This patient could walk with a cane in six months.

Four patients were operated on who had a partial destruction of the cord at the seat of injury. One improved so that he was able to stand on his feet after a year; there had been complete paralysis of all four extremities due to a fracture dislocation of fourth and fifth cervical vertebræ. Another patient died six weeks after a laminectomy of the seventh and eighth dorsal vertebræ. The third died ten weeks after the removal of the ninth and tenth dorsal vertebræ.

From the record of cases we note that no patient with complete transverse division of the cord was either temporarily or permanently benefited. All such patients died either from extreme trophic changes and exhaustion or from septic infection from the large bed sores.

ABSTRACT OF DISCUSSION

DR. H. W. HOWARD, Los Angeles: I shall not attempt to discuss this paper as a whole, but barely to emphasize the plea for early operation, believing that therein lies the only hope of relieving these poor unfortunates. It seems true that in the majority of cases in which the symptoms of severe injury of the cord have disappeared or greatly improved after operation, we are dealing rather with a compression than with total destruction of the cord. Still it has been proved beyond a doubt that regeneration of nerve fibers does take place in certain cases. There are many advocates for and against operative measures in these cases. When there is complete or partial paralysis and the extent of injury is very uncertain, I believe that operative procedures are necessary to clear up this point, also to give a chance to remedy the damage. One cannot say to what extent the cord has been injured until the dura has been opened. The external appearance of the dura frequently will lead one to believe that there has been no injury, or very slight injury to the cord itself, when on opening the dura one will find extensive injury.

Dr. Jonas has said that in most cases delayed operation holds no hope. I want to present a case here to illustrate that that is not always true.

The accident occurred in 1904 while the patient was diving in shallow water. It was followed immediately by paralysis, both motor and sensory, and semiconsciousness lasting two weeks; the consciousness then returned with partial or very slight sensation. Improvement was gradual for three months until he had very slight motion of the upper part of his arms only. Within a week this patient began to have bedsores, and in a short time his back was pretty well covered with them. After a year and a half some slight improvement began again, and for six months was rather marked. The bedsores healed up and he got more sensation and a little more motion. Paralysis of the sphincter muscles was complete, the patient having to be catheterized from the time of the accident until after operation. The bladder and kidneys became infected, and he was refused operation a number of times, being told that it was useless.

April 15 the patient presented himself to me, and a laminectomy was done.

The bodies of the vertebræ were found to be driven together, and there was overlapping of the laminæ. The laminæ of the fifth and sixth vertebræ were removed. The dura was found to be adherent to the laminæ and also to the vertebræ in front. The adhesions were broken up and the cord lifted to one side; the sharp projections from the bodies of the vertebræ were chiseled off, the cord replaced, the dura opened and found to be adherent to the cord for about 1½ inches. These adhesions were loosened, a probe passed up and down the canal to see whether there were further adhesions, which were found to be absent and the wound was closed.

The immediate effects of the operation were excellent. The heart steadied down; catheterization was found to be unnecessary after ten days; his bedsores healed, and in three weeks he had none; he began to use the intercostal muscles for breathing, and gradually returned to the use of the muscles of the arms and hands; the sphincter control of the bowels became normal, although at the present time he must take enemas on account of severe constipation.

In two months the patient was able to be propped up, feed himself with his hands, hold a newspaper, smoke a pipe, and was comparatively comfortable. He has improved steadily until at the present time he can move his legs. [Dr. Howard exhibited the patient.]

Dr. Stanley Stillman, San Francisco: My results in an operative experience of sixteen cases of fracture of the spine have been absolutely *nil.* The patients all recovered from the operation, but not one of them showed the slightest sign of improvement. The deformity in many of the cases was very slight. There was every reason to believe in some of them that improvement might be hoped for. Some of them lived for three years afterward, and one is now living six years since the fracture. The others died within three to six or eight months after the accident. The hope of regeneration after resection of a portion of the cord is of course absolutely futile. I have seen Sir Victor Horsley attempt to do such resection in an old case of fracture of the spine, encouraged by the "success" of an operation done in Philadelphia some years ago, in which it was claimed that regeneration of the cord had taken place after such resection and suturing of the damaged portion of the cord. But Dr. Murphy and others have shown us plainly that the nerve fibers not vested with a neurilemma are not capable of regeneration.

So that while I am not opposed in any way to operation, but, on the contrary, always give the patients and their friends the privilege of submitting to operation as offering the only possible chance of recovery, still it is done without any heart on my part, and without offer of probable benefit to the patient. In spite of the poor prognosis I think that operation is indicated, for it is certain that there are some cases, such as you have heard of here, in which pressure from hemorrhage, blood-clot or displaced fragments may be responsible for the paralysis, and in such cases recovery is possible. In fact, I have seen one patient recover without operation. The paralysis was not complete, and I did not operate on that account, and the patient recovered.

Dr. C. P. Thomas, Los Angeles: My experience has been about the same as that of Dr. Stillman. A number of cases have come under my observation in which I have operated with identically the same results. I believe that it is a well-established fact that regeneration of a severed cord by gunshot wounds or spinal fracture when immediate total paralysis follows, is irreparable; and regardless of what treatment we give these patients we get the same result—failure.

The patients that are relieved by operative procedure are doubtless those in whom the paralysis is due to pressure from hemorrhage; who would probably recover just as well without operation. I have seen a complete recovery after operation in a case in which hemorrhage was the cause; and I have also seen the same sort of paralysis follow injury to the spine—doubtless due to the same cause—recover without operation. So while with Dr. Stillman, Dr. Jonas and others, if the patient insists on it, and the family desire it, it has been my custom to do laminectomy. I always explain to them that it is my belief that the operation will not influence the recovery.

Dr. D. C. Strong, San Bernardino, Cal.: I want to thank Dr. Jonas for the attitude he has taken. The position taken by the greatest authorities almost precludes a man daring to operate in these cases. They speak as though the final word had been said on spinal-cord surgery, and that it only makes a bad matter worse to operate on a completely severed cord. This attitude has lessened the chances of many of these patients for recovery.

One year ago at the state society's meeting I reported and exhibited a case of complete severance of the cord, and a great deal of skepticism was expressed as to whether the cord had been completely severed or not. That was one of a series of four cases with which I have had to deal. In three of the cases practically no results were obtained. However, enough results in those three cases were obtained to lead me to believe that if properly handled we might expect a great deal more. These three patients all died from septicemia, the result of ascending infection; all three of them were suffering at the time of their injury from cystitis from specific infection. This one case which I reported was in a healthy, vigorous man, who was run over by a heavily laden wagon. The lower dorsal vertebra was fractured, completely severing the cord. The operation was done five days after the injury. The lacerated ends of the cord were trimmed off squarely and the cord united. The spinal nerve roots above and below the injury were approximated and united, taking care to preserve the ganglia, on account of the fact that the nutrient centers are in the ganglia and not in the cord. I believe it is due to the uniting of the nerves and the preservation of the ganglia that a large share of the function of the cord was maintained in this case. While the recovery was not complete, the man was able to stand, walk with the aid of crutches, and has apparently lost only the functions presided over by that portion of the cord actually destroyed. At present he is earning his own living.

Dr. Harvey Cushing, Baltimore: Needless to say, only by a thorough preliminary neurologic study of these unfortunate patients can misinterpretations of the results of surgical measures be avoided. It is well for us surgeons to remember the pitfalls of the past, such as the reports of immediate restoration of function after suture of an injured peripheral nerve, a physiologic impossibility, of course, in the higher animals at least.

One may conveniently divide these cases into three groups. In the first operation is contra-indicated as spontaneous recovery is probable. The easily recognizable cases of hematomyelia are comprised in this first group; and the spinal palsies, accompanied by an acute flexion of the neck such as follow diving accidents, are often of this type.

Surgical measures are contra-indicated in a second group of cases, owing to the futility of intervention; and the mere fact that friends and patient desire it is not a sufficient defense or excuse for operation. These are cases of immediate total transverse lesion, after which a useful, if any, restoration of function at all is inconceivable. These cases are usually recognizable, if the patients are seen immediately after the injury, by the sharply cut, upper segmental level of total anesthesia and the complete abolition of the deep reflexes.

Now the third group of cases comprises those individuals with partial lesions from wounds or fractures in which prompt intervention is unquestionably indicated.

There are two points relating to the surgical treatment of these cases to which I should like to call attention. One concerns the care of the bladder, the other the method of entering the spinal canal. An immediate suprapubic cystotomy adds immensely to the comfort of these unfortunates and renders the liability of renal infection far less. In most of these patients the lower part of the trunk is without sensation, and it requires no anesthetic to make the very small suprapubic opening through which a retaining tube is introduced into the bladder. This obviates the dribbling which ultimately would occur and favors the production of bed sores. It obviates, too, the irregularities of catheterization which must creep in in the best conducted surroundings. Urethral drainage by no means answers the same purpose.

Now as to the laminectomy. We must not forget that unless the laminectomy is delicately carried out the performance itself may do additional damage to the cord. Rough methods of exposure are much to be decried—methods of the mallet and chisel type. Adherence to such methods is what makes operators so often speak of the "shock" of laminectomies. Shock, so-called, arises from the trauma and loss of blood incidental to rough procedures. A laminectomy should be quite a bloodless performance and unattended by jar. It, in the first place, should be a median operation, hugging the spines and laminæ, from which the periosteum should be scraped away with care.

After removal of the spines the method of entering the canal which I employ is one which I can highly recommend to others. Primary entry down to the posterior ligaments is made with a Doyen perforator through the stump of each of the individual amputated spines—five or six, as the case may be, and rarely can a proper exposure be made with less. The perforator is followed by the burr which reams away each spine in turn and much of its adjoining laminæ. The lateral bony projections which remain can then be easily nibbled off with delicate sharp-nosed rongeurs, and a broad exposure of the canal is obtained.

The yellow, elastic posterior ligament is then delicately scraped away, down to the dura, and this membrane should be opened without injuring the arachnoid. This is an important matter and one, I believe, that is rarely observed. With the dura open and the bulging arachnoid uninjured the best possible view of the cord is obtained through the thin, delicate, transparent membrane, which will often enlarge the structures as though they were seen through a magnifying glass. I am sure that the emphasis which is laid on the loss of cerebrospinal fluid as an incident to "shock" is without foundation. A patient is so apt to be upset by rough methods of entry at this stage of the operation that the upset is attributed to evacuation of fluid, rather than to the preceding rough manipulations. In all cases, needless to say, the wound should be completely closed without drainage.

Dr. A. F. Jonas, Omaha: Unfortunately we are not all highly trained neurologic surgeons, as Dr. Cushing is; and usually we get very little aid from the neurologists. Most of us who do general surgery have but a limited knowledge of neurology as affecting these particular injuries.

I have formulated this plan for my own guidance: in all cases of doubt, open the spinal canal. The opening of the spinal canal itself is not difficult or dangerous, and I am sure that in none of the cases in which I have operated have I made the patients worse. The wound itself heals well, and I have never had trouble with it. It seems to me for the average surgeon doing accident work, who has not had the advantages of neurologic training, such as Dr. Cushing has had, it is best to open the spinal canal and determine the exact nature of the injury.

It is true that all patients with transverse lesions of the cord have died sooner or later; but in partial cord lesions I have had one recovery, and that is the case of the fracture of the laminæ of the fourth and fifth cervical vertebræ, in which the meninges were torn and there was a considerable accumulation of blood, and the cord lesion was evident on examination. I admit there can be no regeneration of the cord when it has been transversely destroyed. It was impossible in my cases to bring the cord ends together and suture them, because the cord was so soft and inelastic, even when there was only a limited destruction of the cord elements.

The patients who recovered were those in whom there was a blood-clot in or under the dura, and the cord was not involved. They might have recovered anyway; but I could not tell positively before operation that there was no cord injury. So I opened them and did no damage.

The patients in whom there was hemorrhage in the cord itself, died: and so far as I have been able to learn from the reported cases, all such patients sooner or later die.

THE PRESSOR ACTION OF AN AMERICAN MISTLETOE *

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A certain mystic and poetic significance is attached to the term mistletoe because of the use of a European mistletoe (*Viscum album*) in the religious ceremonies of the Druids and in those of the early Christian church.[1] Norse mythology associated it with the worship of Freya, the Norse Venus, while Ovid and Virgil attributed magical powers to it. A species of mistletoe was collected with religious ceremonies by the Persian magi.

European mistletoe (*Viscum album*) has been used in medicine from very early times, its use being referred to by Paulus Ægineta,[2] Pliny, Dioscorides, Celsus,[3] and by the Moslem physicians Avicenna[4] and Ebn Barthar, although the conditions for its use have never been accurately defined. In the Middle Ages it had a high reputation in the treatment of nervous disorders.[5] In the seventeenth century interest was aroused by Boyle's note on the cure of epilepsy by it.[6] Recently Deguy[7] claimed that *Viscum album* was very serviceable in the treatment of albuminuria, and Delassus and Gaultier[8] have used it with some success in the treatment of tuberculous hemoptysis.

The gummy material obtained from this and other related plants has been used for the catching of singing birds, and, therefore, called "birdlime." *Viscum album* has been studied chemically by Grandeau and Bouton,[9] mainly with reference to its nutritive value. It has also been examined by Reinsch,[10] who isolated a crude product called viscin and a substance, viscautschin, resembling caoutchouc. Viscin yields viscinic acid and viscin oil. It is soluble in benzin, but insoluble in water. Viscin has usually been considered the active principle of *Viscum album*, although Reinsch, who first obtained this product, made no test of its physiologic activity. More recently Pavlevsky[11] obtained from *Viscum album* a crystalline acid by treatment of the plant with nitric acid, but nothing is definitely known of it. Crude viscin has been recommended as a coating for enteric pills, as a substitute for caoutchouc in the preparation of plasters and as a dressing base in cutaneous diseases.[12]

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Laboratory of Pharmacology, Leland Stanford Junior University, Cal. Much of this work was done in the United States Department of Agriculture, at Washington, D. C.

1. For symbolism concerning the mistletoe see Fraser, J. G.: Golden Bough, 2 ed., iii, 446; also a popular article on the mistletoe bough in the Eclectic Magazine, 1892, new series, lv, 116; Am. Med., 1904, viii, 1032; Hazlitt, W. C.: Faiths and Folklore, ii, 412; Knott, J.: The Mistletoe, N. Y. Med. Jour., 1908, lxxxviii, 1159 This gives a detailed historical sketch of the usage of mistletoe.

2. Paulus Ægineta: Seven Books, Transl. by F. Adams, iii, 141, 1847, New Sydenham Soc.

3. Celsus, A. C.: On Medicine, ii, 18, 19, 31, 110, 204, transl. by A. Lee, London, 1836.

4. Foy, G.: Mistletoe, Med. Press and Circular, 1887, p. 588; Am. Med., 1904, viii, 1032.

5. Mistletoe in Medicine, Bookworm, 1894, vii, 358; Howell, T. A. S.: Viscum album, Practitioner, 1882, xxviii, 22; Colbatch, J. A.: Dissertation concerning Mistletoe, n. d.

6. Boyle, R.: Usefulness of Experimental Natural Philosophy, Oxford, 1664, p. 175.

7. Deguy: Viscum album, Jour. d. Pract., 1901, xv, 393.

8. Delassus: De quelques préparations officinales du gui (Viscum album), Bull. gén. de thérap., 1907, cliv, 174. Gaultier, R.: Résultats cliniques et expér. de quelques études sur la valeur thérap. et physiol. du gui de chêne, Bull. gén. de. thérap., 1906, clii, 67, 88, 141.

9. Grandeau and Bouton: Etude chimique du gui (Viscum album Linn.), Compt. rend., Acad. d. sc., 1877, lxxxiv, 129, 500. Grandeau, H.: Recherches chim. sur le gui, Ann. de la stat. agronom. de l'Est., 1828, referred to by Ginieis and Ray (original not seen by the writer).

10. Reinsch, P.: Beitr. zur chem. Kennt. d. Weissen Mistel (Viscum album L), Neues Jahrb. f. Pharm., 1860, xiv.

11. Pavlevsky: Bull. Soc. chim. de Paris, 1880, n. s., xxxiv, 348

Muntz[13] obtained galactose by treating the gummy material with acid, and Tanret found both inactive and racemic inosit in *Viscum album*.[14] Others, as Knop,[15] Councler,[16] and Erdmann,[17] have studied the European mistletoe (*Viscum album*) with reference to its ash content. These analyses show a greater percentage of magnesium with reference to calcium than is the rule in plants. Recently Le Prince[18] obtained from this plant a volatile base having the empirical formula $C_8H_{11}N$. This compound gave the pyrrol reaction with a pine chip. Le Prince made no tests as to the activity of this base. He also reports the presence of a glucosid and resinous body, but details concerning the two latter bodies are not yet available.

This mistletoe has been used in certain parts of France as an addition to the food of stock,[19] but its value remains to be determined. According to Heim, dogs fed with this plant show scarcely any symptoms.

The common mistletoe of the eastern part of the United States is *Phoradendron flavescens*.[20] It is at times popularly called "golden bough."[21] This plant is often confused by medical writers with *Viscum album*. Both plants are parasitic to various trees.[22] Laurent has suggested that the European species secretes a principle which is poisonous to its host.[23] In this country various species of mistletoe are causing considerable damage to trees and work is now being done to obviate this destruction.[24]

Some years ago interest was reawakened in the *Phoradendron flavescens* by the announcement that marked oxytocic powers could be attributed to it. It was claimed that it was active even when ergot failed.[25] This plant has been used to produce abortion by the negroes of the southern states, and also by the Indians of Mendocino County, California.[26] It was also once supposed to be useful as an aid to fecundity. The Kaffirs of South Africa believe their species of mistletoe to affect the secretion of the kidneys.[27] The Chimariko Indians of California are said to smoke an oak mistletoe as a substitute for tobacco,[28] while certain of the Arizona Indians use the *Phoradendron juniperinum* as a substitute for coffee.[29] Both the *Viscum album* and the *Phoradendron flavescens* are claimed to have the same medical action and have been used as substitutes for digitalis in cardiac therapy;[30] but perhaps this belief has arisen by the confusion of the two species. The Orientals, however, consider the mistletoe injurious to the heart.[31] Payne[32] studied the action of the fluid extract of *Phoradendron flavescens* on various lower animals, but failed to control these injections with a corresponding amount of alcohol, and his data were insufficient to justify any conclusions.

Both the European and American species are claimed at times to produce poisoning. The symptoms reported have been those of vomiting and purging, and collapse;[33] hallucinations and bounding pulse, stertorous respiration, rigid and dilated pupils. Certain of the Indians,[26] however, assert that it is merely mistletoes grown on certain trees which are poisonous, and Cornevin questions if the European species is really poisonous.[34]

The American plant has practically fallen into disuse as a medicine, but now considerable attention is being directed to the study of the European species. Some years ago I noted that if an aqueous or a fluid extract of American mistletoe (*Phoradendron flavescens*) was injected into the cardiac end of the saphenous vein of a narcotized dog, whose vagi nerves had been cut, there followed a temporary fall in blood-pressure, but this was succeeded by a sharp rise associated with a rapid heart-beat; this rise in the systemic blood-pressure was very persistent. If the vagi were not cut the rise was more gradual, and if atropin had been previously used, the injection of mistletoe caused no initial fall in such animals. But while the rise in blood-pressure resembled qualitatively that produced by epinephrin, extracts of mistletoe when applied to the conjunctiva failed to produce local vasoconstriction. Accompanying this rise of blood-pressure was an immediate increase of urinary secretion. This increase in urinary secretion could be determined by counting the drops as they fell from ureteral cannulæ. A short notice of this find appeared,[35] but this investigation has been sidetracked by other work.

Of the plants known as mistletoe in our western states, three were examined: *Razoumofskya americana*, *Phoradendron juniperinum*, and *Phoradendron villosum*.[36] Of these *Phoradendron juniperinum* alone seemed to give the characteristic rise in blood-pressure.

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[12] Vorner, H.: Ueber Viscinum depuratum, Deutsch. med. Wchnschr., 1903, xxix, 744. Riehl. G.: Ueber Viscin u. dessen therap. Verwendung, Deutsch. med. Wchnschr., 1900, xxvi, 653. Zumbusch, L.: Ueber Reindarstellung und Entfärbung des Viscins, Wien. klin. Wchnschr., 1903, xvi, 560. Loebell, W.: Verfahren z. Reinigung d. Rohviscins aus Ilexarten, Chem. Centralbl., 1906, lxxvii, 1150. Fendler, G.: Mistelkautschuk, Arb. a. d. Pharmazeut. Institut d. Universität, Berlin, 1906, iii, 287. Warburg, O.: Die Kautschukmisteln, Der Tropenpflanzer, 1905, ix, 633.

[13] Muntz, A.: Sur l'existence des élements du sucre de lait dans les plantes, Ann. de. chim. et de phys., 1887, series 6, x, 566.

[14] Tanret, G.: Sur les inosites du gui, Compt. rend. Acad. d. sc., 1907, cxlv, 1196.

[15] Knop, W.: Ueber d. unorgan. Bestandtheile d. Vegetabilien, Jour. f. prakt. Chem., 1846, xxxviii, 30.

[16] Councler, C.: Aschenanalysen verschiedener Pflanzen und Pflanzentheile, Bot. Centralbl., 1889, xl, 129. Tubeuf, V.: Ueber Aschenanalysen von Viscum album, Bot. Centralbl., 1890, xli, 43, 80, 135.

[17] Erdmann, C.: Ueber d. unorgan. Bestandtheile von Viscum album, Ann. d. Chem. u. Pharm., 1855, xciv, 254.

[18] Le Prince, M.: Contribution a l'étude chimique du gui (Viscum album), Compt. rend. Acad. d. sc., 1907, cxlv, 940.

[19] Giniesis and Ray: Essais sur la valeur alimentaire du gui, Bull. Soc. cent. de med. vét., 1905, lix, 355.

[20] This plant was formerly named *Viscum flavescens*. See Rushby, H. H.: Phoradendron flavescens, Drug. Bull., 1889, iii, 254.

[21] Nat. Stand. Dispensatory, 1907, p. 931.

[22] Nobbe, F.: Ueber die Mistel, Thar. forstl. Jahrb., 1884, xxxiv, 1. Brackett, M. M.: The Mistletoe, Plant World, 1905, iii, 265.

[23] Laurent, E.: Sur l'éxistence d'un principe toxique pour le poirier, dans les baies, les graines et les plantules du gui, Compt. rend. Acad. d. sc., 1901, cxxxi, 959.

[24] Bray, W. L.: Mistletoe Pest in the Southwest, Bureau Plant Industry, Bull. 166, 1910, U. S. Dept. Agric.

[25] Turnispeed, E. B.: Employment of the Mistletoe to Produce Abortion, Charleston Med. Jour. and Rev., 1851, vi, 448. Long. W. H.: Viscum album, (Mistletoe) as an Oxytocic, Louisville Med. News, 1878, v-vi, 132. Atlanta Med. and Surg. Jour., new series. 1888, iv, 197, 309. Baker, H. E.: Some Causes of Abortion, Oregon Agriculturist, 1902, xii, 155. Hobbs, A. G.: Mistletoe as an Oxy toxic, Louisville Med. News, 1878, v, 238. Crosier, E. S.: American Mistletoe, Louisville Med. News, 1878, v, 171.

[26] Chestnut, V. K.: Plants used by the Indians of Mendocino County, Cal. Contrib. from U. S. Nat. Herbar., 1900-02, vii, 344.

[27] Smith, A.: Contribution to the South African Materia Medica, 3 ed., p. 176.

[28] Powers, S.: Tribes of California, Contrib. to North Am. Ethnol., 1877, iii, 93.

[29] Hough, W.: Environmental Interrelations in Arizona, Am. Anthropol., 1898, ii, 142.

[30] Wenzel, H. P.: Mistletoe, Tr. Wis. State Med. Soc., 1879, xiii, 231. Howard, H. P.: Mistletoe as an Oxytocic, Med. News, 1892, lx, 547. Gray, D. E.: Mistletoe as an Oxytocic, Southern Med. Rec., 1888, xviii, 253. Park, R.: Note on the Therapeutics of Viscum Album, Practitioner, 1881, xxvii, 346.

[31] Ranking, G.: Mistletoe, Lancet, London, 1904, i, 756. Murrell, W., Payne and others: The Physiological Action and Therapeutic Uses of the Common Mistletoe, London Med. Rec., 1881, ix. 266.

[32] Payne, R. L.: Mistletoe, North Carolina Med. Jour., 1881, vii, 253.

[33] Buster, O. C.: Poisoning by Mistletoe (Viscum flavescens), Tex. Courier-Rec. of Med., 1887, v, 218; also Med. Times and Gaz., 1867, i, 26. Dixon, J.: Case of Poisoning by Berries of the Mistletoe, Brit. Med. Jour., 1874, i, 224. Dye, H.: Memphis Med. Recorder, 1855-56, iv, 344. North Car. Agric. Exp. Sta. Bull. No. 150, 1898.

[34] Cornevin, C.: Des plantes vénéneuses, 1887, p. 164.

[35] Am. Jour. Pharm., 1905, p. 493.

[36] For notes concerning various mistletoes, see v. Tubeuf, C.: Ueber die Beziehungen zwischen unseren Misteln u. d. Thierwelt, Naturw. Ztschr. f. Forst- u. Landw., 1908, vi, 47: Ueber die Bedeutung v. Beerenfarbe u. Beerenschleim bei d. Mistel, Naturw. Ztschr. f. Forst- u. Landw., 1908, vi, 141. Vrolik, G.: Over eenige physiol. Eigenschappen von Viscum album, Verschlagen en Mededeel. d. koningkl. Akad. v. Wetenschappen, 1857, v, 263. Hough: Am. Anthropol., 1898, ii, 142. Barrows, D. H.: Ethnol. Botany of the Coahuilla Indians of Southern California, 1900, p. 80.

In the case of the European species of mistletoe, *Viscum album*, Gaultier[37] found that the injection of extracts of this plant into the cardiac end of the vein of a dog, whose vagi were intact, was followed by acceleration of the heart-beat with a lowering of blood-pressure. Chevalier[38] traced this hypotensor action of mistletoe to saponin-like glucosids, but he did not isolate these bodies. Gaultier apparently makes no mention of any rise in blood-pressure, but he noted an increase in the urinary secretion. Doyon and Gaultier[39] have recently claimed that this extract interferes temporarily with the coagulability of the blood.

CHEMICAL EXPERIMENTS

The leaves and twigs of the *Phoradendron flavescens* were first used, but later it was found more convenient to start with the fluidextract of mistletoe such as is found on the market. All fresh fluid or aqueous extracts of the fresh *Phoradendron flavescens*, which were examined, produced this action, but some old ones were almost inactive. The fluid extract of mistletoe was bought from two of the large drug manufacturing firms of the country, in both of which botanical identifications are made. By starting with the fluidextract, the method of isolation of the active principle could thus be shortened.

At first lead acetate was used to precipitate various inert bodies. It was noted that, in removing the lead from the filtrate by hydrogen sulphid, the solutions lost their activity if this gas was passed into aqueous extracts of the plant, but not in the case of strong alcoholic solutions. As the use of lead did not simplify the problem, it was soon given up.

One hundred c.c. of the fluidextract of mistletoe were evaporated *in vacuo* to free from alcohol and the residue was then taken up in a little water. This solution (about 20 c.c.) was poured into a bottle of about 2 liters capacity and a quantity of ether poured on the fluid, and calcined magnesium oxid was gradually added in sufficient quantity to take up the water and free any base present. The bottle was shaken, preferably in a shaker, for about one hour, and filtered after five or six hours standing. Three such shakings extract practically all the ether-soluble pressor compounds. There was, however, some reason to believe that perhaps the mother fluid still contained a pressor body not shaken out by the ether. The ether, which had an amin odor, was filtered into a pear-shaped separatory funnel and a drop of concentrated hydrochloric acid added with a stirring rod. If there was merely a trace of water in the ether, clumps of beautiful crystalline needles would separate on the walls of the vessel. These crystals produced the intense and persistent rise in blood-pressure characteristic of the original extract. The amount of crystals obtained by means of hydrochloric acid was small and the yield was very uncertain, perhaps owing to the hygroscopic character of the hydrochlorid. The salt melted at about 250 C.

It was found that if, in place of hydrochloric acid, an ethereal solution of oxalic acid was used, a crystalline compound could be more easily obtained. On reprecipitation, these crystalline needles were usually perfectly white, although at times a third precipitation was necessary to remove all color.[40] If ordinary U. S. P. ether was used, these crystals gave an ash residue, but if the ether used for the extraction was first shaken with water to remove alcohol, and then distilled over calcium chlorid and sodium, the crystals obtained by this second shaking were practically ash-free and melted between 187-190 C. The oxalate was optically inactive. Some of the compound was apt to be lost in the second shaking with magnesium oxid and ether, so to avoid this only a minimum amount of water was used for solution and at first only small quantities of magnesium oxid were added, then the ether shaken vigorously and more magnesium oxid added, so as to take up all the water. Some experience is required to obtain a satisfactory yield.

Again, in isolating the base from the first oxalate, it was found necessary to use the purified ether, as the ordinary U. S. P. ether "shaking" yielded only a few crystals. The ethereal solution of the free base gave no precipitate with an ethereal solution of iodin, or of picric acid, or with carbonic acid, and the oxalate gave no precipitate with platinum chlorid. However, a platinum compound was obtained from the hydrochlorid.

On evaporating the ethereal solution of the base, freed from the colorless oxalate, a colored gummy material was left and this gave a colored solution with water, suggesting that the free base readily underwent oxydation.

Before analysis, the oxalate was shaken vigorously three times with anhydrous ether, so as to remove any attached oxalic acid and then the crystals were dried *in vacuo* over sulphuric acid. Of one sample of the second oxalate 0.1612 gm. were mixed with copper oxid and burnt. This amount yielded 0.3194 gm. CO_2 and 0.0858 gm. of H_2O, or C—54 per cent., H=5.95 per cent.

Of one lot made by precipitating three times with oxalic acid 0.0951 gm. gave 0.1889 gm. of CO_2 and 0.0549 gm. of H_2O, or C=54.1 per cent., H=6.4 per cent.

By the Dumas method and mixed with cuprous chlorid, 0.1504 gm. of one sample of the second oxalate gave 9.3 c.c. N at 21.8 C. and under 765.8 mm. barometric pressure, so that N=7.03 per cent., while .155 gm. of the second lot gave 9.75 c.c. N at 22 C. and under 763 mm. barometric pressure, therefore, N=7.15 per cent.

This would correspond to C 54 per cent., H 6.2, and N 7.09 per cent. The simplest percentage formula which would answer this requirement is $C_9H_{13}NO_4$. This would correspond to 4 oxygen atoms, so that only one oxalic acid group can be present. If we subtract the oxalic acid group, it would leave us $C_7H_{11}N$ as the probable formula. Hass[41] has shown that certain carbon compounds, when burnt by the copper-oxid method, do not yield the theoretical amount of CO_2, as some of the carbon passes off unabsorbed as methane. Under these circumstances the formula $C_7H_{11}N$ must be considered merely as provisional, at least until an analysis of the platinum-double salt can be made.

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[37] Gaultier, R.: Résultats cliniques et expér. de quelques études sur la valeur thérapeutique et physiologique du gui de chêne, Bull. gén. de thérap., 1906, clii, 67, 88; De l'hypertension passagère comme cong. tuberc., vol. i, pt. 2, sect. ii, p. 821. Minola, G.: Sull' azione dell' estratto acquoso di Viscum album, Corriere Sanitario, 1908, xix, 66.

[38] Chevalier, J.: Recherches pharmacologiques sur le gui, Bull. gén. de thérap., 1909, clv, 459.

[39] Doyon and Gaultier, C.: Action de l'extrait de gui sur la coagulation du sang. Compt. rend. Soc. de biol., 1909, lxvii, 547, 719; Propriétés anticoagulantes du sang à la suite de l'injection intraveineuse d'extrait de gui, Compt. rend. hebd. Soc. de biol., 1909, lxvii, 567.

[40] A control solution of ammonium chlorid was similarly shaken with MgO and ether. The white crystalline body which was precipitated from the ether by an ethereal solution of oxalic acid showed no change when heated to 205 C.

[41] Hass, P.: Occurrence of Methane Among the Decomposition Products of Certain Nitrogenous Substances, Tr. Chem. Soc., London, 1906, xxxix, 570.

Barger and Dale[42] have recently shown that most of the activity of ergot is due to various amin bodies, primarily p-hydroxy-phenylethylamin, and Barger and Walpole have found that phenylethylamin is present in ergot in small quantities. This has been shown by Dale[43] to cause an epinephrin-like rise in blood-pressure. This rise resembles that obtained from the mistletoe base. Phenylethylamin has a percentage formula $C_8H_{11}N$.

As the mistletoe base gives the isonitrile reaction with caustic potash and chloroform a primary amin was indicated. These facts would suggest that perhaps the active principle might in reality be phenylethylamin, and that the carbon determinations were a trifle low, but phenylethylamin (Kahlbaum), when dissolved in ether and precipitated with oxalic acid, gave a body with C 64.6 per cent., H 7.3 per cent., and melted at 218 C. This would correspond to phenylethylamin monoxalate $[(C_8H_{11}N)_2C_2H_2O_4]$, and not to the dioxalate $(C_8H_{11}N.C_2H_2O_4)$. The monoxalate demands 65 per cent. C and 7.5 per cent. H. Benzylamin was first suspected to be the pressor principle, but its oxalate $(C_7H_9N\ C_2H_2O_4)$ melts at 175 C., that is, over 12° C. lower than the mistletoe oxalate. The fact that my analysis of the monoxalate of phenylethylamin by the copper oxid method gave a slightly lower percentage than the theoretical amount of carbon, would suggest that, perhaps, my carbon determinations are a trifle low and that the real percentage formula may prove to have the percentage composition $C_8H_{11}N$. So that at present, the data at hand is not sufficient to identify the active pressor principles of our southern mistletoes. Further chemical work will be done on this subject and the therapeutic possibilities discussed. The question whether this compound retains its activity when given by mouth will be investigated.

ABSTRACT OF DISCUSSION

Dr. Reid Hunt, Washington, D. C.: Do you consider the diuresis to be due to a direct effect on the kidney, or to result from the change in blood-pressure?

Dr. A. C. Crawford, Stanford University, Cal.: I have gone carefully over the early literature on ergot and have never seen any statement that there was a diuretic action associated with its use. I have not as yet analyzed physiologically the action of the mistletoe, but suspect that its diuretic action is secondary to that on the circulation; but cannot prove this at present.

HISTOLOGIC EXAMINATION OF THE FAUCIAL TONSILS WITH REFERENCE TO TUBERCULOSIS *

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The question of the relationship between the tonsils and tuberculosis is one that has been agitating the minds of pathologists and clinicians since Trautman in 1886 called attention to the possible connection.

It was not till 1895 that laboratory methods were brought to bear by Dieulafoy, who performed inoculation experiments on guinea-pigs and made the startling announcement that out of ninety-six pigs inoculated with bits of tonsil, fifteen showed tuberculosis. Later research has shown that these figures are not reliable.

The work has developed by rapid stages. Goodale in 1896 proved that minute particles of carmin could be absorbed quickly by the tonsil. Although bacteria are not so easily absorbed we have abundant proof that such absorption does take place. Dmochowitz and Wood have reported seeing the bacteria in the act of penetrating the tonsil.

The frequency of the presence of tubercle bacilli in the mouth varies enormously. In individuals in the later stages of tuberculosis of the lungs it has been shown that myriads of tubercle bacilli pass the tonsil in the sputum. Also the respired air carries tubercle germs in proportion to their presence in the atmosphere. Oral respiration favors infection from inspired air. It has been shown that air that has passed through the nasal cavities is remarkably free from bacteria. The next point that was conclusively shown is epoch-making in importance; it is that tubercle bacilli can be absorbed into the tonsils. All that is necessary is an ample dosage of sufficient virulence, without an injury to the tonsillar mucous membrane being necessary. Wood, in 1905, by experiments on hogs, which have considerable tonsillar tissue, was able to infect the tonsils and cause the formation in them of tubercles by simply swabbing on their surface virulent cultures of tubercle bacilli.

In this connection, the percentage of tonsils showing tubercles in patients suffering from tuberculosis is most interesting because we have in them the same conditions as in Dr. Wood's experiments. The percentage of such tonsils showing tubercles is so high that some men have even gone so far as to say that in all cases of tuberculosis of the lungs coming to autopsy the tonsils show tubercles.

It has thus been established fairly conclusively, by experimentation and actual pathologic observation, that the tonsils become infected with tubercle bacilli and that typical tubercles form within them. The infecting germs may be coming from within the body, in which case we have secondary tuberculosis of the tonsil, or they may enter the mouth with food or otherwise and find primary lodgment in the tonsil.

While it is conceded that tuberculosis of the tonsils is, as a rule, secondary to tuberculosis of the lung, and that primary infection of the tonsil is comparatively rare, a great deal of material has been collected in which diagnosis of primary tuberculosis of the tonsil has been made. The number of cases runs between 1,600 and 2,000 and the abundant material in the hands of different observers gives a percentage a little over 5. These figures are fairly well agreed on. The diagnosis in these cases has rested on inoculation experiments and histologic findings.

The next question is, What are the clinical earmarks by which we can look into the mouth and diagnose such an infected tonsil? Speaking as I am in this paper altogether of non-ulcerative processes, I might say that there are no signs by which the condition can be recognized. Some men have described particular features, but the majority of observers agree that there are no distinguishing signs. Danziger, for one, reports the careful examination of 100 tuberculous patients. A certain large percentage of such patients are said to have tuberculous tonsils. Danziger could recognize no points on which to make a diagnosis. When the course of infection is once followed into the tonsil, how much farther is it possible for the tuberculous progress to be traced?

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[42] Barger, G. and Walpole, G. S.: Isolation of the Pressor Principles of Putrid Meat, Jour. Physiol, 1909, xxxviii, 343. Dale, H. H., and Dixon, W. E.: Action of Pressor Amins Produced by Putrefaction, Jour. Physiol., 1909, xxxix, 25.

[43] Barger, G., and Dale, H. H.: Chemical Structure and Sympathomimetic Action of Amins, Jour. Physiol., 1910, xli, 19.

* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

It has been proved that the lymph from the tonsil drains first into the superficial glands of the neck, and then into deep glands. The first gland of the chain, Wood has called the tonsillar gland; it is situated near the angle of the jaw. It is usually the first to enlarge in tonsillar trouble and when pushed outward by underlying, swollen glands, may be mistaken for the submaxillary salivary gland. The passage of the tubercle bacilli from the tonsil to these glands has been shown experimentally by Wood. Not only were tubercles found in the tonsil after the swabbing of the hogs' throats with virulent tuberculous culture, but within a comparatively short time the corresponding cervical glands were involved. Not only was he able to show that the glands were involved simultaneously with the tonsils, but also that the glands could be involved and show tubercles without the tonsil, which had been swabbed, becoming involved. In other words, the bacilli passed through the tonsil without leaving any trace. Others have shown that the passage of tubercle bacilli and other germs through the intact mucous membrane of the intestine is quickly accomplished. Tuberculosis thus enters the system in doubtless many cases. Bacteria can also be made to pass through the intact mucous membrane of the mouth, but with difficulty.

The absorption is much slower than that from the tonsil, as shown by the infrequency of the cervical gland enlargement in inoculated guinea-pigs, which have little or no tonsillar tissue.

From the above citations the infection of tonsils and lymph-glands of the neck has been clearly established. The cause of cervical tuberculous adenitis in the great majority of cases is clear. What is the danger of general or pulmonary tuberculosis from tubercle bacilli entering by this path?

Grober has done some painstaking work and, as a result, contends that there is direct connection through the subclavian glands and by contiguity, with the pleura and apices of the lungs. In 1900 he believed he could trace particles of India ink from the tonsils to the apices.

Beitzke has criticized Grober's conclusions and summarized his own results thus: 1. There exist no lymph-vessels leading from the chain of cervical lymphatic glands to the bronchial glands. 2. Infection of the lung could take place only through the lymphatic trunk and veins. 3. This path is not of importance in children. The infection of the lungs and hence the bronchial glands as a rule takes place through aspiration.

Wood says the danger of systemic pulmonic infection resulting from a tuberculous lesion of the tonsillar tissue is about equal to that from tuberculosis of the cervical lymphatics. The lesion to be expected from the broken down glands of the neck is a miliary tuberculosis of the lungs. Further than this possibility, tuberculosis of the lymph-glands of the neck is no more dangerous than localized tuberculous lesion in any other portion of the body. It must be borne in mind, however, that the cervical glands are those most frequently involved, being affected in about 90 per cent. of the cases of lymph-node enlargement. The frequency of enlargement of these particular glands is noteworthy in the light of the experimental findings cited.

It would appear from the foregoing paragraphs that the etiology of tuberculous glands of the neck had been fairly established, but as many of our texts and best reference works govern medical opinion and action, a few quotations from them will show that there is need of all additional statistics possible on this subject. It was with the object of adding a little to these statistics that the work was undertaken at Cooper Medical College and this paper is presented.

Osler in his "System of the Practice of Medicine" says: "Much has been written of late on the relation of the tonsil to tuberculosis, especially with regard to the importance as a portal of entry; but even now, after the study of hundreds of cases, there is no great unanimity of opinion."

Keene's "System of Surgery," speaking of operative treatment of tuberculous glands, says: "Some patients are relieved of all symptoms of tuberculosis and gain rapidly in health. A considerable number fail to obtain a complete cure and succumb ultimately to pulmonary or to another form of tuberculosis.

Demmé found in a report of the Berne Hospital that in 29 per cent. of 692 cases of cervical tuberculous adenitis observed, the patient died of tuberculosis. This book does not mention the removal of the tonsils, which were the probable cause of the glandular condition. Is there any wonder that the glands go on enlarging and becoming tuberculous as long as one remains to *protect* the individual?

It is a fact that many of our general surgeons remove what glands they can in tuberculous cervical adenitis and will reoperate one or more times without removing the tonsil in its entirety.

Since 1907, 1,088 pairs of tonsils have been enucleated in our private practice or in the ear, nose and throat clinic at Cooper Medical College. Of these, 772 pairs have been examined in the pathologic laboratory of the institution by Professor Ophüls and Assistant Professors Dickson and Oliver. This represents the sectioning of 1,544 individual tonsils and this material is equal numerically to about half of all the cases that have heretofore been gathered from the literature.

The method of examination has been to harden the tonsils for twelve hours in Orth's fluid and then make a few frozen sections from the middle of the tonsil. Where it seems advisable from the general appearance of the tissues, these are followed up in some cases by a few more sections. These additional sections are made in different axes. The tuberculous condition, when present, is quickly recognized and typical tubercles, as described in the original communication of Koch, are made the basis of the diagnosis. Most of the articles that have been published have gone into detail as to the great sources of error in the diagnosis of tonsillar tuberculosis until one is driven to the conclusion that absolute diagnosis is impossible. At the same time Wood, for example, and in fact all others, have accepted in their statistics cases where the diagnosis has rested on the histologic findings.

It is said that to establish a diagnosis of tuberculosis of the tonsil it is necessary (1) to demonstrate the tubercle histologically, (2) to find in it the tubercle bacilli and (3) to prove that they are tubercle bacilli. and not some acid-fast impostor, by inoculation of animals which shall show at death tuberculosis. True, these are the laws laid down for the recognition of tuberculous lesion, but do we apply them in this hard and fast manner in diagnosing, histologically, tuberculosis of kidney, liver, lung or other organ?

Such evidence is certainly not required to establish the diagnosis of tuberculosis in other parts. The tubercles are identical whether they occur in kidney, spleen, liver, or tonsil, and inoculation of animals is required only when the typical tubercle cannot be found. The bacilli are not found in a very large percentage of cases where absolute and unquestioned diagnosis is made. Why, then, has there been so much question about the diagnosis of the tuberculous lesion in the tonsil? A tubercle in the tonsil must be differentiated from the round, light germinal area, but to the experienced eye there is no difficulty in so doing; there is no caseation in such an area.

The next point that investigators insist on is the presence of giant cells in the tubercle to establish its tuberculous character. Giant cells are fused epithelioid cells and are often found in the tonsil in tuberculosis, but it is certainly possible to make a diagnosis of tuberculosis from the tubercle without demonstrating their presence. Then it is said, even when we do find giant cells, that they may be caused by foreign substances. True, such giant cells may occur, but even then the picture to the experienced pathologist is not tuberculous.

I wish to add also that in the 1,544 tonsils examined not one such "foreign body giant cell" was found, and if it had been found, in all probability the foreign body would have been demonstrable.

In regard to the greater value of inoculation experiments, I should say that where performed on the tonsil they have not the same value as when performed on other tissues, because we cannot possibly free the tonsil, by washing or other means, from all tubercle bacilli that may be lurking in the crypts or elsewhere, and the use of the center of it might miss the tuberculous portion.

The quasi-inert character of the tubercles, and the difficulty in finding tubercle bacilli in them, would suggest that the resistance of the guinea-pig might be sufficient to withstand the few bacteria evidently present.

The presence, as we have seen, in tonsils of cavities containing from a few to 15 or 20 minims of creamy pus, adds to the difficulty of this method of diagnosis, for this pus would surely lead to acute peritonitis, if injected into the peritoneal cavity of a guinea-pig.

The finding of the bacilli, practically impossible with the means and time at hand, is open to the objection that acid-fast bacteria, though extremely rare in such a connection, may creep into our calculations.

It seems to me then that the histologic examination of the entire tonsil, the sections numerous enough to include every tubercle, is the only diagnostic method not open to criticism.

The work of the laboratory of Cooper Medical College has been histologic, but it has been subject to error due to the few sections made. Tuberculosis has been reported in thirty cases out of the 772.

A very thorough piece of work has been done by Dr. Downing, assistant in the clinic, in an endeavor to check up the laboratory findings and determine the percentage of error.

Dr. Downing examined a series of twenty pairs of tonsils which had been previously passed upon by the laboratory as free from tuberculosis. They were blocked in paraffin and sections stained about every 0.1 mm. throughout the entire tonsil. "This was considered amply sufficient to gain a section of any microscopic tubercle that might exist. Dr. Walsh of Baltimore, in studying the frequency of tuberculosis of the kidney, considered it sufficient to make only from three to 120 sections from the two entire kidneys."

Downing stained the sections in hematoxylin and eosin. The twenty pairs of tonsils examined gave from 100 to 216 sections to the pair. The average number was about 100, making a series of over 2,000 sections. In this series, Dr. Downing found one tuberculous tonsil that was overlooked by the pathologic laboratory routine. In this case 100 sections were made. Twelve of these showed definite tubercles with giant cells of the Langhans type. Dr. Boardman, working along similar lines, examined twenty-three tonsils already examined by the laboratory and found no tubercles present.

To sum up the work, there have been 772 pairs of tonsils examined by the pathologic laboratory routine under Professor Ophüls and Professors Dickson and Oliver. Thirty-eight of these sections, representing thirty pairs of tonsils, were pronounced tuberculous. That gives a percentage of tuberculous tonsils of 3.9.

The work of Drs. Downing and Boardman in examining a control of forty-three pairs with *one* tuberculous adds about 2.3 per cent. to the findings, making the percentage of tuberculosis in the tonsils 6.2.

The next question is, What has a study of the material afforded as to the influence of the infected tonsils on the cervical glands? We received communications from, or saw personally, 160 patients who had been operated on during the five years. Sixty-eight of these patients had enlarged glands, varying from slight enlargement, of probably benign character, to extreme tuberculous condition with softening, fistulas, etc. Of these sixty-eight cases, the glands subsided in fifty-seven cases and have not enlarged again.

In three of these fifty-seven cases the glands and tonsils were both tuberculous; the first was diagnosed by an examination of the tonsil and some of the glands which were removed prior to the tonsillectomy; the second was diagnosed from the presence of a cold abscess, opened at the operation on the tonsils, the third from the character of the very considerable swelling which subsided immediately on the removal of the tuberculous tonsil.

This leaves eleven of the sixty-eight cases with enlarged glands to be considered.

1. In six cases, glands, enlarged before the operation, went down, but subsequently enlarged. Have a complete record of only four of these six cases. In the first case the tonsils were not tuberculous. The patient was operated on later in the surgical clinic; the glands were quiet for one year and then enlarged again.

In the second case the tonsils were tuberculous and fluctuating glands were opened at the time of tonsillectomy. They have since enlarged frequently.

In the third case the tonsils were not tuberculous; the glands were undoubtedly tuberculous. They went down slowly after the operation till six months later; then they swelled and a painless abscess formed that was opened. This healed, and the patient's health at present is good.

In the fourth case the tonsils were tuberculous; the glands were enlarged before operation, but went down slightly some months later. Suppuration occurred; they were removed and showed histologically tubercles. The present condition is good.

2. In two cases the glands were enlarged before and did not go down at operation.

In the first of these cases the tonsils were not tuberculous; the glands remained swollen after operating; have never broken down.

In the second case the tonsils were tuberculous. Tonsillectomy had no effect on the swelling of the glands. The glands were removed in a surgical clinic six weeks later. At present the cervical glands are still enlarged.

3. Three cases, in which there was slight enlargement before, present the same picture. The tonsils in these cases were not tuberculous.

To summarize 160 cases:

Ninety-two had no enlarged glands.

Sixty-eight had more or less enlarged glands.

Fifty-seven of these went down permanently.

Six went down and enlargement recurred.

Two which were enlarged before operation did not subside.

Three were slightly enlarged and are now.

1. It will be seen from the above records that quite a large percentage of the children had enlarged glands, but many of these were only slightly swollen.

2. Practically all of the glands giving trouble have been associated with tuberculous tonsils, or were tuberculous at the time of the removal of the tonsils.

3. That the removal of the tonsils worked in a beneficent manner is shown by the fact that often the swollen tuberculous glands subsided, though not always permanently.

4. That certain tuberculous glands are not associated with tuberculous tonsils is of especial interest. We believe that tubercle bacilli can travel to the glands without damage to the tonsil, and this accounts for the following facts (also for the higher percentage of tuberculous glands):

5. Glands once tuberculous, associated with tuberculous tonsils or not, may enlarge even after the tonsils have been removed.

6. We find tuberculous glands more often than we find tuberculous tonsils.

7. Even when there is a reappearance of the swelling, the glands show more of a tendency to heal and the individual to enjoy health after the tonsils have been removed.

In closing, I wish to call attention to a most noteworthy group of cases occurring in one family. They were referred to me by Professor Oliver, who made the pathologic examination of the tonsils and glands.

In the first case a girl aged 4 had much enlarged tonsils. There was no glandular enlargement of importance. The tonsils were removed and found to be tuberculous. The patient has been well since, with no enlargement of the glands. She has had diphtheria since. Her present condition is good.

In the second case a girl aged six had considerably enlarged glands. The tonsils were removed and showed definite tuberculosis; the glands later suppurated and were removed; they showed definite tubercles. The patient has had diphtheria since. Her present condition is good.

In the third case a baby aged 6 months had enlarged tonsils, but no glandular enlargement. The tonsils were removed and showed definite tubercles. The child had diphtheria one year later and following this succumbed to pneumonia. A grandmother living in the house had tuberculous laryngitis and the mother has fistula in ano.

The tonsils in these cases were quite large. A number of observers have said that tuberculosis is found more often in the small tonsil. We have found that to be the case in the majority of instances, but certainly not in all. One patient, for instance, had one large and one small tonsil. The larger was the tuberculous tonsil corresponding to the much-enlarged glands; the other was free from tuberculosis.

Perhaps the most significant point brought out by this paper is the fact that out of the 160 cases reported, though there were sixty-eight cases with enlarged glands, fifty-seven of which went down, there was not a single case in which there was enlargement of the cervical glands subsequent to the removal of the tonsils, except in those few (eleven) cases in which the glands were already enlarged at the time of the tonsillectomy.

135 Stockton Street.

ABSTRACT OF DISCUSSION

Dr. F. P. Emerson, Boston: In an adenitis which is far advanced it would seem that the primary source of the trouble was in the tonsil and that the tonsil should be removed radically. Sometimes the glands are enlarged by toxemia and will go down if the primary focus is removed. If the tonsil is tuberculous there may be a subsequent enlargement of the gland that will require its removal later. But we should go on record as being opposed to the indiscriminate removal of the tonsil. In the East the reaction has not taken place and we are radically removing all of these tonsils. If they are tuberculous there is no question about their removal. If they contain a focus of infection we should remove them. But we should encourage the profession to require a reason for removal of the tonsil. The general practitioner is assuming to dictate to the specialist what to do. He will direct the patient to go to Dr. So-and-So, who will remove the tonsil by the new method, which is with the capsule intact. But I think in every case the question whether the tonsil should be removed should be kept in our hands and we should have the courage of our convictions and say, if the tonsil is enlarged only through hyperemia, that it need not come out necessarily, especially in a child, say, under 7 years of age.

REPORT OF PRIMARY INFECTION OF BULB SINUS AND JUGULAR IN A WOMAN OF FIFTY-SIX*

SHERMAN VOORHEES, M.D.
ELMIRA, N. Y.

History.—April 10, 1909, Mrs. H., a woman aged 56, was admitted to the surgical ward of the Arnot-Ogden Hospital. The patient said she had been in poor health for two months past but had kept to her work, which was that of a forewoman in a knitting mill. Two weeks prior to her admission to the hospital, I was asked by her physician to see her in consultation at her home, as she had been ill of influenza for about a week and was having severe pain in the right ear. On examining the ear I found a small perforation in the lower posterior quadrant through which some pus was flowing. The upper part of the drum was highly inflamed and bulging. Under local anesthesia I incised this freely and left the after-care of the patient to her physician. I did not see her again until she was sent in on my service at the hospital.

Examination.—On examining the ear I found a very free discharge and a good opening in the membrana tympani, which seemed adequate for the escape of pus. The patient told me that she had constant pain and the discharge had been very profuse. She complained that the pain was deep in the ear, and pressure over the tragus caused acute suffering. There was no tenderness over the mastoid or sagging of the wall of the canal, and no enlargement of lymphatics about the neck, although she complained that the pain sometimes radiated down to the clavicle. Her temperature on admission was 102.2 F. at 11 a. m., pulse 100, respiration 24. At 6 p. m., same day, the temperature reached 104.2 F., pulse 104 and respiration 28. Under sponging and free catharsis it dropped to 99.4 F. A culture showed streptococci in the discharge and a leukocyte count of 9,200, with 85 per cent. polynuclear.

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Treatment and Course of Disease.—The ear was irrigated with mercuric chlorid solution at three-hour intervals, and as the patient complained of aching, I prescribed for her sodium salicylate. She seemed very septic; the tongue was heavily coated, with sordes on the teeth, the breath foul. She kept complaining of the severe pain deep in the ear. Her temperature was taken at two-hour intervals for the next three days and ran between 99 and 103 F. There was but little tenderness down the neck, although she complained of pain at this spot at times. The leukocyte count showed 11,000, with about the same polynuclear percentage. She had a chill, and at 9 p. m. on the fifth day her temperature reached 105, and the pain in the ear and down the neck was intensified. I decided then to operate, as I felt sure we had a primary involvement of the sinus and perhaps of the jugular also.

Operation.—I opened the mastoid, which contained no pus, but all the cells seemed greatly congested and bled freely as they were broken down. On reaching the bone overlying the lateral sinus, this was found perfectly healthy and gave no evidence of disease underneath. This was chiseled away rapidly and the sinus was found to be very dark and pulsated and seemed soggy to the touch. I uncovered this vessel well toward the torcula and nearly to the bulb, and had on completion of the dissection a large vessel bulging into the bony wound. I made a long incision into the sinus, but except for some oozing from around the clot there was no hemorrhage. On removing the thrombus from above, hemorrhage was quickly established, but removing the plug from below and using the curette gently, did not establish hemorrhage from that source. I then prepared the neck and opening it along the anterior sternocleidomastoid border and opening the carotid sheath found the thrombus extending well down the vein. I ligated the vein close to the clavicle and high up in the neck. All its branches were thrombosed and these were carefully dissected out, together with the vein. Hemorrhage was established from above on removal of the ligature, probably from the inferior petrosal. The wound was cleansed and a cigarette drain inserted, and the patient sent to the ward.

Postoperative History and Treatment.—The morning following, the temperature was 97.8 F., and the pulse 94; the temperature remained normal until the end of the second day when it rose to 101.4 F. and kept gradually rising until it reached 103.2. The wound was dressed and seemed to be doing finely. The thrombus having shown streptococci, I gave the patient antistreptococcic serum. In a few hours the temperature dropped to 99.4 F., but by the end of the following day had reached 103.2 F. in the axilla, pulse 120, when I again gave another injection of the serum. At this time the patient became very restless and was delirious, the breath foul, sordes on the teeth and a badly furred tongue and the lips were cracked and sore. The urine up to this time had shown no evidence of kidney or bladder disease, but blood was noticed in the urine voided. The patient, when conscious, complained of pain in the right hip and radiating down the thigh and leg. On examination a large indurated area was found over the right hip which was very tender to touch but there were no points of softening. This thrombic area grew much more extensive and more hemorrhage occurred. Pus was present also in the urine and showed large numbers of streptococci. The patient was profoundly septic and only conscious part of the time. Control of bladder and bowels was soon lost and diarrhea supervened. The temperature ran between 102.4 and 104 F. and pulse 90 to 130, together with all symptoms of sepsis, and death took place on the nineteenth day after operation.

I do not believe that had I tied off the vein prior to opening the sinus it would have made any difference in the outcome, but think the woman had thrombus on admission and should have had early operation with tying off the vein first. The case is of interest on account of her age as it is rare to find primary thrombus at this time of life, and unusual also to have metastatic thrombus into the bladder.

408 North Main Street.

ABSTRACT OF DISCUSSION

Dr. J. F. Barnhill, Indianapolis: When a patient is violently taken, as was this one of Dr. Voorhees, with the discharge of a large amount of pus, it is certain that the pus is not coming solely from the middle ear, but from all the cavities leading into the ear. When we see such large quantities of pus or of serum, it almost certainly means an extension to the middle ear and its associated cavities. Dr. Voorhees was wise in sending the patient to the hospital, for it is difficult to make the diagnosis of intracranial complications in the home, unless one makes a hospital of the home. The diagnosis often escapes us because we are unable to get all the facts in the case, and unless a competent nurse is constantly present to observe and record them. Dr. Voorhees does not mention any chill or vomiting. Undoubtedly he would not have operated so early if he had not obtained so much help in the diagnosis. The affection of the bladder is a unique feature of the case. I have frequently seen affection of the limbs with abscesses. I have within a year had a case of sinus thrombosis complicated by a large abscess of the knee, in which the patient recovered. But the early diagnosis is very important in these cases.

Dr. W. E. Sauer, St. Louis, Mo.: Some of the members will remember the patient I presented before the Section at St. Louis last year. He had never had a discharge from the ear at any time. The case was referred to me by a neurologist, who had been called in by the general practitioner. The patient had had no chill up to that time. The only thing which led us to suspect a phlebitis was the pain on pressure along the jugular. The patient was perfectly rational and gave no history of ear trouble. I did a paracentesis but nothing was found. An oculist was called in and some congestion of the disk was found. The next day he had a chill with a temperature of 103 F.; we operated and found the sinus filled with pus. There was an ultimate recovery.

Dr. P. Schoonmaker, New York: A case came under my care at the New York Post-Graduate Hospital on Dec. 30, 1910, which this report brings to my mind. A German, aged 22, with a history of otitis media purulenta chronica since childhood; left ear healed when 10 years old; right ear continued to discharge until the time he presented himself at the hospital with a history of chills, fever, headache, pain and tenderness over the mastoid for three or four days. He presented a septic appearance, demanding immediate operation. This was done at once. Mastoid large, and external table sclerotic; cavity large; pneumatic cells necrotic and filled with foul-smelling pus and formative growth. The middle ear was in the same condition. I removed this and all necrotic bone, uncovering the dura and sinus over a large area. The sinus was thrombosed, necrotic and collapsed on cross-section, discharging pus. I was unable to remove the clot from the sinus and secure free bleeding. The patient was in a collapsed condition. Saline transfusion and stimulation were employed. The operation was stopped, the wound cleansed and dressed and the patient put to bed. There was a severe chill six hours later. Dec. 31, 1910, the pulse was 100, temperature 97 F., blood examination showed 30,400 white cells with 90 per cent. polynuclear cells. Patient was very septic; body edematous; wound cleaned and dressed. Jan. 1, 1911, a second chill followed by high temperatures; jugular vein resected; sinus cleaned, obtaining free bleeding from torcular end; sinus packed; pus seen coming from dura behind sinus; opening enlarged and about 2 ounces of pus evacuated from a brain abscess; cavity cleaned and packed with iodoform gauze; wound dressed daily. The patient improved for three days. On the sixth day bleeding occurred from the nose, which the house surgeon took to be an epistaxis and packed the nares. Death occurred a few hours later. Autopsy showed that the packing had been pushed out of the sinus, and that the hemorrhage had come from the sinus through the Eustachian tube, causing death.

Dr. M. D. Stevenson, Akron, Ohio: I would like to call attention to the importance attached to the microscopic examination of aural discharges in the New York Eye and Ear Infirmary. I learned last winter, from the bacteriologist there, and from Dr. Dench, that the presence in the discharge of the *Streptococcus mucosus capsulatus* is considered sufficient to justify early operation. The patient may have little or no pain, little fever, no increased polymorphonuclear count and very little, if any, leukocytosis, and yet if this germ is present there is likely to be early involvement of the sinus. After returning home I had my assistant examine the discharge more commonly than before and we discovered only one case. In that case the patient refused the operation suggested, but later I heard he had to have two operations performed. There were practically no other symptoms when I saw him, except the discharge.

Dr. Sherman Voorhees, Elmira, N. Y.: This was a primary infection of the bulb, undoubtedly, although I did not find any opening into the bulb. As the last speaker said, I am satisfied that the case came from infection of the bulb. There was absolutely no pus in the mastoid. Except for the cells being congested, there was no affection of the mastoid. I was, unfortunately, denied an autopsy. The diagnosis was made from the high temperature and the sudden drop. When we get a temperature of 105 to 106 F. I think we are justified in exploring to see if the sinus is not thrombosed. The infection must have come from the middle ear.

A CASE OF MYOSITIS OSSIFICANS PROGRESSIVA

ARTHUR R. ELLIOTT, M.D.
CHICAGO

The opportunity of recording the history of this patient I owe to the courtesy of Dr. Lucian D. Clark of Toledo, Ohio, who brought her to me for examination December 7, 1907.

History.—The patient, F. B., was a girl of 17. There had been no other case of myositis ossificans in the family. Both parents were of American birth, living and in good health; no lues, no tuberculosis; two other children were living and in good health, neither of them presenting any developmental anomalies. Birth of patient was non-instrumental and labor was neither prolonged nor difficult. She was breast-fed and did not suffer from any infantile diseases nor exanthemata. At the age of 1 year it was first noticed that the thumbs and great toes were malformed. The mother stated that shortly after the patient entered her second year lumps (nodes) were observed to form on the head. They were never due to injury and appeared and disappeared without apparent cause. They were tender to pressure but never suppurated. At intervals during the succeeding three years similar nodosities developed on the back and shoulders, coming and going, but never entirely absent. At the age of five torticollis appeared and persisted about six months, the muscles of the neck being hard and tender. Subsequently swellings appeared on the arms and legs, interfering greatly with voluntary movements, so that the patient could neither feed herself nor walk. These swellings were painful and tender and more or less ephemeral, shifting from place to place on the extremities, lumps or nodes showing from time to time on the back. These were very sore but never suppurated. Since the age of 5 the patient had never been able to freely abduct the arms and had never in her life been able to comb her hair. When she was about 5 years old her medical attendant discovered the existence of a valvular heart lesion. There had been no previous definite rheumatic or other acute infection. The general health had never been robust, but aside from the special disabilities of her disease there was an entire absence in her history of morbid incident until January, 1907, when she had typhoid fever. In July, 1907, Dr. Clark was consulted for stiffness of the jaws. The jaws were locked so that she was unable to masticate solid food and was compelled to subsist entirely on a liquid diet. The teeth could be separated but very slightly, the submaxillary region being filled with a hard bony deposit. Shortly after this development swellings were observed along both sides of the thorax. These were hard and circumscribed but were not tender to pressure or painful, and were apparently not connected with the ribs. These gradually disappeared. In October, 1907, the arms became stiff and the right elbow joint developed a partial fibrous ankylosis, preventing voluntary movements of the joint and but slight manipulative freedom of the articulation. The right elbow remained uninvolved and freely movable. Gradually the left shoulder became stiff, movements of the left arm on the body being seriously restricted.

There had been little pain throughout, the only subjective discomfort being a certain soreness and tenderness on pressure and manipulation of the indurated areas during the early stage of their formation. The skin over involved areas had at times been suffused and slightly edematous. As the indurations grew harder the soreness would disappear and when fully developed no tenderness was present.

Areas of involvement had been observed to disappear and there had been periods of arrest or quiescence during the progress of the disease. Soon or late, however, fresh areas of induration would make their appearance and run through a subacute progress to firm bony consistency causing much interference with muscular function. Repeated involvement of the same muscular area had taken place with final persistent hardness. There had been slight pyrexia at times. The patient's general health had always been unsatisfactory and her activities seriously compromised. Menses were regular since the twelfth year and somewhat profuse. There had been frequent epistaxis.

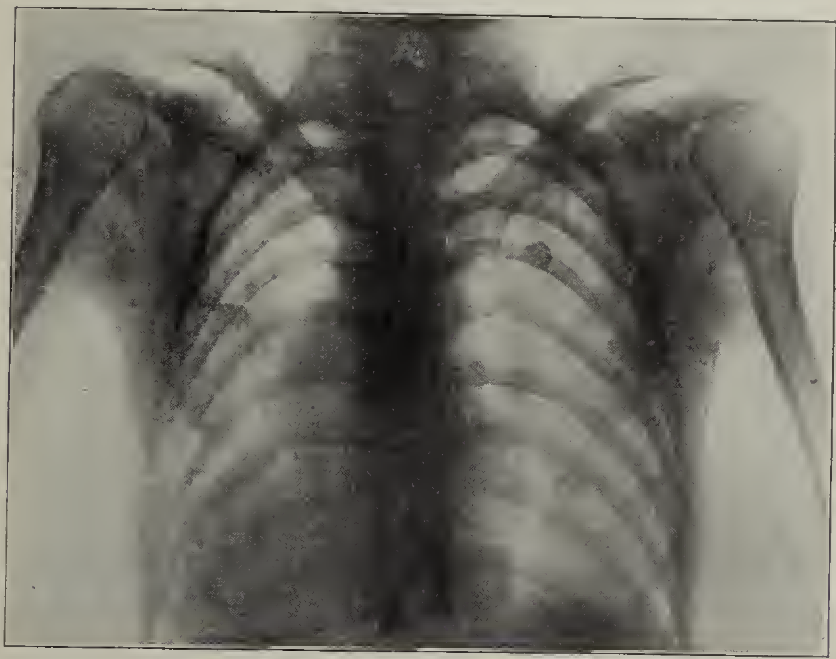

Fig. 1.—Bony induration of the submaxillary tissues; the lower jaw was displaced to one side and the incisor teeth did not articulate. The anterior and posterior muscles of the neck presented more or less induration; the mastoid end of the sterno-mastoid muscle was bony; a hard, insensitive node is shown on the superior border of the left scapular spine and small bony exostoses on the eighth, ninth and eleventh ribs near their posterior angles. A rod-shaped bony mass can be seen lying diagonally in the left pectoral region.

General Physical Examination.—The patient's stature was small, her face pale and round, her hair fine in texture and moderately abundant. The first point of interest to be remarked was the posture. The shoulders were rounded, the normal dorsal curve of the spine being increased. The head was bent forward, the chin flexed on the chest and there was but slight passive or voluntary mobility, either lateral or vertical, of the head. There was no hardness or induration of the masseters or other of the facial muscles. There were no cranial nodes. The teeth were well formed, even, with good enamel. The gums were soft and spongy at the teeth borders, bleeding easily, so that a tooth-brush could not be used. Maxillary movement was much restricted, so that it was possible to separate the teeth about an inch only, and the lower jaw was displaced from left to right so that the incisors did not approximate accurately. This restriction of movement and deformity was due to the presence of bony induration of the submaxillary tissues (Fig. 1). This mass was smoothly continuous with the jaw, reaching around to either angle. The overlying skin was soft and normal in appearance. Swallowing was not interfered with. The thyroid could not be palpated. The muscles of the neck, both anterior and posterior, present more or less firm induration, the mastoid end of the sternocleidomastoid being of bony consistency, while the clavicular insertions of the muscles stood out prominently and were firm but not bony. No glandular enlargements were present. A hard non-sensitive node was felt on the superior border of the left scapular spine. There were small bony exostoses on the eighth and eleventh right ribs and ninth left rib near their posterior angles and also on the crest of the ilium at the left sacral angle. The last was slightly tender to pressure. The body was bowed somewhat forward and rotation of the trunk or head was impossible. The patient could not pick objects off the floor. There was no scoliosis but the spine was rigid. When the patient was lying down, by placing a hand behind the head one could raise the trunk as if the whole spine were a rigid rod. A broad bony mass lying on either side of the lumbar and lower dorsal spine could be felt as if the erector spinæ muscles were turned to bone. This induration formed two parallel planks with a combined transverse diameter of 10 cm. and reached from the sacro-iliac border up well into the dorsal region (Fig. 2). These bony plates were slightly movable and seesawed when pressed on at either end. A very interesting development was apparent in the abdominal muscles of the right inguinal region, where a mass of firm induration about the size of the palm of a hand could be felt. This was of recent origin and was tender to pressure, the overlying skin being suffused and somewhat hyperesthetic. The pectoral muscles were hard and contracted, the arms being locked to the sides so that abduction was impossible. A distinct hard mass could be made out in the body of the left pectoral group (Fig. 1). This mass appears in the *x*-ray picture as a rod of bone, clubbed at both ends, lying in the long axis of the muscle and resembling in shape a child's femur. The biceps of both arms were indurated; no mobility of the shoulder-joints was possible. The deltoids and triceps appeared atrophied. The patient stated that but a few weeks before the arm muscles were much more swollen and hard than at the time of examination. The right elbow-joint was fixed in a position of slight flexion. This was apparently due more to muscular than to intra-articular changes (Fig. 3). A peculiar malformation of the right ulnar head existed. The ulna was about an inch shorter than the radius, to which it was attached by a bridge of bone (Fig. 4). A somewhat similar deformity was noted by Hutchinson[1] in one of his cases. Deformities of both thumbs existed. These consisted of complete bony ankylosis of the terminal phalangeal joints, the second joints being pliable but atrophied and dry (Fig. 5). There had never been any voluntary movement of the thumbs, which were held in a position of flexion on the palms. The thenar eminences were flat and atrophied. The muscles of the legs were much freer from involvement than the trunk and arm muscles, but the patient stated that they felt too short and often became sore and tender. There was some restriction of movement of the hips, knees and ankle-joints. Congenital deformity of both great toes existed. This consisted in the absence of one phalanx, the toes being short and directed outward, lying partly under the second toes, giving the appearance of hallux valgus.

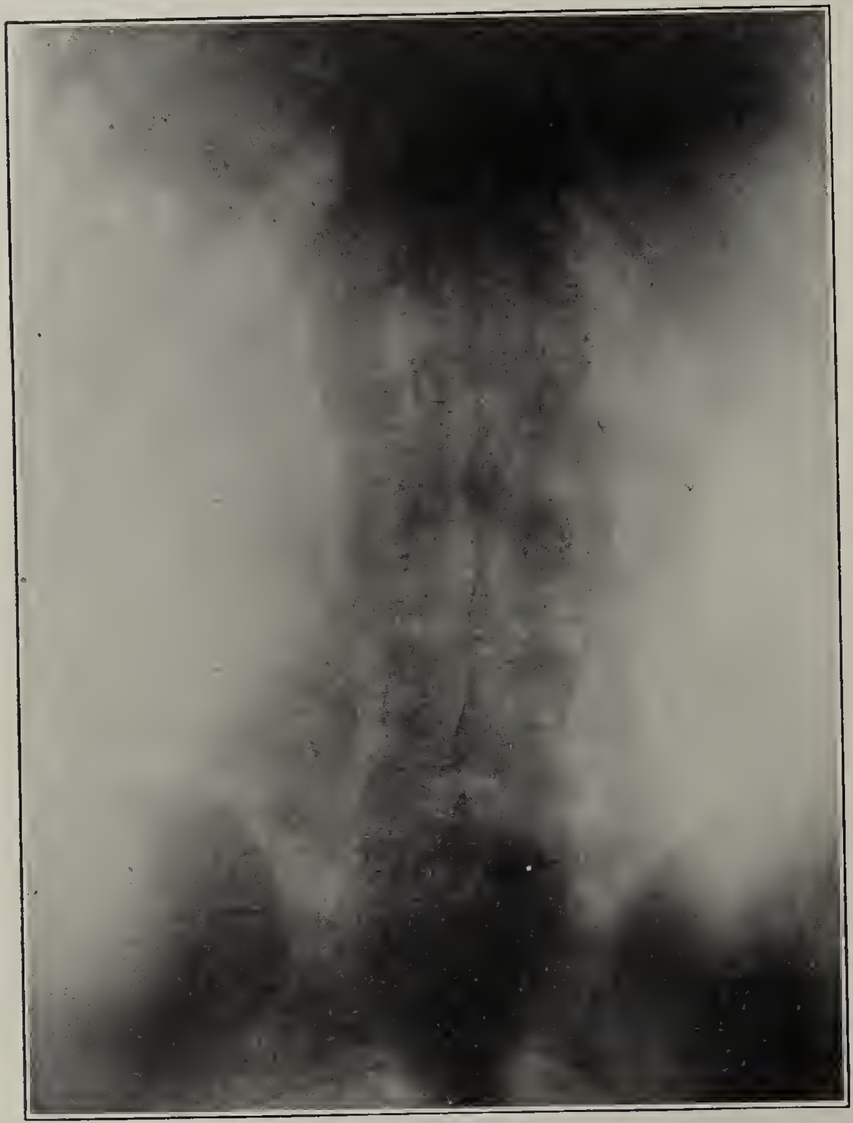

Fig. 2.—The spine was rigid. Broad bony masses are seen on either side of the lumbar and lower dorsal spine, as if the erector spinæ muscles were turned to bone, forming two parallel planks with a combined transerse diameter of 10 cm. They were slightly movable.

Visceral Conditions.—The skin was dry but not harsh, nipples deeply pigmented, mammæ undeveloped, no general panniculus. Lungs: Examination negative, respiration largely diaphragmatic owing to fixation of the thorax. Pulse 90, regular; temperature normal. Heart: Apex 12 cm. from midsternum; there was a well-marked systolic thrill and the double systolic murmur of aortic stenosis and mitral regurgitation.

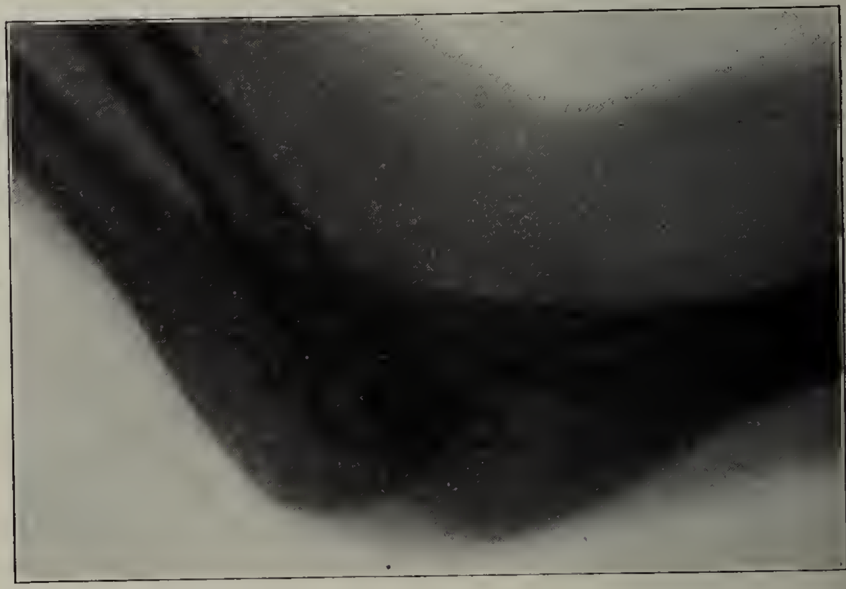

Fig. 3.—Showing the right elbow-joint fixed in a position of slight flexion and a peculiar malformation of the right ulnar head.

Abdominal examination was negative; no splenic or hepatic enlargement. A good view of the throat was impossible, owing to jaw-lock; throat smear showed pneumococci and staphylococci.

Leukorrhea present; vaginal examination not permitted and no smear could be obtained.

Blood Examination.—Specific gravity 1.054, erythrocytes, 4:426,000; Hgb., 75 per cent.; leukocytes, 10.800. Differential count: lymphocytes, 23 per cent.; large mononuclears and transitionals, 5 per cent.; neutrophils, 70 per cent.; eosinophils, 2 per cent.

Blood-Cultures: Two flasks of bouillon, one containing 2 c.c. blood and one 4 c.c., placed in an incubator at 37 C. for seventy-two hours showed no growth of organisms.

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[1] Hutchinson: Arch. Surg., vii, 1896.

Urine.—Quantity in twenty-four hours, 900 c.c. Sp. gr., 1.020; albumin, minimal trace; sugar, absent; indican, pathologic excess; urea, 20 gm.; uric acid, 0.653 gm. *pro mille;* sediment, cells, cylindroids, oxalates and urates; no casts.

Course of Disease.—The patient was not again seen until February 19. Her condition at that date was as follows: The induration of the biceps and arm muscles had very considerably diminished. The hardness and tenderness in the abdominal muscles previously noted had almost entirely disappeared, leaving only a small, circumscribed, insensitive area of firmness in the right inguinal region. Since last consultation a large sensitive node had formed on the left scapular spine, but this was undergoing resolution. This appearance of sensitive indurated areas and their subsequent gradual disappearance characterized the progress of the case from the beginning. For a fortnight previous to the last consultation there was a slight daily rise of temperature of about 2 degrees Fahrenheit at its maximum. Recent advices from Dr. Clark convey the information that during the two years that have elapsed since my last examination of the patient her condition has undergone no particular change.

The foregoing clinical history is reported because of the great rarity of cases of myositis ossificans progressiva and the interest attaching to its etiology. Since Freke's[2] first clinical report of this disease in 1740, his description, corresponding very closely with that now given, only 107 cases, including the one herewith described, are recorded in medical annals. Doubtless many more examples of the disease have been observed, but have not been made matters of record. For a full consideration of the subject those who may be interested are referred to Münchmayer's[3] classic description of the disease and to excellent monographs by Pincus,[4] Roth,[5] Helferich,[6] and DeWitt.[7] DeWitt's articles furnishes a review of the literature down to the year 1900, adding eleven collected cases to the sixty-seven already gathered by Pincus and Roth, making a total of seventy-eight cases to that date. Walker,[8] in 1908, taking up the records where DeWitt left off, added fourteen reported cases, bringing the total to ninety-two. Since that date thirteen new examples,[9] including the present report, have been placed on record and I have found in the literature four other case histories[10] that have been overlooked in the reviews mentioned, making the grand total 107 cases to January, 1911. But nine of these have been reported from America.

Progressive ossifying myositis is not to be confused with the less rare forms of local ossifying myositis following traumatism and inflammation. Many cases are on record of ossification of single muscles or groups of muscles, sometimes following a single severe trauma, in other cases resulting from repeated injury or prolonged irritation. Under this last head may be included the ossification of the deltoid and arm muscles of soldiers and the thigh muscles of riders. Mention should be made also of calcification occurring in the course of chronic inflammatory processes which may be rheumatic, tuberculous or syphilitic, or due to foreign bodies lodged in the tissues. Myositis ossificans progressiva is distinguished from any of these localized forms by the fact that it commences spontaneously in early life and progressively advances until the muscular system is extensively involved. A further distinguishing feature, if one were needed, is the occurrence in the great majority of these cases of congenital malformation and defect which shall be presently described.

Most of the recorded cases of myositis ossificans progressiva can be traced back to early childhood, the majority beginning before the tenth year. Owing to the masked character of the symptoms during its early stage it is often impossible to fix the exact date of its origin. The earliest signs of ossification reported occurred at 4 days after birth, at 3 months, 8 months (Wilkinson), and 3 months (Horand). Cases have been noted as beginning at a later period of life. Thus Kroneker relates the case of a woman in whom the disease began at 54.

Although of slow development and prolonged course the disease advances along definite lines to a uniform termination. This fact alone would suffice to establish the disease as a pathologic unit. The course of its development is about as follows:

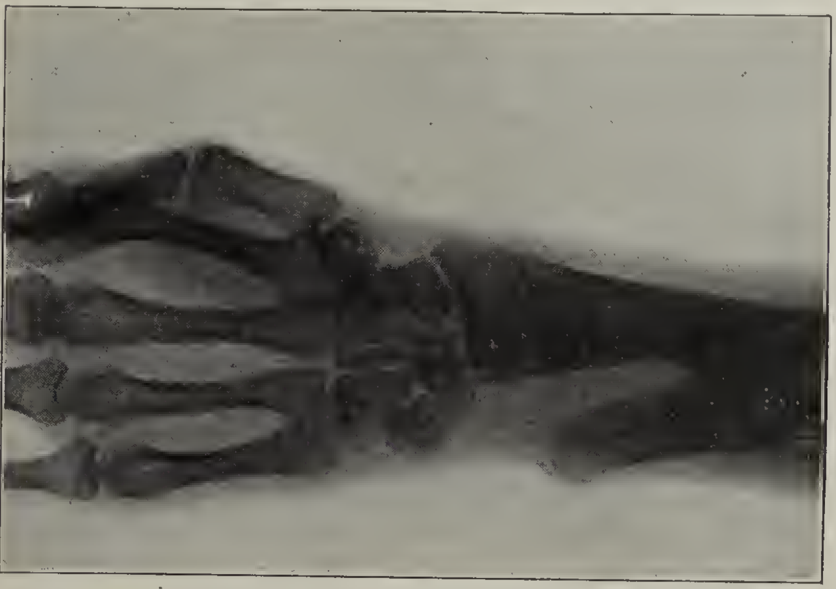

Fig. 4.—The right ulna presents a peculiar malformation, being about one inch short and being attached to the radius by a bridge of bone.

A child otherwise in good health develops a local swelling of tender character in some part of the muscular system, usually the neck, producing a condition which may be mistaken for torticollis, or the back or shoulder, pectoral or abdominal groups of muscles may be first affected. The involved area is indurated and may be the seat of local and radiating pains, and the overlying skin is not infrequently suffused and sensitive. After a period of several weeks, during which the local symptoms slowly abate, the swelling may disappear, leaving the muscle more or less indurated, a condition which is sometimes temporary but may remain permanent. A series of recurring attacks of myositis may affect the same area, finally producing a bony hardness of the muscle. During the course of years successive localizations of this character occur until a condition of deplorable deformity and crippling results. The joints may become fixed and greatly restricted in pliability, not by true ankylosis, but by the rigid bars of bone formed in the substance of the muscles acting on them. In this manner deflections of the spinal column, flexions and rotations of limbs occur. From pressure and irritation the overlying skin and cellular tissues may slough, forming ulcers and exposing the patients to septic accidents. In Linden's case the discharge contained gritty particles of bone and small sequestra. Sometimes large, deep abscesses are met with, doubtless due to irritation set up by sharp spiculæ of bone (Rogers, Stoneham).

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[2] Philosoph. Trans.
[3] Münchmayer: Ztschr. f. rat. med., 1869, xxiv, 9.
[4] Pincus: Deutsch. Ztschr. f. Chir., 1897, xliv, 179.
[5] Roth: München. med. Wchnschr., 1898, xiv, 1238, 1279.
[6] Helferich: Aertztl. Int.-Bl. München., 1879, xxvi, 485.
[7] DeWitt: Am. Jour. Med. Sc., 1900, cxx, 295.
[8] Walker: Tr. Coll. Phys., Phila., Series 3, xxx, 121.
[9] Nitch; Proc. Royal Soc. Med., 1907-8. Dighton: Edin. Med. Jour., April, 1908, p. 344. Garrod: St. Barth. Hosp. Rep., 1908, xliii, 43. Maxwell: Brit. Med. Jour., 1907, ii, 1647. Painter and Clark: Am. Jour. Orthop. Surg., Phila., 1908-9, vi, 626. Meltzer: München. med. Wchnschr., 1909, vi. Thompson: Proc. Royal Soc. Med., 1909-10, iii, No. 6, Chir. Sec. 151. Hart: Med. Cor.-Bl. württemb. ärztl. Landesver., Stuttg., 1909, lxxix, 908. Elliott, Geo. R.: Am. Jour. Ortho. Surg., 1910, vii, 332. Person: Khirurg. Arkh. Velyaminova, St. Petersb., 1910, xxvi, No. 60, p. 168. Mitchell: Jour. Nerv. and Ment. Dis., Lancaster, Pa., 1910, xxxvii, 547. Peteri and Singer: Fortschr. a. d. Geb. d. Röntgenstrahlen, xv, part 6.
[10] Burton Fanning: Lancet, London, 1901, ii, 849. Gillette: St. Paul Med. Jour., 1906, viii, 165. Krause and Trappe: Verhandl. d. deutsch. Röntgen Gesellsch., Hamburg, 1907, iii, 162. De Reinzi and Fittipaldi: Gaz. d. osp., 1903, xxiv, 118.

The distribution of the changes in the muscles is almost always the same, the trunk, upper extremities and neck being the seats of involvement. Rarely do bony plates appear in the legs, and the hands and feet are always exempt. The ossification of the muscles of the neck has caused the disease to be mistaken for torticollis and suboccipital Pott's disease. Of the facial muscles the masseters alone have been involved, this constituting a grave development by interfering with alimentation. A very frequent accompaniment or precursor of the myositis is the appearance of exostoses. These are most frequently seen where the long bones approach the surface; i. e., the anterior surface of the tibia, the ribs, the skull, etc.

One of the most striking and peculiar features of this interesting disease is its association with certain congenital deformities. This point was first noted by Gerber, but Helferich[6] emphasized the association as a chief characteristic of the disease, and since then 75 per cent. of cases reported have shown the peculiar congenital malformations. These consist of microdactylia, a shortening of the great toes and thumbs, and, more rarely, the little fingers, due to a dwarfing of the metatarsal and metacarpal bones, with subsequent ankylosis of the interphalangeal joints. This gave the false impression before the *x*-ray was used that one phalanx was absent. The great toes are often directed outward and frequently lie under the second toes, giving rise to the deformity of hallux valgus. Other less frequent malformations are absence of certain muscles, absence of lobules of the ears, absence of superior incisor teeth, atrophy of testicles, and mammæ, and sexual infantilism. It is interesting to note that deformities of the hands and feet were observed in the father of Sympson's[11] patient, although he did not develop the disease.

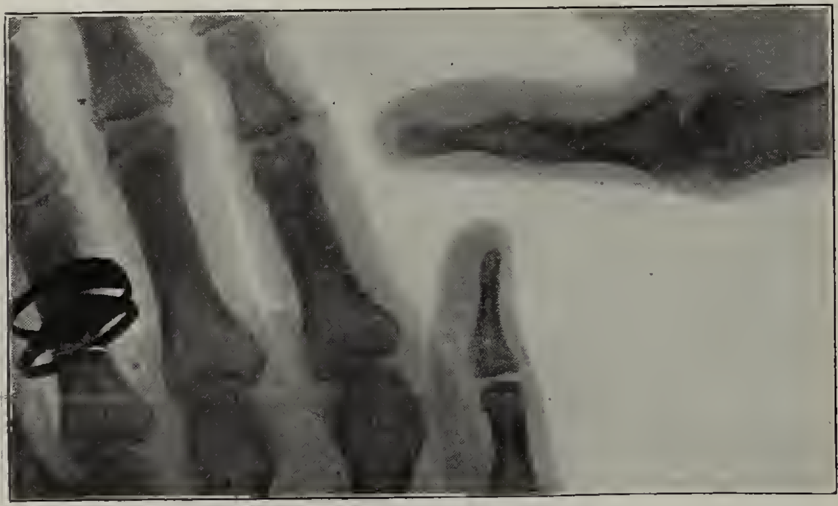

Fig. 5.—The thumbs were fixed in a position of flexion on the palms of the hands and could not be voluntarily moved. The terminal phalyngeal articulation of right thumb has undergone bony ankylosis.

Myositis ossificans progressiva is essentially a chronic disease, subject, however, to exacerbations. An exception to this rule is noted by Ferraton,[12] who observed a patient who was able to eat in a perfectly normal manner on going to bed, but on rising in the morning found it impossible to open the mouth owing to involvement of the masseters, and at the same time noticed a hard tumefaction in the right masseter. The usual history of the disease is a slow progression with longer or shorter pauses, the general health as a rule remaining good until increasing disabilities interfere with feeding and respiration, or on account of the latter disturbance some pulmonary infection develops. The average duration of the disease is from ten to fifteen years.

The clinical course of every case observed leaves no doubt that myositis ossificans progressiva is an inflammation—a progressive polymyositis—terminating eventually in certain of the involved areas in ossification. In the case just reported I had the good fortune to observe an acute involvement of a very definite character in the parietal abdominal muscles. There were present all the signs of an ordinary acute myositis. Three months afterward, all indications had disappeared, the former involved area appearing normal in all respects. It is a matter of record that indurated areas that have existed for some time have undergone resorption, to the surprise of the observers. Although there is little to distinguish the individual lesion in its earlier course from an ordinary myositis, the disease becomes stamped with a special character when its course is followed for any period of time. A striking feature is its association with exostoses of the skull, ribs, scapular spines and ilia, which furnish proof of a tendency to aberrant bone formation, this later being further exemplified by the depositions of bone in the affected muscles. The congenital developmental defects constitute a very interesting feature, as they would appear to indicate the operation of a predisposing factor of congenital origin. The sequence of histologic changes through which the soft tissues pass to bone have been repeatedly observed and are exactly similar to those described in myositis ossificans traumatica. From the periphery to the center of the implicated area a sequence of fibrotic changes are apparent, passing through fibrocartilaginous transformation to osteoid trabeculation and calcification. New connective tissue, cartilage, osteoid tissue and bone are found in the same section. The new formed osseous plates possess the same histologic and chemical characters as does true bone.

Many theories have been advanced to explain the etiology of this extraordinary disease, but with little success at solving the problem. The disease cannot be classed with other conditions in which bone formation is observed as a terminal development, such as calcification in degenerated arteries, about old foci of tuberculosis, around foreign bodies, etc. These are but instances of the metaplasia of connective tissue and as such have eventuated in new formation of bone in nearly every tissue and organ of the body. The lesions of myositis ossificans are confined to the skeletal layer of the mesoblast. The visceral layer is never affected. There is no direct heredity. The only instance on record of occurrence in two generations of the same family is a case reported by Burton Fanning.[10] The father of Fanning's patient had suffered from myositis ossificans progressiva, dying at 33 from an accident.

No exciting cause but injury has been established as the starting point of the disease. In a few instances injury has certainly produced local ossification and proved the apparent inception of the disease. In four of thirty-eight cases collected by Pincus the onset is plausibly ascribed to injury. The site of the lesions in most cases is, however, opposed to this idea and in the overwhelming majority of cases no such explanation can be entertained. There is no doubt, however, that after the disease is well under way traumata that in normal individuals would produce no such result are followed by myositis and ossification. It is interesting to note at this point that research into calcium metabolism undertaken by Austin[13] on one of Painter's patients showed a perfectly normal calcium metabolism.

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[11] Brit. Med. Jour., ii, 1886, p. 1026.

[12] Ferraton: Rev. d'Orthop., 1903, Series 2, iv, 302.

Without entering into details regarding the many theories that have been advanced, it may be mentioned that it has been thought to be a form of rheumatism (Stoneham), a trophoneurosis (Nicholadoni, Eichorst, etc.), a new growth (Mays, Zeigler), a form of atavism (Brennsohn), while Hutchinson claims it to be a morbid tissue perversion analogous to retinitis pigmentosa and xeroderma pigmentosum. None of these theories meets with acceptance, the present trend of opinion being toward the view that owing to some disposing factor of congenital origin—indicated by so large a percentage of microdactylia and exostoses—the muscles seem to be endowed with very low resisting power and are consequently highly susceptible to inflammation from various exciting causes which ordinarily would not so operate, such as injury, chemical and bacterial irritants, etc. Combined with this low resisting power of the muscles there is a morbid disposition to aberrant bone growth which shows itself in the calcification and ossification of inflammatory products.

Herringham, in sympathy with Pincus, finds many points of resemblance to multiple fibromata, namely, multiplicity, limitation to certain mesoblastic areas, and benignity. They are both also congenital, increasing by gradually attacking fresh areas, but always growing from one tract of tissue, never involving any other by continuity or metastasis. The chief stumbling-block to acceptance of this idea is the existence of congenital deformities found in 75 per cent. of cases. These mark the disease as peculiar, and it is difficult to connect them with new growth. In this extraordinary disease we appear to be on the borderland between malformation and new growth.

I gratefully acknowledge my indebtedness to Dr. R. W. Webster for assistance in reviewing the literature.

31 North State Street.

FIBROMA OF NOSE

W. J. COLLINS, M.D., and J. D. COLLINS, M.D.
NORTHAMPTON, MASS.

History.—The patient, H. B., aged 72, American teamster, had no remarkable family history. He had grip and severe pneumonia sixteen years ago; otherwise his personal history was negative. He admitted very free use of gin for thirty-eight years, but since 1905 he had taken not more than two drinks each month (?). About fifteen years ago he noticed a small red spot under the skin on the right side of the nose. The redness increased gradually until it covered the whole nose; then he noticed it was beginning to enlarge. The growth was very slow and gave him no inconvenience, except the appearance, until one month before he was seen. About this time he had dragging pain over the eyes, dizziness, frontal headache and when leaning over to lift boxes, etc., he would lose his balance and fall. These symptoms led him to seek relief. Previous to this time he had many strange ideas, that he ought not to part with the tumor, that he would bleed to death or die in some other way if it was operated on.

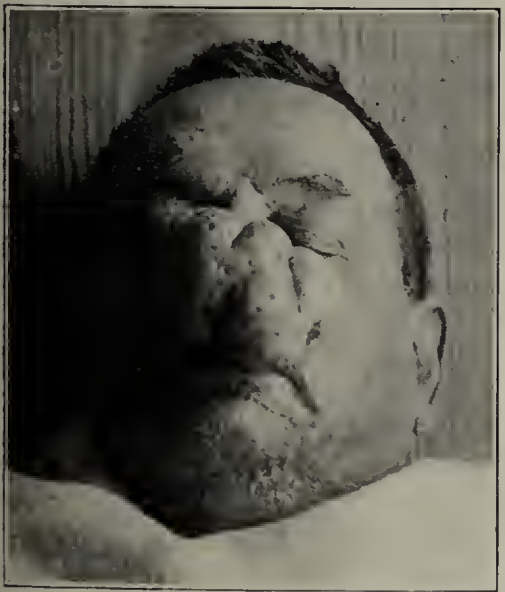

Fig. 1.—Front view of fibroma of nose.

Physical Examination.—The patient proved to be a remarkably strong healthy man, although 72 years of age. A lobulated mass 7.5 cm. lateral and 5 cm. vertical, was found firmly adherent to the lower three-fourths of the nose. It was somewhat larger and more dependent on the left and obstructed the field of vision, except upward and outward. It was firm to the touch and could be lifted away from the mouth, which it almost completely covered. Figures 1 and 2 make further description unnecessary.

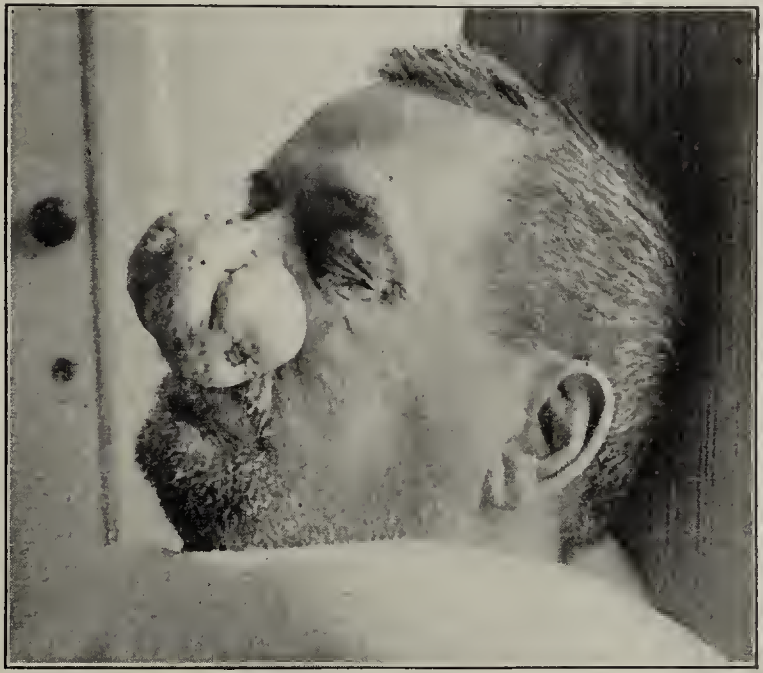

Fig. 2.—Side view of fibroma of nose.

Operation.—Under ether the growth was removed, an especially sharp scalpel being used. The rough and irregular tissue was shaved down to correspond to his normal nose, but in spite of much care, the right adherent ala was partly removed. The bleeding was very profuse but controlled by pressure and cautery. Four weeks were required for healing, and the patient would not allow skin-grafting to cover in the lower part of the left ala. Macroscopically, it was thought to be a fibroma—the end-result of an acne rosacea—and the microscope confirmed this diagnosis.

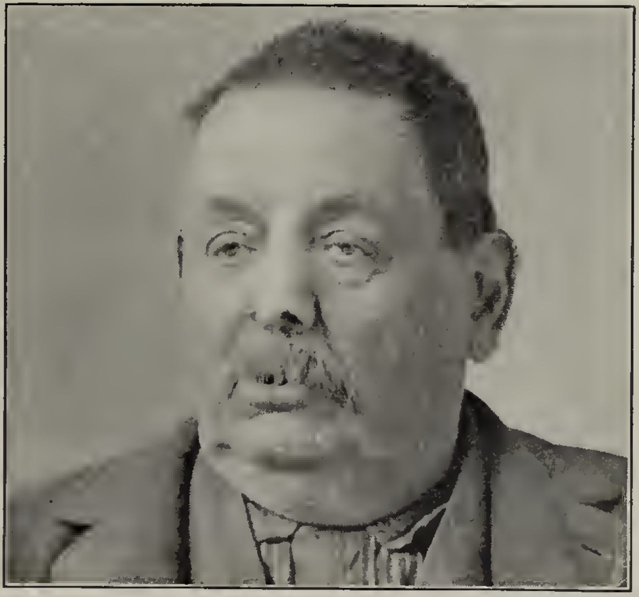

Fig. 3.—Same patient after removal of fibroma of nose.

90 Main Street.

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13. Painter: Jour. Med. Research, n. s. xvi, 451.

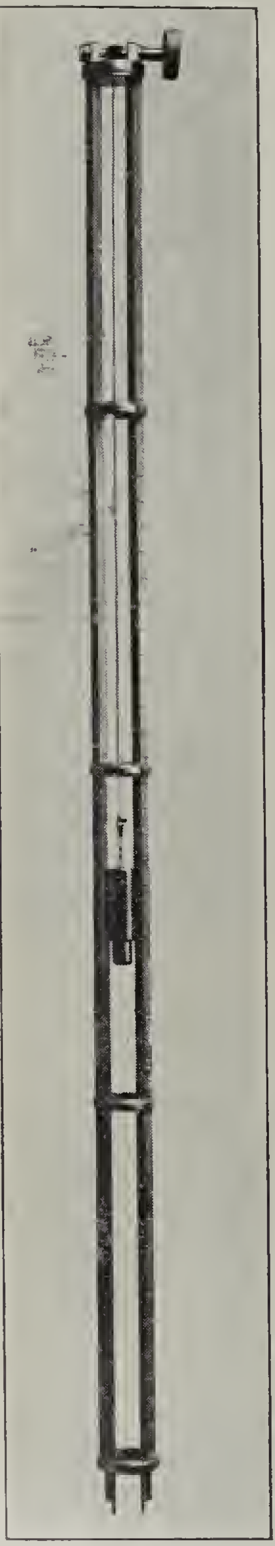
SURGERY OF EXPERIMENTAL LESION OF SPINAL CORD EQUIVALENT TO CRUSH INJURY OF FRACTURE DISLOCATION OF SPINAL COLUMN

A PRELIMINARY REPORT *

ALFRED REGINALD ALLEN, M.D.
PHILADELPHIA

PREFATORY REMARKS

In two former papers I have dwelt at length on the mechanical considerations of injury to the spinal cord in cases of fracture dislocation of the spinal column.[1, 2]



Instrument for producing a measured impact on the spinal cord.

In this communication, therefore, I shall limit myself to the discussion of the experimental work in which I have been engaged for the past year in the laboratories of the University of Pennsylvania.

I would accentuate the fact that this is a preliminary report and that I am fully aware of the amount of control experimentation necessary before an *ex cathedra* statement can be made as to applicability of this work in the human subject.

MEASUREMENT OF IMPACT ON SPINAL CORD IN SPINAL FRACTURE DISLOCATION

In order to arrive at an adequate concept as to the amount of impact a spinal cord could receive and yet recover its function, I designed an instrument whereby a given weight could be dropped from a known height thereby producing a given impact (see the accompanying illustration).

A dog having been thoroughly anesthetized, a laminectomy is performed, the instrument placed in position and the weight dropped on the spinal cord. The resulting impact in gram-centimeters is the product of the height in centimeters and the weight in grams. The element of friction in the instrument is so inconsiderable that it may be regarded a negligible quantity.

HYPO-IMPACT AND HYPERIMPACT

In my work I have used dogs varying in weight from 7.5 kilos to 18 kilos. The laminectomy has been performed in the lower third of the thoracic region.

I have found that a weight of 30 gm. may be dropped on the spinal cord from a height not exceeding 11.5 cm. with every expectation of an uninterrupted recovery on the part of the animal. The resultant of 339 gram-centimeters is one wholly in accord with complete autorestoration.

So soon as we exceed an impact of 340 gram-centimeters (to speak in round numbers) we obtain symptom pictures of more serious import.

Whereas an impact of 340 gram-centimeters will produce a complete paraplegia of spastic type, which, in course of a week or ten days, will have largely disappeared, so soon as we begin to use impacts of greater magnitude, we find the symptoms more severe and more lasting. Most animals injured by a 420 gram-centimeter impact will present a serious symptom picture; complete spastic paraplegia with scissor-like crossing of the hind limbs, emaciation, paralysis of the bladder and rectum and trophic lesions. An impact of 450 gram-centimeters will produce a symptom picture of complete transverse lesion of the spinal cord and the animal will die in the asthenic and toxic state so familiar to all who have had experience with fracture dislocation of the spinal column in the human subject.

I therefore term all impact below 340 gram-centimeters "hypo-impact," and all impact above this amount "hyperimpact."

THE HYPOTHESIS OF SYMPTOM-COMPLEX OF TRANSVERSE LESION OF THE SPINAL CORD IN FRACTURE DISLOCATION OF THE SPINAL COLUMN

Without restating *in extenso* the views concerning pressure on the cord from fragments of bone or the intramedullary pressure of hemorrhage or edema, with which views I have dealt in previous articles, I would say that I consider it a very uncommon occurrence to find a passive impingement of bone on the spinal cord when the operation of laminectomy is performed for fracture dislocation.

We must assume one of two theories, or probably both, in the etiology of cessation of function in the spinal cord in those cases in which the cord has not been literally cut through: Either there is a destruction of axis cylinders directly consequent to the impact, or else, owing to the impact, there is an edematous and hemorrhagic outpouring into the cord tissue, which by its pressure and chemical activity inhibits temporarily all conduction function, or destroys permanently the spinal cord.

In suggesting a possible treatment to aid and abet an autorestoration, it is obvious that the hypothetical factor of direct injury to the axis cylinder by the impact is beyond our reach, and that we should better confine our attention to the amelioration of the heightened intramedullary pressure.

This has been tried in years past by various means, such as cupping and other antiphlogistic devices. But the amount of benefit obtained has always been open to much doubt and in the fortunate cases, where restoration has taken place, the surgeon has found himself unconsciously imbued with a *post hoc non propter hoc* feeling.

THE SYMPTOM-CONTENT OF LONGITUDINAL SECTION OF THE SPINAL CORD

In order to ascertain the symptom-content of longitudinal section of the spinal cord, I performed laminectomy on a number of dogs. The dura mater was incised in the median line and held apart gently by means of traction sutures. Then with a very fine canaliculus knife longitudinal incisions from 2 to 3 cm. in length were made. In some cases a single incision in the median line, in others, bilateral incisions from the emerging posterior roots forward and inward were made. The incisions were carried completely through the cord. When the dogs came out of ether, they were able to stand and walk, showing very little weakness or awkwardness in walking. There was very little, if any, exaggeration of the reflexes of the hind limbs. A few days sufficed for the animal to recover his normal motor capabilities.

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* From the Department of Experimental Surgery and the Department of Neurology in the University of Pennsylvania. Read at the thirty-seventh annual meeting of the American Neurological Association, Baltimore, May 11-13, 1911.

[1] Allen, A. R.: Injuries of the Spinal Cord, THE JOURNAL A. M. A., March 21, 1908, p. 940.

[2] Am. Jour. Med. Sc., May, 1908.

This finding is at variance with the teaching of some of the older physiologists, who have reported paraplegia of spastic type after this procedure.

I cannot but believe that when paralysis ensues after this operation, it is most likely due either to cutting the cord obliquely owing to faulty technic, or else is secondary to inflammatory change from imperfect aseptic precautions. From this work I conclude that median longitudinal section of the spinal cord of the dog is provocative of no symptom of note.

EXPERIMENT OF MEDIAN LONGITUDINAL INCISION IN CASES OF HYPERIMPACT

Given, as the hypothesis, that there is a twofold factor after the impact: (1) the direct injury to axis cylinders from the impact; (2) the outpouring of serum and blood into the substance of the cord; given the condition of the closely investing pia-arachnoid and the inability of drainage; given the comparative absence of symptoms after median longitudinal incision into the cord — the corollary which presented itself was: What effect would a median longitudinal incision into the spinal cord have on subjects submitted to hyperimpact?

The factors suggesting this course were the need for spinal cord drainage, thereby accomplishing a spinal cord decompression, and the fact that the heteromeric neurons in the dog and in man are not of vital importance.

In five dogs I have used a hyperimpact of 540 gram-centimeters (30 gm. at a height of 18 cm.), and then made a median longitudinal incision from 1 to 1.5 cm. in length directly through the impact level and passing altogether through the spinal cord. These dogs made uneventful recoveries, in the worst instances showing only a slight spasticity and awkwardness in the hind limbs after recovery, but not enough to prevent running and jumping.

This impact would have led to the dire consequences which I have pictured above, had not the median longitudinal incision been made. The dogs would have died had not the spinal cord been drained.

DETAILED DESCRIPTION OF OPERATIVE PROCEDURE

An incision of about 6 cm. is made over the spinous processes down to the fascia. The fascia is incised and the muscles pushed well to the side by means of a periosteal elevator. Three spinous processes are cut off by means of bone forceps, and then the lamina of one vertebra is sawn through on each side and the fragment of bone elevated and removed. Further enlargement is obtained by means of specially fashioned rongeur forceps. It is necessary to have at least 3 cm. of the cord exposed so that careful observation can be made. The epidural fat is now wiped away, the impact instrument adjusted and a strong reading-glass focused on the segment of the cord to be struck. The blow is struck, and there is a single jerk of the lower extremities.

The instrument is instantly removed, when it is noted that instead of the cord being the natural color and the dura mater showing as an almost transparent covering through which the small vessels are easily visible, we have now to deal with a dark bluish-purple, swollen mass. I now take a very fine curved needle, and clamping it in a pair of mosquito hemostats I use it as a tenaculum to lift the dura preparatory to incising it centrally. If this incision be carefully made, there at once bulges out of the opening of 2 cm. a dark, beefy-red mass. This is the greatly distended pia-arachnoid. This hyperdistention of the pia-arachnoid extends longitudinally about 4 cm., and when torn by means of a fine tooth forceps it subsides in a great gush of blood and cerebrospinal fluid. It will now be seen that the substance of the cord appears pinker than it should normally.

A median longitudinal incision of at least 1 cm. is made completely through the cord, following which there is a goodly outpouring of blood and serum from the cord substance.

After the active bleeding ceases, the muscles are brought together by a close row of buried Pagenstecher sutures. The fascia is closed by means of a continuous Pagenstecher suture and the skin wound by means of Michel clamps. The dura mater in the dog is too tight to warrant trying to suture it, as would most certainly be indicated in man.

The dog is completely paraplegic following the operation, and it may be three or four days before there is any indication of return of power. In a week's time he is standing and moving about his cage with a very spastic gait. Little by little the power returns and the spasticity diminishes. The end-result is a complete restoration of motor power. The animal is able to run and jump and has complete control of bladder and rectum.

The only point in the convalescence which may give trouble is the development of what I might term an artificial spina bifida. Owing to the difficulty of closing the dura mater in the dog, there is a leakage of cerebrospinal fluid upward forming a fluctuating tumescence, possibly the size of an egg, at the seat of operation. This it is my practice to evacuate by means of an aspirating needle under the most stringent aseptic precautions.

This experimental work has been carried out under full ether or cloroform anesthesia; and at no time have the dogs given evidence of suffering pain.

GENERAL CONSIDERATIONS; OUTLINE OF FUTURE WORK IN THIS FIELD

There are many steps between the results above mentioned and the adoption of the median longitudinal incision through the injured area as a desirable method of procedure in cases of spinal cord injury in fracture dislocation in the human subject.

The first important step to determine is: How long after the injury to the dog's spinal cord can one wait and still obtain the good effect of the drainage from median longitudinal incision?

I shall conduct a series of cases of hyperimpact in which the median longitudinal incision is made two, four, six and twelve hours after the impact; then a series in which a period of twenty-four hours elapses before the cord is cut.

I have already tried to aid the drainage by applying a Bier stasis-hyperemia cup over the laminectomy area the day after the impact operation of median longitudinal incision had been performed. This I applied for half an hour twice a day, but the result was most unde sirable. The dog showed every symptom of complete transverse lesion shortly after the first treatment and died about four days later. On histologic examination, I found the gray matter of the cord greatly softened and hemorrhagic for a distance of 2 cm. above and 2 cm. below the impact area. It looked just as if the gray matter, naturally lacking in *Widerstandsfähigkeit* (resisting power) had given way to the negative pressure.

Of course, this is only one case in which the Bier's method was used. It is altogether possible that, with a more gentle suction, a better or favorable result might have been obtained.

I wish to call attention to a point which has impressed me greatly in all this work. I refer to the effect of severe hemorrhage during the operation on the period of convalescence.

Hitzig[3] has shown the baneful effect of exsanguination on the central nervous system. I also have noted in a previous work the great change in conductivity in the lateral columns of the spinal cord in animals (dogs) slowly exsanguinated.[4] There is no doubt to my mind that whenever I had much hemorrhage, the animal's convalescence was prolonged, his spinal cord symptoms more severe than the impact would warrant and the chances of an infection greatly augmented. I am convinced that this is an important element in the failure of operations on the brain and cord.

It is not my purpose to take up the histopathology of this work until a future communication. I shall only say that I have been surprised at the amount of ascending and descending degeneration that I have found by the Marchi method in the spinal cords of dogs which had recovered their motor power completely and which I had killed in order to make the histopathologic study.

My tentative conclusion is that in cases of fracture dislocation of the spinal column in the human subject, in which there exists the symptom picture of transverse lesion of the spinal cord, it were well to perform the operation of laminectomy at the earliest possible moment, and if the cord be not completely severed to make a median longitudinal incision through the area of impact by means of a fine canaliculus knife in order to drain the injured tissue of the products of edema and hemorrhage.

2013 Spruce Street.

Protective Detention.—Dr. Quinton, an English criminologist, is quoted by G. A. Auden (*Jour. Crim. Law and Criminology*) as saying: "Female offenders who are of weak intellect will gain incalculable benefit from the scheme of the royal commission, which provides for their removal from prison altogether. This class—a very pitiable one—never has been, and never can be, rationally dealt with under a short sentence system. Their vicious habits and criminal propensities soon alienate them from relations and friends who in despair of controlling them, abandon them to their fate—picking up a living on the streets. Petty thieving, drunkenness and prostitution bring them back to prison time after time, their only gain from imprisonment being the protection it affords them for the time being from the perils of the street, which, in the case of feeble-minded girls and women, are appalling. They need not only preventive but protective detention in some kind of institution other than the prison, for a much longer period than any term of penal servitude their offense would justify."

SEVERAL UNUSUAL JOINT CASES

THEIR TREATMENT AND THE RESULTS *

GEORGE W. GUTHRIE, M.D.
WILKES-BARRE, PA.

In reporting the following rather unusual cases I claim no originality, but simply aim to show what thorough asepsis, accuracy of adjustment and secure fixation will accomplish.

I make no reference to a rather large number of other fractures occurring in a field in which traumatism contributes greatly to the work of a surgeon, including fractures of the patella, nor to cases of delayed union, and ununited fractures occurring in the shafts of bone in which the open method and direct fixation have been called into use.

Case 1.—The first case may be summarized as follows: Complete separation of the right olecranon, extensive injury of the soft parts, nailing, straight splint; complete restoration of function.

The patient was a male, aged 17, a pattern maker's apprentice. The injury was received by elbow joint coming in contact with a band saw; wound in soft parts 4 inches long across posterior aspect of elbow; olecranon severed ¾ inch below upper end; trochlear surfaces of joint scratched by saw; fragment of olecranon retracted by triceps. Reduction was effected by placing the arm in a straight position; fragment secured in place by driving a cast-steel wire brad, 1½ inches, No. 16, through fragment and into shaft of ulna (Fig. 1); wound closed with interrupted silk sutures, skein of catgut for drain, and straight anterior splint applied; wound healed without suppuration; nail was removed when it became loose, probably in the third week. Figure 1 shows the nail in position. The operation was done in the boy's home on a common kitchen table, a range for a sterilizer, a dish pan for instrument tray, in which instruments, nails, tack hammer, all were thoroughly sterilized. Passive motion was begun at the end of five weeks; six months after the injury the functions of the joint were perfect. Figures 2 and 3 show the limb in straight position and full flexion.

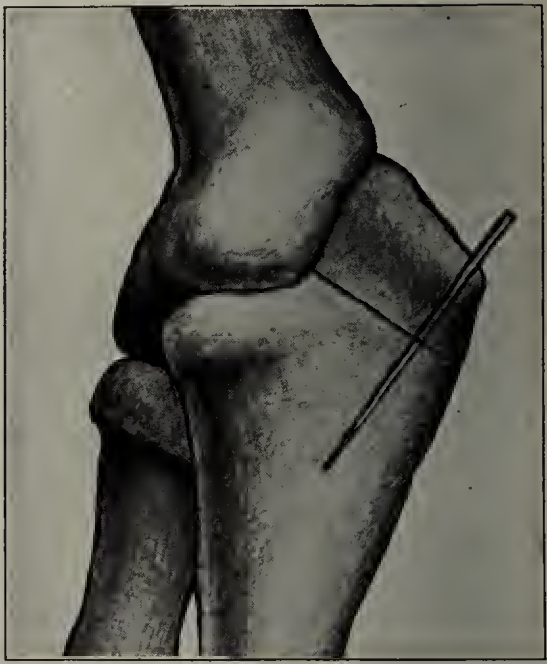

Fig. 1.—Method of fixing the broken fragment of the elbow joint in Case 1; the wire nail in position.

Case 2.—The patient, a boy aged 10, was thrown from a horse while riding in the street; both condyles separated, probably an inch above the lower end of the humerus; distal end of proximal fragment thrust through soft parts in front of joint. Every precaution to produce an aseptic condition was taken. Complete reduction under anesthesia was effected by inserting fingers into the wound and securing perfect apposition of fragments, forearm was flexed on the arm and secured by a strip of adhesive plaster; the external wound was then dressed, and the upper extremity bound to the side of the body without a splint, as practiced by Mr. Robert Jones. Improvement was rapid and satisfactory; wound remained surgically clean; passive motion commenced at the end of the fourth week.

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[3] Hitzig: Physiologische und klinische Untersuchungen über das Gehirn, Berlin, 1904, part 1, p. 23.

[4] Allen, A. R.: Hemorrhage Into the Ventricles, The Journal A. M. A., July 18, 1908, p. 216.

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Result: A complete restoration of function without deformity, as Figures 4 and 5 will show.

CASE 3.—This is the analogue of the first case. The patient, aged 42, a foreman carpenter, was at work on a scaffold at the second story of a building; a freshly ground hatchet lay on the floor of the scaffold. The scaffold fell, and when the patient was found, the hatchet had severed the head of the left tibia ¾ inch from the articular surface. The line of division extended three-quarters through the bone, then split upward into the joint. The incision in soft parts was 5 inches long. The severed fragment was secured in perfect position by two silver nails driven through the fragment into the shaft of the bone, the ends protruding from the upper flap of the wound about two inches; severed patellar tendon, ligaments, and other soft parts were closed with catgut, aseptic dressings applied and the whole limb encased in a plaster cast. The nails became loose in two weeks and were removed; cast removed at the end of four weeks, and passive motion commenced. Here the healing was without suppuration.

May 13, 1911, the patient came to my office; motion of left knee as good as in the right; conformation perfect, no difference to be observed. Illustrations (Figs. 6 and 7) taken May 13, 1911, confirm this.

CASE 4.—Patient, a woman, aged 48, 5 feet 2 in. in height, when she could stand erect, weighing about 160 pounds, came into my office in November, 1909, walking like a duck; legs flexed on thighs at an angle of 45 degrees, and ankylosed; for fifteen years she had had what was called rheumatism. The left elbow joint and the knuckles of right hand were, also, partially ankylosed, and the joints enlarged; also left bunion joint. An acute attack five years before was accompanied by chills, fever (temperature 105 F.), sweating, etc. The patient had always been regarded otherwise as a healthy woman. The menopause occurred at 39. The joints became fixed four years previously and had remained so. She had been treated in sanatoriums with baths, massage, electricity, etc. Her mother had had rheumatism in her knees.

The skiagraphs (Figs. 8 and 9) showed a considerable amount of exudate, and both patellas fastened by what appeared to be bony adhesions.

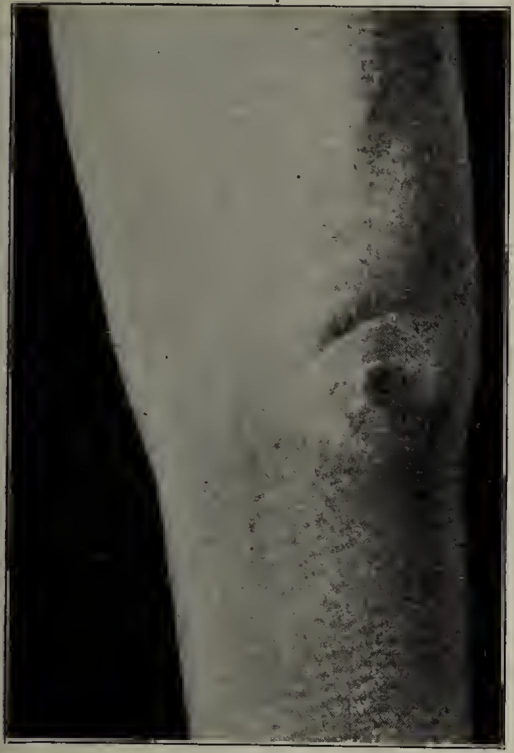


Fig. 2.—The result in Case 1, the arm held straight.

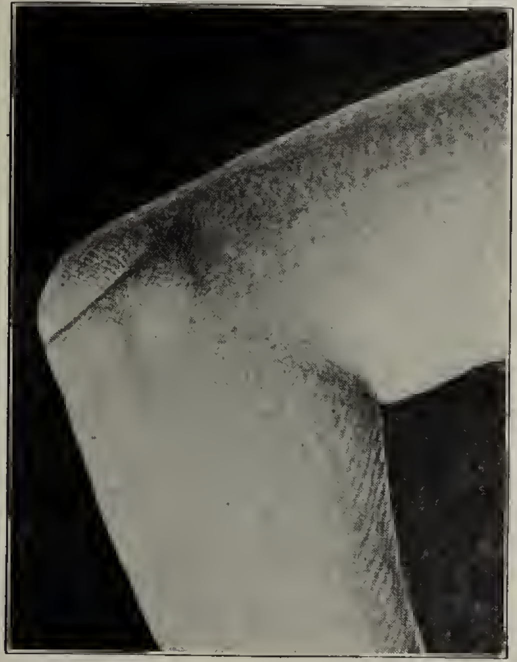


Fig. 3.—Showing the result with the elbow flexed in Case 1.

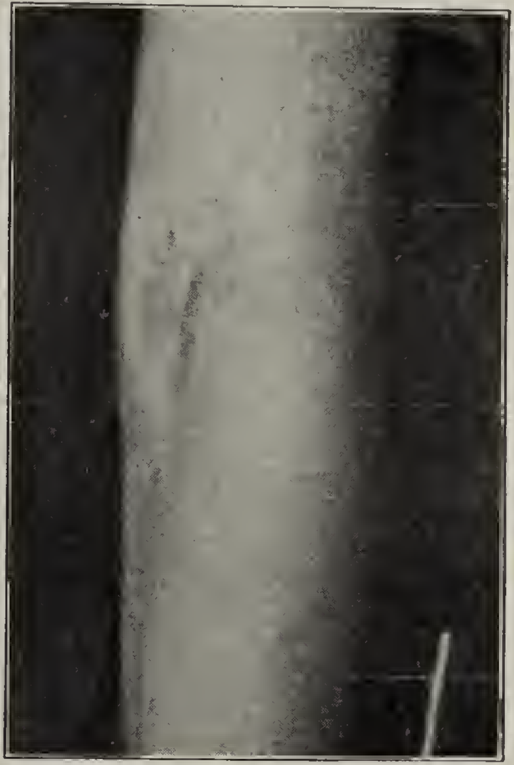


Fig. 4.—Showing result in Case 2, separation of the condyle of the humerus, the distal end of the proximal fragment having been thrust through the soft parts in front of the joint; complete restoration of function without deformity.

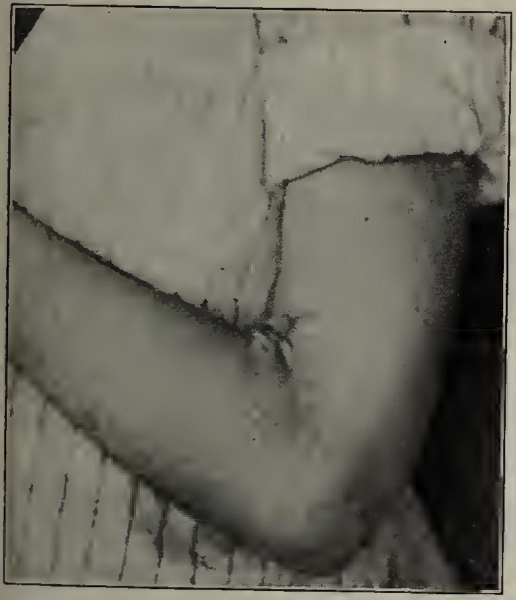


Fig. 5.—Showing result in Case 2 with the elbow flexed.

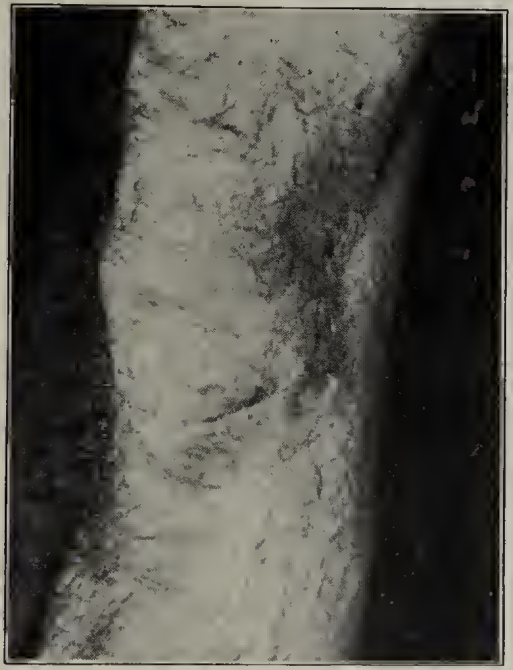


Fig. 6.—Accidental excision of upper end of tibia with healing and restoration of function, Case 3.

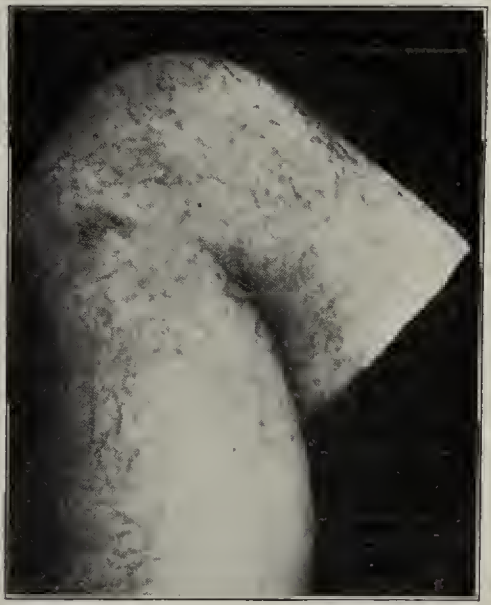
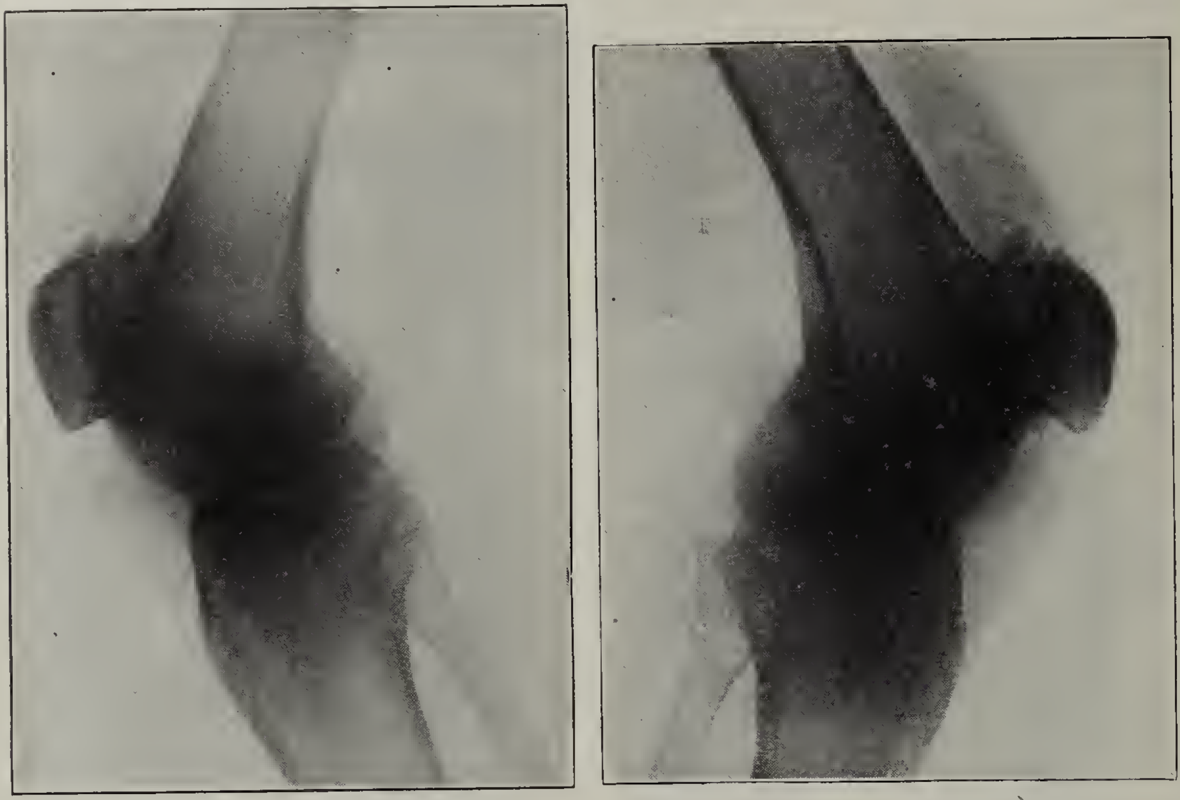


Fig. 7.—Showing result in Case 3 with knee flexed.

What to do for her was a puzzle. Forcible extension under ether would be attended with great danger to the soft parts, especially the blood vessels; tenotomy would be equally dangerous. Assisted by my son, Dr. Donald Guthrie, I operated Dec. 6, 1909; semi-circular incisions were made across the knees above the patella and through the tendons; on separating the left patella from the head of the femur, the articular surfaces were so injured that the patella was removed. The next step consisted in removing about an inch of the lower end of the femur with mallet (a potato masher) and a broad-bladed chisel. It was found then that the leg was quite easily straightened. A similar procedure was followed in the right side, except that the patella was not removed; both wounds were closed with catgut, without drainage, and plaster casts applied, and allowed to remain six weeks. Healing was satisfactory and good firm legs were secured.



Figs. 8 and 9.—Skiagraph showing complete ankylosis of knee-joints in Case 4.

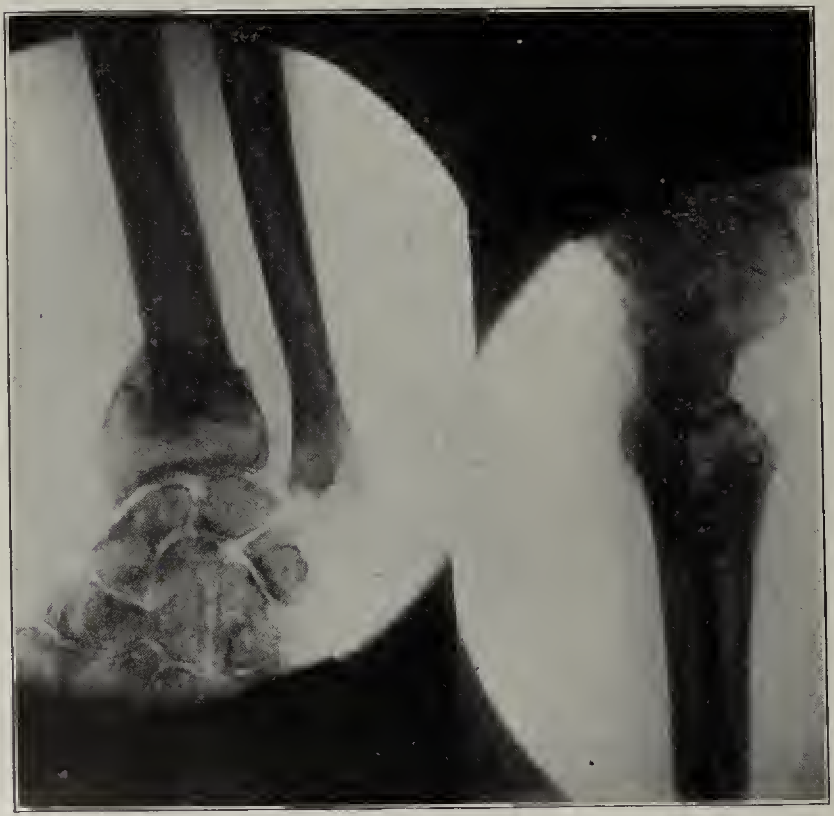


Fig. 12.—Skiagraphs showing the very satisfactory apposition secured in the compound, comminuted fracture at the wrist-joint in Case 5.

Present condition: The left knee is flexed about 10 degrees and fixed; the right is straight and has a motion of about 10 degrees. The cosmetic results are not the best, but the function of walking has been restored; the patient no longer walks like a duck, but stands upright like a human and goes everywhere, up and down stairs, all over the house, walks the streets, visits her friends, goes to weddings, and is a very happy woman (Figs. 10 and 11).

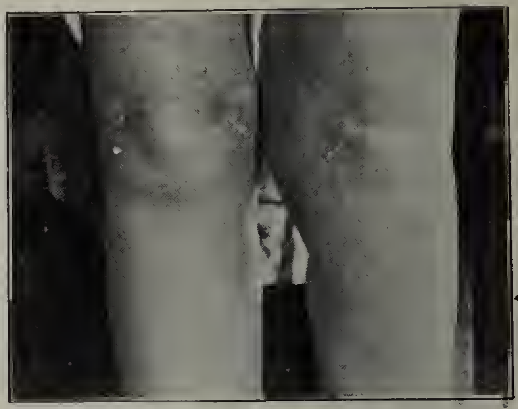


Fig. 10.—Anterior view of knee-joints following operation in Case 4.

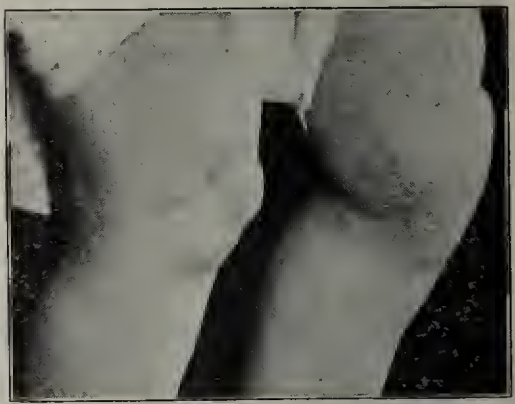


Fig. 11.—Lateral view of knee-joints in Case 4; left knee-joint fixed at an angle of ten degrees; right knee has motion of ten degrees.

I know the conduct of this case admits of argument: It may reasonably be asked whether we did the best thing for the patient under all the circumstances. Would it have been better to have attempted joint action by interposing a flap of fascia between the ends of the bone? Our reasoning was this: The first demand is a firm, strong knee-joint; the second, a straight leg; and the third, motion if possible.

Here was a patient, with a bad history for five years, weighing 160 pounds. A weak, flail-like joint would render her latter condition far worse than her former. We were painfully aware of the risk we assumed, but our asepsis was good, healing was kind, and good, firm knees resulted. A 10 degree flexion in the left does not interfere with her

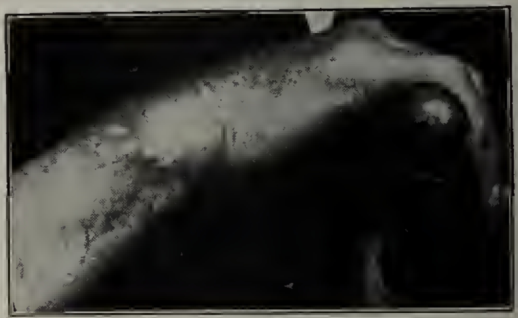


Fig. 13

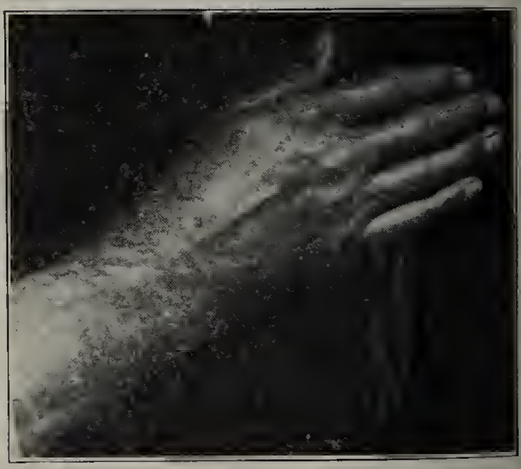


Fig. 14

Figs. 13 and 14.—Two photographs showing the cosmetic result secured in Case 5.

walking, and the same degree of motion in the right makes them correspond. I invite discussion and criticism.

Case 5.—This patient, aged 40, a painter of tall chimneys, stacks, etc., was brought into the hospital Sept. 2, 1910. He had fallen from a ladder 25 feet to a roof, thence to the ground, 15 feet. The right wrist presented an alarming condition of traumatism: a Colles fracture of the radius; the ulna was driven through the soft parts on the front aspect of the wrist, protruding 1½ inches; the styloid process was broken off, and the articulating surface comminuted. It was one of the worst-looking injuries I have ever seen.

Ether was administered; the fractured end of the ulna was trimmed up; then the dislocation was reduced, and with fingers in the wound, the fragments of the radius were accurately replaced. I held them in this position while my intern, with a good pocket knife, fashioned the splints according to my direction. The palmar splint was narrowed at the location of the external wound so as to admit of a change of dressing; the posterior splint made no pressure over the end of the ulna.

Healing was satisfactory, and June 3, 1911, the patient presented himself with the following result: The end of the ulna was much thickened from a superabundance of callus, pushing the hand to the right side; pronation, supination, flexion, and extension are all present, and he has a good degree of flexion of the fingers—not perfect, but improving.

The accompanying skiagraph (Fig. 12) was taken, and shows the very satisfactory apposition secured, and the accompanying photographs (Figs. 13 and 14) show good cosmetic results.

109 South Franklin Street.

A SIMPLIFIED PERITONEUM-GRASPING FORCEPS

JOSEPH RILUS EASTMAN, M.D.
INDIANAPOLIS

The abdominal viscera forceps here illustrated is not essentially different, so far as its efficiency or field of application is concerned, from other viscera forceps now in use. Its advantages rest in the ease with which the rubber tubing at the circular jaws may be replaced when worn or damaged in sterilizing, the security of the grasp, and in its durability.

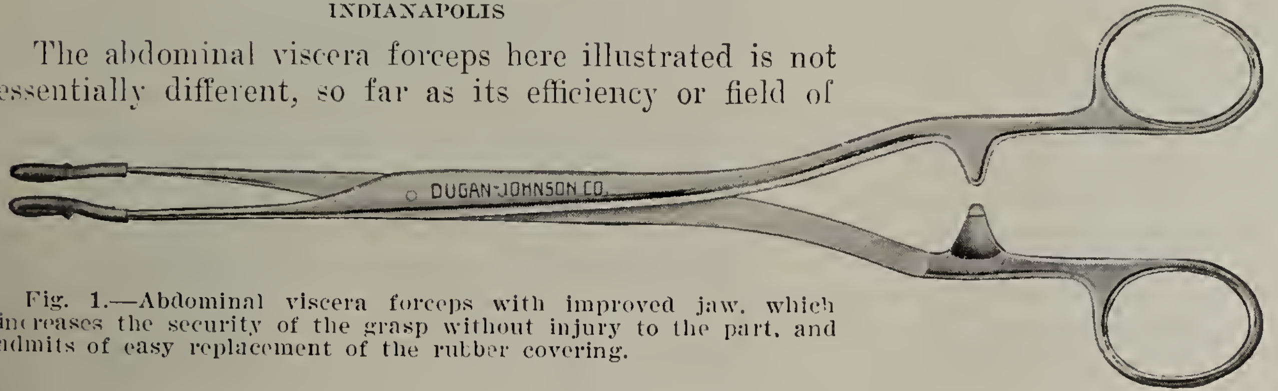


Fig. 1.—Abdominal viscera forceps with improved jaw, which increases the security of the grasp without injury to the part, and admits of easy replacement of the rubber covering.

The short elbow curve of each shank above the circular jaw allows complete coaptation of the rubber-covered rings, so that pressure is not brought to bear at a point, but over a larger area of the intestine, or other peritoneum-covered viscus.

The steel of the instrument is so tempered that crushing of delicate tissue is practically impossible. The grasp, however, is firm enough to be reliable.

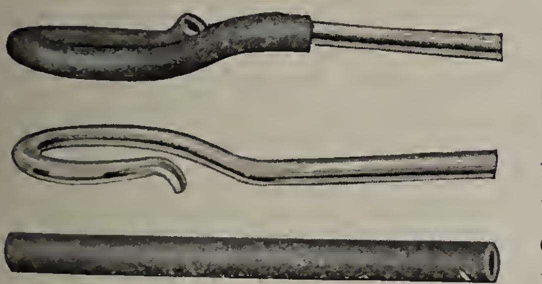


Fig. 2.—Showing the folding back of the end of the forceps blade and the short elbow curve of the jaw, which allows of pressure over a larger area of intestine. The rubber tube covering is also shown.

Sterilization by heat soon ruins the rubber of gut forceps, or renders it sticky. Therefore, it is desirable that the rubber be easily changeable. In the forceps shown in the drawings, small red gum tubing may be passed over the open rings and slipped off as often as required. The "heels" of the open ring are turned back in order that the ends of the tubing may be deflected from the grasping surfaces. For the same reason the tubing should be slipped along the forceps far enough to bring the proximal ends of the rubber covers over the elbow curve, and a short distance along the shank.

331 North Delaware Street.

BONE-GRAFTING TO FILL A GAP BETWEEN TWO PORTIONS OF A TIBIA*

F. A. McGREW, M.D.
LAPORTE, IND.

History.—At 11 p. m. of a day (Aug. 10, 1909) during which a little girl, 6 years old, had been wading in the water, she was taken with a violent headache and high fever. She seemed somewhat better the next day, but vomited in the afternoon. Forty-eight hours after the first symptoms appeared she grew worse again, had severe headache and high fever, with pain in the left side of the chest. A physician was then called. After a few days the pain disappeared from the left side and "moved across" to the right.

About a week later she had terrific pain in the right leg, or, as it seemed to the attending physician, in the knee-joint. She suffered "frightful pain" for a week, meanwhile undergoing treatment on a mistaken diagnosis of rheumatism. The knee and leg below the knee swelled, and a bulging abscess having appeared over the front of the leg below the knee, she was brought to the hospital and incision made for drainage. A few days later I was asked to see the patient in consultation.

The leg was much swollen on account of cellulitis. There was a small pre-tibial knife opening just below the patellar tubercle, through which pus was discharging. The leg was drawn up in extreme flexion, and when any attempt at movement of it was made there was every evidence of excruciating pain. The general condition was one of septicemia.

I advised free drainage of the tibial shaft, and the application of a posterior splint after straightening the leg under anesthesia, dressing slightly flexed. Only the latter part of the advice was followed. The child gradually improved, and finally was sent home. I had also advised that all the dead bone be removed eight weeks from the beginning of the tibial involvement. This advice, however, was not followed, and it was not until fifteen weeks after the initial symptoms in the leg, that the case came to me through the courtesy of Drs. Sutherland and Fargher, of La Porte. The patient was then in the Holy Family Hospital. There was profound septicemia, high temperature, constant very rapid pulse, emaciation, several discharging openings and great cellulitis of the leg extending to the thigh, and, in general, a very bad condition.

Operation.—Operation (November 29) was at once undertaken with the object of draining the pus cavities throughout the cellular tissue and shaft, with the intention of completing operation at a future date after suppuration had been controlled and the general condition improved. But, having once begun the operation, there did not seem to be any favorable place to stop as intended. An incision was made along the front of the tibia. The whole of the upper three-quarters of the shaft was found involved in the necrosis and removed. The upper extremity of the shaft was involved, the necrosis extending to the articular surface of the knee-joint, leaving on either side what appeared to be a sound shell or shelf of compact bone corresponding to the tibial tuberosities. New islands of bone, from 1/8 to 1/4 inch thick, had formed here and there on the periosteum. These were removed. The cellulitis was drained with rubber tubing, passed through in various directions. Pus bathed the whole leg. The cavity left after the removal of the necrotic shaft, lined by its periosteum, was cleansed and closed with catgut and the skin closed with silkworm gut to the upper end where an opening was left through which the cavity in the upper extremity of the bone was packed with iodoform gauze.

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* Read before the Laporte (Ind.) County Medical Society, June 9, 1911.

Subsequent History.—As expected, suppuration of the periosteal cavity promptly supervened, but on account of the excellent drainage her temperature ranged lower, and her pain and general condition improved continuously. At first, dressing could only be done under general anesthesia, but with the improvement this was soon avoided.

There was little change, except a gradual improvement in all the conditions until May 7, 1910, when the cast was removed on account of an eczema of the leg and foot. A week later it was reapplied but thereafter it was a constant fight to keep the eczema within limits which would permit the retention of the cast.

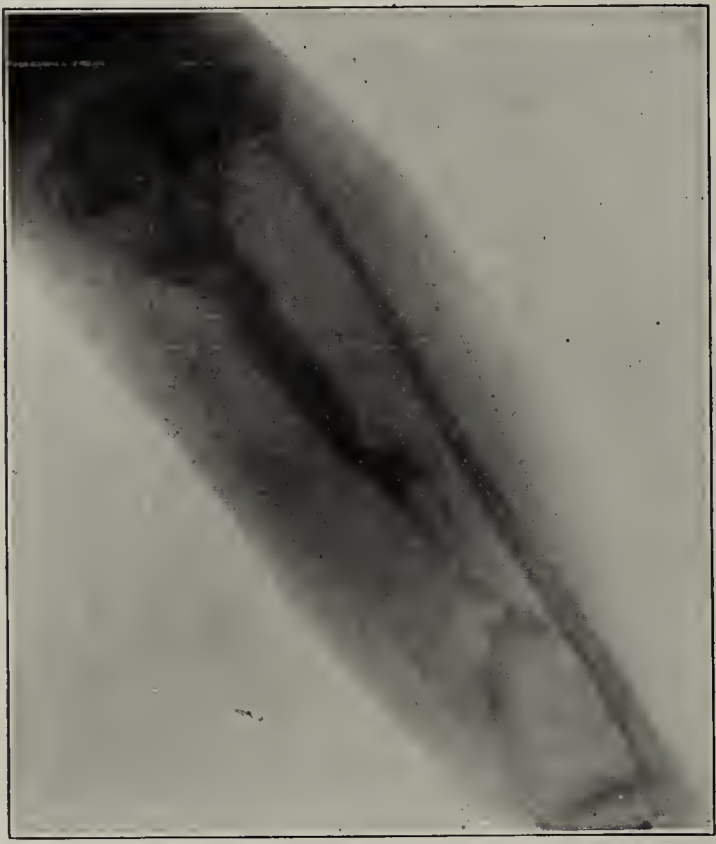

Fig. 1.—Skiagraph made Oct. 2, 1910. It shows the new shaft after ten months' development, associated with constant suppuration. Also the gap between the new and old portions of the bone.

Bismuth paste was at this date in May being injected into the sinuses leading into the upper extremity of the bone and also near the center and at the lower end of the operation wound. These had gradually improved, the upper one having closed entirely. The eczema was much better. The bone in the tibia had reformed enough to be solid, except at the upper end, where there was free mobility.

The cast applied in May was worn until July 2, when, the sinuses having all closed, a solid cast was applied and allowed to remain without change for three months. When removed, there was found to be mobility at the lower end of the newly formed shaft, while that at the upper end had disappeared and the bone was solid at its upper extremity.

A skiagram (Fig. 1) was taken Oct. 2, 1910, when the cast was removed. It showed the new shaft to be well developed toward the upper end, but dwindling toward the lower end, where it ran down irregularly to a blunt point, separated one-half inch from the rounded upper end of the lower residual portion of the tibia. Her general condition was excellent. She had been growing rapidly, and going to school during the fall months.

Second Operation.—The cast was left off a month hoping that movement might stimulate some further development of bone, but without result. Nov. 4, 1910, another operation for the purpose of closing the interval between the new and old portions of the shaft was undertaken. The incision extended from the summit of the inner malleolus diagonally upward and outward to the anterolateral aspect of the leg. The whole anterior and external surfaces of the lower tibial remnant were exposed, and also the lower end of the new-formed shaft. The two extremities were found to be separated by fibrous tissue in which was imbedded a small, irregularly shaped piece of bone. Union would not have occurred. The fibrous tissue was removed and the ends of both bones freshened by excision of their extremities, after which it was found that a gap of about one inch required filling.

With mallet and chisel a flap including periosteum and the full thickness of the bone was cut from the anterior surface of the distal portion of the tibia, leaving an attachment of periosteum at its upper end. This flap was turned about and its periosteum stitched to the periosteum along the outer border of the proximal portion, bridging the gap. The endosteum and periosteum had been carefully handled and preserved. The wound left in the bone by the removal of the flap was packed with iodoform gauze, and also the interval between the two bones which had not been filled by the flap. A dressing over all and a cast were applied, the latter being provided with a window for dressing the wound.

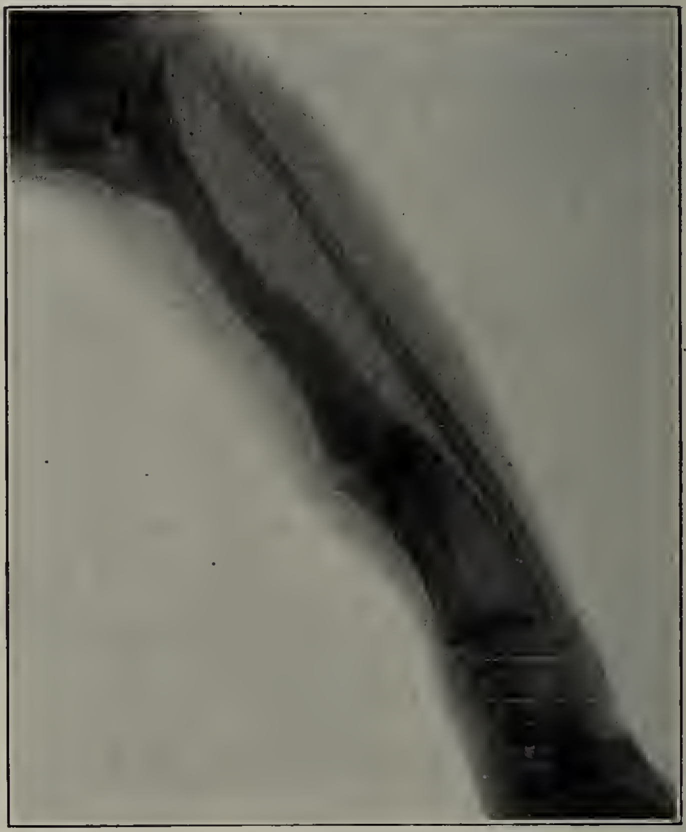

Fig. 2.—Skiagraph made June 1, 1911, seven months after the flap operation. It shows not only that the gap has been filled with new bone, but that the entire new shaft has been spurred to vigorous growth.

There was some swelling following the operation, the wound stretched apart throughout its entire length, and bone was exposed over a small area. When the wound first became red and swollen it was dressed with moist boric dressing and later with dry dressings and Peruvian balsam. It appeared to heal rather rapidly. The cavity corresponding to the interval between the two bones unfilled by the flap was kept carefully packed in order to keep the tissues from crowding in between the two ends of the bone. Gradually this interval filled with granulation tissue, but left a small discharging sinus. Bismuth paste was systematically and continuously injected into this sinus during the next several months. March 11, 1911, a small sinus was noted. A probe passed in came on dead bone which seemed to be movable, so a small sharp pointed artery forceps was inserted and the irregular jagged fragment of bone was withdrawn. There was good use of the ankle-joint. The knee-joint was also unrestricted in movement. The bone on this date seemed firmly knit together and as large over the former gap as the shaft above and below. There was no abnormal mobility. Somewhat more than three months therefore elapsed after bone-grafting before the union was complete, and at that time the gap had been completely filled.

The second skiagram (Fig. 2) was made about June 1. It shows the gap filled with bone. Also, it is interesting to observe that the new-formed shaft which was spindling and weak before the last operation had now become particularly strong toward its lower end, apparently stimulated to overgrowth by the coupling of the two portions by means of the bone-graft.

There is shortening to the extent of three-fourths of an inch. I am unable to say at present whether this is in part on account of injury to the epiphyseal line of growth or entirely because of the action of the muscles not wholly counteracted by the splint-like effect of the fibula. That considerable pressure was put on the fibula is shown by the fact that the upper extremity was forced loose from its joint on the external tuberosity and now occupies a higher position than normal, where it is still movable. There is a backward curvature to the reconstructed tibia, due, I think, to the same inability to control muscle action. There is still a small sinus leading down to necrosed bone, which I believe will be absorbed in time, without the necessity of further operation. Bismuth paste is being injected regularly and there is no suppuration.

The turning up of a bone-flap from the distal portion to fill the gap in the tibia was only the application of the well-known principles of the grafting of the soft tissues. I have no knowledge of a similar case.

I wish to acknowledge the excellent skiagraphs made for me by Dr. A. C. Simon.

Note.—At the time of correcting the proof (August 1) the patient is using the leg with no restrictions, and the remaining sinus has closed. The head of the fibula no longer shows abnormal mobility.

TRANSPLANTATION OF A PORTION OF THE TIBIA INTO THE SPINE FOR POTT'S DISEASE

A PRELIMINARY REPORT

FRED H. ALBEE, M.D.
Assistant Professor (Head of Department) of Orthopedic Surgery, Cornell University; Professor and Adjunct Professor of Orthopedic Surgery, University of Vermont, and Post-Graduate Medical School and Hospital, etc.
NEW YORK

The following is a final development, from a series of studies, on the application of osteoplasty in the treatment of Pott's disease of the spine.

I was induced to undertake this experimental work on the spine, on account of the excellent operative results obtained in tuberculosis of joints elsewhere in the body where bony union with its perfect support and immobilization has caused the tuberculous process to disappear so rapidly, although only a fractional part of the tuberculous tissues was removed. This has been especially exemplified in my ankylosing operation on the hip, when applied to tuberculous ostitis of that joint, and also in erasion of the knee under similar circumstances. The fact that it is only necessary to secure bony stiffening in tuberculous joints, by operation or otherwise, in order to get a rapid disappearance of the tuberculous process has been emphasized very strongly in the recent writings of Ely, both in his clinical and his pathologic studies. Previous to the herein reported cases, five patients were operated on and three or four spinous processes were split with a chisel or bone forceps for from 1 to 1⅓ inches from their tips, into equal halves, either through a plane approximately parallel with the long axis of the trunk or at right angle to it. The tip of the lower half of the superior vertebra was then brought into approximation with the tip of the superior half of the next lower vertebra after green-stick fractures of each and fastened with heavy kangaroo tendon. Chips of bone from the spinous processes were then placed in between so as to insure further bone union between these vertebræ. Mechanically this event (the union of spinous processes of neighboring vertebræ) acts in two ways: First, if we consider each vertebra a lever (as it properly is) with the fulcrum at the lateral processes, its short arm, the body of the vertebra and the long arm of the lever, the spinous process, then by causing a bony union of the posterior part of the lever, we shall prevent by leverage a crushing together or approximation of the bodies or the anterior arm of the lever.

Nature has done this, i. e., a fusing together of the posterior portions of the vertebræ involved, but unfortunately rarely, as pointed out by Brackett. This prevents absolutely any crushing of the bodies of the vertebræ and thus any further progress of the kyphosis or deformity. Secondly, and possibly not least, this formation of a bony bridge, connecting firmly the diseased vertebræ with the healthy ones on either side, acts directly as an internal splint on the vertebræ involved and furnishes more perfect support than any mechanical apparatus could possibly accomplish.

These assumptions are based, of course, on bony union of vertebra to vertebra as well as union of the green stick fractures of the vertebral halves.

This union has been satisfactory so far as can be ascertained, but on account of its uncertainty and the large amount of cartilage in the vertebræ of small children, with its slowness of union and early lack of support, it has seemed best to devise a procedure which would be possibly more reliable and also give support from the beginning. These requirements can be fulfilled in no other way except by a strong bone-graft.

The different sources from which to secure a strong bone-graft for an internal splint, which would give immediate support to the spine, were considered and the crest of the tibia was selected as by far the most desirable and accessible.

Case 1.—*History.*—With this in view, R. C., a child aged 4, referred to me by Dr. E. H. Johnston, of Waterbury, Conn., was admitted to the Post-Graduate Hospital.

The past history was negative up to the time the trouble with the spine began. Several months before, the child had begun to have night "cries and sweats," and coincidently began to support herself with her hands on her knees. The mother thought that there had been a loss of weight and that the child was getting pale. There had been pain in the region of the stomach for the past two months. About three weeks before examination, the lump on the child's back was first noticed.

Examination.—This was negative except for a considerable kyphosis at the first and second lumbar vertebræ. The child stooped to pick up things from the floor with difficulty. The spine was rigid to passive and active motion in the region of the kyphosis.

Operation.—The patient was operated on June 9, 1911. Under ether, with the patient in the ventral position, an incision was made, directly over the tips of four spinous processes, with the kyphosis in the center. Each process was then split longitudinally for about one inch and a quarter into two portions with one-third of the process on the left and two-thirds on the right. The soft tissues between the processes were then merely separated by blunt dissection or by a scalpel, parallel with the muscles. Green-stick fractures were then produced at the base of the one-third portions of each of the processes. A wedge-shaped cavity was thus produced, ready to receive the bone graft. A compress of hot saline was then placed over the wound. The left leg which had been prepared for operation was then flexed on the thigh, so that an incision over the crest of the tibia anteriorly could be made. A prism-shaped piece of the tibia from its anterior-internal aspect was then removed by means of a chisel, with the periosteum intact on two of its surfaces. The graft taken was about 4 inches by 1 inch, by ½ inch. It was quickly removed and immediately placed in the interval between the portions of the spinous processes. The dense fascia over the tips of the processes was then approximated by interrupted sutures of No. 3 chromic catgut, thus holding the bone-graft very firmly in place. The skin was closed by a continuous suture of No. 1 plain catgut. The leg wound was treated in a similar way. The time of operation was fifteen minutes. There was no shock.

Result.—The child made a fine recovery from the anesthetic. The wounds healed by primary union. The child was discharged from the hospital July 17, 1911. The convalescence has been extremely satisfactory thus far. Muscular spasm of the spinal muscle has diminished very materially. However, it is obvious that it is too early to draw any definite conclusion concerning the final results of any of the cases herein reported, and this is a record of progress only.

Case 2.—*History.*—The patient, J. M. C., male, was a carpenter, aged 28. His family history was negative to tuberculosis. His present trouble began eight months ago with pain in his back which started in the lumbar region and shot into the thighs. He had night sweats all last winter, but no cough. There was a little pain in his right side when the patient walked and later there was pain in the left side also. There was a mass in the right groin for six months previous to the examination.

Examination.—This was negative except for moderate kyphosis involving the eleventh and twelfth dorsal vertebræ and the right psoas abscess, the size of a fist, just below Poupart's ligament. The spine was very rigid to all motion, both passive and active, in the lower dorsal and lumbar regions. The patient bent the spine with pain and difficulty.

Operation.—June 27, 1911, the Post-Graduate Hospital. Precisely the same operation was done as described in the previous case. The bone-graft from the tibia was much larger, however. It measured about 6 inches by 1⅛ inch by ½ inch. Both wounds healed by primary union. This case was discharged from the hospital July 15, 1911. The patient has gone back to work, wearing a Taylor spinal brace.

Case 3.—*History.*—The patient, W. D., was a boy aged 4½ years. His past history was negative except for measles and typhoid fever one and two years ago. He began to rest his chin in his hand eight months before examination. There was pain in the neck, which grew progressively worse, and which was complained of at about the same time. A lump on his back was noticed about six months ago.

Examination.—This was negative except for the spinal condition. There was a large angular kyphosis including the last cervical and first two dorsal vertebræ. There was a marked muscular spasm from passive motion. The patient bent with difficulty to pick things from the floor.

Operation.—July 14, 1911. Post-Graduate Hospital. This operation differed from the preceding ones only in reference to the bone-graft. On account of the angularity of the kyphosis, the bone-graft had to be molded into the segment of a circle in order that the corners would not project beyond the tips of the spinous processes distal from the kyphosis. The graft was about 4 inches by 1 inch by ⅜ inch, and included four spinous processes. Both wounds healed by primary union.

This patient is still on a modified Bradford frame. The convalescence has been very satisfactory thus far.

We have at present two cases on reversely bent Bradford frames for the purpose of securing a recession of the kyphosis before operating, and feel confident of holding the correction by the bone-graft.

SUMMARY

1. The inefficiency of present methods in the treatment of dorsal Pott's disease was tersely expressed by Schapps in 1905 as follows: "It is universally admitted that the forms [of portative apparatus] in general use and described in the standard text-books on orthopedics do not, even in the most skilled hands, control the deformity."

2. A firm bony splint with bony union to the vertebra involved and the healthy vertebræ on each side is supplied by this method, which assures not only the prevention of further deformity in two mechanical ways as stated above (leverage and splint action) but should also cause the immediate disappearance of the tuberculous process.

3. This method is believed to be preferable to any, where breaking or cutting of the spinous processes destroys entirely, or for the time being, until union takes place, the desired leverage of the spinous processes and their muscles and ligaments. Union is also uncertain where motion from breathing is present.

4. If bony union should not occur the same mechanical effects would still be largely obtained from the union of the internal bone splint to the ligamentous structures.

5. Perfect immobilization of the few involved vertebræ in the respiratory area of the spine is secured, which is a mechanical impossibility by means of any external apparatus, on account of the constant movement of the ribs, and the vertebræ attached.

6. Fortunately, on account of the anatomy of the part it is not necessary to enter the focus of disease; therefore primary union of soft tissues with immediate bone union can be expected.

7. The normal leverage action of the spinal muscles and the supporting ligaments on spinous processes is not interfered with.

8. The operation is by no means a formidable one. The technic is very simple.

9. When possible it is well to secure a recession of a kyphosis by long recumbency on a reversely bent Bradford frame. This method offers great promise of holding the correction obtained.

10. A bone-graft is far superior to an internal metal splint, because, by following Wolff's law it will become thicker and stronger if necessary to hold the weight or strain brought to bear on it, whereas in the case of an internal metal splint, suture or screw applied to the bone, no dependence can be placed on them to hold weight or strain, because of the bone atrophy and absorption which takes place directly around the metal. This occurs even when no strain is present.

I have found silver wire and screws which were placed through bone only a few months before, in the soft tissues where they had fallen through or out of the bone without being influenced by strain. For this reason and the always present danger of sepsis about buried metal, it would seem that bone-grafting will prove preferable to the internal metal spinal splint of Lange.

125 West Fifty-Eighth Street.

The Structure of Protoplasm.—We are generally agreed at present that it is inaccurate to speak of any one structure as common to all protoplasm, but many cytologists, among whom Bütschli, working chiefly on protozoa, was the first, believe that the different types are referable to one common generalized type which Bütschli described as alveolar in structure. A simple example of such modification of the alveolar into denser plasm can be easily demonstrated in the protruding pseudopodium of *Amœba proteus.*—Calkins in *Science.*

RESPIRATION VALVES

C. C. GUTHRIE, M.D.
PITTSBURGH, PA.

Some years ago I published a description[1] of an arrangement of valves for use especially in administering volatile anesthetics to animals in laboratory experimentation. The apparatus was designed primarily to avoid unnecessary waste of volatile anesthetics. An experiment with the first model constructed, in which an 8-kilo dog was employed, showed a saving of almost exactly one-half in ether when the valves were used, as compared to the amount used with the animal directly connected with the anesthetic bottle in the ordinary manner. This saving is due to the action of the valves in preventing air being forced through the bottle during expiration, thus displacing and carrying away ether vapor. And since expired air is warmer than inspired air under usual laboratory conditions, the increased vaporization due to raising the temperature of the liquid anesthetic is avoided. Furthermore, contamination of the anesthetic by condensation of water vapor is avoided. The valves require no adjustment or attention, as there is nothing that can get out of order. They have been used by the regular medical students in physiology and pharmacology at my laboratory for five years, and in no instance have they required any attention. One size suffices for half-grown cats as well as for large dogs, without any adjustment.

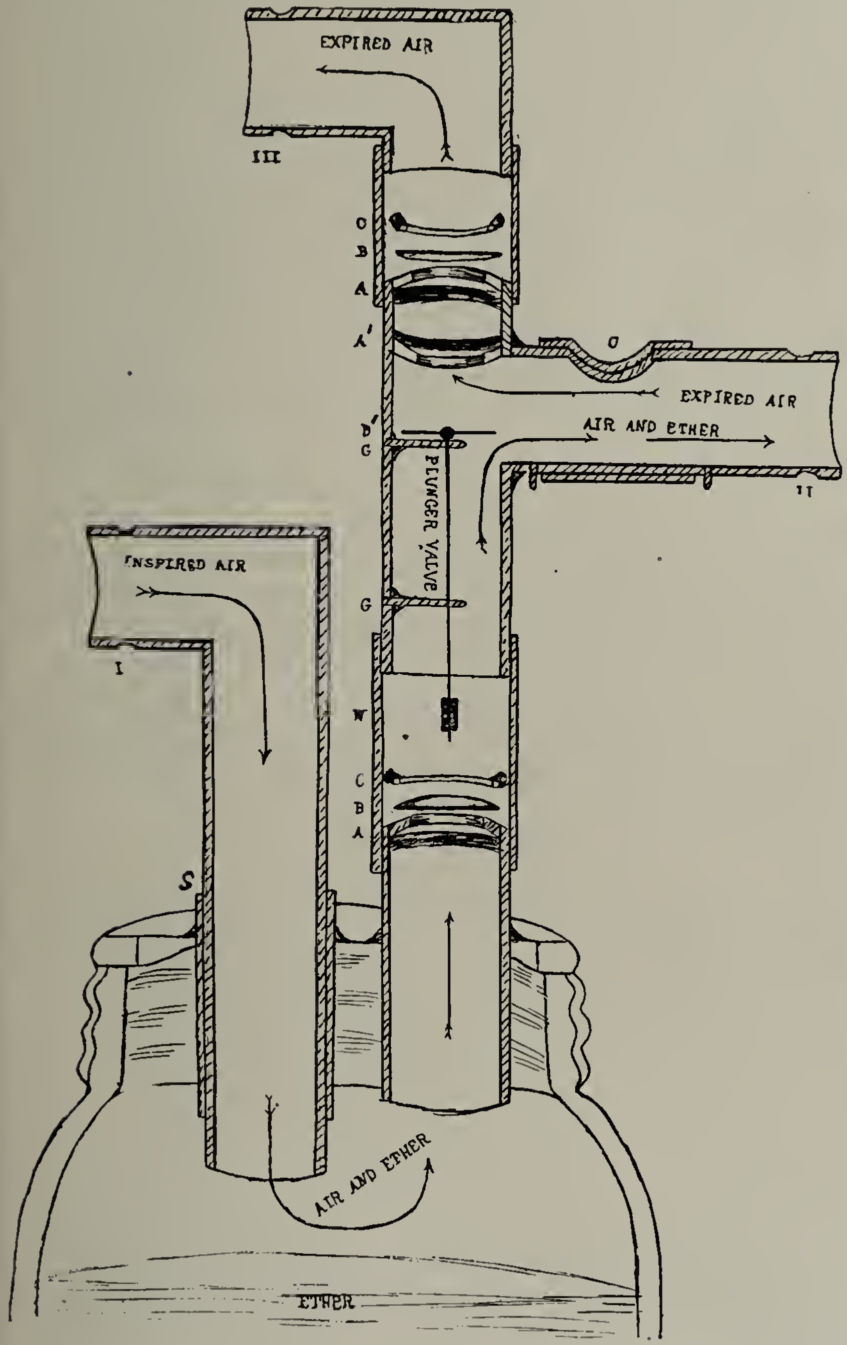

Fig. 1.—Respiration valves. I, entrance for air into anesthetic bottle. *S*, collar in which tube slides for adjusting the amount of ether. II, connection for laryngeal or tracheal tube. *O*, opening in tube and movable collar for adjusting the admixture of air. III, outlet for expired air. By connection with gasometer the amount of expired air can be measured; or by connection with spirometer the expired air can be measured and collected for analysis. A marker may be connected with the spirometer and arranged to record on a moving surface the amount of expired air. *A*, valve seat; *B*, valve disk; *C*, valve stop; *B'*, valve to close the opening at *A'* when artificial respiration is given by means of rhythmic or positive pressure through *I*; *W*, weight for regulating the action of valve in forced artificial respiration.

The apparatus commends itself for other reasons. For example, the audible but not noisy clicking of the valves furnishes a very reliable aural index as to the condition of the animal, and permits the closer concentration otherwise of the senses usually employed in constant observation of the condition of the animal. Or, if it is desired to collect the expired air for any purpose, this may be readily accomplished by connecting a suitable reservoir as a spirometer to the expiration tube. Owing to the desirable features enumerated, the valves are employed in all my operative work, connection with the dog or cat being made by means of an air-proofed hood or laryngeal tube (Figure 3).

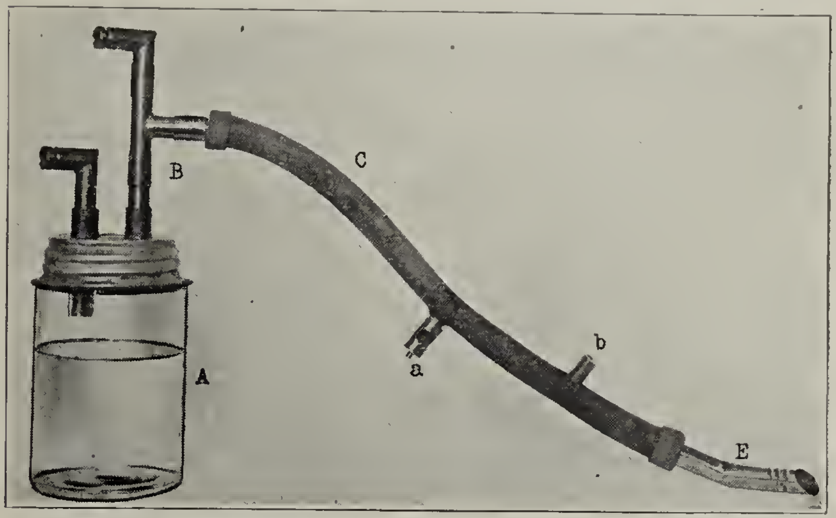

Fig. 2.—Anesthetic bottle, provided with respiration valves and connections.

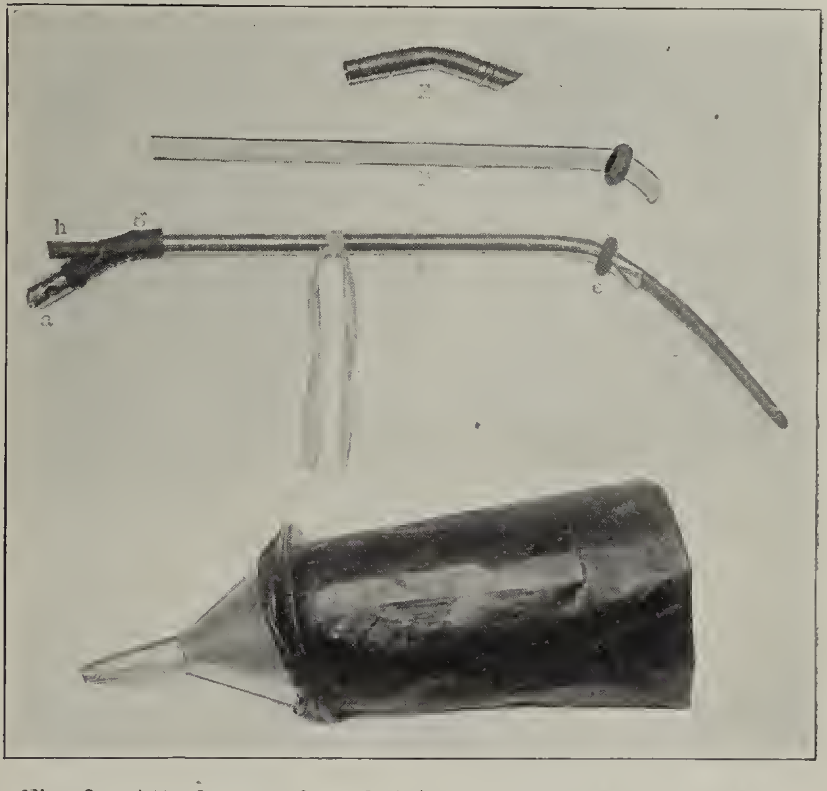

Fig. 3.—Attachments for administering anesthetics, for use with arrangements shown in Figure 2.

The improved valves are shown in Figure 1; also, an additional valve of plunger type, which automatically regulates the entrance and escape of air from the lungs in intermittent pulmonary insufflation, is shown. In thus using the apparatus, a small vent is opened at *O*, to insure prompt opening of the plunger valve. The valves may also be employed in administering anesthetics in continuous pulmonary insufflation.

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[1] Guthrie, C. C.: Respiration Valves, THE JOURNAL A. M. A., April 6, 1907, p. 1183.

Figure 2 shows ether bottle, *A*, and valves, *B*, with rubber tube, *C*, for connecting with hood, *D* (Fig. 3); tracheal tube, *E;* laryngeal tube, *F* (Fig. 3); and laryngeal tube, *G* (Fig. 3), for continuous pulmonary insufflation. The nipple, *a*, on the tube, *C*, is for regulating artificial respiration, when the tube is disconnected from the bottle and air is forced into the lungs by connecting the supply directly with the free end of the tube. The nipple, *b*, is used for connecting a tambour to record intratracheal pressure changes. Both nipples, *a* and *b*, are provided with movable caps by rotation of which the openings, *c* and *d*, are controlled. Construction details of the nipples are shown in Figure 4. The method of attaching the air-tight sleeve to the metal funnel, which forms part of the hood, may be seen by reference to Figure 3. The free margin of the hood is held in contact with the skin by means of thin rubber tissue cut in the form of a strip, an inch or two wide and of sufficient length to encircle the base of the head two or more times. It is applied snugly, but not too tightly, over the margin of the hood, and is conveniently fastened by means of a serrefine clamp. The tracheal tube, *E*, which is of ordinary form, is made of polished or plated metal or glass and is introduced and tied in place in the ordinary way. The laryngeal tube, *F*, is of polished or plated metal or of glass. The curved end is somewhat sloped and flattened and is provided with a thick, soft rubber collar, *e*. A heavy ligature about a foot long is tied around the tube with a single knot a little to the outer side of the middle, in such a manner that the free ends of the ligature are of about equal lengths. Narrow cloth tape serves well for this purpose. To insert the tube, the animal is rapidly anesthetized until the muscles relax, which requires from about thirty to ninety seconds. It is then placed on a table with the head toward the light and the end of a short stick of soft wood is inserted in the corner of the mouth between the molar teeth on one side, the jaws being widely opened for the purpose. The tongue is then grasped with a towel held in the left hand and pulled forward. This brings the epiglottis into view, and with the right hand the curved end of the tube is passed over the epiglottis and into the larynx, until the rubber collar presses against the tissues. The ligature around the tube is then tied firmly about the lower jaw to hold the tube in place. After securing the ligature about the lower jaw and removing the stick from the mouth, the ends may be brought about both jaws and tied on the upper surface of the nose in front of the eyes.

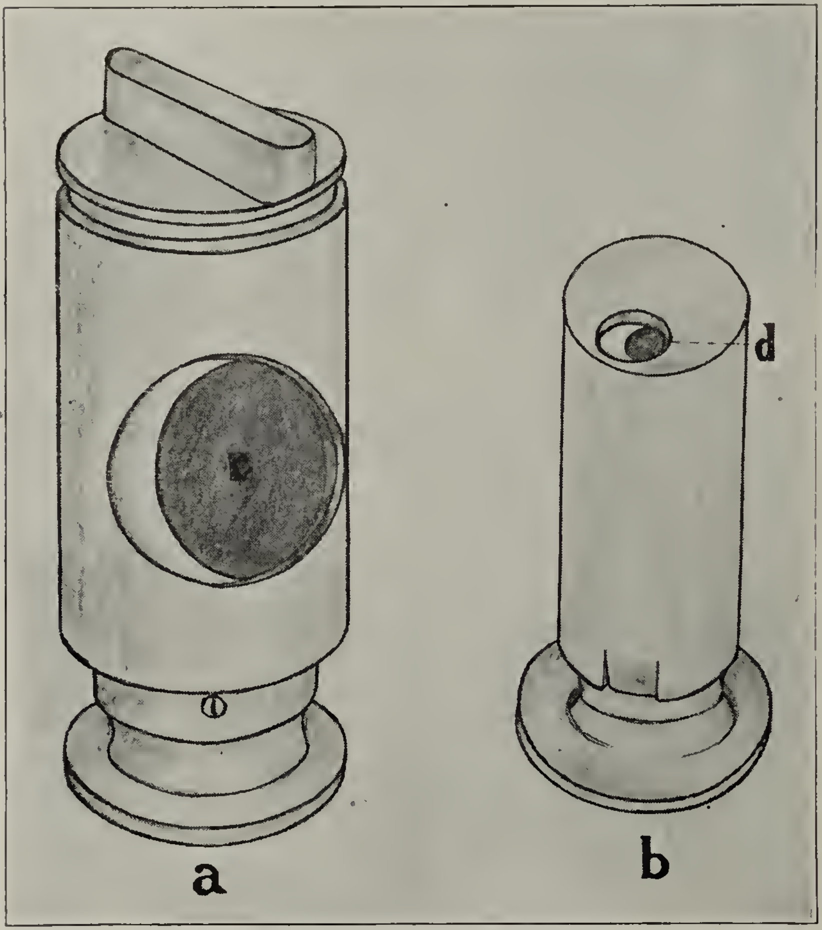

Fig. 4.—Enlarged drawing showing construction details of nipples inserted in tube shown in Figure 2.

The outer tube of the laryngeal tube, *G*, for continuous pulmonary insufflation, is of the same construction as the tube just described, and is inserted in the same manner. The inner tube, *f*, is flexible and of sufficient length to reach from the lips to the bifurcation of the trachea. It loosely fits the outer tube which it enters through a hole in the rubber sleeve, *g*, which it fits snugly. The outer end, *h*, may be provided with a glass or metal tube connector, for convenience in attaching to the compressed air supply. The free end of the rubber sleeve, *g*, is provided with a screw clip or other device such as nipple, *a*, Figure 4, for regulating the amount of outgoing air. The rubber sleeve which is disconnected from the end of the outer tube is removed along with the inner tube, before the outer tube is inserted. After the latter is tied in place, the inner tube is pushed through the lumen of the outer tube and secured in place by connecting the rubber sleeve with the end of the outer tube. The position of the end of the inner tube in the trachea is regulated by sliding it in the hole in the sleeve which it penetrates.

EXCISION OF PARIETAL PORTION OF TUNICA VAGINALIS FOR RELIEF OF PAINFUL TESTICLE FOLLOWING GONORRHEAL INFLAMMATION

GEORGE T. TYLER, M.D.
BUFFALO, N. Y.

Patient.—A soldier, aged 25, stationed at Fort Porter, N. Y., previous history unimportant, had gonorrhea with swelling of left testicle six months previously. The swelling subsided and at time seen, the patient had only a slight mucoid discharge, noticeable in the morning, but complained of painful left testicle.

Examination.—Urine had shreds in the third glass. No stricture. Prostate on palpation was normal; right testicle normal; left testicle not swollen, but very painful and tender on palpation. Any effort to determine outlines of epididymis and first portion of vas caused so much pain that it could not be done.

Treatment and Course of Disease.—It was thought that the lumen of the globus minor was constricted, and the testicle was explored with the idea of excising this portion, and anastomosing the vas with the globus major. But when exposed the epididymis and vas were found normal. Attention was then directed to the testis. Here it was found that the cavity of tunica vaginalis was entirely obliterated; the parietal was entirely adherent to visceral layer by firm dense adhesions and was much thickened. This was dissected off and excised entirely. The testicle was returned to the scrotum and the wound closed with a small drain. Following operation, the tes ticle was swollen for a short time. This soon went down and in ten days healing was complete. Patient was up at this time; symptoms had entirely disappeared. He returned to work two weeks after operation, doing general work around the stable. Hexamethylenamin (urotropin) was given for the urethral condition. The patient was seen six months after operation. The testicle was apparently normal on palpation—no tenderness—no atrophy. Patient rides daily without discomfort—has no symptoms, though this exercise caused much pain before operation.

A casual search through the literature reveals no report of a similar case. The operative treatment of acute epididymitis of course has been mentioned frequently, but none of the authors has discussed this phase of the subject. Painful testicle following gonorrheal orchitis does occur, the patients often becoming neurotic and frequently returning without sufficient signs to explain their symptoms. Adhesions of the peritoneum following inflammatory processes frequently cause pain. The tunica is peritoneum also, and well supplied with nerves. Following an infection of this character, adhesions with pain might be explained on the same basis. This explanation is offered merely as a suggestion.

This case was presented to the Section in Surgery at the Buffalo Academy of Medicine in January, 1911. I wish to acknowledge the courtesy of Captain R. Davis, of the Medical Corps of the Army.

127 Allen Street.

ENDEMIC MALTA (MEDITERRANEAN) FEVER IN TEXAS WITH THE ISOLATION OF THE MICROCOCCUS MELITENSIS FROM TWO PATIENTS

SECOND PAPER

ERNEST R. GENTRY, A.B., M.D., and THOMAS L. FERENBAUGH, A.B., M.D.
Lieutenants, Medical Corps, U. S. Army
[WASHINGTON, D. C.]

In 1905, Captain Charles F. Craig,[1] Medical Corps, U. S. Army, reported a case of Malta fever which had originated in the United States. The patient was a nurse in a hospital in Washington, D. C., where she contracted the disease, probably from nursing infected soldiers. In addition he reported nine cases in United States soldiers, who had become infected in the Philippine Islands. From the introduction to this communication by Captain Craig we quote the following remark:

> I am convinced that a careful study by use of the Widal test and the agglutination reaction with *Micrococcus melitensis*, of many of the cases of obscure continued fevers which are prevalent in this country, will result in the demonstration that Malta fever is by no means a rare disease in the warmer portions of the United States, and that many of the so-called anomalous cases of typhoid fever are, in reality, instances of infection with the organism of Malta fever.

During June, 1911, while stationed at Camp U. S. Troops, Del Rio, Texas, one of us (Lieutenant Thomas L. Ferenbaugh, Medical Corps, U. S. Army), had the opportunity of observing five cases of continued fever occurring in the practice of Drs. R. M. Scott and S. L. Boren of Del Rio, and after making agglutination tests, reported these as cases of Malta fever.[2]

Following the report of these findings to the Surgeon-General of the Army and the confirmation of the agglutination test in the bacteriologic laboratories of the Army Medical School, we were ordered to Texas with a field laboratory to determine, if possible, the identity and extent of this fever. The field laboratory was first located at Langtry, Texas, owing to the fact that four of the patients had been infected near that place, and it was desired to investigate more fully and confirm the earlier work of Dr. Ferenbaugh on these cases.

Shortly after arrival at Langtry, two of the patients previously seen entered on a relapse. This report is based on a laboratory and clinical study of these cases during this relapse.

July 21, patient, C. E. (Case 1 already reported) entered on his third relapse, with a temperature of 104 F. and with the same symptoms as during the previous attack.

On the evening of July 21, a blood-culture was made; 0.5 c.c. of blood was inoculated into each of two sterile broth and litmus milk tubes, each containing 10 c.c. of medium. After incubation at 37 C. for three days the cultures were plated out on glucose-nutrose-litmus-agar and the plates incubated for three days at 37 C. At the end of forty-eight hours about twenty very small, discrete, transparent, circular colonies had appeared on each of two plates, which were later completely identified as the *Micrococcus melitensis*.

July 23 a second blood-culture was made, and the blood inoculated into flasks of sterile broth. After four days incubation the cultures were plated out on glucose-nutrose-litmus-agar with the following results:

Quantity of Blood, c.c.	Amount of Broth, c.c.	Results ......
2.	50.	Pure culture of *M. melitensis*
.3	10.	Sterile
.3	10.	*M. melitensis*
.3	10.	Sterile

One-tenth c.c. of blood was inoculated directly on to the surface of each of two glucose-nutrose-litmus-agar plates with a sterile L-shaped glass spreader and incubated three days at 37 C. Both of these plates were sterile.

BLOOD-EXAMINATION JULY 23

Red blood-cells	4,200,000
White blood-cells	6,500
Hemoglobin	75 per cent.

Differential count, per cent (500 cells):

Polymorphonuclear neutrophils	45
Small mononuclears	47.4
Large mononuclears	6.4
Transitionals	1.2
Eosinophils	0
Mastzellen	0
Nucleated reds	0
Parasites	0

The temperature returned to normal July 28. The patient at the time of this report had been working at the goat camp for the previous two weeks and had suffered no further relapse. On July 29 0.75 c.c. of a centrifugalized specimen of urine was plated out on each of two glucose-nutrose-litmus-agar plates. After four days incubation the plates proved negative for *M. melitensis*. Chemical and microscopic examinations of the urine were negative.

Case 6.—M. E., Langtry, Texas, aged 26, goat herder, brother of the four patients previously seen in Del Rio by Dr. Ferenbaugh. The patient had been working at the goat camp for three months before the onset of the sickness, and had been drinking goat's milk at the camp. He became ill June 14, 1911, with headache and pain in the back of the neck; ached all over; no definite chill; profuse sweating, especially at night; complained a great deal of eyes smarting; appetite fairly good, bowels constipated. The patient did not go to bed during the first attack of fever, but stopped work. The fever ran a mild course and returned to normal June 24. Temperature remained normal until July 19, when fever again returned. When seen at the Army laboratory at Langtry,

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[1] Craig: Internat. Clin., 1905, 89.

[2] Ferenbaugh, T. L.: Endemic Mediterranean Fever (Malta Fever) in Southwest Texas, The Journal A. M. A., Aug. 26, 1911, p. 730.

July 21, the patient had a temperature of 102.5 F., and complained of headache, loss of appetite, pains in joints, weakness, profuse sweating at night and insomnia.

July 23 a blood-culture was made, and 4 c.c. of blood inoculated into a flask containing 60 c.c. of sterile broth. After incubation for two days the culture was found to be contaminated with a rapidly growing acid-producing coccus, and although the culture was plated out repeatedly on glucose-nutrose-litmus-agar no colonies resembling the *M. melitensis* could be found.

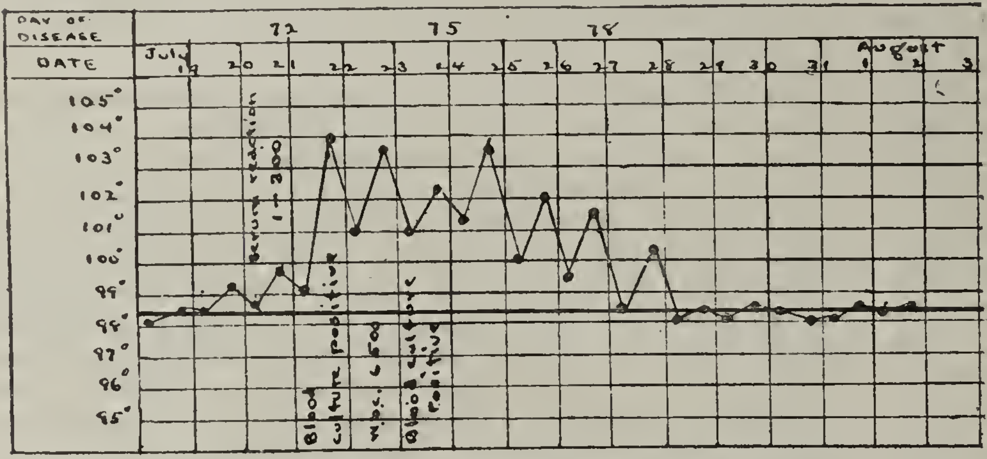

Fig. 1.—Chart showing temperature curve, blood-count and results of blood-culture in third relapse in Case 1 (C. E.).

July 29 a second blood-culture was made. The temperature at the time was 101.8 F. The blood was inoculated into flasks of sterile broth, which were incubated for four days and then plated out on glucose-nutrose-litmus-agar with the following results after three days incubation:

Quantity of Blood, c.c.	Amount of Broth, c.c.	Results
1.	100.	Pure culture *M. melitensis*
0.5	100.	Pure culture *M. melitensis*
0.5	100.	Contaminated

Four-tenths of a cubic centimeter of blood was inoculated on to the surface of a glucose-nutrose-litmus-agar plate with a sterile L-shaped glass spreader. After two days incubation about twenty colonies of *M. melitensis* appeared on the plate.

Blood-serum on July 28 gave the following agglutination tests:

M. melitensis 1-80 dilution, positive in one hour.
Normal control 1-50, negative in one hour.
Bacillus typhosus, 1-50, negative in one hour.

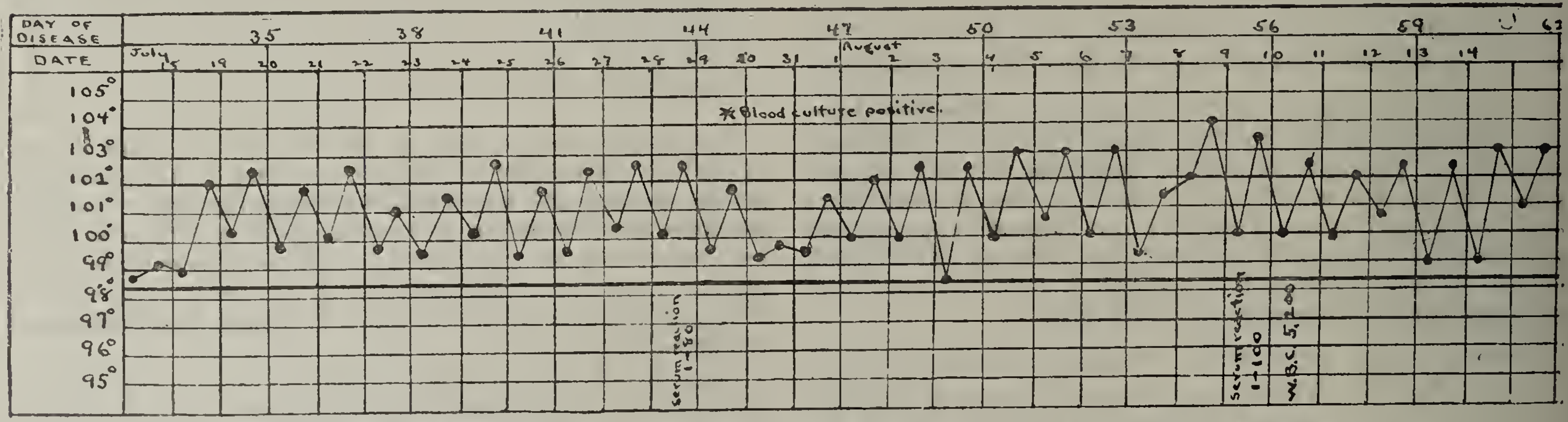

Fig. 2.—Chart showing temperature curve and blood-findings in second relapse in Case 6 (M. E.).

BLOOD-EXAMINATION, AUGUST 9

Red blood-cells	4,390.000
White blood-cells	5,200
Hemoglobin	75 per cent.

Differential count, per cent (500 cells):

Polymorphonuclear neutrophils	46.
Small mononuclears	47.
Large mononuclears	5.6
Transitionals	0.8
Eosinophils	0.4
Mastzellen	0.2
Nucleated reds	0
Parasites	0

Agglutination tests August 9 resulted as follows:

M. melitensis, 1-50 dilution, positive in 10 minutes.
1-100 dilution, positive in 30 minutes.
1-300 dilution, negative in 1 hour.
Normal control 1-50, negative in one hour.
Bacillus typhosus 1-50, negative in one hour.

The urine was repeatedly plated out on glucose-nutrose-litmus-agar, but was negative in each instance for *M. melitensis*. Chemical and microscopic examinations of urine were negative.

August 14, the patient was still very ill, the fever ranging from 100-102.5 F. daily. The patient complained of headache, profuse sweating, loss of appetite, pains in the joints and obstinate constipation. Physical examination showed enlarged liver and spleen with some tenderness over both. Abdomen slightly distended and some rigidity of the abdominal muscles was present; otherwise physical examination was negative.

Agglutination tests in the above cases were made both microscopically and macroscopically. Both methods gave identical results.

METHODS USED IN THE ISOLATION AND IDENTIFICATION OF THE MICROCOCCUS MELITENSIS

The organism was isolated by means of blood-cultures, which were made in two ways:

1. The ordinary method of drawing blood with a syringe from a vein in the elbow.
2. By the sterile capillary tube method of Zammit,[3] the blood being taken from the ear.

Both methods give good results. The Zammit method is especially useful in Malta (Mediterranean) fever, since the organism is present in small quantities of blood during the fever stage. Zammit isolated it from as small a quantity as 0.005 c.c. It is also valuable in field laboratory work where patients often refuse to permit the taking of blood from a vein.

Media.—Sterile broth in flasks, reaction + 1, was used as a preliminary enriching medium. The medium used for the isolation of the organism was a glucose-nutrose-litmus-agar[4] containing 1 per cent. each of glucose and nutrose and standardized to a reaction of + 1. The experimental work of Major Horrocks,[5] R.A.M.C., of the British Mediterranean Fever Commission, has shown that the addition of 1 per cent. nutrose to agar or broth greatly accelerates the growth of *M. melitensis* and also since the organism does not ferment glucose, the addition of this sugar tinted with litmus is of great service in isolating the organism from a mixed culture.

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[3] Zammit: Reports of British Commission on Mediterranean Fever, Part 1, Article 6.

[4] Kolle and Hetsch: Die Experimentelle Bakteriologie und die Infektions-Krankheiten, Edition 2, Kultursmethoden.

[5] Horrocks: Reports of British Commission on Mediterranean Fever, Part 1, Article 1.

In obtaining the blood, strict aseptic precautions were observed in every case to avoid contamination. From 2 to 4 c.c. of blood were taken and inoculated into the broth-enriching medium in the proportion of one part of blood to not less than thirty parts of broth. The broth cultures were then incubated at 37 C. for four days.

In plating out these cultures, the liquefied glucose-nutrose-litmus-agar was poured into sterile Petri dishes and allowed to cool until the surface was well hardened. Several drops of the broth culture were then deposited near the center of the plate with a sterile pipette and then distributed over the surface of the medium with a sterile L-shaped glass spreader. Plates were then incubated for three days at 37 C.

After forty-eight hours' incubation there appeared, on the positive plates, a considerable number of small, round, transparent, colonies with a yellowish tinge and slightly granular center and presenting a typical "dew-drop" appearance by transmitted light. The colonies produced no fermentation of the medium and remained blue even after two weeks' growth.

The colonies were fished and the organism found to possess the following characteristics:

Morphology.—A small coccus, non-motile, emulsifies readily in hanging drop and exhibits the characteristic Brownian activity. It does not stain by Gram.

Cultures.—Growth on agar slants appears after three days incubation as small transparent colonies along the line of inoculation. In litmus milk after four days the milk becomes markedly alkaline without change in consistency of the medium. No fermentation in glucose.

Agglutination Tests.—Agglutinates readily with a specific immune serum at dilution of 1-1,000 in one hour.

Agglutinates readily with patient's serum at dilution of 1-200. in thirty minutes.

According to Major Horrocks,[6] "a microorganism which agglutinates with a specific animal serum in a high dilution, does not ferment glucose, renders milk alkaline without coagulation, may be justly regarded as the *M. melitensis.*"

The organism which we have isolated from these two cases of continued fever conforms to the foregoing criteria in every respect.

CONCLUSION

Endemic Malta fever exists in Texas at the present time.

We desire to thank Brigadier General George H. Torney, Surgeon General of the Army, for extending to us the opportunity for studying the identity and distribution of this disease. We also desire to thank Major F. F. Russell, Medical Corps, U. S. Army, and Captain Charles F. Craig, Medical Corps, U. S. Army, for much valuable advice and assistance.

Belladonna in Epilepsy.—The use of belladonna in epilepsy dates from the seventeenth century. It was recommended by Mardorf, in 1891, and later was a favorite remedy of Trousseau. Since the advent of bromid its use has become less general. It is of most avail in cases of *petit mal* and those complicated with nocturnal incontinence. The best results are obtained where it is given in conjunction with the bromids. The best preparation is the tincture in doses of from 5 to 10 minims.—E. L. Hunt in *Medical Record.*

THE CONTROL OF TYPHOID FEVER *

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Typhoid fever is an acute, infectious and contagious disease occurring in man, and is caused by *Bacillus typhosus.* The typhoid bacillus depends for its perpetuation on multiplication in the body of man. The organism leaves the human body in the discharges from the bladder and bowel. All methods of control of typhoid fever must rest on the proper disposal of this material. If human excreta are prevented from reaching human mouths, typhoid fever will be entirely prevented.

In the United States, typhoid fever causes approximately 35,000 deaths, and incapacitates about 450,000 persons each year at their period of maximum earning capacity, thus causing an estimated economic loss of $150,000,000. The disease prevails practically throughout the United States. The application of the measures necessary for the control of typhoid is of paramount importance, not only on account of the large number of cases and deaths and the enormous economic loss resulting therefrom, but also because of the fact that these same measures will control a number of other diseases such as hookworm disease and diarrheas and dysenteries, and will render impossible the spread of Asiatic cholera.

THE TYPHOID ORGANISM

The typhoid organism is a motile bacillus, growing well on practically all laboratory media. Its resistance to heat, light and chemical agents is relatively low. Its normal abode is the human body, but under certain circumstances its life outside the body, as in water, sewage, soil polluted with human excreta, butter, or in shellfish may be prolonged for weeks or even months. Usually, however, its life outside the body is short. It resists drying as in dust or on clothing for considerable periods of time. The multiplication of the organism outside the human body takes place only under exceptional circumstances, and is not an important factor in the spread of the disease, except in connection with milk.

SOURCE OF THE INFECTION

The sources of the infectious material are the discharges from the human body. These may be from recognizable cases of the disease, from persons in the incubative or ambulant stages of the disease, from convalescents, or from the so-called chronic typhoid carriers. While the discharges from the bladder and bowel constitute the major portion of the infectious material, other secretions such as the tears, sweat, saliva or bronchial secretion of the patients may contain the organism. It also occurs occasionally in the pus from post-typhoid cold abscesses, and in the mammary secretion.

METHODS OF SPREAD

The usual portal of entry of the typhoid bacillus is the mouth. It reaches the mouth in food and drink, from infected fingers, possibly by infected dust, or by any other material infected with the specific organism.

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[6] Horrocks: Reports of British Commission on Mediterranean Fever, Part 1, Article 3

* Report of the Committee on Typhoid Fever to the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Meeting, held at Los Angeles, June, 1911.

EPIDEMIC TYPHOID

While anything soiled with human excreta may act as a vehicle for transporting the infection from its source to the victim, water, milk or other foodstuffs are usually the vehicles in sudden epidemics or outbreaks of the disease.

Small streams or bodies of water usually not polluted may receive a relatively large amount of infections material at one time, from a case or cases on the watershed, and may give rise to an extensive explosive outbreak. Streams or bodies of water usually more or less polluted with sewage may, by reason of changes in the conditions affecting the viability of the typhoid bacillus, or in the amount of infection they receive, become so heavily infected as to give rise to a sudden outbreak.

Wells and springs used by large groups of persons may become infected from seepage or from direct introduction of the infectious material, and thus give rise to an epidemic, more or less localized in character. Water in aqueducts, conduits or water mains may become infected through leakage.

Milk is a common vehicle for typhoid infection. The organism multiplies readily in milk. The milk may be infected by hands or flies soiled with human excrement, by being mixed with infected water, by the use of utensils which have been washed in infected water, or by being placed in infected bottles or other vessels.

Fresh vegetables, infected with human excrement used as a fertilizer, shellfish grown or "floated" in polluted water, or any food touched with hands soiled with human excrement, or placed in containers soiled with human excrement may give rise to epidemic typhoid.

ENDEMIC TYPHOID

In certain communities typhoid fever is continuously present. In such instances the infectious material may be *exogenous* or originating outside the community and be brought into it by a heavily polluted water-supply, milk or other foods more or less constantly infected. Even when the infection is not introduced from without in this way, a community may suffer from a continuously high typhoid rate due to *endogenous* infection or infection originating within the community itself. This type of typhoid has been called residual or prosodemic typhoid. Many factors contribute to the spread of endogenous typhoid fever. All depend on failure to exercise proper care in the disposal of human excrement within the limits of the community affected. These factors are: contact; surface wells and springs in the area affected; failure to diagnose, report and properly supervise cases of typhoid; improper handling of milk and foodstuffs; and the exposure of human excreta so that it may be scattered by flies or by other means.

The spread of typhoid fever depends on the same general factors in both rural and urban communities. In rural districts, the factors of water, milk and other foods are not so potent, as products of this kind from one source do not usually reach large groups of persons. Factors depending on flies, contact and similar means, on the contrary, are even more potent in the spread of typhoid in rural districts by reason of the almost universal use of the open surface privy.

INVESTIGATION OF TYPHOID FEVER

The investigation of the causation of typhoid fever necessitates a careful study into all the factors concerned in its spread. The investigator should be able to diagnose the disease, be acquainted with the methods of investigation, and have sufficient experience to interpret his findings.

Preliminary to investigation, all known cases, including abortive and mild cases of the disease, should be located. The diagnosis of a sufficient number of cases to determine the character of the disease should be made at the outset. Death certificates and reported cases should be tabulated and all cases reported by physicians as enteric fever, slow fever, fever, abdominal fever, typho-malaria, winter cholera, bloody flux, diarrhea, continued fever, malaria, nervous fever, or any febrile or intestinal complaint should be regarded as suspicious of typhoid until another diagnosis has been established.

In addition to the cases reported from physicians, other persons should be questioned as to suspicious cases occurring in their neighborhood and cases reported in this way should be promptly investigated. Records of hospitals in the community should also be examined.

As soon as the diagnosis is established and the cases collected, they should be investigated one by one. As far as possible each house in which a case has occurred should be visited and all information bearing on the case collected there. In order to secure accuracy, completeness and uniformity, it is desirable that some form of blank be used for the collection of this data. The blank should cover the following facts regarding the case: name, residence, color, sex, age, date the person took to bed, date of first symptoms, civil condition, school attended, church and Sunday school attended, occupation, how long at present residence, absences from home during month preceding illness, source of water used for drinking at home, at place of business, and water other than that of public supply drunk away from home during preceding month, source of milk used at home, other milk drunk, restaurants where patient has eaten during the month preceding, ice-cream eaten and its source, fresh vegetables and shellfish and their source, source of ice used at home, name of physician, exposure to other cases, cases in house previous to this, cases in neighborhood, cases at school or at place of business, etc., names of servants employed and residences of each, visitors at residence during month, general sanitary condition of premises, condition of well or spring, if any, condition of privy, if any; and screening against flies, condition as to isolation of cases and disinfection of discharges, screening of patient against flies, presence or absence of trained nurse.

Before any conclusion is drawn as to common sources of infection, all information collected about cases should be tabulated in convenient form so that all factors concerned may be seen together. A convenient method is to place the names or numbers of the cases in a vertical column at the left side of the sheet, other vertical columns being ruled for the various factors involved. The information regarding any one case is thus in a horizontal line, while the information regarding any one factor such as milk, contact, etc., is in the vertical column. A separate sheet should be ruled for the milk-dealers, their names being in the vertical column to the left; other vertical columns should be ruled, one for each day of the epidemic. Cases can then be spotted against the milkman on the day of their occurrence. All tabulations should be made in reference to the day on which the patient takes to bed. The cases should be plotted by days, giving the chronologic curve of the outbreak. If a map of the community is available or if one can be made, the cases should be spotted on it according to the point of origin. Spots or tacks of different colors may be used on this map to indicate different facts regarding the cases.

A study of the charts and maps so prepared may direct the investigators' attention to some factor or factors, as being most probably responsible for the spread of the disease. Certain factors can usually be eliminated as a result of this preliminary study. Attention should then be focused on those factors which, apparently, might be responsible. All clues and leads should be followed up until all information bearing on them has been collected. The investigator should retain an open mind throughout the study and should always remember that other minor factors may contribute to the spread of the disease within limits, even though the great bulk of the cases may be caused by some great general factor.

WATER OUTBREAKS

In order to direct intelligently the field investigation which must be taken up after the cases have been inspected, the investigator should recognize the general features of epidemics due to different causes. If the preliminary study shows all or practically all the patients to have used habitually any common supply of water, investigation of the conditions surrounding the water-supply should be made at once. In a sudden outbreak, especially during the winter months, in a community previously practically free from the disease, unless there is strong evidence that milk is responsible, water should be assumed to be the cause of the outbreak until proved otherwise. In all instances in which the users of any common water-supply seem to suffer more severely than others, suspicion should be attached to the water.

A sanitary survey of the water-supply should be instituted at once in all such instances. On small watersheds, the entire area should be gone over as thoroughly as possible to find any existing points of obvious pollution, and to locate actual cases of the disease which may have furnished the infectious material. Where larger streams are used, all sewage outfalls should be located, the intake for the water-supply examined, and all information possible regarding pollution further up stream collected. Currents, ice, freshets and other factors of flow should be determined. In communities using water from ponds and lakes, points of pollution along the shore should be determined, sewer outfalls located, and currents and prevailing winds should be taken into consideration. Where wells or springs are used they should be carefully inspected and nearby points of pollution, sewer lines in the neighborhood or local pollution about the mouth of the well or spring should be determined. All geologic facts bearing on the supply of such springs and lakes should be collected and considered. Pumping stations, filter-plants, storage reservoirs and all parts of the distributing system should be examined as completely as possible. Breakdowns, overflows, shortage, supplementary supplies, and emergency systems for fire protection should be determined and recorded.

While sanitary inspections usually give the most important information about the pollution of a water-supply, valuable additional information may be obtained in many instances from the results of careful chemical and bacteriologic work. Whenever possible, samples should be collected and examined at every stage in the passage of the water from its source to the consumer. Vended water-supplies in use in the community should be inspected and examined in the same way as public supplies, if there is any suspicion of their being responsible for the outbreak.

MILK OUTBREAKS

Indications pointing to typhoid infection from milk usually appear early in the investigation. The fulminant character of the outbreak in which the maximum number of cases per day appears almost immediately, the distribution in certain sections of the community, and the high incidence of the infection among users of milk usually give the investigator a clue. The first step in the investigation of evidence should be the tabulation of all milk-dealers supplying the community, with the approximate number of gallons per day distributed by each. Those dealers showing a disproportionately large number of cases should be investigated first. Every step in the course of the milk from the cow to the consumer should be scrutinized. In instances in which the dealer handles milk from only a few farms, this is relatively a simple matter, involving a trip to the dairy and dairy farms, the inspection of all employees, collection of information as to the health of all employees and to their association with the sick, particularly those recently employed, discharged or leaving on account of illness, also an inspection of water-supplies used for cooling or cleaning of utensils or cans. The methods of transportation, possibility of infection during transportation, the city milk depot, its employees, methods, equipment and water-supplies, and lastly the driver of the individual wagon and the methods of vending must be taken into account. Bottling and the possibility of infection from bottles coming from houses in which the disease exists should be considered. In investigations of the possibility of infection of milk by handling, bacillus-carriers should be constantly kept in mind.

OTHER FOODS

The determination of the influence of foods other than milk in the transmission of typhoid is usually a matter of great difficulty. Other factors should be eliminated as completely as possible before attention is focused on this point. In instances in which fulminant outbreaks of typhoid fever occur among those who have partaken of certain articles of diet in common, each item of the menu should be traced to its source, and all persons concerned in the vending, preparation and serving of the various articles of food subjected to careful examination as to their sanitary history. In addition it should be determined exactly what articles on the menu were eaten by each person affected. In this way the infected article may be incriminated. Chemical or bacteriologic examination of food remaining from the meal, or of like articles of food from the same source as those suspected, may furnish additional evidence. The present methods of isolating typhoid bacilli from foodstuffs are difficult and uncertain. Furthermore, infection of foodstuffs is often transitory, occurring at intervals, and the life of the typhoid bacillus in most foods is so short that it may not survive for the time elapsing between the infection and investigation. For these reasons failure to recover the organisms should not negative strong epidemiologic evidence.

SPREAD FROM ENDOGENOUS INFECTION

When the introduction of exogenous infection through water, milk, or other foods is eliminated from the problem, other factors must be considered. The determination in any community of the means of spread of typhoid fever arising from sources within the community itself is, as a rule, a matter of great difficulty. Many factors varying in degree of their operation are involved. In addition to direct personal contact with the case of typhoid, indirect contacts, varying in degree and often devious and obscure in their course, undoubtedly contribute to the spread of the infection. Any foodstuff or any material handled by human beings so as to become soiled to the slightest extent with human excreta may act as a link in the chain of indirect contact. Hands so soiled may serve to infect bread, fruit, milk or other foods which may in turn carry the infection to an indivinal or a number of persons. Flies which have had access to infectious material may act as distributing agents. Surface wells and springs locally polluted may give rise to few or many cases of the disease among the persons using them.

Due to the multiplicity and complexity of the factors concerned in the spread of typhoid fever from endogenous infection, a study of cases resulting from such infection seldom presents the characteristic and striking features presented by a study of cases from exogenous infection. A careful study of all cases in the community under consideration is always necessary. In some instances this study must be prolonged over a considerable period before reasonably definite conclusions can be reached. In addition to study of individual cases, and such studies of the water, milk and other food-supplies as are necessary to eliminate them as vehicles for the transportation of infection, the general features of the disease in the community should be given careful consideration. The facts regarding the prevalence of the disease for as long a period of years as accurate statistics are available, should be carefully compiled, charted and studied. The number of cases and deaths for each month of the years for which records are available, should be charted, and the average morbidity and mortality rates for each month should also be charted.

A chart showing the relation between the average monthly death-rate and the average monthly mean temperature for the same period of years should be prepared. In communities in which typhoid fever is due largely to endogenous infection, the typhoid curve follows closely the temperature curve, taking into account the time elapsing between the infection and the death of the patient. For communities using a heavily polluted water, peaks in the typhoid curve during the winter and spring months are frequently higher than the crest of the summer curve.

A strikingly seasonal (summer) prevalence of typhoid fever in a community should not be taken, however, as a positive indication that the disease is due entirely, or even for the greater part, to endogenous infection; because coincident with the warm summer weather there may be an increase in the number of cases in the surrounding country, with a consequent increase in the amount of exogenous infection introduced through foodstuffs which have become infected at their farm sources.

The geographic distribution of the cases in the community is sometimes of significance. There may be a well-marked tendency toward concentration of cases in and around insanitary areas. It should be borne in mind, however, that even when the disease is due almost entirely to endogenous infection it may be generally distributed over a large community.

The chronologic distribution is frequently suggestive. Scattered cases appear at intervals, gradually increasing in number and reaching a maximum usually toward the end of the hot season, then declining slowly to the winter normal. This is usually in striking contrast to the sudden explosive character of an exogenous outbreak.

If the sanitary survey of the community reveals the existence of a large number of open privies or of other insanitary practices giving rise to wide-spread excretal contamination, it may be assumed that typhoid fever is spread as a result, and the finding of such conditions constitutes important corroborative evidence of endogenous infection.

A conclusion that typhoid fever in any community is due largely to either endogenous or exogenous infection should be drawn only after an exhaustive study of all the facts available. In practically every community in which typhoid fever prevails both types of infection are operative, their relative proportions varying from time to time. Measures for the restriction of typhoid fever in any community must therefore comprehend all factors concerned in the distribution of both endogenous and exogenous infection.

THE PREVENTION OF TYPHOID FEVER

While means for the prevention of typhoid fever vary according to local and other conditions, certain fundamental procedures are necessary in every case.

An adequate supply of water of good sanitary quality for domestic use is, of course, absolutely necessary. The work of furnishing such a supply is usually left to engineers, but sanitary considerations in connection with any supply should be paramount. Under emergency conditions, a water-supply, even if known to be polluted, may be rendered safe for use by disinfection with hypochlorite of lime. Supplies obtained under conditions indicating pollution and used without filtration should be furnished with auxiliary plants for the addition of hypochlorite of lime to the water. Where public supplies are not available, as in small towns and rural districts, all wells and springs should be supervised to secure such construction and care as will prevent pollution.

An adequate sewerage system, reaching every part of the community, should be constructed whenever possible, and every closet should be connected with it. Soil pollution should be prohibited under penalty. Where water carriage of sewage is impossible, all privies should be built and kept strictly in accordance with sanitary principles; to retain the excrement in a water-tight receptacle, screened against flies, until it is removed under official supervision. When possible, the material from the privies should be cremated. When this is impossible, it should be mixed with a disinfectant solution and buried as far from human habitations and important watercourses as possible. It should never be used for fertilizer on any garden or truck farm.

Milk production should be under constant and rigid supervision. All dairies and milk depots should be frequently inspected, the greatest possible degree of cleanliness should be insisted on, and all cases of sickness on a dairy farm should be promptly reported to the health authority and immediately investigated. When indications point to infection of any milk-supply, the consumer, rather than the producer, should always be given the benefit of the doubt. No large milk-supply can be regarded as safe, in view of the likelihood of frequent accidental infection, unless subjected to efficient pasteurization under official supervision.

Accurate supervision of all cases is of the greatest importance. This should include visitation of every case as soon as reported, with collection of epidemiologic data, instruction of the family as to necessary precautions, particularly in regard to disinfection, free supply of disinfectants to the poor, provision for screening of all cases against flies, and revisitation as often as necessary to secure proper care of each case. The visiting nurse is of great value in this work.

Provision should be made for prompt diagnosis of all suspicious cases by laboratory methods. The blood-culture is recommended for this purpose.

Fly prevention by removal of filth and garbage and legal control of stables, requiring screening of manure pits and weekly removal of manure should be practiced.

Garden truck and fruits should be protected as far as possible by screening against flies, and cleanliness in all shops and other places where human food is stored or handled should be required. The use of human manure for fertilizer on truck gardens should be absolutely prohibited. Restaurants, soda fountains and ice-cream factories and depots should be frequently inspected and cleanliness required.

Popular education regarding the nature, cause and means of spread of typhoid fever, particularly with reference to spread by contact with the case and by fecal contamination, should be carried on until every citizen is acquainted with the facts about the disease.

In rural districts the construction and maintenance of a sanitary privy on every farm, the total abolition of the surface privy, the proper construction and care of wells and springs, and the education of the people as to the contagiousness and necessary means for preventing the spread of the disease are the essential measures. Education is the first essential.

Vaccination against typhoid fever by inoculations with killed cultures of typhoid bacilli seems to confer a marked immunity to the disease. While the duration of this immunity has not yet been definitely determined, the results of experiments with the agglutination of the blood of inoculated persons would indicate that the immunity has a duration of less than one year. It should be borne in mind, however, that the duration of the immunity may not coincide with the persistence of the agglutinating reaction in the blood. This has still to be determined. The reaction from the inoculation is in most cases slight, and the value of the protection has been thoroughly demonstrated by its use in military forces. These facts would seem to warrant a more general use of the method in those particularly exposed to the infection, especially physicians and nurses. Its value in the face of an epidemic has still to be determined.

In conclusion, the prevention of typhoid fever in the United States to-day depends on an improvement in the present methods of disposing of human excreta. Until all the people can be taught that the most dangerous material with which they come in contact in their daily lives is filth from human bodies, and until their sanitary habits are so changed that human filth is prevented from reaching human mouths, the prevention of typhoid fever cannot be consummated.

The necessary brevity of this report has prevented a fuller discussion of many questions into which the committee would otherwise have gone at length.

The report is a condensation of facts and views from many sources and your committee has not deemed it wise to attempt to give individual credit for them.

The views expressed in the report regarding typhoid fever from infection originating within the affected community are based largely on work done in the cities of Washington, D. C., and Richmond, Va. The committee feels that it should acknowledge its obligation to Dr. E. C. Levy, Chief Health Officer of Richmond, Va., for much of the work on which these views are based and for much assistance in clearly defining the distinction between the two types of infection in any community — that originating without and that originating within the community itself.

HOW TO COLLECT OLD MEDICAL BOOKS IN EUROPE

WHERE TO GO AND WHAT TO LOOK FOR *

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There are physicians who not infrequently apply to themselves what, it may happen, is one of their own favorite prescriptions — a summer vacation in Europe. To such, a few hints as to ways and means of locating rare medical books while abroad may not come amiss, while it may perhaps interest the returning traveler to survey a few actual or hypothetical experiences.

We will assume that our traveler, if not interested in the whole history of medicine, or at least a specialist, is at any rate sportsmanlike enough to care something about the classics in his favorite branch of medicine. To one of this stamp Europe is indeed the Happy Hunting Grounds — the most favorable haunt for the medical book-lover. On the Continent there is always an even chance of picking up some little treasure-trove of European medicine or even one of the earlier medical Americana for a song. But, as with hunting and fishing, there are more ways than one, so success oftenest comes to him who shuns "the madding crowd's ignoble strife." Where there is more competition among buyers than among sellers, prices are sure to be high and let no one fancy that the larger antiquarian bookstores in cosmopolitan centers will let anything go for less than it is worth. In an interesting talk before the Medical Library Association in the spring of 1909, Sir William Osler emphasized the point that, on account of the growing interest of medical book-fanciers in rare first editions and quaint folios, such things are becoming practically inaccessible by reason of the prohibitive prices put on them by antiquarian booksellers. Reasonable figures, it seems, can only be had at some occasional auction sale or in out-of-the-way places in Italy. To illustrate this, he cited an experience of a copy of the "Inventum Novum" picked up for a lira, when a western colleague who was also an admirer of Auenbrugger had just paid $100 (about 500 times as much) for the same classic in Germany. This is, of course, an exceptional piece of luck, yet it illustrates the value of frequenting the haunts of the *Kleinstädter* — the little stalls about Paris, the English cathedral and seaport towns, some quaint old city of the Low Countries, the little places nestled in the Swiss or Tyrolese Alps, the charming old towns of the Fatherland, famous in civilization and learning, and, above all those Italian cities of lesser rank, which Renan thought still "aglow with infinite glory"— Florence, Siena, Perugia, Padua, Milan, Turin. Let neither Venice nor the devious by-ways of the Eternal City be forgotten, nor Vienna and the Slavic and Scandinavian university towns. It is in the modest obscure book-stalls of places like these that one can buy to greater advantage, sometimes making remarkable finds at prices four or five times less than the experienced antiquarian would sell them for.

As the true traveler is not he who rushes from pillar to post, annihilating space and time in his mad effort to see everything at once, but rather he who is inclined to "loaf and invite his soul," to saunter, to *flâner* and to absorb the atmosphere of some beloved place, so there is a gentle art of book-buying as well as of book-selling, the rudimentary features of which are known to every true bibliophile. We can only deal in glittering generalities, but those of the true cult inevitably get the browsing habit. As in bazaars in the far East, shopping is always a sort of social diversion, so the book-lover *pur sang* will never ask for a coveted volume point-blank, for, if the dealer happens to be one who has a sliding scale of prices, he is sure to profit by so naïve an interest, especially if his prospective customer is perceived to be a foreigner. As Balzac says: "Too much confidence diminishes respect, while others take advantage of excessive enthusiasm." If time permits, it is better to spar for points. Look as innocent as possible, and when the zealous bookseller comes smilingly forward, simply say that you want to look around a little. Left to your own resources walk from shelf to shelf, addressing to the bookseller now and then some question which will bring you nearer your goal. Perhaps, like the unfortunate antiquarian in Henry James' remarkable study "The Bench of Desolation," your dealer may have a fine feeling for literature itself. In this case you can safely chat with him about the desired volume, and it would be a very poor bookseller indeed who failed to produce it under these conditions along with some others. He will, in fact, show you these books in the spirit of the hidalgo in "Hernani"—*J'en passe et des meilleurs.* You examine them at leisure and finally say, in passing, that while it is not exactly of great interest to you, you might buy this volume if it does not come too high, or else simply price the books indifferently one by one. The dealer, happy that he is, after all, about to make a sale to the stranger, names a moderate price, and the purchaser walks away in the happiest frame of mind. On the other hand, a bookseller who nags his prospective customers with his importunities, however polite or well-meant, is not likely to attract them. It is an unwritten law of human nature that those who make social or other advances too rapidly usually turn out to be suspicious acquaintances and a fair standard of self-respect, for men and women alike, is summed up in the famous inscription over the gateway of Krupp's gun-foundry at Essen: "Those applying for permission to see these works may expose themselves to a refusal." As a rule, however, such defensive tactics are seldom necessary with the gentle antiquarian who is too frequently of a retiring, if not of a negative, disposition.

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* From the Library of the Surgeon General's Office.

* For reasons of space, a "miniature Baedeker for medical bibliophiles," prepared to accompany this article, is here omitted, but is given in full in the authors' reprints, which will be sent on request by the authors or by THE JOURNAL, on receipt of a stamped and self-addressed envelope

In the matter of prices in general, whether printed in a catalogue or given by word of mouth, we should say that, provided one can afford it, the price asked for any good book is seldom too much. It is always well to remember, too, that what seems a large sum of money, as given in francs, marks, lire, crowns or roubles is, after all, not so much in United States money or as compared with American prices for the same book. The genial Autocrat once described himself as springing like a tiger on some coveted volume and the real ardor of the chase lies not so much in driving a bargain as in getting what one wants by the hunting instinct.

In seeking for rare medical books it is quite necessary to have the collector's *flair* for the quarry — to know what to look for. Yet, even when this condition is fulfilled, a possible purchase must still depend on two determinants: the extent of the purchaser's inclination and the length of his purse. Readers of Goethe's autobiography will remember how he advises the connoisseur in painting to buy the best pictures of his own period rather than old masters because, for the same or even less money he can in this way build up a collection which will become choice and rare enough in his own life-time. This is even more true of the medical classics for, as we have said, prices for the older books are even now so prohibitive that they can only be collected by book-clubs and libraries or else by the few physicians who may be accounted "wealthy" in the financial sense. At a time when American enthusiasts will pay as much for the Baltimore edition of Edgar Poe's maiden efforts in verse as they would for the first folio of Shakespeare ($2,900 in two instances), it is hardly likely that the greater classics of medicine — the Greeks, Vesalius, Paré, Harvey, Sydenham — will go a begging, unless there should be some unimaginable world-slump in prices. The old Greek and Roman classics are, in most cases, fine specimens of the work of the great Renaissance printers, and many of these are therefore the *ultima Thule* of the collector. As Osler has said, "An Aldine here and there, a few fine parchment-bound Juntas, an Oporinus or a Froben in the original boards and stamped pigskin, a fine Paris Stephanus, an Elzevir or a Plantin, give tone to the shelves, just as do the Stuarts and Copleys to the dining-room in an old mansion."[1] The antiquarian dealers know this and charge accordingly. Some of these specimens of fine printing, however — the Elzevirs in particular — have greatly decreased in value of late years and are consequently more easily obtainable by those who fancy them, while the books of the English printers of the sixteenth century — Wyer, Pynson, Copeland — have increased in value from fifty to a hundred fold on account of their present scarcity, originally due to the destruction of so many of them during the Civil Wars of England and in the Great Fire of London in 1666. For example, the different imprints of Linacre's translations of Galen and many of the English anatomical classics of the post-Vesalian period are exceptionally hard to come at, and, in each case, like the bronze in Browning's poem, "esteemed a rarity." Should any collector be lucky enough to bag any piece of early printing, English or other, he may remember that it is quite immaterial if the book has no intrinsic value in itself. Any specimen of early printing or of a famous printer has a bibliographic value which determines its price irrespective of its intrinsic value. For this reason, we repeat, the books most likely to be within the average collector's reach are those of the eighteenth and nineteenth centuries and, of these, stray "bargains" at stalls will usually be in pamphlet form (within a hundred pages in size). By sheer luck a collector might happen on a Rösslin, a Cornaro, a Fracastorius, a Paracelsus, with its flamboyant title-page in red and black type, an Athanasius Kircher or even a Wepfer on apoplexy offered at a reasonable figure somewhere on account of its small size or shape, and classics of these dimensions increase in number as we approach the modern period. The small-sized book, like the short story, the lightning express, the telephone, wireless, the motor-car, the airship, predigested foods, tabloid preparations, heart-to-heart talks and saltatory evolution per social uplift is one of those frequently unattainable ideals of modern life which illustrate Maupertuis' principle in mechanics: that we aim to get at anything or to get out of any difficulty by the shortest possible cut. It is in the eighteenth century that we begin to find the little classics or *Kleinmeister* — things like Fothergill on diphtheritic sore-throat (1747), Caspar Friedrich Wolff's "Theoria generationis" (1759), Auenbrugger's "Inventum novum" (1761), Sigault on symphysiotomy (1777), Pott on spinal caries (1779), Mesmer on animal magnetism (1779), Withering on the foxglove (1785), and Jenner's different pamphlets on vaccination. In the nineteenth century the number of these pamphlet classics begins to increase apace, following the modern tendency toward specialization, and the specialist will naturally keep his eye open for the famous monographs on his particular subject. We may expect the anatomist to look not only for the numerous post-Vesalian pamphlets of the seventeenth century but also for the essays of Cooper, Wrisberg, Meckel, Lieberkühn, Zinn, *hoc genus omne,* for the beautiful title-page of Lorenzo Bellini on the structure of the kidneys (Florence, 1662), and for Goethe on the intermaxillary bone (Jena, 1786); the adept in finer anatomy for Schwann (1839) and Schleiden (1842), Gerlach (1858), Max Schultze on protoplasm (1867), Walther Flemming on cell division (1882), Golgi (1885), Ehrlich on intravital staining (1886), and Ramon y Cajal's "Nuevo concepto" (1892). The physiologist might begin with the English classics on respiration and keep in mind a long list of attractive desiderata of small size, including Galvani on animal electricity (1792), Sir Charles Bell's "New Idea" (1811), Marshall Hall on reflex action (1833), Beaumont on the gastric juice (1833), Purkinje on ciliary motion (1835), Helmholtz on the conservation of energy (1847), the epoch-making monographs of Claude Bernard, Pflüger on electrotonus (1859), Marey on the sphygmograph (1860), Fritsch and Hitzig on cerebral localization (1870), Hering on facultative organic memory (1870), or Bayliss and Starling on the chemical regulation of the secretions (1904). The clinician may reflect that there is probably only one copy of Parkinson on the shaking palsy (1817) in the United States, and perhaps only two to be found in any English library;[2] he will know why Heine on infantile paralysis (1840) or Currie (1797) and Brand (1863) on hydrotherapy in typhoid are so much worth having nowadays and why the second edition of Laënnec would be quite as valuable a possession as the first. The surgeon will naturally value the original pamphlets on anesthesia, or Lord Lister's original paper on antiseptic methods (1867), or Esmarch on hemostatic bandaging (1873); the obstetrician and gynecologist will probably hold in especial esteem Paré on podalic version (1555), Deventer on pelvic deformities (1701) Holmes (1842) and Semmelweis (1861) on puerperal fever, Simpson on chloroform (1847), Marion Sims on vesicovaginal fistula (1853), Noeggerath on latent gonorrhea (1872), Parry on extra-uterine pregnancy. (1876), Sänger on Cesarean section (1882), Credé on infantile conjunctivitis (1884), or Tait on pelvic hematocele (1888). The ophthalmologist will have a long list of "real values," ranging from Bartisch's "Augendienst" (1583), Kepler's "Paralipomena" (1604), Scheiner's "Oculus" (1619), Descartes' "Dioptrics" (Elzevir of 1644) to Brisseau (1706) and Maître-Jan (1707) on cataract, Dalton on color-blindness (1794), Young on astigmatism (1801), Helmholtz on the ophthalmoscope (1851), Snellen on test-types (1862) or the Sydenham imprint of Donders on accommodation and refraction (1864). The throat specialist will not forget the three pamphlets of Manuel Garcia (1855), Türck (1858), and Czermak (1858) on laryngoscopy, Bouchut and Trousseau on laryngeal intubation (1858) and the earlier reprints of O'Dwyer. The expert in medical jurisprudence will, of course, have a lively interest in the Caroline Criminal Constitutions (1533) and the little treatises of Codronchi (1597), Fedeli (1602) and Zacchias (1621).

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[1] Bull. Med. and Chir. Fac., Maryland, Baltimore, 1909, i, 254.

There are some medical books of exceptional rarity such as the early tracts on syphilis, Bagellardo on pediatrics (1472), Grassi on eye diseases (1475), the Florentine *editio princeps* of Celsus (1478), the booklet on personal hygiene which Moses Maimonides wrote for the use of Saladin (Florence, 1478), Mattioli's commentary on Dioscorides (1544), the first edition of Sydenham's "Schedula Monitoria" (1666) and Sanctorius' commentary on Avicenna (1625) concerning which Dr. Weir Mitchell relates that it took Quaritch seven years to find him a copy.[3] Chances of finding these are variable. As Dr. Billings has remarked,[4] a collector of to-day is as likely to pick up Gordon's "Lily," Gaddesden's "Rose" or any of the incunabula listed by Hain as the early American tracts of Thacher, Boylston and Waterhouse on small-pox. Many of the best-known classics of more recent times, such as Daviel on cataract extraction (1753), the original Latin of Wolff's great monograph on the development of the intestines (1764-6), Lavoisier's discovery of oxygen (1775), Parry on exophthalmic goiter (1786), McDowell on ovariotomy (1816), Wöhler's synthesis of urea (1828) or Gregor Mendel on plant hybridity (1865) are buried in the pages of rare periodicals.

A special class of books which will grace any public or private collection is that which includes the best specimens of anatomic illustration, from the imposing woodcuts of Vesalius and Stephanus and the splendid copper-plates of Casserius, Bidloo, Ruysch, Mascagni and Albinus, down to the spirited steel engravings which Anderloni made from Scarpa's pen-drawings, or the self-illustrated "Dissections" of Sir Charles Bell. In this class one might include the actual anatomic works of great artists—the folios of Leonardo da Vinci's drawings in red chalk (1898), Albrecht Dürer on human symmetry (Nuremberg, 1532), Rubens' "Théorie de la figure humaine" (1773), John Flaxman's "Anatomical Studies," (1833), and perhaps even a specimen or two of those curious short-hand notations of human anatomy from the pencil of Rodin. One rare and valuable example of pathologic illustration, the "Selecta Praxis Medico-Chirurgica" of Alexander Auvert (Paris, 1856), has a unique interest. It consists of a series of masterly delineations of disease, executed partly by means of colored line engraving, partly in stipple retouched in watercolor, and is much esteemed, not only for its accuracy of detail, but particularly as a wonderful example of illustration in colors. The only copy of the first edition in the United States is to be seen in The Library of the Medical and Chirurgical Faculty of Maryland.

A word about Spanish medical books, in which most medical libraries are known to be sadly deficient. Spain may seem as virgin soil to the collector, yet the medical books printed in Spain and Portugal before 1500, and even up to 1550, are of such extreme rarity and their value so well-known even to the obscurest Spanish bookseller, that there is little chance of finding them, while the modern medical literature of Spain, always excepting the writings of Gimbernat and Ramon y Cajal, has nothing of more than ordinary interest. Of especial value are the surgical treatises of Julian Gutierrez (1494), Juan de Aviñon (1545) and Francisco Arceo (1574), Valverde's "Anatomy" with its characteristic copperplates (1559) and Joseph d' Acosta's "Historia natural y moral de las Indias" (1590), which contains the first account of mountain sickness. A find which might dignify any surgeon's collection would be a possible copy of the rare Spanish translation of Lanfranc's "Cirurgia," published at Seville in 1495. As a specimen of splendid typography it is comparable with a black-letter Chaucer.

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[2] See Catalogue of the Manchester Medical Society, 1890, p. 872. Also: Supplement to catalogue of the library of the Royal College of Physicians of Edinburgh, 1863-70, 1870, p. 186.

[3] Tr. Cong. Am. Phys. and Surg., 1891, New Haven, 1892, ii, 166.

[4] Tr. Internat. M. Cong., Lond., 1881, i, 60.

Collecting old books in midsummer might be likened to the almost outworn boyhood diversion of looking for primitive stone implements over tilled fields in the springtime. As the farmer's ploughshare used to turn up a new crop of Indian arrow-points and stone axes regularly each succeeding year, so the owner of valuable books, is for various reasons, often disposed or obliged to get rid of some of them as summer approaches. A good rule is, always to look for a book highly valued in a given country in some other country. For example, Schoepf's "Materia medica Americana" (Erlangen, 1786), of which we know of only three copies in America, might very well turn up somewhere in Germany at a moderate price.

It is hoped that these random notes may emphasize a few bibliographic values which the specialist, from his deeper knowledge, will not regard as impertinent.

THE USE OF SALICYLATES IN RHEUMATISM *

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We frequently hear dissatisfaction expressed concerning the treatment of rheumatism with salicylates. This dissatisfaction seems to arise from several causes, either because every ache or pain or morbid process which occurs in the muscles or joints will not react promptly to salicylates, or because the patient cannot tolerate the enormous doses administered, or that even in spite of large doses up to tolerance, certain lesions such as the cardiac lesions of true rheumatism, are not controlled or prevented with facility equal to that by which the pain and swelling of the joints are controlled.

Let us consider for a moment the various treatments that were used before salicylates, in 1875 and 1876, were first used for rheumatism. After having tried the enormous bleedings for depletion, and terrific purgation by mercury, and the various antiphlogistic ideas for which veratrum viride, aconite and antimony were given in large doses, and having frankly realized that these did harm rather than good, the profession settled down to either doing nothing at all and treating symptoms as they arose, or giving the so-called alkaline treatment with potassium bicarbonate, which certainly did not harm the patient as many of the other forms of treatment had done, but which, on the contrary, seemed to show a distinctly beneficial effect, for in fact under this treatment there was and still is less cardiac involvement than under any other single or uncombined treatment.

Today, outside of some form of salicylate treatment, the alkaline treatment remains the most effective. The men who first tried the salicylate treatment had seen many methods tried and pronounced a failure, and after thorough trial they were forced to the conclusion that the salicylate treatment shortened the period of pain and fever in rheumatism. Maclagan said that the duration of the pain and suffering was the same number of days as formerly it had been weeks.

One great difficulty from which the profession is slowly emerging is the lack of differentiation made between true rheumatism, which will respond to some form of salicylates, and the various other forms of arthritis which occur, as gout, tuberculosis, the infected arthritis accompanying gonorrhea and scarlet fever, rheumatoid arthritis, and the infected arthritis of unknown origin, such as Still's disease, affecting the smaller joints; these are all classed together as rheumatism and often treated alike. "He who diagnosticates well, will cure well," was never more strikingly illustrated than in the benefits of a correct diagnosis in the various forms of arthritis, and the proper treatment for each varying morbid process. Salicylates will not disinfect the pus of a scarlatinal joint. They will not immobilize and clean out a tuberculous joint. They will not act as a tonic or as an alterative and build up a depleted body and help it overcome the disintegrating processes of arthritis deformans. They may quiet the pain, but they will not subdue the inflammation in the spindle-shaped joints of the fingers in the acute arthritis of unknown origin. They may stop the pain in gout and, with rest in bed and free purgation, the gouty attack pass by, but we cannot expect their full, rapid and beneficial action except in the case of genuine rheumatism.

By rheumatism is meant here that inflammatory process of the larger joints which in childhood is so frequently accompanied with cardiac involvement, and in adult life shows some form of cardiac involvement in over 50 per cent. of those affected. Monarticular rheumatism is exceedingly rare, and in true rheumatism the small joints of the fingers and toes are involved with equal rarity. In this article the symptom-complex of the inflammation in the large joints with or without cardiac involvement is alone referred to as rheumatism.

If we confine ourselves to this conception of rheumatism, I am sure that we shall find some form of salicylates which will act beneficially; but simply because salicylates will act beneficially we are no more justified in treating patients suffering from rheumatism in an absolutely routine way than we are in any other disease. The human intestine is not a test-tube, although often treated like one, and a human organism has its distinct tolerances and intolerances for the different forms of salicylates as distinctly as it has for other remedies.

Most patients are easily irritated by salicylic acid and their stomachs soon reject it, yet these same patients will readily take sodium salicylate with no disturbance. Some patients cannot take sodium salicylate, and yet they tolerate oil of wintergreen in large doses and rapidly respond to it. In other patients I have seen salol and salicin act well, when other forms of salicylates would not, and certainly in children and in the aged, salicin is recognized as the form which is the least depressing and from which the most benefit seems to be obtained.

Aspirin has lately come into vogue and is highly praised by some authors, and yet in my own hands the result from it in rheumatism has been very disappointing. Synthetic methyl salicylate is to be avoided for internal use, and should only be used externally, and yet oleum betulæ (the oil of sweet birch) contains the methyl salicylate in the natural form, and is one of the most active and broadly tolerated with the least toxic symp-

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

toms of all the salicylates, and it seems a generally accepted fact that the natural salicylates are less irritant than the synthetic.

Synthetic salicylic acid is usually formed from phenol, and the orthosalicylic acid is the one used medicinally. The meta-acid is therapeutically inert, and the para-acid is sometimes present to the detriment of the results obtained, for it is distinctly more toxic than the ortho acid. At times all the phenol is not converted into salicylic acid, and one often wonders when reading of the cases of toxic action of collapse with failing respiration, whether it is not a case of badly prepared synthetic compound in which some phenol or para-salicylic acid is causing the damage to the patient. Some salicylic acid may undergo decomposition, total or partial, with liberation of phenol or compound of phenol, and in fact, some samples of salicylic acid smell of phenol. Sodium salicylate is the form in which the salicylates are usually administered, and it is well borne by most people. If given in solution with excessive alkali it is infinitely less irritant to the gastric membrane than when given in powder.

Salol, which is phenyl salicylate, also has a disadvantage of breaking up into salicylic acid and phenol in the intestine, and hence should not be given if the patient is suffering from kidney leisons. This often acts well, and usually in the amount given is non-toxic, but it cannot be pushed to as high doses nor does it seem to be so rapidly absorbed as sodium salicylate. It is less disturbing to the stomach, and some individuals whose gastric mucous membranes are unusually sensitive to sodium salicylate can tolerate salol. Salophen, which is the acetyl paramido phenol salicylate, had quite a vogue at one time, but seems to have fallen into disuse. Like salol, it has the phenol element in it, and like salol I have seen it rapidly reduce pain and fever in rheumatism when other forms of salicylate could not be tolerated.

Croftan recommends aspirin as the least irritating to the stomach, intestines and kidneys; he believes that this is the best form of salicylate, and declares that it possesses hardly any toxic symptoms. I have seen a few patients in whom aspirin seemed to be most irritant to the gastric mucous membranes, and produced the general toxic symptoms of the salicylates very rapidly in small doses. In my own experience it has not been as satisfactory for the reduction of fever and an improvement in the general condition of the patient as either sodium salicylate or oleum betulæ; in severe cases of rheumatism I have failed to get satisfactory results with it. This probably is due to the presence of the acetyl group, which causes this substance to be slowly broken down and thus probably slowly absorbed. There seems to be no question that to obtain rapidly beneficial results we must have a form of salicylate which is acceptable to most gastric mucous membranes, is quickly absorbed, and hence produces its effect quickly, and then is quickly excreted, that there may be no accumulation in the body.

Some years ago Kinnicutt recommended the oil of wintergreen, which is a natural methyl salicylate. This natural oil of gaultheria is no longer on the market, but the oleum betulæ or oil of sweet birch is, and it contains the same natural methyl salicylate. This form of salicylate in many ways fulfils the desired objects of which I have just spoken—the rapid absorption, the rapid excretion, and, to most people, a non-irritating effect on the gastric mucous membranes. In those patients with whom it disagrees, I have found it even when disturbing the stomach to cause less often the headache, the ringing in the ears, and the dizziness. It has been my experience that the majority of patients will respond more quickly and with less disturbance when the oil of birch is given them, than they will to synthetic sodium salicylate or the other forms of salicylates mentioned. Besides the advantages just mentioned, it has the further advantage of being a natural salicylate.

Dr. August Seibert of New York has recently recommended the hypodermic method of giving salicylates. The results reported are excellent, and this method may prove of advantage in those patients whose gastric membranes cannot retain the salicylates. The following procedure is recommended: In acute rheumatic infection of joints, heart, pericardium, pleura and central nervous system (chorea), 10 c.c. of a 20 per cent. sterilized solution of fresh sodium salicylate to 100 pounds of body weight are injected fifteen minutes after an appropriate cocain solution (gr. 1/8 to 30 drops of water) has been injected under the same spot. If the injections are made earlier than this, the solution will cause pain. This is repeated every twelve hours. In severe cases, with many localizations of the rheumatic process, the dose may be increased to 15 c.c. of the solution to 100 pounds of body weight.

It is considered essential to the success of this treatment that the above doses be used. Smaller doses will be without effect. The effect may be noticed within three hours after the first injection. Joint stiffness, pain, fever and pulse-rate diminish, and the general feeling of the patient improves. If the injections are continued regularly every twelve hours, the improvement also continues. If they are omitted for twenty-four hours in severe cases, the symptoms will grow worse, but in milder cases the improvement may continue. None of the injected patients presented symptoms of heart depression, ear buzzing, or profuse sweats. In the so-called chronic cases, 10 c.c. to 100 pounds of body weight of the following oily solutions are injected every twenty-four hours: acidi salicylici, 10 gm.; olei sesami, 80 gm.; alcohol, pure, 5 gm.; and gum camphor, 5 gm. The effect of the camphor on the heart is especially beneficial in pericarditis and endocarditis.[1]

Some months ago, a member of a well-known firm in New York suggested to me a form of salicylate which seemed to possess the various advantages of which I have just spoken, and to reduce to a minimum the irritating and toxic symptoms from its use. This salicylate is prepared as follows: oleum betulæ, the true oil of sweet birch, is taken and saponified either by superheated steam or caustic alkali, the resulting methyl alcohol driven off by heat, and the resulting salicylate decomposed by sulphuric acid and washed until free from sulphates; the salicylic acid is then purified by recrystallization. This salicylic acid is taken and mixed with a sufficient sodium bicarbonate in excess, and with a sugar binder is made into tablets, so that on solution each tablet will give five grains of sodium salicylate. This is freely soluble in water, with a pleasant acid taste, and with a free elimination of CO_2 gas. This seems to form a sodium salicylate in a nascent condition, for with the dry sodium bicarbonate and dry acid when the solution is made, they combine and fulfil the idea of nascent condition.

These tablets I have been using in a four-months' hospital service in Bellevue Hospital with very satisfactory results in severe cases of rheumatism. There has been a very noticeable lack of gastric irritation even when 20 grains were given every two hours, and when the ringing in the ears was produced and the dose diminished, this ringing quickly subsided. In some patients the fever fell rapidly before the pain ceased and the pain remained for a day or two after the fever struck normal, although very much ameliorated and so insufficient as not to cause much complaint from the patient. In most patients the pain and the fever disappeared coincidentally, while in others the pain rapidly improved in a few hours, and the fever disappeared a few hours later. In two patients with a marked galloping rhythm in the heart, and with increase in the cardiac murmurs, the belief was justified that there was a beginning myocardial inflammatory process. This cardiac condition subsided rapidly in three days, and the temperature went to normal and did not afterwards rise above, even to 99 or 100. Usually, as is well known, when the heart has become involved there is a rise to 99 or 100 for some time after the other symptoms have disappeared. In another patient with pericarditis, acute endocarditis and myocarditis and with a double rheumatic pleurisy, this form of sodium salicylate was the only form which had any beneficial influence. His pericarditis and pleurisy improved rapidly under these tablets. My supply gave out and again there was a recrudescence in the pleurisy and pericarditis. When I obtained more tablets, these processes rapidly improved under their administration. This improvement was so rapid and marked that it forced on me the impression that it was more than a coincidence.

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[1] Seibert: Med. Rec., New York, March 11, 1911.

This form of salicylates seems to enable one to get a large amount of an active salicylate into the circulation at once, in the least toxic and most effective form of the natural salicylate. The process by which this form of salicylate is made is not an economical one, and it is unfortunately doubtful if it could ever be generally commercialized. It is here reported as an exceedingly active and useful form of salicylate, with a maximum of rapidity of absorption, effectiveness after absorption, and a minimum of toxic action.

In using salicylates in rheumatism, one is impressed by the rapidity with which they act when they act well and when the form of salicylate agrees with the patient, so much so that it is my belief that if within forty-eight hours a distinctly beneficial action is not obtained with the form of salicylate which is being used for that patient, we should use some other form. If sodium salicylate with large doses of sodium bicarbonate do not make a distinctly beneficial impression on the rheumatic process by the second day, it should be changed to the oleum betulæ, that is, the true oil of birch, and if the patient is resistant to that, it should be changed to salophen or some other form of salicylate.

36 East Thirty-First Street.

HERPES ZOSTER IN CONNECTION WITH KIDNEY LESIONS

M. KROTOSZYNER, M.D.
SAN FRANCISCO

Since Head's fundamental investigations on certain hyperalgetic cutaneous zones and their relation to affections of deep-seated visceral organs, it is generally accepted that pains located in these organs are transmitted to well-defined areas of the integument. The transmission of these pains is supposed to occur through fibers of the sympathetic nerve originating in the same cord-segments.

While these hyperesthetic zones, up to a short time ago, for want of better knowledge, were considered neurasthenic or hysterical stigmata, Head was the first to establish their anatomic importance as reflex phenomena. He proved conclusively that the location and extension of these hyperesthetic areas as dependent on pains of visceral organs coincided in many instances with the cutaneous eruptive zones of herpes zoster. In other words, by irritation of corresponding segmental fibers of the sympathetic nerve, paresthesias of pain are caused in certain zones of the periphery, which may be followed by the appearance of a typical herpes zoster.

The hyperalgetic peripheral zone of the kidney, according to Head, corresponds to that area of the integument which is innervated by the tenth and eleventh dorsal and the upper lumbar spinal nerves.[1]

During the last few months Bittorf, Kanera and Rosenberg,[2] each in brief succession, reported a case of herpes zoster of the tenth and eleventh dorsal nerves in connection with attacks of kidney colic caused by intermittent hydronephrosis, floating kidney and nephrolithiasis, respectively.

Since the literature does not contain other records of like or similar observations, the two following cases, which occurred in my urologic service of the German Hospital, are reported.

Case 1.—*History.*—An attorney, aged 38 years, had suffered from frequent micturition and intermittent attacks of left-sided kidney colic several years prior to the appearance of a large fluctuating hydronephrotic sac on the same side, which about ten years ago was punctured and evacuated through a small lumbar incision. At the same time a small soft calculus, probably the cause of the ureteral obstruction and consecutive hydronephrosis, was removed from the pelvic portion of the left ureter. Gradually the same symptoms, pyuria pollakiuria and intermittent attacks of colic in the left lumbar region, set in again and became intensified. The patient's condition, of late, grew perceptibly worse, the main symptoms being strangury, frequent attacks of dyspepsia, headache and general malaise.

Examination.—General examination negative; kidneys not palpable; Wassermann negative. Urine cloudy, containing albumin and, microscopically, abundant pus. At two cystoscopic sittings the bladder presents the picture of a chronic cystitis; trigone congested; left ureteral orifice somewhat patulous; both ureters catheterized to pelvis; urine from right kidney is clear and normal, while that of the left side is cloudy and presents, chemically and microscopically, the same findings as the bladder urine. A marked deterioration of renal function (indigo carmin phloridzin, etc.) is found on the left side, while that of the right kidney appears normal. Blood cryoscopy shows 0.573. Radiographic plates negative for calculi-shadows. Renal secretion of left side shows pure culture of *B. coli*. On the basis of these findings, an advanced left-sided pyonephrosis is diagnosed and the patient prepared for nephrectomy on that side.

Two days before the date set for the operation, the patient complained of a slight chill and tenderness over his left thigh radiating toward the knee. On examination a herpetiform eruption was noted on the anterior surface of the left thigh in its center extending about 5 cm. in length and 2.5 cm. in width. Solitary blisters, also in center of anterior surface of thigh, were visible one 4 and one 5 cm. above and one about 10 cm. below the main focus. Temperature slightly elevated, reaching 100 F. but once.

Operation.—Under expectant treatment the zoster readily dried up, so that the contemplated operation could be performed nine days after the date first set. By lumbar incision a fluctuating sac of the size of a child's head was exposed; its enucleation was performed with great difficulty on account of many fibrous adhesions, which were particularly dense at the site of the old incision. The ureter was stitched to the lower angle of the wound which was closed by layers. The kidney tissue of the removed specimen, which represented a large sac, appeared to be reduced to a thin layer of fibrous tissue. Microscopic sections (Dr. Ophüls) show on inside of sac layer of vascular granulations and cicatricial tissue which is partly covered with stratified epithelium. In some sections the kidney tissue shows a diffuse fibrosis, dilatation of capsules of glomeruli, tubules wide, filled with desquamated epithelium. In other places all that is left is dense fibrous tissue. Patient made an uneventful recovery.

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[1] Sahli: Lehrbuch d. klin. Untersuchungsmeth, 1905.

[2] Deutsch. med. Wchnschr., 1911, Nos. 7, 14 and 17.

Comment.—The cutaneous zone of herpes zoster in this case corresponds, according to Head, to the first and second lumbar (or ileo-inguinal, genitocrural and external cutaneous) nerves. The course and extension of the skin lesion comprises an area which is innervated by the crural branch of the genitocrural and the middle cutaneous nerves, which latter nerve has communicating fibers with the crural branch of the former. It is possible that the eruption of herpes was superinduced in this case by the passing of the ureter catheter to the left renal pelvis, as the patient, soon after each cystoscopic sitting, complained of colicky pains in the left lumbar region. In the three cases reported in the German literature, the herpetic eruptional zone was located on the back in or near the lumbar region, corresponding to the last two dorsal nerves, while the location of the zoster on the anterior surface of the thigh in my own observation suggests an irritation of the lower or lumbar portion of Head's spinal center for kidney affections.

Since writing the above I find an analogue to the location of the herpetic cutaneous zone in two cases of herpes zoster reported by Rosenbaum,[3] in connection with kidney affections. One of the observations concerns a girl of 11 years, who had to undergo nephrectomy on account of a left-sided kidney rupture. Eighteen days after the accident, a zoster appeared over the lumbar region as well as on the lateral and anterior surface of the thigh on the left side, an area which is innervated by the upper roots of the lumbar plexus.

Case 2.—*Past History.*—A farmer of 51 was admitted to the hospital in August, 1910, on account of intermittent attacks of right-sided colic radiating from the costal arch downward. The attacks had gradually increased in severity during the last year, occurred about once a month and were invariably connected with vomiting of bile. Nothing of pathologic note could be ascertained by the general examination and clinical observation. On account of the presence of microscopic pus in the urine, a right-sided renal lesion (probably nephrolithiasis) was suspected, a presumption which was not substantiated by either the cystoscopic or radiographic examinations. Both renal secretions were clear and microscopically and functionally normal. Sugar reaction, for instance, was strongly positive on both sides almost simultaneously, fifteen minutes after phloridzin injection. On these findings a right-sided renal lesion was ruled out and a previous gonorrheal infection, involving the prostate, was held responsible for the pus found in the urine. With no other evidence in favor of the probable existence of a cholelithiasis or, possibly, a chronic appendicitis than the symptoms present during the attacks, an exploratory laparotomy was performed at the patient's own request revealing all abdominal viscera normal, save an elongated and tortuous appendix which after its removal showed an obliteration of the lower half of its lumen. The patient's rapid recovery was, about two weeks after the operation, interrupted by a slight chill, rise of temperature and tenderness over the right chest and back, where an herpetic eruption appeared extending from the external margin of the manubrium sterni to the median line of the back. The zoster, for as such the cutaneous lesion was readily recognized, covered the sixth costal interspace extending to the tenth intervertebral space on the back, corresponding to the tenth dorsal nerve of the spine. The zoster gradually healed within two weeks and the patient returned to his home in the country in excellent condition. A few months later the same attacks of right-sided abdominal colic set in again with greater intensity and more frequently than before. The patient began to suffer from frequent and urgent micturition, independent of the attacks, and the urine which was repeatedly sent for examination was cloudy and contained pus in abundance. The pains during the attacks were now reported to radiate toward the bladder and scrotum. The patient reentered the hospital last May.

Examination.—Cystoscopy now showed the picture of a marked cystitis; right ureteral orifice pouting, emitting turbid fluid; the right renal secretion was cloudy and contained, microscopically, abundant pus and numerous blood-shades, while the urine obtained from the left kidney appeared macroscopically and microscopically normal. Functionally, the right kidney was found to be materially deteriorated as against its left mate, from which normal values were obtained. Blood cryoscopy showed 0.568, *x*-ray plates were negative for calculi shadows. Pyelography demonstrated the moderately enlarged and irregularly shaped right renal pelvis to be located unusually high between the ninth and eleventh costal interspaces. The injection of collargol solution required for pyelography caused, as the patient stated, the same pain as during the previous attacks of colic.

Operation.—Exposure of the right kidney was extremely difficult on account of its location high under the ribs and owing to many dense perinephritic adhesions. A severe hemorrhage occurred from an aberrant renal blood-vessel imbedded in adhesions and covering the ureter near the lower pole of the kidney. Finally, the organ was sufficiently freed to permit nephrotomy. The cut surfaces of the kidney presented many small cavities containing pus and sandy detritus; the renal pelvis and upper portion of the ureter were widened and filled with pus and fragments of gravel. The kidney was therefore removed, a small tear in the pleura was carefully repaired and the wound closed in the usual manner.

The patient rallied well from the operation and made an uneventful recovery. At the time of his discharge from the hospital he urinated about once every six hours; urine clear; its daily quantity about 1,800 c.c., microscopically normal. The patient's general condition was excellent.

Comment.—Although the location of colicky pains pointed in this case to a kidney lesion, an exact diagnosis could not be made for many months on account of the negative palpatory, cystoscopic and radiographic findings. The appearance of the zoster soon after the first operation was most decidedly superinduced by the bruising of intestinal loops and sympathetic fibers during the exploration of the abdominal cavity. The location of the zoster on the chest and back, somewhat above Head's renal zone and corresponding to the tenth dorsal nerve, finds its explanation in the unusually high position of the diseased kidney. The case proves the correctness of Head's teachings and clearly demonstrates the diagnostic aid which could have been derived, at the time, through the correct interpretation of the herpetic eruption on Head's cutaneous zone for kidney lesions.

CONCLUSIONS

A careful investigation of Head's hyperalgetic cutaneous zones should in future be made in all cases of abdominal colic of otherwise doubtful character.

2672 Pine Street.

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[3] Rosenbaum: Deutsch. med. Wchnschr., 1911, No. 24.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

LANOLIN.—A non-proprietary name applied to Adeps Lanæ Hydrosus, U. S. P. For description see the Pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

COLON BACILLUS VACCINE.

G. H. Sherman, Detroit.

Colon Bacillus Vaccines.—Marketed in two strengths: 1. Each Cc. contains about 40,000,000 killed bacilli. 2. Each Cc. contains about 100,000,000 killed bacilli.

GONOCOCCUS VACCINE.

G. H. Sherman, Detroit.

Gonococcus Vaccines.—Marketed in two strengths: 1. Each Cc. containing 20,000,000 killed bacteria. 2. Each Cc. containing 100,000,000 killed bacteria.

Gonococcus and Staphylococcus Albus Vaccine.—A mixed vaccine containing in each Cc. gonococcus 100,000,000 and staphylococcus albus 400,000,000.

PNEUMOCOCCUS VACCINE.

G. H. Sherman, Detroit.

Pneumococcus Vaccines.—Marketed in two forms: 1. Containing in each Cc. 40,000,000 killed pneumococci. 2. Containing in each Cc. 100,000,000 killed pneumococci.

Pneumococcus and Streptococcus Vaccine.—A mixed vaccine containing pneumococcus 30,000,000 and streptococcus 20,000,000.

STAPHYLOCOCCUS VACCINES.

G. H. Sherman, Detroit.

Staphylococcus Pyogenes Albus Vaccine.—Each Cc. contains about 300,000,000 staphylococcus pyogenes albus.

Staphylococcus Pyogenes Aureus Vaccine.—Each Cc. contains about 300,000,000 staphylococcus pyogenes aureus.

Staphylococcus Pyogenes Albus and Aureus Vaccines.—Marketed in four forms: 1. A mixed vaccine containing in each Cc. staphylococcus pyogenes albus and aureus each 100,000,000. 2. A mixed vaccine containing in each Cc. staphylococcus pyogenes albus and aureus each 200,000,000. 3. A mixed vaccine containing in each Cc. staphylococcus pyogenes albus and aureus each 300,000,000. 4. A mixed vaccine containing in each Cc. staphylococcus pyogenes albus 400,000,000, and staphylococcus pyogenes aureus 200,000,000.

Staphylococcus Pyogenes Albus, Aureus and Citreus Vaccine.—A mixed vaccine containing in each Cc. Staphylococcus pyogenes albus, aureus and citreus each 100,000,000.

STREPTOCOCCUS VACCINE.

G. H. Sherman, Detroit.

Streptococcus Erysipelatis Vaccine.—Each Cc. contains about 20,000,000 killed streptococci erysipelatis.

Streptococcus Pyogenes Vaccine.—Marketed in two strengths: 1. Containing in each Cc. 30.000,000 killed streptococci. 2. Containing in each Cc. 60,000,000 killed streptococci.

Streptococcus Pyogenes and Micrococcus Catarrhalis Vaccine.—A mixed vaccine containing in each Cc. streptococcus pyogenes 30,000,000 and micrococcus catarrhalis 100,000,000.

Streptococcus Pyogenes, Staphylococcus Pyogenes Aureus and Albus Vaccine.—A mixed vaccine containing in each Cc. streptococcus pyogenes 30,000,000 and staphylococcus pyogenes aureus and albus each 100,000,000.

Streptococcus Pyogenes and Colon Bacillus Vaccine.—A mixed vaccine containing in each Cc. streptococcus pyogenes 30,000,000 and colon bacillus 40,000,000.

Staphylococcus Pyogenes, Pneumococcus and Staphylococcus Pyogenes Aureus Vaccine.—A mixed vaccine containing in each Cc. streptococcus pyogenes 30,000,000, pneumococcus 40,000,000 and staphylococcus pyogenes aureus 150,000,000.

Streptococcus Pyogenes, Staphylococcus Pyogenes Aureus and Albus Vaccine.—A mixed vaccine containing in each Cc. streptococcus pyogenes 60,000,000, staphylococcus pyogenes albus and aureus each 200,000,000.

TYPHOID BACILLUS VACCINE.

G. H. Sherman, Detroit.

Typhoid Bacillus Vaccine.—Marketed in three forms: 1. Each Cc. contains about 50,000,000 killed typhoid bacilli. 2. Each Cc. contains about 500,000,000 killed typhoid bacilli. 3. Each Cc. contains about 1,000,000,000 killed typhoid bacilli.

Therapeutics

TUBERCULOUS MENINGITIS

Few diseases are more discouraging to the practitioner, or more disastrous in their results than tuberculous meningitis. Except during the occurrence of epidemics of cerebrospinal meningitis, tuberculous meningitis is estimated by Holt to cause 75 per cent. of the deaths from acute meningitis in children. While epidemic meningitis occurs most frequently between the ages of 2 and 15 years and is also frequent in children under 2 years of age, a very large proportion of the cases of tuberculous meningitis occurs in children under 1 year of age, and particularly between the ages of 9 and 12 months. Some observers think these cases more frequent in April, May and June than in other parts of the year, and conclude that this is due to the general prevalence of respiratory diseases during the late winter and early spring months.

This disease is now definitely recognized as being caused by the tubercle bacillus. It has been generally considered that heredity has a very considerable influence in the etiology of the disease, but the tendency among modern observers is to conclude that what has been heretofore classed as hereditary influence is really exposure of the child to direct contagion from persons suffering from pulmonary tuberculosis. Perhaps children between 9 and 12 months of age are more exposed to this sort of contagion than children of other ages, and also perhaps this sort of contagion is especially operative during the spring months.

It is probable that the contagion is taken into the body through the respiratory organs, and is transmitted to the brain through the circulation. The old idea that the contagious element was transmitted to the brain through the cribriform plate of the ethmoid bone seems to be losing favor.

On post-mortem examination of children who die with tuberculous meningitis the most extensive pathologic changes are found at the base of the brain, and it has been said that cases in which the pathologic lesions are confined to the convexity of the brain are unknown. The lesions affecting the brain may extend to the spinal cord and to the ventricles of the brain. These pathologic changes often appear to be slight compared with the gravity of the symptoms which have been observed during life.

Some have supposed that the disease is more likely to affect delicate and ill-nourished children, but careful observation seems to have shown that this is wrong, and that well-nourished and healthy children are apparently as likely to be affected by the disease as those who are debilitated and ill-nourished.

The disease often comes on insidiously. A slight change in disposition may be the first symptom noticed. There may be irritability, or an indisposition to take notice of and be interested in things that are going on. One of the earliest prominent symptoms is headache. This may be exceedingly severe, and is likely to be attributed to some other cause, as stomach disturbance, or constipation. Headache is not so common in children as in adults, and a continuous headache, if the child is old enough to complain of it, should arouse suspicion of the presence of some intracranial trouble. Vomiting is a common early symptom. It may be of the projectile character, and unaccompanied by nausea. Fever is an early symptom. It may not be of high grade at first, but usually after several days attains a height of from

103 to 105 degrees. Occasionally the earliest symptom to arouse alarm is a severe convulsive attack. This may be followed by other convulsions at longer or shorter intervals.

After the disease has lasted a variable number of days, usually from five to ten, the patient begins to become stupid, and finally becomes entirely unconscious.

Twitchings of the muscles of the arms and legs are common, and the muscles moving the eye-ball may also be affected by these localized convulsive movements. The muscles in the back of the neck and along the spine usually become more or less rigid early in the disease, so that lifting the head or moving the body causes pain. The Kernig sign is usually present. This can be determined by flexing the thigh on the body and then extending the leg on the thigh. If there is irritation of the nervous system from meningitis, this movement will be accompanied by pain and an increasing concavity of the dorsolumbar spine.

The pupils at first may be contracted, but usually later are dilated. The fontanels may be distended.

Death may occur in five or six days, or the disease may be protracted for from two and one-half to three weeks. Rarely the patient lives four or five weeks. Most cases terminate fatally; only exceptional cases of recovery have been reported.

It would seem that the diagnosis of the disease is commonly attended with some difficulty. Certainly a large proportion of mistakes are reported by hospital physicians who see cases after they have been seen by outside practitioners. At the present time it would seem that no one is justified in treating a patient in whom the possibility of the presence of this disease must be taken into account, without performing a lumbar puncture and having the spinal fluid examined microscopically. Since lumbar puncture was introduced by Quincke, in 1891, it has gradually grown in importance as an aid to diagnosis. Like the results of other methods of diagnosis, the results of this method are not invariably infallible, but the results are definite in so large a proportion of cases that its employment should never be neglected. As a rule the tubercle bacillus is found in the spinal fluid obtained by lumbar puncture. Some writers state that this is the fact in 90 per cent. of cases.

Examination of the cells contained in the spinal fluid should also be made. It has been supposed by some investigators that the character of these cells indicated the character of the meningeal inflammation; that in epidemic meningitis polynuclear cells were found in the exudate, while in tuberculous meningitis the mononuclear cells or lymphocytes were present in greater proportion. While perhaps these conditions exist in the majority of cases, it is now believed that the lymphocytes characterize diseases of long standing, and that they may be found in cases of epidemic meningitis which have been protracted.

The other symptoms which are to be taken into consideration in making a diagnosis are the headache, the retraction of the head, the vomiting, and the gradually increasing stupor. The diseases which must be borne in mind and which should not be mistaken for tuberculous meningitis are epidemic meningitis, meningitis due to other forms of infection, malarial infection, influenzal gastro-intestinal disorders, various toxic conditions, and middle-ear or mastoid inflammation.

Besides the lumbar puncture, another diagnostic aid which is of considerable value in this disease is the von Pirquet reaction. The cutaneous reactions from this test are not objectionable, and the test is not a difficult one to employ. Lucas, of Boston, found that of thirty cases of tuberculous meningitis, twenty gave positive reactions. This indicates that the method has considerable value, but cannot be absolutely relied on in every case.

The treatment of this disease cannot be undertaken with any expectation of a cure. The prognosis is so very grave, and recoveries are so rare, when the disease is definitely determined to be tuberculous in character, that much cannot be expected, and but little hope can be held out to the parents, from any treatment.

The treatment should be commenced with a thorough evacuation of the bowels with a large dose of calomel. To a child a year old as much as a grain may be given at one dose. It is better to give this amount in a single dose than to give it in divided doses.

External applications are held in considerable repute by most practitioners. If it can be determined early in the disease that there is an inflammation at the base of the brain, depletion of the vascular system should be employed. This may be accomplished by the application of one or two leeches over the mastoid process. Cold, by means of ice-bags, should be applied intermittently to the head, and ice-bags may be applied over the spine; or, counter-irritation may be used by means of a mild mustard paste, applied over the whole length of the spine or over the neck and back of the head.

Other internal medication which may be administered with a view of palliating the uncomfortable symptoms, include opium, which may be administered if the child seems to suffer acute pain in the head, as evidenced by constant severe crying, and insomnia.

If there is restlessness and muscular twitching, and convulsions, the bromid of sodium should be given, in a dose of 0.30 gm. (5 grains), to a child 1 year old, repeated in four hours, if needed.

After the first week the iodid of sodium may be given with the hope (generally a vain one) of removing the products of inflammation at the base of the brain. A twentieth of a gram (about 1 grain) may be given three times a day to a child one year old. Large doses are of no value, and will do harm.

Liquid nourishment should be given in the form of milk, either plain or diluted with lime water, or peptonized. It should be given at regular intervals, both to relieve the thirst and to maintain the nutrition.

The internal use of remedies intended to destroy the bacillus has not found many advocates. If one were inclined to feel that the administration of such remedies increases the hope of recovery, one might administer creosote, in doses of ¼ drop, repeated at intervals of three hours.

In view of the comparatively recent observation that hexamethylenamin has been found in the cerebrospinal fluid a short time after it has been taken by the mouth, it might seem desirable to administer this drug in tuberculous meningitis, but it is not reasonable to expect that such favorable results will follow its use in this disease as have been reported from its use in epidemic cerebrospinal meningitis.

The preventive or prophylactic treatment demands that all children should be absolutely separated from every individual suffering from pulmonary tuberculosis. In this way only can one feel confident that the disease may be avoided. Furthermore, as the tubercle bacilli are believed to be more or less present everywhere where human beings are found, by systematic cleansing of the mouth and throat, one may hope to avoid contamination with the bacilli.

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VIRCHOW'S GENEROSITY

It is well known that in the last years of his life Virchow was very much of a reactionary. He who, in his ardent youth, had been a fiery champion of democracy and a passionate advocate of the improvement of medicine and public hygiene in the broadest sense, in later years, as our German confrères have been not slow to remind us, became a typical caviler and a sort of cool devil's advocate in regard to many things of the utmost importance to the great preventive movement of our time.

There is no need to censure Virchow for his lukewarm attitude toward Darwinism. He was an expert anthropologist and craniologist and his views on natural selection and the descent of man were entirely his own affair. They did not hinder the growth of the doctrine of evolution. But it cannot be denied that Virchow's relation to the work of Koch, Behring, Loeffler and the other leading expositors of the bacterial theory of infection was one of smug civility and ill-concealed indifference, if not of positive *nil admirari*. The reason is not far to seek. Like all old men he was an inevitable conservative, and it did seem, at first blush, as if the modern theory of the blood-serum as the battle-ground of the infectious processes, in all appearance a revival of the humoral pathology of Hippocrates, would be likely to displace the "solidist" conceptions (*omnis cellula e cellula*) advanced by Virchow himself. It was natural enough that the old veteran should decline to wear "the foolish face of praise," since he could not foresee that Ehrlich would come to the rescue of his cellular pathology by showing that the seat of war is, after all, in certain specialized atom-groups belonging to the peripheral molecules of the cells themselves. Neither should we resent Virchow's disapprobation of the course of the United States in the Philippines. If, as President Andrew D. White once related,[1] even Mommsen the historian could not understand how we were driven to take possession of those islands, it is hardly likely that Virchow could.

A man has a right to be judged by the best that is in him, and we may contrast the ultra-conservative Virchow of the declining years, not so much with the "heaven-storming" youth who pitched into Bismarck about the typhus fevers in Silesia, as with the mature man of middle life who gave us those fine, catholic appreciations of Harvey (his favorite historical figure), Bacon, Morgagni, Glisson, Schönlein, Schliemann of the Trojan excavations and Pope Innocent III, the pioneer of the great hospital movement in the Middle Ages. We have spoken of his attitude toward this country during the Spanish-American war. It did not ruffle America in the least. Why? Because American physicians can never forget Virchow's classical tribute of praise to the work of the Medical Corps of the United States Army during the Civil War,[2] especially of the "critical, truly scientific spirit, open-mindedness, sane and practical common sense which gradually penetrated all circles of the American army administration, and with the wonderful cooperation of an entire nation, reach the high-water mark of humanitarian achievement in any great war on record." The publications of the United States Army Medical Department of this period made, he asserts, "a new era in the history of military medicine."

Perhaps, however, the most striking example of Virchow's enthusiasm and generosity of spirit is his noble tribute to Pasteur. When the great chemist died he was by no means a popular figure in Germany owing to the fact that, from a natural soreness over the reverses of his native country in the Franco-Prussian War, he had declined the degree conferred on him by the University of Bonn and other distinctions offered by the German government. In consequence he was frequently caricatured and belittled in certain quarters, and even Koch was, at first, anything but well-disposed toward his work. When Pasteur passed away in 1895, it devolved on Virchow, as president of the Berlin Medical Society, to pay the usual memorial tribute to the illustrious dead.[3] He began by pointing out that the newspapers (as usual) misrepresented Pasteur's position in science by hailing him as the discoverer of this or that bacillus. Pasteur's claims (and here Virchow's words begin to turn to flame) were of an entirely different order. His position in science is immortal, first, by his conquest of the doctrine of spontaneous generation; again, because he was the first to handle the bacterial theory of infection in "the grand style," and thence to attempt a working theory of immunity and a practical enlargement of Jenner's original scheme of preventive inoculation. It is certain, says Virchow, that the whole modern tendency of such inoculations owes its inception to Pasteur, and no physician, only a chemist, could have hit on his peculiar modes of experimentation. After enlarging on this theme, Virchow winds up in a tone of reasonable protest against the German misunderstanding of Pasteur's true position as a patriot. He reminds his fellow countrymen that Pasteur laid the foundations of his scientific work as a teacher in Strasburg, now a German city; that it was in Strasburg that he found his wife, and that he must have loved this place with his whole heart. That the loss of this place to his country should have affected him deeply, we who love our own country, said Virchow, should not hold up as a fault against him. When we consider how little enthusiasm Virchow had for the modern theory of infection and its consequences, this defense of Pasteur seems one of the finest actions of his life.

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[1] Century, N. Y., 1904-5, lxix, 311-312.

[2] Virchow: Die Fortschritte der Kriegsheilkunde, Berlin, 1874, p. 7.

[3] Virchow: Verhandl. d. Berl. med. Gesellsch, 1895, xxvi, 161.

THE CHARGE AGAINST DR. WILEY

When the charge against Dr. Wiley was first made public even his friends supposed that it could be at least sustained on a technicality. The investigation has brought out the fact that Dr. Wiley was not guilty of even the trivial technical violation that was claimed. The charge was that he had made a secret agreement with Dr. Rusby concerning the rate of compensation the latter was to get, based wholly on a letter which Dr. Wiley was alleged to have received from Dr. Rusby. This letter is reproduced in full elsewhere.[1]

It will be noticed that in this letter the agreement spoken of by Dr. Rusby was to be subject to the approval of the Department of Agriculture, or as he put it, valid "if approved by the department." This part of the letter was suppressed by the Committee on Personnel in submitting its charges against Dr. Wiley to Secretary Wilson. Nor was this all; it was proved that this letter had neither been received by Dr. Wiley nor sent to him. Dr. Rusby had written the letter, it is true, but it had never been sent. A carbon copy of the letter, however, found its way into Dr. Rusby's files and, with a mass of other material was sent by him to the Committee on Personnel when he was requested to furnish a copy of all his official correspondence. It was further brought out that the Committee on Personnel had the means of knowing that this letter had not been received by Dr. Wiley because he had sent a complete list of all the letters that he had received and had also stated that no personal letters had ever passed between him and Dr. Rusby on this subject.

To sum up, the case amounts to this: The charge against Dr. Wiley was that he had entered into a secret agreement with Dr. Rusby by which the latter was "to be paid an illegal rate, differing from the rate specified in the appointment." The facts were: No such contract was ever made; the letter on which the committee based its charge that such a contract had been made had never either been received by Dr. Wiley or sent by Dr. Rusby. While a letter on the subject had actually been written by Dr. Rusby, even had it been sent, it was perfectly plain that there was no idea of any "secret agreement," as it was specifically stated that the rate of compensation would be agreed to by Dr. Rusby only "if approved by the department." In spite of all this, the enemies of the chief of the Bureau of Chemistry used this letter which they had means of knowing had not been received by Dr. Wiley and, not content with that, they suppressed the very part of the letter which, even had it been sent, would have made it impossible for them to bring the charge against him of having entered into a "secret agreement" for the purpose of evading the law.

The enemies of the pure food law at Washington must be in desperate straits when they find it necessary to attempt to oust honest and efficient public servants by means of trumped-up charges of a trivial and technical nature based on manufactured evidence and on garbled and suppressed facts. Dr. Wiley and his associates have come out of the present investigation completely vindicated and more firmly entrenched than ever in the hearts of the American people.

While the investigating committee has adjourned temporarily and will not submit its findings for some weeks, the public, through the press, has already delivered judgment. Dr. Wiley is not only innocent of even the trivial technicality brought against him, but he has been shown to be the victim of as unprincipled a conspiracy as was ever manufactured against a competent and public-spirited official. Many interesting details have been brought out in this investigation that the public and the medical profession ought to know. Some of these appear elsewhere[1] in this issue; others will follow.

THE VENDER OF INTELLECTUAL NOSTRUMS

It was a notable warning which President Butler recently gave the graduating class of Columbia University, against the nostrum-venders, political, literary and religious—and he might well have added, the medical—all of whom now so dreadfully infest our American civilization. These, he well observed, are the men of "new ideas" (such ideas as Plato discarded many centuries ago as perverse); the men (and women) who preach "new thought" without ever having learned to think; the multitudinous advocates of change for the sake of change; of reforms springing from no need and growing out of no experience; the shallow, unqualified, half-baked horde who are letting loose on the land a torrent of talk, to the degree that "the educated man or woman of to-day has literally to struggle against being swept into the current of irrationalism."

Knowledge has come on our people in veritably cyclonic measure, while wisdom has emulated the snail in its progress. "The marvelous last half-century of science," continued President Butler, "has made absolutely no impression on the thinking habit. Science has destroyed many prepossessions and not a few beliefs; but it has not yet taught mankind to think. Our age is far less reflective than was the eighteenth or the first half of the nineteenth century; our people are now ever busy hunting for something new."

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[1] Propaganda for Reform department, this issue, page 913.

"The present age is certainly that of the crowd and the demagogue," continued the president of Columbia. The crowd, with its well-marked mental and moral peculiarities, is everywhere in evidence; and demagogues of all kinds din its ears with hungry cries. The art of demagoguery is easy, and it is quickly learned; and the rewards of its successful practice "have strange fascination for minds and characters that we would like to think in all respects worthy."

Thus has President Butler pilloried the literary, the political and the religious demagogue. We should for ourselves have prefixed the qualification "pseudo" to each of these adjectives. Nor are Butler's observations any the less applicable to the pseudomedical demagogue, and the amazing impression he makes on the crowd. Indeed, the offices of religious and medical nostrum-vender are quite generally combined in the one engaging personality. The "new-thoughter," for example, while piloting you skyward, will at the same time attend to your physical well-being—for a consideration. There are in point of fact, literally hundreds of cults—essentially psychopathic epidemics—in the United States that are thus dominated. It is unpleasant indeed to observe in them how often the abnormal, the insane even, have exerted, and now exert, a noxious influence on people who are, to begin with, evenly enough balanced. The pseudoreligious movements (which quite invariably undertake to heal also the body) have in common certain well-defined earmarks. Each despises and decries all the rest: With us, assures one leader, you shall find peace here and hereafter, with the cure of all your ailments; but as you hope to escape eternal perdition, have nothing to do with that shop across the way! Some of these cults are offshoots from others, enterprises originated and conducted by malcontent demagogues who have not had a fair share of the spoils from their erstwhile leaders. The demagogue in charge of each cult—its nostrum-vender-in-chief—insists incessantly and blatantly that its tenets are the only true ones; and its devotees will as insistently, and much more blindly, back him up. There never, by any chance, was a true system other than the particular one under consideration. Any given demagogue can never, by any accident, make a statement that is not consonant with the plain, unvarnished truth. Each demagogue strives, with most consummate assurance, to outdo all others in extravagant claims (such as are impossible in nature) to have achieved marvelous and miraculous results, especially in the cure of disease. But no statement any leader ever made is more marvelous than the gullibility with which the devotee has accepted it. "Far-fetched analogy, baseless assertion, the uncritical assimilation of popular superstitions, a great deal of prophecy after the event, much fanciful elaboration of detail, ringing the variations on a sufficiently complex and non-demonstrable proposition, cultivating a convenient vagueness of expression, together with an apologetic skill in providing for and explaining exceptions, the courage to ignore failure, the shrewdness to profit by coincidences and half-assimilated smatterings of science, and, with all, an insensibility to the moral and intellectual demands of the logical decalogue"—such, observes Jastrow, are the elements on which the medicoreligious nostrum-vender rides to most meretricious success.

Current Comment

LANOLIN NOT PROPRIETARY

As long ago as 1902, a court decision of great importance to physicians was rendered, which, curiously enough, seems to have escaped the notice of the medical profession. At that time, the court held that the word "lanolin," first applied to wool fat by the original patentees, was a general designation for that substance, and that this word became a non-proprietary name when the patent on the product expired. Although it is nine years since this decision was rendered, many physicians still avoid using the term "lanolin" and use the somewhat cumbrous title of the Pharmacopeia. To help remove the misapprehension that exists regarding the use of this word, the Council on Pharmacy and Chemistry has decided to list lanolin as a synonym for hydrous wool fat (adeps lanæ hydrosus) in New and Non-official Remedies.[1] Physicians can therefore use the shorter term, as it is now public property.

INFANTS' MILK DEPOTS AND THE RESULTS OF THEIR OPERATION

Following a plan carried out in 1908 and 1909, Dr. J. W. Kerr[2] of the Public Health and Marine-Hospital Service, assisted by Drs. Henry L. Coit and Roland G. Freeman (the three constituting a committee of the American Association of Medical Milk Commissions), has compiled data concerning the operation of infants' milk depots in the United States in 1910. The results, while interesting, are not conclusive as to the exact value of these depots, the principal and important reason being the lack of accurate vital statistics in many of the states and cities where this work is carried on. Data were received from forty-three institutions located in thirty cities, and while the general object of all the depots is the protection of infant life, on account of the lack of uniformity of specific objects and of methods, and incompleteness of statistics, the results in the different cities are not comparable in such a way as to bring out the true value of this work. There was difficulty in determining in every instance whether it is the endeavor of the institution to accomplish good by meeting the purely hygienic needs of infants or simply to relieve the distress brought about by poverty. The data compiled, however, cover, among other things, the following points: object of institution; method of operation and manner of maintenance; instruction to mothers in infant hygiene, given by physicians or nurses, in the homes or in central consultations; distribution of the milk by agencies, free or otherwise; proportions of infants who were ill and well, number fed, average age, quality and preparation of milk, modifications, etc., and, chief among the objects of inquiry, the mortality-rate of infants under 1 year of age, and among children fed on dispensary milk one month or over during the year. The tabulations of this report show that the mortality-rate for infants under 1 year varied from 12 to 30 per cent., and in children fed on dispensary milk for one month or over during the year, from no deaths to 20 per cent. These figures may or may not prove much, but the information obtained is of interest and emphasizes the importance and necessity of uniformity of methods in conducting these institutions, and the supreme importance of accurate and uniform reports on births and deaths. On this latter point the report says: "The correct infant mortality-rate is the ratio of deaths of infants under 1 year of age to the number of children born alive during the year. In the absence of registration of births in many cities, therefore, no such rate can be determined, and since registration of births in the great majority of cities is very incomplete, any ratio based on the returns would be misleading. The data presented indicate how desirable it would be to know the correct infant mortality-rate, and emphasize in some measure the importance of the accurate registration of both births and deaths." It might also be added that until these two objects are attained and the various agencies for infant welfare are better coordinated, much effort and expenditure in this direction will be wasted.

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[1] Page 902, this issue.

[2] Public Health Reports, Aug. 18, 1911.

THE "CASE" OF THE PHYSICIAN

The physician and the lawyer both deal with "cases"; but while the latter has not learned to call his client a "case" (except jocularly), the former often seriously applies to his patient the word which properly signifies the given instance of disease or the given group of facts constituting the condition. The misuse of the term is an unfortunate one, not so much for the language as for the profession. The language has assimilated without disaster many more violent metonymies; but the habit of mind to which this particular figure of speech bears witness is one which works against mutual sympathy and confidence between the physician and the patient and even against real professional usefulness. The surgeon who really thinks of his patient as a "case" is the one who is inclined to be satisfied with a mere operative recovery; the physician with the same tendency of mind is likewise inclined to be satisfied if he has demonstrated his own skill, even if he has not penetrated far enough into his patient's characteristics and circumstances to know the ultimate causes of the disease and the probability of its recurrence. Whatever the scientific attainments of a physician, there is nothing which more surely alienates the public from him than this tendency to regard his patient as a mere living illustration or embodiment of disease or injury. The physician himself may be the last to become aware of this feeling, for it is not often so adequately voiced as it was by one mother, who, exasperated by the constant reiteration of "the case," exclaimed: "Dr. ——, I don't want to hear another word about the 'case.' This isn't a case; this is my baby." We suggest once more[1] that it is well to beware of confusing the "case" and the patient.

Medical News

ARIZONA

Personal.—Dr. Henri Ap John, Yuma, physician in charge of the Yuma reclamation project and in charge of the reclamation service hospital, has broken down from overwork, and is taking a few weeks' rest in southern California.——Dr. George F. Manning, Flagstaff, while stepping off a train, August 4, turned his foot, causing a sprain of the ankle.——Dr. Charles L. Edmundson, formerly mayor of Bisbee, has retired from practice and moved to Los Angeles, Cal.——Dr. Carl Lund, Douglas, has resigned from the medical staff of the Copper Queen and will practice in Oklahoma City.

CALIFORNIA

Laboratory for Hospital.—Mrs. Harriman, widow of the late E. H. Harriman, has given $50,000 for the establishing of a bacteriologic and pathologic laboratory to be attached to the present Southern Pacific General Hospital, San Francisco. It is to be known as the Harriman Memorial Laboratory.

Eradication of Squirrels.—A meeting was held in Modesto, August 26, at which the farmers were urged to help along the eradication of squirrels by establishing local poison squads. The purpose of establishing these squads is to prevent the spread of the squirrel-infested area into the foothills by clearing of squirrels a territorial belt in advance of the present area which is known as the suspected infected area, thereby making an additional barrier.

DISTRICT OF COLUMBIA

Personal.—Dr. Isadore Burman has sailed for Europe.——Dr. William F. R. Philips left August 22 to assume the professorship of anatomy in the medical department of the University of Alabama, Mobile.

Veiled Prophets' Committee.—The following is the medical committee announced for the Veiled Prophets' reception, September 25: Dr. Floyd V. Brooks, chairman; Dr. Lewis A. Walker, vice-chairman; Drs. Wade H. Atkinson, George K. Baler, Grafton D. P. Bailey, William H. Brandenburg, Clarence R. Dufour, Leon L. Friedrich, Frank E. Gibson, Edward M. Hasbrouck, Joseph Ernest Mitchell, William O. Owen, Ralph A. Quick, Edward G. Seibert, Lewis H. Taylor, Clarence A. Weaver and Frederick Yates.

GEORGIA

Personal.—Dr. J. Calvin Weaver, Atlanta, has been appointed surgeon of the Federal Prison, Atlanta, vice Dr. Alfred L. Fowler, resigned.——Dr. R. C. Orr, Athens, has been appointed a jury commissioner for Clarke County.

District Association Meeting.—The fifth annual meeting of the Eighth District Medical Association of Georgia and the Wilts County Medical Society was held in Washington, August 16, under the presidency of Dr. Richard J. Robins, Siloam. The following officers were elected: President, Dr. Thomas J. Wills, Washington; vice-president Dr. L. E. Roper, Comer, and secretary-treasurer, Dr. Daniel H. DuPree, Athens.

Work Done at Mount Alto.—The annual report of the State Tuberculosis Sanatorium, Alto, states that 180 patients were cared for during the year with 60 in residence, at its close. One of the main features of the institution is educational and the prevention of the disease is the point which the authorities desire to attain. An appropriation of $50,000 was passed by the House of Representatives, $25,000 of which is available next year and $25,000 in 1913. This money will be used for new buildings and sleeping quarters.

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[1] See Bad English, Queries and Minor Notes, THE JOURNAL A. M. A., Dec. 22, 1906, p. 2108.

ILLINOIS

Hospital Attendants Suspended.—Plans of seven attendants of the Elgin State Hospital, to strike, August 29, because they were not allowed one day off each week, were frustrated by their prompt suspension from the state service.

Personal.—Dr. George S. Rainey, Salem, was elected surgeon at the twenty-ninth annual Illinois Soldiers' and Sailors' Reunion held in Duquoin, August 26.——Dr. Isaac F. Freemmel of the staff of the Elgin State Hospital has been temporarily transferred to the staff of the Illinois Hospital for the Feeble Minded, Lincoln.

Fire at Cook County Institutions.—A fire which occurred in the vacant west wing of the Cook County Institutions, Dunning, August 27, necessitated the removal of about two hundred patients from the Cook County Insane Hospital. They were removed without casualty under the care of Drs. Carl F. W. Eberlein, chief of the medical staff, J. A. Smith and Robert H. Rea. The fire caused a loss of $5,000. The medical staff and nurses were commended by the president of the county board for their excellent work in removing patients from the building during the fire.

Chicago

Theft of Medical Books.—Joseph Suffrin, who is said to have started a preparatory medical school with the books of reference stolen by him from the John Crerar Library, was sentenced to six months' imprisonment in the Bridewell, August 29.

Home from Europe.—Dr. and Mrs. Nathan S. Davis and daughter, and Dr. and Mrs. Edward L. Moorhead and son, and Dr. and Mrs. Edwin B. Tuteur and daughter, Dr. William H. Falker, Dr. and Mrs. Clarendon Rutherford, Dr. William C. Wermuth and Dr. Robert Von der Heydt have returned from Europe.

Fire in Hospital.—Fire on the fifth floor of St. Bernard's Hospital, August 25, caused considerable excitement but was not attended by any casualty to patients.——Fire in a building on the opposite side of the street caused a panic in the Practitioners' Hospital, August 30, which was stopped only by strenuous and cool-headed work on the part of the nurses.

Home for Consumptives.—The Jewish Consumptive Relief Society has purchased a tract of land bounded by Belmont, North Fortieth and North Fifty-First Avenues and School Street, on which an institution for the care of indigent consumptives will be started. It is planned to erect first an administration building to cost about $15,000 and several shacks at a cost of $2,000 to $3,000 each.

IOWA

Personal.—Dr. Edward S. Bowman, Davenport, recently underwent operation.——Dr. Joseph C. Collester was seriously injured in a collision between his automobile and a freight train near his home in Spencer, recently.——Dr. Gilbert Baldwin, Ruthven, was struck by an automobile recently and sustained painful injuries.——Dr. David E. Beardsley has been appointed a member of the staff of St. Luke's Hospital, Cedar Rapids, vice Dr. Walter S. King, deceased.

KANSAS

Personal.—Dr. Oliver J. Taylor, Wichita, is reported to be ill at his home.——Dr. J. R. Perdom, Wetmore, has been appointed a member of the advisory commission of the State Sanatorium for the treatment of tuberculosis.——Dr. James Stewart has been appointed city physician of Topeka, vice Dr. Henry B. Hogeboom, resigned.——Dr. Charles H. Ewing, Larned, has been appointed head physician for the Modern Woodmen of America for Kansas.

KENTUCKY

Gift to Kentucky Tuberculosis Association.—The Kentucky association for the cure and prevention of tuberculosis has received a gift of $500 from Mr. T. Coleman DuPont of Wilmington, Del.

Hospital Patients Moved.—The staff and nurses of the Louisville City Hospital safely removed 136 patients for six squares into temporary quarters to be occupied during the erection of a new hospital building on the site of the old.

Personal.—The recent quarterly meeting of the Kentucky Midland Medical Association, held in Louisville, closed with an elaborate banquet given by Dr. Louis Frank in honor of Dr. Urbane V. Williams, Frankfort, first president and oldest member of the association.——The bungalow of Dr. Edward R. Palmer, Louisville, at Harrods Creek, was destroyed by fire August 10, with a loss of several thousand dollars.

LOUISIANA

Benefit for Charity Hospital.—Plans for a mammoth benefit for the Charity Hospital, New Orleans, are in progress. The object of the benefit is the collection of funds for the erection of an isolation building for contagious diseases. The hospital will commemorate its centennial of state ownership in October.

Gifts to Presbyterian Hospital.—At a meeting of the board of managers of the Presbyterian Hospital, New Orleans, August 16, the receipt of a check for $20,000 from the estate of the late W. R. McKowen, Jackson, was announced. It was decided by the board to establish a McKowen Memorial Charity ward in the institution.——A complete *x*-ray department under a skilled radiologist is to be put in this month.

Personal.—Dr. Edward L. McGehee, Sr., has been elected president and Dr. John L. Robinson vice-president of the board of health of Hammond.——Dr. Charles Chassaignac has been made chairman of the executive committee to make up plans and carry forward the work of cleaning and sanitation in New Orleans in cooperation with the city and health authorities.——Dr. Creighton Wellman has been made professor of hygiene and preventive medicine in Tulane University.

MARYLAND

Baltimore

New House Staff.—The following constitutes the new staff of house officers of Johns Hopkins Hospital: medicine, Drs. Arthur E. Bloomfield, Ernest G. Grey, Helen W. Smith and Julian M. Wolfsohn; gynecology, Drs. Veader N. Leonard and Walter G. Sexton; surgery, Drs. Barney Brooks, Hans Lisser, John A. C. Coston and William A. Fronty, and obstetrics, Dr. Arthur S. Rosenfeld.

Personal.—Dr. William H. Welch returned September 1 after an absence of eleven weeks spent in traveling through Alaska and Canada.——Dr. William B. Treat was operated on recently for appendicitis.——Drs. Henry O. and A. J. Neilson Reik have started for Europe.——Dr. E. Longsdorf has been appointed physician to the Isthmian Canal Commission with station at Panama.——Dr. Howard A. Kelly was operated on at Rochester, Minn., August 31, for adhesions from old gall-bladder inflammation.——Dr. G. Halsted Boyland has returned from Europe.——Dr. Arminius C. Pole was stunned by lightning which wrecked the upper floor of his house during a severe storm, August 28.

MASSACHUSETTS

Bequests.—By the will of the late Miss Cornelia Francis Forbes, Westwood, $1,200 is bequeathed to the Vincent Memorial Hospital, Boston, and $300 to the Convalescents' Home, Milton.

Personal.—Dr. Edwin M. Murphy, Lowell, has returned from Europe.——Dr. Paul Carson head of the division of school hygiene of the health department of Boston, has resigned and will locate in Michigan.——Dr. Patrick J. Hughes has been appointed a member of the board of health of Lawrence, vice Dr. John H. Tobin, resigned.

NEW YORK

New York City

Hospitals for the City.—The city has filed plans for two four-story concrete hospital buildings on North Brother Island. The estimated cost of these buildings is $100,000.

Personal.—Dr. Fred H. Albee has been appointed professor of orthopedic surgery at Vermont Medical College.——Dr. Abraham A. Brill and Dr. and Mrs. John Thelberg have sailed for Europe.

New Pavilion for Measles.—The Health Department will erect a pavilion for the isolation of measles at a cost of more than $200,000 on the grounds of the Willard Parker Hospital, at the foot of East Sixteenth Street.

Money for Charity.—The contest against the will of Walter Duryea has been withdrawn and the terms of the will will be complied with. Under this will the Nassau Hospital at Mineola receives $25,000 outright and $75,000 when the sister of the testator dies; the Children's Home at Mineola, $5,000; Roosevelt Hospital, $15,000 to establish three memorial beds; Montclair Convalescent and Fresh Air Home, $2,000. Other philanthropic institutions were also remembered.

Rabies Shows Increase.—Since January the Health Department has had examined 3,469 animals for rabies, and fully 10 per cent. have been found to have the disease. For the corresponding period in 1910, 3,010 were examined and 172 cases of rabies were found. Besides the 279 people who have received Pasteur treatment in the city since January, 420 persons outside the city have been treated by the Health Department. Last year 189 received treatment in the city, and 437 persons outside.

Decline in Typhoid.—For eight weeks ending September 2, 1,042 cases of typhoid fever have been reported to the Health Department from all boroughs of the city. This is an increase of 241 over the cases reported in 1910. During the week ending September 2, only 121 cases were reported as against 158 for the same week last year. This seems to indicate that a normal point has been reached in the epidemic. The Health Department declines to go into the probable cause of the epidemic this summer except to say that the water-supply, is not responsible for the outbreak. Ten milk companies which were under suspicion in connection with the epidemic on the upper West Side have shut off their supplies.

New York Milk Committee Plans New Work.—The Committee for the Reduction of Infant Mortality of the New York Milk Committee feels that the results attained by the united efforts of the various agencies in combating infant mortality due to diarrheal diseases now plans to turn its attention to congenital troubles, which next to diarrheal diseases, cause the largest infant mortality. The committee has taken charge of 1,000 expectant mothers and will endeavor to bring all of the community's resources to bear which may enable the mothers to give birth to well children strong enough to combat the numerous ills that await them. An arrangement has been made with the Russell Sage Foundation which will detail a special nurse who will devote all her time to this work. The mothers will be given a careful physical examination and will be instructed in methods of proper care of themselves preparatory to the coming of the children. When an expectant mother is forced to overwork help will be provided for her. Arrangements will be made for these women to go to the hospital and no midwives will be permitted to attend these cases. After confinement adequate care will be provided for the mothers and the children will be referred to proper milk stations. Last year about one-third of all infant deaths occurred during the first month of life and the committee will endeavor to prove that this percentage can be materially lowered. If this proves to be true an active campaign along these lines will be instituted next summer.

NORTH DAKOTA

District Association Meeting.—At the annual meeting of the Grand Forks District Medical Association held in Grand Forks the following officers were elected: President, Dr. Anders A. Westeen, Grand Forks; vice-president, Dr. John Montgomery, Ardoch; secretary, Dr. George M. Williamson, Grand Forks; treasurer, Dr. Charles S. Marsden, Carrington, and delegates of the State Society, Drs. Henry H. Healy, Grand Forks, and John S. Countryman, Grafton.

PENNSYLVANIA

Hospital Buys Farm.—The Kensington Dispensary for the Treatment of Tuberculosis purchased a farm in Upper Providence Township for $6,994.08.

Personal.—Dr. John A. McKenna, of Lansdowne, has returned from Europe.——Dr. Malcolm Z. Gearhart, Reading, who was operated on for appendicitis in the Jefferson Hospital at Philadelphia, is reported to be improving.

To Prosecute Unregistered Midwives.—At a meeting of the Clarion County Medical Society on July 25, resolutions were passed that the society act as prosecutor in all cases of unregistered midwives, the evidence to be furnished by any member of the society.

Endorses Wiley's Work.—Blair County Medical Society at its meeting in Altoona, August 23, adopted resolutions expressing its belief in the professional skill of Dr. Harvey W. Wiley, extending their moral support in his efforts to protect human life and hoping that "no possibility of technical fault may cut short his most useful career."

Hospital Fire.—A fire caused by crossed electric wires in the Panther Creek Valley Hospital resulted in one death and $10,000 damage. The Reading and Lehigh Coal and Navigation Companies sent special trains to convey fire companies to the scene and the flames were subdued after the roof had been destroyed and the third story gutted. Thirty-eight patients were rescued.

Censorial District Meeting.—The sixth annual meeting of the Fifth Censorial District Medical Society was held at Waynesboro July 25, and the following officers were elected: president, Dr. J. Burns Amberson, Waynesboro; vice-president, Dr. Harry A. Spangler, Carlisle; secretary and treasurer, Dr. George E. Holtzapple, York. The next meeting will be held at Mount Holly Springs, in July, 1912.

Philadelphia

Personal.—Dr. Walter L. Pyle has recently returned from Europe.——Drs. John F. McCloskey and Fred Stahley were seriously injured when their automobile ran into a tree which had been blown across a drive in West Fairmount Park in a storm August 18.

Quarantine on Brandenburg Lifted.—Twenty-nine hours after quarantine had been placed on the steamer *Brandenburg* because of the illness of a passenger with symptoms suspiciously like cholera, the steamer and its passengers were released as cultures taken showed a negative result.

Hospital Sells Building.—The Methodist Hospital has sold 1015-17-19 Chestnut Street, a lot 69x180 feet, for a consideration reported to be $425,000. This building, together with the Chestnut Street Opera House adjoining, was bequeathed to the Methodist Hospital about 15 years ago by the will of Colonel Bennett.

Playground Work Ended.—The public school playgrounds, conducted in the yards of the public schools and under the direction of the board of education closed August 31. The grounds were open six days of the week for eight hours each day with at least a principal and a teacher in attendance. Beside healthful supervised play, instruction in small arts, such as basket weaving, hammock weaving, sewing, etc., was given. Hammocks almost without number were made and given to hospitals, recreation piers and municipal playgrounds in various parts of the city.

SOUTH DAKOTA

Personal.—Major Hans M. Finnerud, M. C., N. G., S. Dak., Watertown, has been made chief surgeon with the rank of colonel.——Dr. John R. Nilsson, Lead, who was operated on recently in Omaha, has recovered.

TENNESSEE

Commercial Men Form Health Association.—The Tennessee Commercial Men's Health Association, organized at Chattanooga August 14, with an initial membership of more than two hundred.

Physicians Victimized.—The police arrested in Chattanooga, August 26, a man giving his name as J. D. Cooper, who is said to have posed as a doctor and to have victimized several local physicians by inducing them to endorse his checks.

President to Lay Hospital Cornerstone.—Excavation for the Lincoln Memorial University Hospital, Knoxville, the cornerstone of which will be laid by President Taft, September 18, has been begun. The building will be four stories in height and will cost about $13,000.

TEXAS

Money for Hospital.—By the will of the late John W. Gates $150,000 is devised to the Mary Gates Memorial Hospital, Port Arthur.

Personal.—Dr. John O. McReynolds, Dallas, has returned from England.——Dr. Albert W. Nash, Dallas, has been appointed health officer of Nash, succeeding Thomas B. Fisher, resigned.——Dr. Albert Woldert, Tyler, sustained a heavy loss by the burning of a building owned by him in Plainview, August 22.——Dr. Joseph C. Darracott, San Antonio, for several years physician at the Schaefer Hospital, has resigned and will be located in Deming, New Mexico.

Two Tuberculosis Colonies.—The State Department Commission for the selections of sites, erection of building, etc., has made sufficient progress to insure the completion of at least one colony within the next year. It has purchased a tract of land on the Concho River near Carlsbad on which a colony will be established and the other is to be located at the old Fort Clark reservation. The specifications call for the establishment of a colony to cost about $50,000, and to accommodate at least sixty patients.

UTAH

Personal.—Dr. Elmer E. Hinckley, Provo, has returned from Europe and will practice in Salt Lake City.——Drs. Clarence M. Clarke, Provo; Albert G. Stoddard, Spanish Fork; Horace C. Holbrook, Lehi; Frank E. Winter, Payson, and Philemon M. Kelly, American Fork, have been appointed members of the board of health of Utah County.

WEST VIRGINIA

State Board Election.—At the annual meeting of the State Board of Health, Dr. Robert E. Vickers, Huntington, was elected president, and Dr. Hugh A. Barbee, Point Pleasant, was reelected secretary for the firth time.

Personal.—Dr. Albert E. Nolte has been appointed health officer of Wheeling, vice Dr. Charles A. Barlow, resigned to become superintendent of the State Hospital for the Insane, Spencer.——Drs. T. Jud McBee, Elkins, and Irvin Hardy, Davis, purchased the City Hospital, Morgantown, and will tear down the old building and erect a hospital on the site.

WISCONSIN

Improvements at State Sanatorium.—The state board of control, on August 25, awarded contracts amounting to nearly $10,000 for improvements at the State Tuberculosis Sanatorium, Wales.

Personal.—Dr. C. William Stoelting, Oconto, has recovered from his recent operation for appendicitis.——Dr. Howard D. Eaton, who has been practicing in Chihuahua, Mexico, for seven years has returned and located in Shopiere.

Sanatorium Agreement.—At a conference held August 23 between representatives of the county and city of Milwaukee to devise a method of cooperation, in the fight against tuberculosis, an agreement was reached whereby the county will lease from the city the Greenfield Sanatorium at Wauwatosa. The institution is to be under the supervision of Dr. George H. Ernst, at present superintendent of the city tuberculosis institutions. New buildings are to be erected which will increase the capacity of the institution to 100.

GENERAL NEWS

Antityphoid Vaccination Compulsory.—By recent order of the Secretary of War, on recommendation of the surgeon general, antityphoid vaccination is made compulsory for all officers and men of the army under 45 years of age.

Rock Island Surgeons Meet.—The ninth annual meeting of the Surgical Association of the Rock Island Lines will be held in Colfax, Ia., September 13 and 14, under the presidency of Dr. Samuel C. Plummer, Chicago, chief surgeon of the system.

Pay of the Hospital Corps Increased.—The recommendation of the surgeon general of the army that the pay of noncommissioned officers of the Hospital Corps be advanced to the scale paid non-commissioned officers in other staff departments, has been approved by the general staff.

Mouth Hygiene Meeting.—At the meeting for organization of the National Mouth Hygiene Association, held in Cleveland, O., Dr. Eugene H. Porter, commissioner of health of New York City was made first vice-president; Dr. William A. Evans, former commissioner of health of Chicago, second vice-president, and Dr. Oscar Dowling of Shreveport, secretary of the Louisiana State Board of Health, third vice-president.

American Life Convention.—The medical section of the American Life Convention will hold its annual meeting in Pittsburgh, September 20, the day before the opening of the general convention. Among the papers announced to be read are "Transmission of Tuberculosis Through Fetal Life," by Dr. Harold C. Miller, medical director of the Pittsburgh Life and Trust Company; "The Healed Tuberculous Lesion from a Life Insurance Standpoint," by Dr. G. W. Parker, medical director of the Peoria (Ill.) Life Insurance Company; "Blood-Pressure," by Dr. Henry Wireman Cook, medical director of the Northwestern National Life Insurance Company, and "Nervous Diseases as Applied to Life Insurance" by Dr. John S. Turner, medical director of the Southland Life Insurance Company. Medical directors, examiners, actuaries and officials of life insurance companies are invited to attend this meeting and to participate in the discussion. Dr. Frank L. B. Jenney, Chicago, is secretary of the section.

International Manifestation in Honor of Sir Patrick Manson.—A committee has been organized to do honor to the one who has been so largely responsible for the progress realized in the knowledge of diseases of tropical countries, Sir Patrick Manson, the movement for the international manifestation having been started in France. The announcement states that the creation of schools or institutes of tropical medicine is also due to his initiative genius. It is proposed to present him with a portrait medal, in gold, the work of Dr. Paul Richer, professor of anatomy at the Beaux-Arts in Paris. Subscriptions may be sent to Asselin and Houzeau, publishers of the *Archives de Parasitologie*, place de l'Ecole de Médecine, Paris, France, or to Mr. James Cantlie, 140 Harley St., London, W., England. A bronze replica will be sent to each one who subscribes $5 and a silver one for twice this subscription or more. The forty-five members of the committee represent the leading countries of the globe; the list includes Drs. W. H. Welch, G. N. Calkins, F. G. Novy, C. W. Stiles and H. B. Ward of this country.

LONDON LETTER

(From Our Regular Correspondent)

London, Aug. 26, 1911.

The Falling Birth-Rate

The lowest birth-rate on record has once more been reported. For the quarter ending June, 1911, the births were in the proportion of 25 per thousand of the population, which is 3 below the mean birth-rate in the preceding ten second quarters and the lowest recorded since the establishment of civil registration. The death-rate for the quarter was also unusually low —13.3 per thousand, which is 1.3 below the mean death-rate in the preceding second quarters. Infant mortality was in the proportion of 91 per thousand births under the age of one year. This is 15 below the average of the preceding ten quarters and is the same as that recorded in the second quarter of last year, which was the lowest recorded. The marriage rate also was unusually low—10 per thousand of the population against an average of 11.4 in the preceding 10 years.

The Antituberculosis Campaign

A movement is in progress for the establishment of tuberculosis dispensaries, of which there are a few in London and other parts of the country. One of the main features of the treatment is the administration of tuberculin. It is claimed that as the dispensaries receive the cases earlier than sanatoriums and their upkeep is much less expensive they are a better means of coping with the disease. Moreover, there is not sanatorium accommodation in the country for a tenth of the cases of tuberculosis. On the other hand, some question the excellent results which are claimed for the dispensaries. The diagnosis is often based on the reaction to tuberculin. But, as it has been shown that a large proportion of healthy soldiers react to tuberculin, the reality of the alleged cures is questioned. An appeal is now being made for $500,000 to establish tuberculosis dispensaries in London and the response has been encouraging. At the recent tuberculosis conference Mr. Waldorf Astor read a very important paper on the cost of tuberculosis. He showed that when the insurance scheme now before Parliament is fully developed some $50,000,000 will be spent every year on the sick. Of this over $15,000,000 will be required on account of tuberculosis alone. In Ireland, a country in which tuberculosis is very prevalent and in which the disease has shown no such decline as has been manifested in England in recent years, a gratifying improvement is at last apparent. The death rate from tuberculosis has fallen from 2.7 per 1,000 in 1907 to 2.6 in 1908, 2.4 in 1909, and 2.3 in 1910.

The Study of Pellagra

The second field commission for the investigation of pellagra has just left London for the Continent. It is composed of Dr. Louis Sambon, lecturer, London School of Tropical Medicine and parasitologist to the Wellcome Physiological Research Laboratories, and Dr. Albert T. Chalmers, lecturer on pathology and animal parasitology, Ceylon Medical College. These two members of the commission will be joined *en route* by Professor Haase, of Memphis, U. S. A., Dr. Cole, of Atlanta, U. S. A., and Dr. Martinez, of Yucatan, Mexico. The commission will proceed to the study of the epidemiology and etiology of pellagra in Hungary, the Austrian Tyrol, Spain, and the south of France. The governments of Austria-Hungary and of Spain have shown interest in the work and have granted every facility for prosecution of the study. Mr. H. S. Wellcome defrayed all the expenses of the present field commission. The work in Italy in the spring of 1910, by Dr. Louis Sambon, has gained many converts to the belief that pellagra is not due to eating damaged maize, but to a parasitic disease conveyed by the bite of a fly—a belief which has been seriously taken up by several observers, particularly in the United States. The field commission is to visit the pellagra-infected districts of Transylvania, the Austrian Tyrol, and the Asturias in Spain.

The Great Railway Strike

The railway strike which has happily ceased after a few days is an event unparalleled in our industrial warfare and threatened to produce quickly suffering of appalling magnitude. All the great railway lines in the kingdom, with one exception, were held up and the starvation of the great towns was only a matter of days. Another evil was the insanitary condition due to the impossibility of removing garbage. In Liverpool, where the greatest disorder occurred, the last difficulty was considerable and the death-rate was doubled. Even the hospitals had to complain to the Lord Mayor, stating that they would have to close their doors if the necessary supplies were not allowed to pass through by the strikers. In London also some of the hospitals suffered great inconvenience and one had to curtail its work on account of shortage of supplies. One issue of the *British Medical Journal* had to be reduced in size as the necessary paper could not be obtained.

Epidemic of Cerebrospinal Meningitis

A serious outbreak of cerebrospinal meningitis has occurred in Devon and Cornwall: 30 cases scattered throughout various districts have been reported and fresh cases are occurring daily. Five deaths have already taken place.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Aug. 18, 1911.

The Heat Wave

The intense heat during the last weeks has claimed many human victims, a condition which to date has been known to us only from American newspapers. In Berlin and elsewhere in Germany deaths from sunstroke have been reported daily and also numerous deaths from drowning. Thus, in the province of Silesia, during the last three weeks not less than ninety-two persons drowned while bathing, and twenty-eight died from heatstroke.

Congress for Race Hygiene

Of the many congresses which have been held in Dresden this summer, during the International Hygiene Exhibition, the Congress for Race Hygiene had a special interest, as a special race hygiene section in the exhibition had been arranged by Professor von Gruber of Munich, who lectured at the congress. He made clear that for each new generation a considerable number of the individuals are failures and that only a few attained high physical and mental standards. If an elevation of the average human being could be accomplished, a bettering of human conditions could be produced. The last century was under the sway of the dogma that all men are born equal; this had led to an overvaluation of the environment. It is certain that the environment is sometimes of great importance to the development of the individual; this is shown, for instance, by the variation of plants induced by changes in the conditions of growth. As a whole, however, the improvement, the social reforms, cannot essentially improve the race, because such improvements cannot be inherited and because the environment can never develop in an individual any characteristic the germ of which was not implanted by heredity. The environment can often suppress these inherited tendencies, but it cannot add anything to them. Much more important than the environment is the inherited complex of tendencies. Race hygiene is needed to promote the regeneration of the strong and to check that of the weaker elements.

The Swedish social economist, Professor Fahlbeck, attacked energetically the so-called neomalthusianism. He characterized the efforts to check the natural growth of the population as agitation for race-suicide.

Sick-Benefit for Mine Workers

Among the labor organizations, the Westphalian-Rhenish Mine Workers' Central Union occupies a remarkable position by reason of its large membership and its activities. The report for 1910 gives a membership of about 350,000. The total number of cases of disease entailing inability to work numbered about 212,000, as against 226,000 for 1909. In frequency, rheumatism of the muscles and joints stands first; diseases of the digestive organs come next; the number of cases of appendicitis increased from 459 to 500. The report says that "this higher figure can probably be explained by the fact that appendicitis is in the foreground of medical interest and essential improvement has been made in early diagnosis. It is improbable that the increasing number of these cases offers a support for the claims of the vegetarians to the effect that it is due to the increase in the consumption of meat." There were 704 fatal accidents due to the employment, including one case of gas poisoning. The number of injuries due to mechanical causes shows a continued increase, reaching the number of 57,179, as against 54,799 in the preceding year, but the number of deaths resulting from these accidents shows a considerable decrease, a fact undoubtedly due to the improvements in mining technic. The Bochum central organization has 800 branch offices and has two large hospitals, one for diseases of the lungs and one home for convalescents. During the year, 337 general practitioners and eighty-six specialists took care of the sick, and for the treatment of the sick members about $4,000,000 (16,400,000 marks) was expended, of which about $2,500,000 (9,700,000 marks) was paid as sick-benefit, about $800,000 (3,200,000 marks) was hospital expenses, about $350,000 (1,500,000 marks) for medicine, and about $500,000 (2,000,000 marks) as fees for physicians. This organization provides for sick-benefits and old age and invalid pensions. The income of these three departments amounted in 1910 to about $14,000,000 (56,100,000 marks), as compared to $13,500,000 in 1909, and the expenses were $10,000,000, as compared to $9,500,000 in 1909. The balance-sheet of the three departments totaled $43,000,000 (173,000,000 marks), as compared to $35,500,000 (150,000,000 marks) in 1909.

End-Results in the Treatment of Tuberculosis

The official insurance bureau of the Hansa cities (Lübeck, Bremen and Hamburg) has published a report of the results obtained in the thirty-three sanatoriums supported by this bureau. In this report a special interest is attached to the figures dealing with the ultimate outcome of the treatment of pulmonary tuberculosis. Of the 37 male patients treated in the sanatoriums during 1895, suffering from lung phthisis, 56 per cent. had died before the end of 1910; 8 per cent. were unable to work and 13 (36 per cent.) had full earning capacity, but three in this group had taken more than one course of treatment. Of the 19 female patients treated in 1895, 5 (28 per cent.) had died before the end of 1910; 5 per cent. were unable to work, and 12 (67 per cent.) were fully able to work. Two of the latter had taken repeated treatment. Of the 99 male patients treated during 1896, 33 (35 per cent.) had died; 5 (5 per cent.) were incapacitated; 52 (56 per cent.) were fully able to work; of the latter, 17 (18 per cent.) had taken repeated treatment, and 4 (4 per cent.) were only partially able to work. Of the 47 female patients treated during the same year, 4 (9 per cent.) had died; 1 (2 per cent.) was unable to work; 30 (68 per cent.) were able to work, of whom 7 (16 per cent.) had taken repeated treatment; 9 (21 per cent.) were partially able to work. Of 164 male patients treated during 1900, 39 (25 per cent.) had died before the end of 1910; 12 (8 per cent.) were unable to work; 84 (53 per cent.) were fully able to work; of these, 23 (15 per cent.) had taken repeated treatment; 22 (14 per cent.) were only partially able to work. Of the 132 female patients, 15 (12 per cent.) had died; 11 (9 per cent.) were unable to work; 69 (57 per cent.) were able to work, of whom 24 (20 per cent.) had taken repeated treatment; 26 (22 per cent.) were partially able to work. From the standpoint of the ultimate outcome, it is important to note the causes of the disease in the individual patient. The cases are classified in four groups:

1. Slight infection, limited to a small area of one lobe, and especially to the apex.
2. Cases in which the infectious process exceeded the limitations of Group 1; involving one or both sides without any pronounced dulness or cavity formation.
3. Those showing consolidation of one or more lobes or signs of cavity formation, or pronounced tuberculosis of the larynx.
4. Protracted pleurisies or suspicious catarrh of the larynx without any pronounced findings in the lungs.

The total number of male patients belonging to Group 1 who were treated more than four weeks in the sanatoriums during the years 1895 to 1904 were 471, of whom 117 (25 per cent.) had died before the end of 1910; 25 (5 per cent.) were unable to work; 297 (63 per cent.) were fully able to work; 32 (7 per cent.) were partially able to work. Of the parallel group of 441 female patients, 48 (11 per cent.) had died; 26 (6 per cent.) were unable to work; 293 (66 per cent.) were fully able to work, and 74 (17 per cent.) were only partially able to work.

Of those belonging to Group 2, 461 were male patients, of whom 141 (31 per cent.) had died; 36 (8 per cent.) were unable to work; 240 (52 per cent.) were fully able to work, and 44 (9 per cent.) were partially able to work. Of the 227 female patients, 28 (12 per cent.) had died; 15 (7 per cent.) were incapacitated; 151 (66 per cent.) were fully able to work, and 33 (15 per cent.) were partially able to work.

In Group 3 were 107 male patients, of whom 70 (65 per cent.) had died; 8 (7 per cent.) were unable to work; 23 (22 per cent.) were fully able to work; 6 (6 per cent.) were only partially able to work. Of 34 female patients belonging to this group, 20 (59 per cent.) died; 4 (12 per cent.) were unable to work; 9 (26 per cent.) were fully and 1 (3 per cent.) only partially able to work. Group 4 offers no special interest.

The percentages of male patients who recovered so as to be able to work were in Groups 1, 2 and 3, respectively, 52.5, 42.4 and 4.1; for the women the proportions were 63.7, 32.8 and 2 per cent.

The influence of age, the duration of the disease before treatment and the heredity were also recorded. Of the male patients reexamined in 1910, 306 had been between 15 and 25 years of age; of these, 87 (28 per cent.) had died; 6 (2 per cent.) were unable to work; 194 (63 per cent.) were fully able to work, and 19 (7 per cent.) were partially able to work. In the parallel group of 483 female patients, 63 (13 per cent.) had died; 22 (4 per cent.) were unable to work; 332 (69 per cent.) were fully and 66 (14 per cent.) were partially able to work. Aged from 25 to 50 years were 698 male patients, of whom 217 (31 per cent.) had died; 55 (8 per cent) were unable to work: 364 (52 per cent.) were fully and 62 (9 per cent.) were partially able to work. In the parallel group of 226 female patients, 34 (15 per cent.) had died; 22 (10 per cent.) were unable to work; 128 (57 per cent.) were fully and 42 (18 per cent.) were partially able to work. The report of the patients over 50 years old offers no special interest.

The duration of the disease before treatment had been in 341 male cases from one to six months; of these patients 87 (25 per cent.) had died before the end of 1910; 17 (5 per cent.) were unable to work; 211 (62 per cent.) were fully able to work; 26 (7 per cent.) were partially able to work. Of the parallel group of 172 female patients, 20 (12 per cent.) had died; 4 (2 per cent.) were unable to work; 126 (73 per cent.) were fully and 22 (13 per cent.) were partially able to work. The duration of the disease in 344 male patients had been from six to twenty-four months; of these patients 115 (33 per cent.) had died; 16 (5 per cent.) were unable to work; 191 (56 per cent.) were fully and 22 (6 per cent.) were partially able to work. In a parallel group of 238 female patients, 33 (14 per cent.) had died; 21 (9 per cent.) were unable to work; 147 (62 per cent.) were fully and 37 (15 per cent.) were partially able to work. In 234 male patients the duration of the disease before treatment was from two to six years; of these patients, 82 (35 per cent.) had died; 24 (10 per cent.) were unable to work; 103 (44 per cent.) were fully able to work, and 25 (11 per cent.) were partially able to work. In a parallel group of 187 female patients, 26 (14 per cent.) had died; 8 (4 per cent.) were unable to work; 119 (64 per cent.) were fully able to work, and 34 (18 per cent.) were partially able to work. About the same percentages are evident with patients who had had the disease from six to twelve years before treatment. From this it can be concluded that long duration does not necessarily mean a less favorable prognosis.

An inherited taint had been noted in 274 male patients, of whom 86 (31 per cent.) had died; 19 (7 per cent.) were unable to work; 147 (54 per cent.) were fully and 22 (8 per cent.) partially able to work. In a parallel group of 303 female patients, 42 (14 per cent.) had died; 23 (8 per cent.) were unable to work; 192 (63 per cent.) were fully and 46 (15 per cent.) were partially able to work. No inherited taint could be traced in 656 male patients, of whom 193 (29 per cent.) had died; 38 (6 per cent.) were unable to work; 374 (57 per cent.) were fully and 51 (8 per cent.) were partially able to work. In a parallel group of 270 female patients, 48 (13 per cent.) had died; 19 (5 per cent.) were unable to work; 244 (66 per cent.) were fully able to work, and 59 (16 per cent.) were partially able to work. These figures seem to prove that the so-called inherited taint does not necessarily entail a special lack of resistance to tuberculosis. Such persons do not succumb to it any more readily than those free from such heredity.

Centenary of the University of Breslau

On August 1 and 2 was celebrated the centenary of the founding of the University of Breslau. One year after the founding of the University of Berlin, the University of Frankfort on the Oder, which was only a few miles from Berlin, moved to Breslau on account of the rapid growth of the Berlin institution and the competition it involved. Although the University of Breslau, like the University of Berlin, was founded at a time when Prussia was depressed by the Napoleonic wars, this former institution also was soon to make a remarkable progress, and especially in the medical faculty there developed a school rich in research and important teachings. During these hundred years many prominent men, who have made valuable contributions to medicine, have held positions in the Breslau medical faculty. Among these may be mentioned the physiologists Purkinje and Heidenhain, the internists Frerichs, Biermer and Kast, the surgeons Middeldorpf and Mikulicz, the gynecologist Spiegelberg, the pathologic anatomists Cohnheim and Ponfick, the ophthalmologist Foerster, the neurologist Wernicke, and Haeser the professor of history of medicine. As is well known, it was to the famous botanist of Breslau, Ferdinand Cohn, that Robert Koch submitted his first culture of the anthrax bacillus; Koch intended at one time to take up residence in Breslau but gave up the idea for material reasons. On the occasion of the centenary, several professors of other faculties and many especially meritorious men were created honorary doctors by the medical faculty. Ehrlich, who is a Silesian by birth, also received an honorary degree from the philosophical department (equivalent to our arts and sciences department).

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Aug. 21, 1911.

Diseases of Household Servants in Comparison with Other Workers

At present, a union of household servants is in preparation in this country. One of the earliest results of the movement is the information obtained in regard to the distribution of disease among this part of the population. Hitherto, the conditions have been regarded by some as favorable, while others thought them very bad. Altogether, only few such investigations and investigators were known. Certain affections are very frequent. Thus in Vienna, anemia; disorders of the stomach, rheumatism and troubles of the sexual organs are the most frequent, in the order mentioned. Anemia is readily explained by the long stay in badly ventilated rooms and the rare walks in fresh air, as well as by the insufficient amount of sleep; sometimes the quantity of food is insufficient. Cooks suffer in their stomachs because of too frequent tasting of the foods they are preparing. Rheumatic affections are very common among all servants, partly on account of the frequent exposure to cold and bad weather, without sufficient protection, partly from working in unhealthy kitchens, washing kitchens and sculleries. A frequent complaint of servants is static flat-foot with varicose veins of the legs. Affections of the lungs are less frequent than one would expect in Vienna. It seems that the inherited constitutions of the servants—mostly daughters of the healthy rural districts—protect them to a great extent; their health statistics are much better than those of, for instance, shop assistants, typewriters and office girls. The reports of the Vienna Krankenkasse concerning the latter group show that within one year more than 13 per cent. of the members have suffered from affections of the respiratory organs, lasting more than three days, while for house servants the figures are found to be about half of that. The alimentary canal was affected in 9 per cent. of the latter, while in 11 per cent. of the shop and office girls, the conditions of nourishment were also decidedly in favor of the house servants. Worst off is the factory girl, who not only is often underfed but is also exposed to much more danger of physical and moral nature. Illegitimate births are most frequent among this class of workers; the house servants come next in this respect, while the third group only rarely contributes to this item. A remarkable fact is the relative frequency of nervous diseases and neurasthenia, or rather hysteria, among the housemaids; one would not suppose that fully 2 per cent. of all the servants in this group are classified as victims of such diseases. Surgical diseases, except panaritium, bursitis patellaris and dental periostitis, are not frequent among servants, while the factory girls are prone to various factory accidents.

Opposition to Tuberculosis Sanatoriums

The munificence of a wealthy philanthropist has placed at the disposal of the Society for the Care of Tuberculous Patients the necessary funds for erecting, at various places, sanatoriums for tuberculous persons capable of recovery. One of these institutions devoted to the treatment of children, in the incipient stage of the disease, was to be built at Semmering, the well-known health resort in the mountains south of Vienna. Against this project a vehement opposition has arisen, mostly from the owners of other sanatoriums at Semmering, as well as from other persons who ought to know better. It was spread broadcast that such an institution would be a menace to the health of the villagers and other inhabitants of the famous mountain-range, and even the municipality of Vienna protested against the erection of such a sanatorium there, because it would "spoil the air and no longer offer the strangers and tourists a pleasant recreation ground." In vain, the medical men pointed out that the danger of infection did not exist, that the presence of such institutions is an urgent necessity for the national welfare and health; the interests affected by the plan were more powerful than any other consideration, and the philanthropist has been forced to reconsider his generous offer. It is probable that he will also have to cancel some other plans. This loss to public welfare will not be compensated quickly.

A Home for the Vienna Medical Organizations

Apart from the Gesellschaft der Aerzte, no medical organization of this city owns its own home, but all, even the official medical council, have rented flats so that their abodes lack freedom from the whims of landlords and houseowners. It has recently been suggested that a home for all the official, scientific, provident and social organizations and bodies of the profession in this city should be erected. The necessary funds will readily be obtained and the cost of maintenance will be divided among the various bodies. The principal organizations affected by this plan are: the council, the doctors' orchestra, the sick-benefit society, the widows and orphans' society, the economic organization the Doctoren Collegium (a provident society of very considerable means and influence), five scientific medical societies, and also several provident societies in the country districts. It is most likely that a centralization of offices will pave the way for the unification of the societies which, no doubt, would prove a most welcome money-saving proposition, and a strong movement in this direction is manifest. Whatever the result of this movement might be, it is sure that a "doctors' house" is an urgent necessity for us here, not least from an ethical point of view, as an exponent of medical concord.

Spread of Cholera

Cholera is gradually spreading in the southern part of Austria and its hinterland, and sporadic cases appear also in distant places. In Vienna a woman died from it after an illness of four days and there was no clue to indicate the mode of infection in this particular case, in spite of all researches. The army medical corps has been warned to be on the lookout in the affected districts, and maneuvers have been postponed or given up for the same reason. At any rate the public health officers assert that they control the attack and the population is by no means excited or frightened.

Personal

Professor H. Schloffer, who for several years was chief of the surgical clinic in Innsbruck, has been appointed to the equivalent position in Prague (German university).

Professor W. Trendelenburg of Freiburg has been appointed to Innsbruck, as professor of physiology, and Professor Kucera has become extraordinary professor in the University of Lemberg where he will deliver his lectures on hygiene.

Medical Strike in Hungary

The physicians of the workingmen's club in upper Hungary have refused to do any work on the old terms for the club. Physicians from twenty-five other districts joined their colleagues, so that the club had to come to terms with the practitioners at last. This is the first successful medical strike on a large scale in Hungary.

Difference in Intuitive Powers.—G. A. Auden (*Jour. Crim. Law and Criminology*) says that the study of mental defect has taught us that there are some individuals in whom the power of forming a concept from the letter symbols, by which we express words, is lacking (i. e., who are "word-blind"), who are, however, capable of forming correct mathematical concepts from the symbols by which we denote number. There are others in whom the reverse defect is found. These can read fluently, yet they cannot grasp the fact that 3 plus 3 equal 6, because they cannot form a concept of number. We find similarly word-deaf persons and color-blind persons. (There are some grounds for believing that color-blindness is, in part at any rate, central rather than peripheral in origin.) In the same way some of us have no ear to recognize the rhythm of sound which we designate as "tune;" others have a deficient sense of position, and, to use a phrase borrowed from the phrenologist, have no "bump of locality." Indeed such facts as these seem to show that all these faculties are developed in varying degrees in each individual. It seems, therefore, reasonable and logical to regard the capacity of forming a moral concept as analogous, and to believe that this faculty may show all stages of development or be absent.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

THE CHARGE AGAINST DR. WILEY

Extracts From the Testimony Given Before the Congressional Committee

[The charge against Dr. Wiley was nominally formulated by the committee on personnel, composed of Solicitor McCabe, W. M. Hays and C. C. Clark. While most of the charges were actually brought against Drs. H. H. Rusby, L. F. Kebler and W. D. Bigelow, it was made to appear that Dr. Wiley, as Chief of the Bureau of Chemistry, was the individual chiefly concerned. The only actual charge against Dr. Wiley was that he, with Dr. Bigelow, had entered into a secret agreement with Dr. Rusby regarding the rate of compensation that the latter should receive from the government. The committee on personnel submitted a long report to Secretary Wilson, from which we quote a small portion. The part quoted constitutes the whole of the evidence submitted by this committee to prove its contention that Dr. Wiley had entered into a secret agreement with Dr. Rusby. The matter follows:]

THE BASIS OF THE CHARGE

> "On January 23, 1911, Dr. Rusby informed Dr. Wiley that he had agreed with Dr. Bigelow, as being fair and satisfactory, upon the following agreement:
>
> "'This agreement provides that my salary shall amount to $2,000 per year, conditional upon my doing 100 days of seven and one-half hours each. It is understood that if the amount of service should not reach that number of days there would be a pro rata reduction in my compensation.' (Rusby to Wiley, Jan. 23, 1911, E-94.)"

THE CHARGE ANALYZED

[In investigating this point, the following testimony was given by Dr. Wiley before the committee:]

Mr. Floyd: On page 176 of the hearings of July 28, I notice there is a heading: "Facts not controverted"; and on page 177, near the middle of the page, is this statement:

> "Further in a letter of Jan. 23, 1911, to Dr. Wiley, Dr. Rusby states that an agreement had been reached between himself and Dr. Bigelow that his salary should amount to $2,000 per year, with the understanding that he did 100 days' work."

I want to ask you the direct question whether you did or did not enter into any contract with Dr. Rusby whereby he should receive $2,000 for 100 days' work, or any number of days' work?

Dr. Wiley: I did not.

Mr. Floyd: What about that letter? It says that in a letter—

Dr. Wiley: That letter was never sent to me. I never saw it nor heard of it until it was published in these proceedings.

Mr. Floyd: Had you received it at all?

Dr. Wiley: I never had it. It never came to me.

Mr. Davis: The letter in full appears on page 154.

Mr. Floyd: Have you since seen that letter?

Dr. Wiley: Yes, sir; I have seen it published.

Mr. Floyd: The statement that I read would indicate that that was brought to your knowledge, and was an undisputed fact in the case.

Dr. Wiley: Yes, sir. That is false. It was not brought to my knowledge, and I did not know anything about it.

Mr. Floyd: Have you since seen that letter?

Dr. Wiley: Yes, sir.

* * *

Mr. Floyd:—What is your explanation, Doctor, if you have any to make, in regard to that letter?

Dr. Wiley: Dr. Rusby explains it himself on page 185, at the top of the page. In a letter addressed to the Secretary of Agriculture, under date of July 13, 1911, he says:

"I desire to say to you that my letter of Jan. 23, 1911, addressed to Dr. Wiley, was never sent to him, nor, so far as I know, did he ever know that it had been written, until it came out at the hearing. After writing this letter I learned that Dr. Wiley was absent from Washington, and that the letter, if sent, would not reach him. I therefore did not send it, but the copy got into my files, and when you later asked me to send all correspondence bearing on this subject I sent this copy, forgetting that the original had never been sent to Dr. Wiley."

Mr. Floyd: That letter is addressed to Secretary Wilson?

Dr. Wiley: Yes, sir.

Mr. Floyd: Of date of July 13, 1911?

Dr. Wiley: Yes, sir; and it is quoted from on page 178, omitting that part of it which is most important, viz.: that the agreement would not be valid until approved by the department.

Mr. Davis: Page 177.

Dr. Wiley: It is quoted on page 178, in quotations, near the top of the page—the third paragraph. A quotation is made from this letter omitting the first paragraph, which says that "this agreement is not valid until approved by the department"—thus showing that Dr. Rusby had no idea of any secret agreement, and that I had not any idea and never knew that this agreement had been made at all. The committee on personnel knew that I had never seen this letter, because I sent to them a complete list of letters which I had received, and stated that I had never received any personal letter from Dr. Rusby on this subject.

Mr. Higgins: You had no knowledge that this contract was made, then, Doctor?

Dr. Wiley: Absolutely none; and it never was made—no contract of any kind. He says that an agreement was reached with Dr. Bigelow that he would work for that, if approved by the department; not under any other conditions.

Mr. Higgins: But you had no knowledge of these negotiations with Dr. Rusby to get his services as an expert investigator?

Dr. Wiley: I did not have any knowledge at all of them. I asked Dr. Bigelow to find out from Dr. Rusby the smallest salary he would work for, on an annual salary. That is all I asked him to do. I did not know any means by which they reached the $2,000.

Mr. Higgins: You had no knowledge or information about the matter of the exchange of letters, and consultations?

Dr. Wiley: I know they exchanged letters, and Dr. Bigelow came to me from time to time.

Mr. Higgins: But you did not know what they contained?

Dr. Wiley: I did not know what they contained. I never saw the letters.

Mr. Floyd: And you had no correspondence yourself?

Dr. Wiley: I had not a word of correspondence of any kind with Dr. Rusby on this subject.

Mr. Floyd: The letter from which they quote on page 177 and page 178 is a letter of January 23, 1911, which reads as follows:

Dr. Wiley: Which was not sent—which I never received.

Mr. Floyd (reading):

Dr. H. W. Wiley,
Chief Bureau of Chemistry, Washington, D. C.

Dear Sir: As a result of considerable discussion and correspondence with Dr. Bigelow regarding some change in the compensation allowed me as pharmacognosist which would make it possible for me to continue in the service, we have agreed upon the following arrangement as being fair and satisfactory, IF APPROVED BY THE DEPARTMENT.

Dr. Wiley: Yes, sir.

Mr. Floyd (reading):

This agreement provides that my salary shall amount to $2,000 per year, conditional upon my doing 100 days of 7½ hours each. It is understood that if the amount of service should not reach that number of days there would be a pro rata reduction in my compensation.

Trusting that this will be satisfactory to everyone concerned,
Very truly yours,

Dr. Wiley: And I should like to say, Mr. Floyd, that any connection I may have had with this alleged contract is based solely on that undelivered letter, which I had never seen, and on a partial quotation from it. There is not a scintilla of other evidence in this hearing that connects me with any such contract in any way.

Mr. Floyd: Did you have any correspondence with Dr. Rusby about this contract?

Dr. Wiley: Not a word; not a word on this subject.

Mr. Floyd: And you had received no letter whatsoever from him?

Dr. Wiley: Never, on this subject.

Mr. Floyd: On this subject; and the letter which they quote from was an unsigned letter, written by Dr. Rusby, but never delivered to you?

Dr. Wiley: Never sent out of his house until he brought it down himself.

Mr. Floyd: And he brought it in response to a call of this personnel board for all correspondence.

Dr. Wiley: Yes, sir. I have here a list of all the letters he sent—all the letters I have ever had from Dr. Rusby—which I sent to this personnel committee.

DR. WILEY CROSSEXAMINED

[The committee on personnel called Dr. Wiley and his associates before them and subjected them to a severe cross-examination. In discussing this investigation the following facts were brought out:]

Mr. Floyd: Did they state to you in that investigation what the charges were against you?

Dr. Wiley: No, sir.

Mr. Floyd: Did you know that any charges were made against you?

Dr. Wiley: I did not.

Mr. Floyd: They did not inform you that they were investigating charges against you?

Dr. Wiley: No, sir.

Mr. Floyd: Did you understand from your appearance there, and the questions asked, what the proceeding was or what it meant?

Dr. Wiley: No, sir; but before they got through I had my suspicions. In the first place, it was held secretly. Every other person had to leave the room. I did not like that. I considered that an insult to me.

Mr. Floyd: When you testified, no other person was allowed in the room?

Dr. Wiley: Then, before they got through, I thought there was something wrong; and so the next day I addressed a letter to Mr. Hays to find out and ask him specifically if there were any charges preferred against me or any member of my bureau. This letter read as follows:

Mr. Floyd: Just read that letter. I should like to hear it.

Dr. Wiley (reading):

HON. WILLETT M. HAYS,
Assistant Secretary of Agriculture.

Dear Sir: I would be very glad if you would furnish me with a copy of any charges, or a summary of charges, presented to the Secretary of Agriculture or to the board of personnel respecting the attitude of the Chief of the Bureau of Chemistry, in regard to the appointment of Dr. H. H. Rusby as an expert pharmacognosist, or to any changes in his title or rate of compensation. Reference was made at the beginning of the hearing on Thursday, April 20, to a certain paper summarizing the charges, but I have not seen that paper nor have I been furnished with a copy. I think it is only just to my bureau to know what charges have been made, if any have been made, and by whom they were made.

Respectfully,
H. W. WILEY, *Chief.*

I will also read Mr. Hays' reply, dated April 24. (Reading:)

DR. H. W. WILEY, April 24, 1911.
Chief Bureau of Chemistry.

Dear Sir: Referring to your letter of the 22d instant, requesting that you be furnished "with copy of any charges, or a summary of charges, presented to the Secretary of Agriculture or to the board of personnel respecting the attitude of the Chief of the Bureau of Chemistry, or any of the employees of the Bureau of Chemistry, in regard to the appointment of Dr. H. H. Rusby," etc., I beg to advise you that the matter has not been presented to the committee on personnel, in the form of charges. Under date of March 28, Dr. F. L. Dunlap, as acting chief of the Bureau of Chemistry, transmitted a memorandum to the Secretary, with certain exhibits, in relation to the matter referred to. This memorandum and papers were referred by the Secretary to the committee on personnel for investigation and report. In compliance with your request, I have had copies of this memorandum and accompanying papers made, and am forwarding them to you herewith. I am also sending a copy of the stenographic report of the hearing before the committee on personnel on April 20, 1911, at which you and Drs. Bigelow, Kebler and Rusby appeared.

Should you or Drs. Bigelow, Kebler or Rusby desire to submit any further statement in regard to the matters referred to in the papers forwarded, I would thank you to let me have them in writing for the committee on personnel by Friday morning, April 28.

Respectfully,
W. M. HAYS, *Assistant Secretary.*

Mr. Davis: Those letters, I may say, are already in the record at pages 159 and 160, marked "F-108" and "F-109." They have already been printed.

Mr. Floyd: You received the opinion and recommendations of the personnel board, did you, in that letter?

Dr. Wiley: No; there was no other opinion in that letter except that.

Mr. Floyd: But did they afterwards send you the proceedings, with their findings?

Dr. Wiley: The hearings, yes; a copy of the hearings.

Mr. Floyd: Did they enclose you the recommendations of the personnel board?

Dr. Wiley: No; not then. I did not get those until two months or more later.

Mr. Floyd: Two months or more later?

Dr. Wiley: Yes. I got them, I think, on the 7th of July.

Mr. Floyd: You got a copy of the recommendations of the personnel board on the 7th of July—two months after that?

Dr. Wiley: Yes; in which they kindly offered me the opportunity to resign my position. Yes; I got that. I am much obliged to them for their courtesy.

Mr. Floyd: Did you receive them before they had been transmitted to the President, or afterwards?

Dr. Wiley: Afterwards; after they had been to the Attorney General.

Mr. Floyd: And to give force to that recommendation it was also accompanied by the opinion of the Attorney General, in which he also kindly gave you permission to resign, did he not?

Dr. Wiley: I will not express any opinion about the Attorney General.

THE POWER OF THE GLUCOSE TRUST

[The peculiarly powerful influence that certain large manufacturing interests exert at Washington was brought out in Dr. Wiley's testimony in connection with the Corn Products Co., commonly known as the "glucose trust." As The Journal has frequently pointed out, the use of the term "corn syrup" as a synonym for glucose is a direct imposition on the public: first, because "corn syrup" is not a syrup in the common acceptance of the term, and second, because people who are unwilling to buy glucose under its own name should not have it palmed off on them under a euphemistic and misleading name. Dr. Wiley has always maintained that glucose should be labeled glucose, but, as the following testimony brings out, he was overruled by mysterious influences brought to bear at Washington:]

Mr. Higgins: The opportunity was open, Doctor, for an appeal to the Secretary from the findings of the board?

Dr. Wiley: A great many times the interests affected did appeal to the Secretary.

Mr. Higgins: In such cases were they given a hearing?

Dr. Wiley: Yes; they were often given a hearing after the board had come to a decision and the Secretary had approved the decision of the board. One case particularly I have in view where the interests were given a hearing after the board had considered their action, the question of "corn syrup" as a proper label for glucose. The board, after giving a hearing to the parties interested and considering all the evidence, came to a decision, which was very grateful to me, because it was my opinion from the first that the term "corn syrup" was deceptive, and was used only to induce people to buy glucose who would not buy it if it were labeled "glucose," and all the board joined in that decision; it was approved by the Secretary of Agriculture and was sent to the printer and was in galley proof.

Dr. Wiley: At the time that decision was made the chairman of the board (myself) wrote a letter to the president of the Corn Products Co., Mr. E. T. Bedford, informing him of the action that had been taken. After the decision was actually approved an order was issued to suspend its publication—in fact, it was never published—but an exactly contrary decision was subsequently published by the three secretaries as a regulation under the Food and Drugs Act. I know from my own personal knowledge that the Corn Products Co. was very busy; they secured certificates from about thirty prominent chemists of this country, one of whom was afterwards a member of the referee board, to the effect that "corn syrup" was a proper term, and in one case at least I know that money was offered for this opinion to an eminent chemist, who declined to receive it, but informed me of the fact that he had been offered payment to render such an opinion.

Mr. Higgins: You do not mean to say that anybody in the government service was offered money?

Dr. Wiley: No; none of these chemists were in the government service. When I found out this was going on I wrote to all the chemists who were charged with the enforcement of the Food and Drugs Act of the United States, in the various states, and I put the question up to them whether, in the opinion of the food and drug chemists, "corn syrup" was a proper name for glucose, and everyone answered in the negative. They were not offered any money for their opinion by me and I do not suppose by anyone else—

Mr. Higgins: You think, then, experts are sometimes influenced by the size of their fee?

Dr. Wiley: No; I do not say that. I said that in this case one set of experts were offered money and others were not; that is all I said. When Mr. Bedford found out I had applied to the state chemists, he protested to the Secretary of Agriculture against my doing so.

Mr. Floyd: Who did so?

Dr. Wiley: Mr. Bedford, the president of the Corn Products Co.

Mr. Higgins: Protested to whom?

Dr. Wiley: To the Secretary of Agriculture. The Secretary of Agriculture sent me a telegram from Mr. Bedford and asked me to tell him what I had done, and I submitted to him a copy of the questions that I had submitted to the state chemists charged with the enforcement of the Food and Drugs Act. At the same time I prepared a brief on the question, which to my mind was a pretty good piece of work. This brief was furnished to the Corn Products Co., but Mr. Emery, of Wisconsin, the state food commissioner, had the greatest difficulty in getting a copy of it. Finally, I believe he had to apply to a member of Congress to get a copy, and I think he succeeded in getting a copy. He sided with me in this matter, and he had a suit on in his state, for he had ruled that "corn syrup" was not a proper name for glucose, and he wanted my brief, and he finally got it. You can find out from Mr. Emery how much trouble he had in getting it.

Mr. Higgins: He did not have any trouble in getting it after he applied to a member of Congress, did he?

Dr. Wiley: I don't know about that. I know that he finally applied to a member of Congress. The suit was continued in Wisconsin and the lower court rendered a verdict in favor of Mr. Emery; the case was appealed to the Supreme Court and the Supreme Court sustained the verdict that "corn syrup" was not a proper name for glucose, and gave some of the reasons which I had put forward in my brief.

The point I wish to bring out is this, that after the Board of Food and Drug Inspection had come to a decision—after each member of the board had approved it; after the Secretary had approved it and it was in print—it was withdrawn and an entirely different opinion, signed by the three secretaries, was substituted in its place.

Mr. Higgins: Did that remain as the regulation of the department until the Supreme Court reversed it?

Dr. Wiley: It still remains as the ruling and as the law.

WILEY FAVORS THE CONSUMER

[As indicating Dr. Wiley's attitude in all cases affecting the public health and also as showing how he and his associates were hampered in their attempt to make the Food and Drugs Act an instrument of public safety, the following testimony is both interesting and instructive:]

Mr. Davis: The solicitor [McCabe] in the course of his testimony and also in the course of certain of his correspondence, which has been produced before the committee, made some allusion to the fewness of cases affecting the public health that had been before the Board of Food and Drug Inspection and the Bureau of Chemistry. Do you wish to say anything about it?

Dr. Wiley: Yes; I would like to make a statement in that connection. There have been comparatively few cases which you could say directly affected the public health brought to the courts for the reason that the Bureau of Chemistry, under its constitution and regulation, obeys without question the orders of its superior officers, and having been advised, that is, the Bureau of Chemistry having been advised that the use of benzoate of soda in any quantity whatever was harmless, and having been advised that the use of saccharin and the use of sulphurous acid and the use of alum and the use of the other things referred to the referee board were not to be acted upon until the referee board reported, the Bureau of Chemistry was estopped from reporting hundreds and many hundreds—and I may say thousands—of cases of adulteration which it would have done had it been left to its own judgment in the matter.

Mr. Davis: So that as respects benzoate of soda and benzoic acid the ruling of the referee board cut out from the Bureau of Chemistry the consideration of the preservatives, so called, in this connection?

Dr. Wiley: As adulterants and as being injurious to health, yes, sir; absolutely. We have no authority, Mr. Chairman, to pronounce judgment on these cases which we believed were threatening the public health and were adulterations of the worst type.

Mr. Davis: And as respects alum, for instance, and those other questions referred to the referee board upon which action has not yet been taken, your hands are tied until action by the referee board?

Dr. Wiley: We are absolutely paralyzed.

Mr. Davis: I understood you yesterday to say, at least I think it was yesterday or the day before, that as respects alum you endeavored with your colleagues—or was it another substance?

Dr. Wiley: No; alum.

Mr. Davis: I think as respects alum you endeavored with your colleagues to get an understanding that, until the referee board should pass upon the harmfulness or otherwise of that article, prosecutions should be had in the interest of the public health?

Dr. Wiley: I did.

Mr. Davis: And without success?

Dr. Wiley: My only motive, and that which has guided me in every case which I have considered under the Food and Drugs Act, is to give every doubt to the consumer, and I hold that when experts disagree about the harmfulness of these bodies and the matter is referred to a final arbitrating board that the interests of the public health require that these bodies shall be excluded from foods until the board has reported. I think that is the least duty we can do to the public, and that is the duty I have always endeavored to do.

[Next week additional testimony will be published.]

Miscellany

Call of Scientific Age.—The call of the age to health is a call to sacrifice and to service, both personal and public; and the call to service has been the deepening undertone of the call to humanism, all along the ages. Sophocles, in his day, urged it on the Athenians, and Œdipus seizes on public service for his final passionate appeal to the prophet Teiresias for aid against the plague with which the land was cursed: "For in thee is our hope; and a man's noblest task is to help others, by his best means and powers." Our modern cynics may smile at the inconsistency of an age like our own which is constantly preaching the gospel of efficiency, and yet suffers grievously from bad domestic service and bad municipal service; but physicians, at least, do not need to be told that it is one thing to prescribe for a patient and quite another to persuade that patient to follow good advice. The call to life, and to life in this world, is thus the first and fundamental call of the scientific age. And the next is the call to health, i. e., to wholesome and fulness of normal life. It is not merely that we may have life, but that we may have it more abundantly. The first and chief characteristic of science is that it seeks always after Nature, after the normal, i. e., the natural, and looks askance on the abnormal and the super- or subnormal. Hence the call of a scientific age for normal, natural life and healthy living; hence its disapproval of disease, hence its disgust with dirt as a cause of disease, and its belief in public health as well as private welfare.—Sedgwick.

Standard Death-Rates.—Symptoms are abnormal manifestations of life. For example: The average pulse is about 72 beats per minute, and a pulse much over or under that average is abnormal or unusual, and, as a rule, indicates trouble. As with the pulse, so with the other phenomena of life; the average and the normal are nearly always the same. Just as there is an average pulse, an average number of respirations, an average consumption of food, an average amount of waste thrown off, all of which constitute what we regard as the normal, so there is an average number of deaths per year for a given population, an average number of deaths from typhoid, from tuberculosis and other diseases, which constitute normal standards for estimating health or disease conditions in a given community, town or state. Before one can recognize the abnormal he must be familiar with the normal, and before one is prepared to recognize symptoms of disease politic, he must know the average total death-rate and the average death-rate for the different diseases that obtain in a large population. Such death-rates have been collected and tabulated by the more progressive states that have recognized the value of keeping an account with death, so that from a large collection of authoritative statistics, we can find the normal or average death-rate for all diseases combined, or for any particular disease. Fifty-five per cent., or 48,000,000 of the population of the United States, are within the jurisdiction of rigidly enforced registration laws which supply the following statistics: Average annual death-rate from all diseases is 15 per 1,000; death-rate from tuberculosis, 1,675 per 100,000; for typhoid fever, 22 per 100,000; for whooping-cough, 11 per 100,000; measles, 10.2 per 100,000; and for malaria, 2.5 per 1000,000.—W. S. Rankin in *Bull. North Carolina Board of Health.*

Professional and Public Aspect of the Pneumonia Question.—As a plan of procedure in the prevention of the spread of pneumonia, W. J. White suggests (*Dominion Medical Monthly*, August), first of all, the proper segregation of pneumonia patients and their utensils in hospitals; cleaning by sprays and washes of the nose and throat of all who nurse and come in contact with these patients; careful hand washing of nurses and attendants after handling; careful destruction of sputum and other discharges; sterilization of linen of patients; fumigation of rooms after occupancy; and the use of gauze, which can be burned, instead of handkerchiefs. He would also have attached to dispensaries certain nurses who have received special instruction on nursing and preventing the spread of pneumonia, to be sent to all pneumonia cases in home nursing work. He recommends reporting all cases to the health department governing the district where the disease exists, and fumigation of the quarters in which the disease has occurred by the department after the death or recovery of the patient. Finally, the instruction of the public by pamphlets and school lectures on the necessity for keeping the nose and throat clean, especially during winter months; the necessity for controlling the dust of streets by better sprinkling and night sweeping; the evils of bad ventilation in house, public building and school; of alcohol; of badly cooked and poor food; of lack of rest; of worry; of the handkerchief; of the bearing of spitting on pneumonia as well as other diseases; of the increased resistance generated by open-air sleeping; and similar knowledge.

Marriages

Calvert N. DeForest, U. S. P. H. & M.-H. Service, Libau, Russia, to Miss Mabelle V. Taylor of Hoboken, N. J., April 19.

Edwin G. Kyte, M.D., Martinsville, Ind., to Miss Cora Simms, of Shelbyville, Ind., at Indianapolis, August 26.

Chester A. Whitmer, M.D., West Chester, Pa., to Miss Margaret Shafer, at Hagerstown, Md., August 22.

Valentine Vincent Bourke, M.D., East New York, N. Y., to Miss Edith Johnston of Brooklyn, August 15.

James Alexander Kinnear, M.D., Toronto, to Miss Katherine Oswald Laing of Essex, Ont., August 24.

Leonard Lucius Lamb, M.D., Chatsworth, Ill., to Miss Gertrude Snevely of Monon, Ind., August 30.

John Lyte Ressler, M.D., Bird-in-Hand, Pa., to Miss Elizabeth Staub of Millersville, Pa., recently.

Martin H. Mayfield, M.D., Hollis, Okla., to Mrs. Mattie Jackson of Springfield, Mo., August 24.

Charles Wyche, M.D., Kirkwood, Mo., to Miss Miriam G. Crosby of West Line, Mo., August 24.

Murdock M. Kerr, M.D., Calumet, Mich., to Miss Antoinette Priest of Evart, Mich., recently.

Deaths

Brigadier General Charles Ravenscroft Greenleaf, M. C., U. S. Army, retired, a surgeon of brilliant attainments, died at his home in San Jose, Cal., September 3, aged 73.

He was born in Carlisle, Pa., and was graduated from the Medical College of Ohio, Cincinnati, in 1860. At the outbreak of the Civil War he entered the volunteer service as assistant surgeon of the Fifth Ohio Infantry. Four months later he entered the regular establishment, received the grade of captain in 1866, that of major in 1876; was made lieutenant-colonel in 1891, colonel in 1896, was retired in 1902, for age, and was promoted to brigadier general (retired) in 1904.

General Greenleaf's service included the construction and administration of the Mower Hospital, Chestnut Hill, Philadelphia, said to have been the largest military hospital in the world, containing 5,000 beds. After the close of the Civil War he was in the ordinary frontier and garrison service until 1887, when he was ordered for duty in the office of the surgeon general, where he remained until 1893. From this time until the Spanish-American War he was in charge of the medical supply depot, San Francisco, and during this time was professor of public and military hygiene in the University of California.

General Greenleaf introduced the system of personal identification which is still in use in the army, organized the hospital corps of the army, and was the author of "Greenleaf's Manual for Medical Officers," "Greenleaf's Epitome of Trifler's Manual for the Examination of Recruits," which is still standard, and of many monographs on military-medical topics.

Starling Loving, M.D., one of the oldest, best-known and best-beloved practitioners of Ohio, died at his home in Columbus, September 2, from the infirmities of old age, aged 82. He was born in Russellville, Ky., where he received his preliminary education, and graduated in 1849 from Starling Medical College, Columbus, O., which was founded by his uncle, Lyne Starling. For four years thereafter he was engaged in graduate work in Bellevue Hospital, New York City. During the Civil War Dr. Starling served as major-surgeon of the Sixth Ohio Volunteer Infantry. His society membership included the American Medical Association, of which he was first vice-president in 1894-1895, the Ohio State Medical Association, of which he was president in 1882; the Association of American Physicians, and Columbus Academy of Medicine. He became professor of materia medica in his alma mater in 1857, professor of theory and practice of medicine in 1875 and dean of the faculty in 1884. On the merger of the Starling Medical College and the Ohio Medical University in 1907, Dr. Loving became teacher of clinical medicine in the institution. His hospital appointments included those of physician in chief to St. Francis Hospital, consulting physician to Mount Carmel Hospital and the Lawrence Hospital for Women, and a trustee of the Children's Hospital, Columbus.

Jehiel Tuttle Moore, M.D. McGill University, Montreal, 1874; one of the organizers and for thirteen years dean of the Minneapolis College of Physicians and Surgeons; formerly vice-president, acting president and professor of theory and practice of medicine in the medical department of Hamline University, Minneapolis; who in 1886, presented the resolution to the State Medical Society which eventually resulted in the appointment of a medical board by the legislature to regulate the practice of medicine; died at his home in Minneapolis, August 19, from heart disease; aged 62. Forty members of the State Medical Association honored Dr. Moore by attendance at his funeral. Drs. Horatio B. Sweetser and William B. Murphy acted as active pallbearers and Drs. William J. Byrnes, Leo M. Crafts, David O. Thomas, John D. Simpson, John W. Macdonald and Charles A. McCollom were honorary pallbearers.

Alva Winslow Nichols, M.D. Bellevue Hospital Medical College, 1873; of Greenville, Mich.; trustee of the Michigan Asylum for the Insane, Kalamazoo, from 1882 to 1889; secretary of the board of education from 1896 to 1905; local surgeon of the Pere Marquette, New Erie and Great Central railroads; formerly a member of the local pension examining board; for eighteen years a ward supervisor; died at the home of his sister in Grand Rapids, August 22, aged 62.

Walter Owen Ryan, M.D. Washington University, St. Louis, 1882; a member of the American Medical Association and president of the Sangamon County (Ill.) Medical Society in 1909; a prominent practitioner of Springfield and attending physician to St. John's Hospital, but for the last year a resident of Los Angeles; shot and killed his wife and himself at his home in Los Angeles, September 1, while mentally unbalanced.

Henry Gleason Thrall, M.D. Syracuse (N. Y.) University, 1901; of Fayetteville; formerly a member of the Medical Society of the State of New York and the Manlius Physicians' Club; died at the home of his father at Gouverneur, N. Y., August 10, from tuberculosis, aged 34.

Porter Turner, M.D. Hahnemann Medical College, Chicago, 1886; mayor of Elkhart, Ind., from 1898 to 1902; who had suffered for four years from cirrhosis of the liver; died at his home in the Turner Hospital, Elkhart, August 15, from nephritis, aged 59.

John Duke Waller, M.D. Rush Medical College, 1883; a member of the American Medical Association; for five years assistant physician in the Jacksonville (Ill.) State Hospital; died at his home in Oak Park, August 22, from uremia, aged 59.

John T. Myers, M.D. Washington University, St. Louis, 1871; of Petersburg, Ill.; surgeon in the Confederate service during the Civil War; a member of the Illinois State Medical Society; died in St. John's Hospital, Springfield, August 19, aged 73.

James Sullivan, M.D. Yale University, New Haven, Conn., 1875; of Manchester, N. H.; formerly a member of the New Hampshire State Medical Society and local pension examining surgeon; died in Carney Hospital, Boston, August 16, aged 58.

John E. Angstadt (license, Pennsylvania), a veteran of the Civil War; a member of the board of health of Elizabethtown since its organization, and for one term a member of the school board; died at his home, August 18, from senile debility.

E. L. Nix (license, Texas, 1907), a Confederate veteran and later a soldier in the United States Army; for twenty-nine years a practitioner; died at his home in Kennedale, Tex., January 11, from pulmonary tuberculosis, aged 65.

Joseph Hensley, M.D. Hahnemann Medical College, Chicago, 1871; at one time president of the Oklahoma State Homeopathic Medical Society; died at his home in Oklahoma City, August 20, from senile debility, aged 69.

Wendell D. Neville, M.D. Michigan College of Medicine, Detroit, 1884; of Eagle River, Wis.; a member of the State Medical Society of Wisconsin; died in Chicago, August 24, from valvular heart disease, aged 50.

Samuel Morris Weeks, M.D. College of Physicians and Surgeons, New York City, 1853; Nestor of the medical profession of Nova Scotia; died at his home in Newport, August 19, from senile debility, aged 80.

Leon A. Warsabo, M.D. University of Moscow, Russia, 1868; for thirteen years health officer of Coldwater, Mich.; died at his home in that place, August 23, from cerebral hemorrhage, aged 63.

John E. Lockridge, M.D. Medical College of Virginia, Richmond, 1863; of Indianapolis; died recently at the home of his niece in Nevada, Ia., and was buried in Indianapolis August 15.

William Cyprian Cross, M.D. Vanderbilt University, Nashville, Tenn., formerly of Cherokee, Ala.; died at his home in Hatchubbee, Ala., Dec. 27, 1910, from nephritis, aged 54.

D. A. N. Thomas, M.D. Medical College of Georgia, Augusta, 1888; of Jersey, Ga.; was struck by a train near Fowler's Junction, August 20, and died a few minutes later.

George Calvert Stewart, M.D. College of Physicians and Surgeons, Baltimore, 1878; of Alexandria, Va.; died in the Alexandria Hospital, August 16, aged 58.

Henry Herold (license, Indiana, 1897), a veteran of the Civil War; died at his home in Martinsville, May 15, from valvular heart disease, aged 77.

Benjamin A. Thomas, M.D. Starling Medical College, Columbus, O., 1869; died at his home in Rushville, O., August 6, from senile debility, aged 75.

John Ashbel Johnson, M.D. Albany (N. Y.) Medical College, 1877; died at his home in Chateaugay, N. Y., August 12, aged 72.

Correspondence

Contract-Practice

To the Editor:—I wish to say a public word in commendation of the report of the committee signed by Dr. Edward E. Haley on "The Evils of the Contract-System," and published in The Journal, Aug. 19, 1911, page 674. If any physician has laid his journal aside without reading that report he should look it up and read it. It is the only paper I have read which goes to the heart of the system. Contract-practice, particularly railroad contract-practice, is the most far-reaching evil at work in lowering the dignity and prestige of medical men and their work.

Francis W. Gallagher, El Paso, Tex.

Improper Clothing Deforming the Nipples of Young Girls

To the Editor:—My attention was called some years ago to the coincidence of the adoption of a new style of undershirt by women and an increasing number of cases of so-called retracted nipples.

At first, I was somewhat incredulous in the matter and was disinclined to attribute this very serious deformity to what seemed, at first blush, so small a matter as the wearing of undershirts or vests, by growing girls, in which no special provision is made to prevent pressure on their nipples. I had always supposed that retracted, or rather submerged, nipples were due to tight-fitting corsets. Probably both factors are active in causing this deformity.

I find that a belief is cherished among our profession that so-called retracted nipples may be due to faulty or arrested development, like hare-lip or spina bifida. This, I think, is quite erroneous. So far as I have been able to observe the nipples of little girls with undeveloped breasts, they always protrude beyond the surface of the breast. It seems to be only in the rounded breast of considerable development that the nipple is imbedded in the surrounding tissue, so that the front of the breast is often as smooth as a billiard ball. It seems evident that the pressure of the clothing has held the nipple back while the breast has pushed forward and finally surrounded this sensitive little organ.

This question is of such extreme importance that a most careful and painstaking investigation of its every phase should be carried out. Public institutions like orphan asylums and reform schools for girls would seem to afford a fair field for this study. One would suppose that the wearing of undershirts with pockets to receive the breasts is so simple a matter that it could easily be carried out; yet children are heedless and no one seems to take pains to watch them, or to teach them the need of care of these most important structures.

In talking to a mother the other day on this subject, I was surprised to hear her say that she did not know whether her daughter's nipples were retracted or not. She asked her daughter, a young lady of fifteen or sixteen, to show her breasts and in each of them the nipple was apparently firmly imbedded; at all events, its distal extremity was flush with the front of the breast.

The attitude of our profession should be a firm refusal to countenance the marriage of any nippleless woman. Inability to suckle her offspring ought, in law and conscience, to inhibit any woman from marrying. By insisting on this ultimatum and inciting the mothers of growing girls to be extremely watchful in the prevention of this deformity, we may be able to check its apparently rapid and general increase.

The present generation can scarcely hope to live to see reason and common sense prevail in ordaining the fashions of women's dress, but we ought to be able to prevent the mutilations and self-inflicted deformities of the human body, now, alas! so common.

Richard Cole Newton, Montclair, N. J.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DIET FOR GASTRIC ULCER

To the Editor:—What is Lenhartz' diet for gastric ulcer? What percentage of cures does it show?

M. Oyen, M.D., Ellsworth, Wis.

Answer.—Lenhartz' diet was described in The Journal, June 12, 1909, p. 1943. The reported cases do not yet afford sufficient data for an accurate estimate of the percentage of cures.

THE CORRECT PLURAL OF SPOONFUL

To the Editor:—Which is grammatically correct, "teaspoonsful" or "teaspoonfuls"?

C. F. H., Oklahoma.

Answer.—The correct plural of "spoonful" is "spoonfuls." "Three teaspoonsful" would mean three full teaspoons, not three times the quantity held in a teaspoon.

SPLINT FORMULA WANTED

To the Editor:—Can you furnish a satisfactory formula for a good cloth or felt splint, which can be made pliable by heat so that it can be molded to the limb, and which will afterward become hard?

F. S. R.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Sept. 2, 1911.

Mason, George L., dental surgeon, left temporary duty, Fort Leavenworth, Kan., en route to station, Fort Snelling, Minn.

Johnston, James F., lieut., left presidio of San Francisco en route to Whipple Barracks, Ariz., for temporary duty.

Schreiner, E. R., major, relieved from further duty with 1st Cavalry and on expiration of present leave will return to Boise Barracks, Idaho.

Johnson, Thomas H., lieut., will accompany Troop A, 1st Cavalry, from Sequoia and General Grant National Park to presidio of San Francisco. Lieutenant Johnson will then proceed to Fort Baker, Cal., for duty.

Ingalls, Raymond E., dental surgeon, on completion of temporary duty at Whipple Barracks, Ariz., will return to Fort Douglas, Utah.

Humphreys, H. G., captain, granted thirty days' leave of absence.

Mason, George L., dental surgeon, returned to Fort Snelling, Minn., from temporary duty at Fort Leavenworth, Kan.

Richardson, William H., captain, granted leave of absence for two months, with permission to apply for an extension of one month, to take effect about Nov. 1, 1911.

Brooks, William H., major, granted leave of absence for one month.

Birmingham, H. P., colonel, granted thirty days' leave of absence about Sept. 1, 1911.

Ireland, M. W., granted twenty-four days' leave of absence about Sept. 1, 1911.

Smith, William H., lieut., on arrival at San Francisco will proceed to Fort Sheridan, Ill., for duty.

Mount, James E., lieut., relieved from duty at Fort Sheridan, Ill., and ordered to Schofield Barracks, H. T., for duty.

Tuttle, Arnold D., lieut., on arrival at San Francisco will proceed to Army General Hospital, San Francisco, for duty.

Napier, Edward L., lieut., relieved from duty at Army General Hospital, San Francisco, and ordered to Fort McDowell, Cal., for duty.

Hutton, Paul C., major, when services are no longer required at San Antonio, Texas, is relieved from duty at Fort Snelling, Minn., and ordered to Fort Howard, Md., for duty.

Geddings, Edward F., major, relieved from duty at Fort Howard, Md., and ordered to Fort Snelling, Minn.

Ashford, B. K., major, relieved from duty with governor of Porto Rico and will report to the commanding officer, Porto Rico regiment of infantry for duty.

Scott, Thomas E., M.R.C., ordered to active duty and assigned to station at Fort Moultrie, S. C.

A board of medical officers to consist of Col. Louis A. La Garde, Lieut.-Col. Walter D. McCaw, Maj. Powell C. Fauntelroy, Maj. Carl R. Darnell, Maj. Frederick F. Russell, Maj. Charles R. Reynolds, Maj. Paul S. Halloran, Capt. William T. Davis, Capt. Charles F. Craig, Capt. William A. Wickline, Capt. William A. Duncan, Capt. Henry J. Nichols is appointed to meet at the Army Medical School, Washington, D. C., to determine the results of the preliminary examination of applicants for the final examination of candidates from admission to the Medical Corps.

Casper, Joseph, lieut., granted thirty days' sick leave of absence and directed to proceed to the Philippine Islands for duty on Oct. 5, 1911, instead of Sept. 5, 1911.

Hathaway, L. M., captain, leave of absence extended one month.

Eber, Albert H., M.R.C., granted two months' leave of absence, to take effect about Oct. 1, 1911.

Worthington, Joseph A., captain, granted one month and fifteen days' leave of absence, to take effect about Sept. 15, 1911.

Edger, Benjamin J., Jr., major, granted four months' leave of absence when his services can be spared.

Northington, E. G., lieut., granted thirty days' leave of absence about Sept. 2, 1911.

Denton, William, lieut., ordered to Fort Bliss, Texas, for temporary duty.

Stayer, M. C., lieut., reports from duty on transport *Buford* to duty as surgeon on the *Logan*.

Medical Corps, U. S. Navy

Changes during the week ended Sept. 2, 1911.

Mackenzie, E. G., P. A. surgeon, detached from the *Kansas* and ordered to duty at the naval hospital, New York.

Toulon, A. J., asst. surgeon, ordered to duty at the naval hospital, Philadelphia.

Winn, C. K., P. A. surgeon, detached from duty at naval hospital, New York, to duty on *Mississippi*.

Holeman, C. J., P. A. surgeon, detached from duty on *Petrel* to home and await orders.

Robertson, G. E., asst. surgeon, detached from duty on *Mississippi* to duty on *Petrel*.

U. S. Public Health and Marine-Hospital Service

Carter, H. R., surgeon, granted seven days' leave of absence from Aug. 24, 1911.

King, W. W., P. A. surgeon, directed to proceed from Naples to Genoa, Italy, on special temporary duty.

McClintic, T. B., P. A. surgeon, granted ten days' additional leave from Aug: 24, 1911.

McLaughlin, A. J., P. A. surgeon, directed to proceed to Reedy Island quarantine and Delaware Breakwater quarantine on special temporary duty.

Francis, Edward, P. A. surgeon, detailed to inspect the laboratory of the State Board of Health of Georgia, at Atlanta, and the Bacterio-Therapeutic Laboratory, at Asheville, N. C.

Foster, A. D., P. A. surgeon, leave of absence for one month from Aug. 2, 1911, amended to read "one month from August 20."

Frost, W. H., P. A. surgeon, detailed to make an investigation into the origin and prevalence of typhoid fever in the vicinity of Fort Smith, Ark.

Evans, J. G., A. A. surgeon, granted nine days' leave of absence, without pay, from Aug. 1, 1911.

Falk, Charles C., A. A. surgeon, granted nineteen days' leave of absence from Aug. 13, 1911.

Hamilton, H. J., A. A. surgeon, granted seven days' leave of absence from Aug. 24, 1911.

Nute, A. J., A. A. surgeon, granted twenty-five days' leave of absence from Sept. 3, 1911.

Tappan, J. W., A. A. surgeon, granted seven days' leave of absence from Aug. 21, 1911.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE NEW YORK EVENING JOURNAL ON SCIENTIFIC MEDICINE

In a recent issue of the New York *Evening Journal*, Mrs. Ella Wheeler Wilcox contributed an article in which she extolled "mental healing," and predicted that in 100 years "thought will be the acknowledged power used by all reputable physicians to cure and heal humanity."

The *Journal* says editorially that it is unwilling to print the article without a few qualifications, and then makes some criticisms and comments, from which we quote a part:

"Mrs. Wilcox . . . is right when she criticizes the doctor who, unable to deal with the neurotic young girl, makes of her a morphin fiend, to let himself out of his difficulties, takes money from the girl's father, and in return inflicts the most dreadful curse on her. Such a physician should be put in jail and kept there. . . .

"Mind cures, faith cures, Christian Science, by bringing into play certain forces of the mind, can combat, and sometimes cure, illness caused by a weakened, disorganized mental and nervous condition. It is in substance true, although a little harsh to say, that the modern mental healers 'can cure any disease that you haven't got;' that is to say, that they can cure a disease which is entirely mental and largely imaginary.

"It is untrue and dangerous to say that any mental healing can take the place of a skilful surgeon. Thousands of children are made miserable throughout life because they are not freed from adenoid growths—abnormal developments in the back of the throat which prevent proper breathing. Only the surgeon's knife can remove and cure adenoids. No faith healer, mental healer, Christian Scientist or anybody but a competent surgeon can do that, or ever has done it. Sometimes adenoids may be partially absorbed, extraordinary physical vigor may fight successfully against them. And the placid, happy mental state of the individual who believes in faith healing may help along a good physical condition.

"But you need a surgeon to attend to adenoid growths.

"You need a dentist to attend to your teeth.

"You need antiseptic treatment, or, better still, aseptic treatment, in all surgical operations.

"You need a skilful doctor 'of the old school' in childbirth, and if you have not got one you risk the life of the mother and child—and you ought to be put in jail for doing that. Some faith healers get around the childbirth problem by saying that it is not necessary to have any childbirth, and that if we were sufficiently scientific material births could be eliminated. But that is not very satisfactory when the child arrives.

"The surgeon's knife does slip sometimes. If the surgeon is incompetent he should be driven out of his profession. The plumber's tools slip sometimes and the job is bungled. Such a plumber should be driven out of his profession. Many surgeons and many plumbers lack skill. But that does not justify the silly notion that you can install plumbing in a house with faith or Christian Science, or that, with those agencies, you can remove a vermiform appendix.

"Nobody should interfere with a faith healer or mental healer because that individual takes a dollar or $10,000 from the adult who wishes to employ him. So far as adults are concerned, there is no harm in allowing faith healers to treat their non-contagious diseases from stone-bruise to lockjaw. If the adult is willing to die of a non-contagious disease in order to demonstrate a theory, let him. Such an adult can be spared. But faith healers and others must not be permitted to deal with contagious diseases or pretend to cure them—that is dangerous to the public at large. . . .

"It is not a fact that 100 years from now all doctors will cure with thought. One hundred years from now and 1,000,000 years from now matter will act on matter, and the agency used will be force directed by thought. Thought is the directing agency.

"There are three things in the world—Thought, which rules and directs—Force, which carries out the orders and conceptions of thought—and Matter, in which thought realizes itself and its visions.

"A hundred years from now and a million years from now the surgeon's knife will remove the tumor, if it still exists, just as the plow will cut through the soil and the hammer will carve the stone. But perhaps in a few hundred years, and certainly in a million years, increased intelligence among men, greater self-control, absolute sobriety, wise living, scientific knowledge, even among children, will make disease almost unknown, and limit the activities of physicians almost entirely to prophylaxis, which is prevention.

"But even in a million years, and in ten million years, if the human race lasts as long as that, which it probably will, science, created by the mind, directing force and acting on matter will rule the world.

"When you find a faith healer who can build a hen house with faith and without tools, or move a pebble half an ounce in weight without touching it, when you are willing to trust your plumbing to a faith plumber who says he can cure the leak by thinking about it, then trust your body and your internal plumbing to the medical plumber who cures with thought."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[Note.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are now ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—First Weekly Meeting

General Subject for the Month: Tumors

ANATOMY AND HISTOLOGY: EPITHELIAL TISSUE

ORIGIN, STRUCTURE, CELLS AND STROMA

Varieties: Simple and compound.

Shape, Arrangement and Distribution: (1) pavement, (2) cubical, (3) columnar, and (4) ciliated. Describe ciliary motion, causes.

Transitional Epithelium: Arrangement, distribution and location.
Stratified Epithelium: Shape, arrangement and distribution.
Nutrition of Epithelium: Chemistry of epithelium.

Connective Tissues

ORIGIN, STRUCTURE, FUNCTION

Areola: Distribution, structure, microscopic appearance, cells, matrix, white and yellow fibers.
Fibrous: Distribution, structure, functions.
Elastic: Structure, distribution, histology.
Adipose: Distribution, structure, function, nutrition.
Lymphoid and Retiform: Distribution, histology.
Jelly-like: Stricture, chemistry, distribution.
Cartilage: Varieties, structure, function, chemistry.
Bone: Chemistry: structure (gross and microscopic), nutrition.
Blood: Corpuscles (red and white), plasma, serum and fibrin.

Muscular Tissue

ORIGIN, VOLUNTARY AND INVOLUNTARY

Striated and Plain: Distribution of each.
Striated, Voluntary: Epimysium, perimysium, endomysium. Sarcolemma and contractile substance. Sarcomere, sarcostyle and contraction. Attachment to tendon. Nutrition of muscle. Nerve supply.
Plain, Involuntary: Distribution. Shape, size, arrangement of cells.
Cardiac Muscle: Differs from others.

Nervous Tissue

ORIGIN, CENTRAL AND PERIPHERAL SYSTEMS

Cells and Fibers: Distribution.
Fibers.—Medullated: Sheath, axis cylinder, neurilemma, nuclei, nodes of Ranvier.
Non-Medullated: Transverse and longitudinal sections.
Cell: The neuron, cell body, dendrites, axite.
  Bipolar cells, distribution, function, description.
  Multipolar cells, Golgi cells, two types.
  Histology of the cell, staining, shape, size, etc.
Nerve degeneration and regeneration.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Iowa: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

Massachusetts: State House, Boston, September 12-14. Sec., Dr. Edwin B. Harvey.

Missouri: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

New York: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Virginia June Report

Dr. R. S. Martin, secretary of the Medical Examining Board of Virginia, reports the written examination held at Richmond, June 20-23, 1911. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 117, of whom 93 passed, including 3 osteopaths, and 24 failed, including 2 osteopaths. Nine candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1911)	82, 89
Georgetown University	(1890)*	
Columbian University, Washington	(1888)*	
Howard University, Washington	(1910) 81; (1911)	82, 82, 84
Metropolitan Medical College	(1899)*	
Rush Medical College	(1888)*	
Hahnemann Medical College and Hospital, Chicago	(1911)	84
Hospital Medical College, Louisville	(1884)*	
Louisville Medical College	(1903)*	
University of Louisville	(1911)	81
Baltimore Medical College	(1911)	78, 81
Maryland Medical College	(1902)* (1911)	75, 77, 81
University of Maryland	(1903)* (1909)	75
Leonard Medical School	(1910) 75; (1911)	75, 77, 79, 81, 81, 81
Woman's Medical College of Pennsylvania	(1911)	80, 81
Jefferson Medical College	(1911)	84
Meharry Medical College	(1911)* (1911)	75, 77, 77, 80
University of Tennessee	(1895)*	
Univ. of Virginia	(1893)* (1910) 82; (1911)	76, 79, 80, 84, 88, 88
Medical College of Virginia, (1910) 77; (1911) the grade of 75 was reached by five; 76 by two, 77 by one, 78 by two, 79 by seven, 80 by four, 81 by one, 81.5 by one, 82 by two, and 88 by one.		
University College of Medicine, Richmond, (1911) 75, 75, 76, 76, 76, 77, 77, 77, 77, 79, 80, 82, 82, 83, 83, 83, 86.		

FAILED

College	Year Grad.	Per Cent.
Howard University	(1909)	71
Hahnemann Medical College and Hospital, Chicago	(1910)	71
Maryland Medical College, (1909) 66, 73; (1910) 71;	(1911)	73, 73
University of Maryland	(1911)	64
Baltimore Medical College	(1900)*	
Leonard Medical School	(1910) 69; (1911)	59, 60, 74
Hahnemann Medical Coll. and Hosp., Philadelphia	(1911)	72
Meharry Medical College	(1911)	64, 72
University of West Tennessee	(1910)	72
University of the South	(1908)	67, 73
Chattanooga Medical College	(1908)	46
University of Virginia	(1910)	71
Medical College of Virginia	(1884)*	

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Howard University	(1897)	Dist. Colum.
Columbian University, Washington, D. C.	(1899)	Dist. Colum.
Maryland Medical College	(1910)	Maryland
University of Michigan, Dept. of Med. and Surg.	(1894)	Michigan
Medical Coll. of Virginia..(1894) N. Carolina;	(1910)	S. Carolina
University of Virginia	(1902)	N. Carolina
University College of Medicine, Richmond	(1910)	N. Carolina
University of Edinburgh	(1896)	Dist. Colum.

* Took oral examination.

Ohio Reciprocity Report

Dr. George H. Matson, secretary of the State Medical Board of Ohio, reports that at the meetings held by that board April 4 and July 5, 1911, 27 candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Reciprocity with
University of Colorado	(1904)	W. Virginia
Columbian University, Washington	(1903)	Maryland
Medical College of Indiana	(1898)	Indiana
Indiana University	(1908)	Indiana
Johns Hopkins University	(1907)	Maryland
College of Physicians and Surgeons, Baltimore	(1909)	W. Virginia
Maryland Medical College	(1906)	Vermont
Baltimore Medical College	(1900)	W. Virginia
Boston University	(1900)	New Jersey
Detroit College of Medicine	(1910)	Michigan
University of Michigan, Dept. of Med. and Surg.,	(1879) (1908) (2, 1910)	Michigan
St. Louis University	(3, 1910)	Illinois
St. Louis College of Physicians and Surgeons	(1903)	W. Virginia
Columbia University, College of Phys. and Surgs.	(1907)	New York
Western Reserve University	(1909)	New York
Medical College of Ohio, (1899) Texas; (1899) West Virginia;	(1866)	Indiana
Meharry Medical College	(1895)	Arkansas
Queen's University, Ontario	(1906)	Vermont
Western University, London, Ontario	(1909)	Illinois
University of Kharkof, Russia	(1906)	Vermont

Connecticut July Report

Dr. Charles A. Tuttle, secretary of the Connecticut Medical Examining Board, reports the written and practical examination held at New Haven, July 11-12, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 36, of whom 25 passed and 11 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University, (1909) 75.5; (1910) 78.3, 81, 81.8;	(1911)	83.1, 84.3, 84.4, 84.9, 86.6.
Johns Hopkins University	(1911)	77.2, 86.8
Baltimore Medical College	(1911)	75, 75.7, 77.9, 79.4
College of Physicians and Surgeons, Baltimore, (1909) 81.8;	(1911)	75, 77.4, 79.9, 85.6.
Harvard Medical School	(1910)	80.1
Tufts College Medical School	(1911)	87.1
College of Physicians and Surgeons, Boston	(1911)	75.
Miami Medical College	(1875)	78.4
University of Vermont	(1910)	77.5

FAILED

College	Year Grad.	Per Cent.
Yale University	(1909)	69.9
Baltimore Medical College	(1903)* (1911)	73.7
Maryland Medical College	(1910) 70.4; (1911)	62.7
College of Physicians and Surgeons, Baltimore	(1910)	68.6
University of Maryland	(1908)	55.9
University of North Carolina	(1910)	73.2
University of Pennsylvania	(1911)	70.9
Temple University	(1909)	70.7
Jefferson Medical College	(1911)	74.2

* Withdrew from examination.

Book Notices

Interne Klinik der bösartigen Neubildungen der Bauchorgane. Von Dr. Rudolf Schmidt, k. k. primarazt am k. k. Kaiserin Elisabeth-Spital, Wien. Paper. Price, 14 marks. Pp. 355. Vienna: Urban und Schwarzenberg (American Publishers: Rebman Co., New York), 1911.

The diagnosis of tumors of the abdomen has always been a matter of difficulty. The good results following operation on many such tumors, even malignant ones, make it incumbent on the physician to make as early and as accurate a diagnosis as possible. To one aiming to do this and conscious of the difficulties, Schmidt's book will be of peculiar help.

One good thing about this work is that the author sticks to his text. He talks of malignant growths and not of the non-malignant; there is little of etiology, pathology or treatment, except as it has a direct bearing on the question of diagnosis; there is no needless argument about things theoretical; there is almost nothing of the polemic. There are occasional lapses into unnecessary repetition, but conciseness is the rule.

The book is essentially clinical and based largely on the author's own experience. There is little of quotation or citing of authorities, though one cannot accuse Schmidt of being ignorant of what others have written, for there is clear evidence that he is well informed. Not only does he rely largely on clinical facts in order to reach a diagnosis, but he is inclined to believe that the study of cases of malignant growth from the clinical aspect may throw a great deal of light on the question of etiology. He questions whether the laboratory will detect the one specific cause. He sees the operation of so many contributing factors that he regards the development of a malignant growth as often depending, in part at least, on such facts as a previous freedom from infectious diseases, the existence of dyscrasic conditions producing cell trauma, even the influence of depressing psychic causes.

In line with his emphasis of the clinical features of these neoplasms is his relegation of what are commonly termed laboratory methods to a position of secondary importance. It is not to be understood that he overlooks the aid of the laboratory. Far from it. His directions as to laboratory technic and the value of such examinations are clear and detailed. Yet, the greater importance seems to attach to the history, the symptoms and the examination of the patient's body. The necessity of careful and repeated examinations of the stools for occult blood is referred to over and over again. Yet Schmidt issues a note of warning against the employment of tests that are too delicate and that might detect minute traces of blood which mean nothing in the way of disease. Such tests, he says, may be of chemical but not of clinical interest; they are of "decorative" rather than practical value (p. 97). The various functional tests of the kidney he regards as of slight reliability. He seems loath to employ even instrumental help; the *x*-ray must not be relied on too implicitly; it is rarely necessary to distend the stomach or bowel as an aid to diagnosis. Careful study of the history with attention to even the minutest symptoms, with thorough physical examination will make the laboratory and instrumental examinations not unnecessary but rather auxiliary or confirmatory. Is not this, after all, the right view? Two points in physical examination are often referred to, the one the help to be derived from palpation with the patient in the lateral decubitus, with which one must heartily agree. The other is the stress laid on the value of auscultation for murmurs in the diagnosis of tumors of the stomach, liver, gall-bladder, pancreas, etc. To us, this method seems not to warrant the overemphasis placed on it by Schmidt. The methods of the teacher are seen in a tendency to reduce diagnostic symptoms to tabular form. This is helpful, though at times the tables seem rather artificial and too refined. Take, for example, his subdivision of the pains of carcinoma of the stomach. Stripped of its classification, it means that carcinoma of the stomach may cause pain anywhere in the region of the body from the upper thorax to the symphysis pubis.

The portrayal of the features of typical cases is excellent, but the great value of the book lies in its discussion of atypical cases and its reference to possible misleading symptoms. The exceptional case is the one apt to confuse and is the one on which the author dwells particularly.

We should like a clearer differentiation between ulcer of the stomach and carcinoma. The author's statement that few cases of carcinoma of the stomach originate in ulcer will be questioned by many, though the relation between these two conditions is by no means definitely established. Cardiospasm as a misleading condition should be mentioned in discussing gastric cancer. Other minor features might be criticized, the criticism based largely on the fact that one's personal experience does not tally exactly with that of the author. But the book, as a whole, merits praise as a valuable contribution to the clinical study of malignant tumors of the abdomen.

The last half of the book is taken up with abstracts of cases. The abstracts are excellent. It was from a study of these cases with controlling operation or autopsy that the author was able to write the first half of the book. Numerous references to these cases are to be found throughout the work.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, A.M., M.D., Consulting Surgeon to the Eastern Long Island Hospital. Cloth. Price, $5.50 net. Pp. 398, with 233 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This is an elaborate and admirably illustrated treatise, in which "the writer has endeavored to state fairly the indications for cystoscopy, and to outline its technic in the minutest detail, describing the instruments used and how to use them." This, the major content of the book, is commendable in conception and execution; it is obviously based on ample personal experience. There is apparent a tendency toward ill-considered statement, such as the possible differentiation by the cystoscope of a dozen varieties of cystitis; the virtual denial of all chance of extending infection by the ureter catheter if skilfully used; and the extravagant eulogy of a certain cystoscope.

Cystoscopy through a suprapubic puncture, occasionally a valuable procedure, seems worthy of mention in every complete treatise on methods for inspecting the bladder. The jumble of Latin and English in a prescription (p. 92), while a merely academic offense, illustrates the lack of care which is often apparent in the text.

The accessory portion of the work, which discusses collateral methods of diagnosis, is less acceptable; indeed, some of this matter is distinctly misleading. Such is the statement (p. 195) "the only way of definitely determining the character of the ulcer" (whether tuberculous or other) "is by finding tubercle bacilli in the urine or by a guinea-pig test." The marked hyperemia around a tuberculous ulcer, which follows a subcutaneous injection of tuberculin, more quickly and surely distinguishes it from other ulcers than does either of the "only" tests recommended.

The book is probably the most complete exposition of cystoscopy in our language, and will repay perusal by any one who uses the cystoscope.

A Text-Book of Veterinary Anatomy. By Septimus Sisson, S.B., Professor of Comparative Anatomy in Ohio State University, Columbus, Ohio. Cloth. Price, $7 net. Pp. 826, with 528 illustrations. Philadelphia: W. B. Saunders Co., 1910.

This book, of nearly 850 pages, is an evidence of the fact that the study of the anatomy of domestic animals and the making of books thereon is keeping pace with similar work in human anatomy. The author says that this book has been made in response to a demand for a well-illustrated and up-to-date book on veterinary anatomy, and a cursory review would seem to indicate that the purpose has been well fulfilled. The descriptions are clear, full and scientific. The comparative anatomy of the various domestic animals is always kept in view, which adds value to the work. The nomenclature adopted is that of the best authorities in this and foreign countries. The work should rank well with the books on human anatomy and should meet every requirement of the veterinary student. Mechanically, the book is very satisfactory.

Text-Book of Operative Surgery. By Dr. Theodor Kocher, Professor of surgery and Director of Surgical Clinic in the University of Bern. Third English Edition. Authorized Translation from the Fifth German Edition by Harold J. Stiles, M.B., F.R.C.S., Edin., Surgeon to the Chalmers Hospital, Edimburgh, and C. Balfour Paul, M.B., F.R.C.S., Edin., Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. In Two Volumes. Cloth. Price, $12 net. Pp. 723, with 415 illustrations. New York: The Macmillan Co., 1911.

Kocher's "Operative Surgery" has been before the profession for several years and is well known by all who practice surgery. This is the third English edition translated from the fifth or last German edition. The translation has been very well done; one seldom sees a translation from the German that reads as smoothly as does this.

In reading the author's preface one cannot help being charmed by his great earnestness and by his endeavor to impress on all who essay to do surgery the great responsibilities which rest on them. These delightful features are stamped on every page of the work for the author does not simply describe typical and classic procedures but he deals with conditions and each operation is given that touch of life which marks the author as a master and a great teacher. One short quotation under "Surgery of the Gall-Bladder and Bile-Ducts" will suffice to illustrate what is meant:

"Surgeons should realize that it is their duty to the patient to pull him through his illness and not to perform an operation that is classic. This object cannot be obtained by any routine operation, whether based on old or on the most modern theories. Operations which are theoretically excellent when put in practice may often cause the death of the patient because his individual needs are not taken into consideration."

It is this attempt of the author to individualize, coupled with his great experience, which gives to this work its great value.

The only criticisms to be made are those relating to the publisher. The work appears in two volumes instead of one—as in the original German edition—although there are but 723 pages all told, including the index. To give the volumes the appearance of size unusually thick and heavy paper is used. Many large illustrations are unnecessarily duplicated, some of them as often as four times, etc. These defects should be corrected.

It might also be well, in view of the prominence of the translator, to give him the recognition to which he is entitled by placing his name on the back of the volumes below that of the author.

Kursus der normalen Histologie. Ein Leitfaden für den praktischen Unterricht in der Histologie und mikroskopischen Anatomie. Von Rudolf Krause, a.o. Professor der Anatomie an der Universität Berlin. Paper. Price, 22.50 marks. Pp. 441. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

The special object of Professor Krause's book is to promote the practical instruction of students in histology and microscopic anatomy. The plan is that the student himself shall prepare most of the preparations described. For this purpose the freezing method is used as well as the paraffin and celloidin methods. Particular emphasis is placed on the value of drawings in the study of the microscopic preparations and all the illustrations—about 208, reproduced by autotype—have been drawn in colors by the author himself. We fear that only few of the students ever reach the standard he has established. The book is divided into two general parts; the first deals with technical matters; the second takes up the cell, the tissues and the organs of the animal body. The text of this part is in reality a plain and succinct explanation of the illustrations together with statements as to the technical methods employed in preparing the objects illustrated. Most of the preparations are of human origin. The illustrations are really very fine. While it is quite obvious that the book has been prepared with direct reference to German conditions, it undoubtedly will prove to be a highly useful book anywhere. It is recommended heartily to the consideration of American teachers of normal histology in the hope that it may prove of assistance in imparting to their students a working knowledge of the microscopic structure of the body and of microscopic technic, heretofore as a rule but indifferently accomplished if we are to believe the testimony of the teachers of pathological anatomy and of clinical laboratory work.

The Fats. By J. B. Leathes, M.A., M.B., F.R.C.S., Professor of Pathologic Chemistry in the University of Toronto. Cloth. Price, $1.25 net. Pp. 138. New York: Longmans, Green & Co., 1910.

Although not all the promised monographs of this series have yet appeared, already one of the earlier ones has come to a second edition. This is satisfying evidence that the value of these publications is being recognized. So rapidly changing is the subject-matter of biochemistry that no other form of publication can well be so efficient as the one adopted here; namely, inexpensive monographs written by specialists, each covering that part of the entire field with which each writer is most intimately acquainted.

"The Nature of Enzyme Action," the first of the series to enter a second edition, covers adequately and accurately this interesting and fundamentally important subject. Presented originally in the form of lectures, it is more easy to read and assimilate than treatises of this sort are likely to be, a point of particular favor in the eyes of readers who are interested in the subject only in its general aspects. In the new edition the more recent contributions to enzyme chemistry and the theories of enzyme action have been incorporated, the author assuming the reasonably conservative attitude necessary in considering a subject in which theorization is so prominent.

The monograph on fats, by Professor Leathes of Toronto will particularly interest scientific physicians because of the rapid increase of our knowledge of the importance of fats and related substances in biologic processes. Until recently looked on as merely stored food material, the fats and lipoids have now been revealed as vitally concerned in cell activities, almost if not quite as much so as the proteins themselves. They enter, not only into normal processes, but also into the phenomena of immunity, and they modify or determine the effects of many of our most important drugs. With admirable conciseness, but without impairment of reliability, Professor Leathes presents the latest reliable information concerning the chemical composition and behavior of the fats and "lipines" (as he prefers to call the compounds of fatty acids which contain nitrogen), their physical properties, methods of analysis, and the part played in physiology. From our point of view we should have preferred more on the physiologic aspects, concerning which the author himself has made most interesting and inspiring contributions, but as the physiologic side is at present much more speculative than the chemical, the concession of most of the space to the established matter is perhaps the part of wisdom. In any case, the scientific physician will find in this monograph as much to interest and enlighten as in any member of this valuable series.

Die Hodgkinsche Krankheit. Von Dr. Kurt Ziegler, Privatdozent in Breslau. Paper. Price, 9 marks. Pp. 204, with illustrations. Vienna: Gustav Fischer, 1911.

This book is an exhaustive treatise on the subject of Hodgkin's disease. The literature is reviewed fully and the author gives his own observations based on a study of seventy cases, in sixteen of which autopsies were held, and in forty cases microscopical examinations of diseased glands were made. In accordance with the present tendency he considers the disease as a specific inflammatory process. The histology is especially well illustrated in five plates with twenty-two beautiful colored pictures. The completeness of the work is well shown in the 600 literary references at the end of the volume. This extensive monograph will take a foremost rank among the treatises on this strange disease.

Psychiatrische Vorträge für Aerzte, Erzieher und Eltern. (Zweite Serie). Von Prof. Dr. G. Anton, Direktor der Klinik für Geistes- und Nervenkranke in Halle a. S. Paper. Price, 2 marks. Pp. 77. Berlin: S. Karger, 1911.

This series of popular lectures on psychiatric themes was prepared for physicians, educators and parents. They constitute good reading and appear under the following titles: "1. The Expression of the Emotions in Healthy and Diseased Persons." "2. Mental Epidemics of Past and Present." "3. Normal and Abnormal Development of the Child." "4. Alcoholism and Heredity." "5. The Causation and the Operative Treatment of Epilepsy." These lectures are written in popular style and can be safely put into the hands of any educated person.

Medicolegal

Denial of Sexual Intercourse as Ground for Divorce, Especially When a Matter of Health

(Raymond vs. Raymond (N. J. Ch.), 79 Atl. R. 430; Lohmuller vs. Lohmuller (Tex. Civ. App.), 135 S. W. R. 751.)

The Court of Chancery of New Jersey holds that a spouse's wilful refusal to engage in sexual intercourse is desertion under the statute, making desertion a ground for divorce, and, hence, where a husband refused to consummate the marriage by sexual intercourse, he deserted his wife, even though he supported her, and they lived under the same roof. It says that the cases generally admit that unjustifiable withdrawal from marital cohabitation constitutes desertion. Marital cohabitation implies necessarily something more than merely living under the same roof. Where will the line be logically drawn, unless it is held that to constitute matrimonial cohabitation it must include those duties which distinguish the marital from every other contractural relation? When cohabitation in its true sense in the marriage relation ceases, desertion commences.

But the Court of Civil Appeals of Texas holds that a decree of divorce was wrongly granted where the testimony of the plaintiff showed that the sole ground for the divorce was a refusal on the part of his wife to sacrifice herself to his sensual desires, the uncontradicted evidence showing that she was a nervous, frail woman, who would probably die if she bore another child, and the plaintiff was fully advised of that fact by the family physician, and he was also told that he should not demand that his wife submit to his embraces, except under certain conditions, which conditions the plaintiff stated rendered him nervous and made him sick, but which the only physician who testified stated could not and did not injure him; in fact, could have no hurtful effect whatever. The refusal to accede to the passion of a man who knew that childbearing would destroy the life of his delicate, nervous wife, and who was unwilling to inconvenience himself in any way to prevent such a catastrophe, would not constitute such "excesses, cruel treatment, or outrages" toward him as would entitle him to a dissolution of the marriage ties. Even an unjustifiable refusal of marital rights is not necessarily a cause for divorce, and when there is no refusal but merely certain conditions are prescribed which cannot injure the husband, but will protect the wife from probable death, the divorce should not be granted.

Railroad Companies Not Liable for Malpractice in Hospital Departments—Office of Physicians

(Arkansas Midland Railroad Co. vs. Pearson (Ark.), 135 S. W. R. 917.)

The Supreme Court of Arkansas had in this case for decision for the first time for that state the question of the liability for malpractice of a railroad company maintaining a hospital department out of funds deducted from the wages of employees. Its conclusion is that the law was correctly stated in an instruction given to the jury that, even though the hospital at St. Louis and the local surgeons at different points on the railway system of the company, were maintained by small sums of money deducted monthly from the wages of the employees of the company, yet the only duty which it owed its employees in regard to medical and surgical attention was to use reasonable care in the selection of physicians, surgeons or attendants.

It is generally held, the court says, that hospitals conducted for charity are not responsible for the negligence or malpractice of their physicians, and that persons and hospitals which treat patients for hire, with the expectation and hope of securing therefrom gain and profit, are liable for such negligence and malpractice on their part.

This hospital department could not be said to be conducted as a charity, for only those employees who had contributed the fees deducted from their wages for its maintenance were entitled to enter there for treatment, and all the physicians and employees required to maintain and operate it were paid from such fund. Nor could it be said to have been administered by the railroad company out of pure philanthropy, since it may have had some benefit therefrom in decrease of amount of damages for injuries caused in the operation of the road, and the better and more efficient service to the company of its employees because of its maintenance. It was also true that none of the employees was required to accept the treatment provided at the hospital, and none could do so unless before their service with the railroad company was ended, thus in effect creating a fund for the benefit of themselves, it might be, and certainly for others.

It was not contemplated by the employees in their contribution to this fund that it should be used in the payment of damages for the negligence or malpractice of physicians employed in the operation of the hospital department, and certainly the railroad company that assumed gratuitously to collect and preserve the fund and provide hospital accommodations and competent physicians and surgeons to operate it, without any profit or gain or hope thereof therefrom, should not be required to pay damages for such negligence or malpractice; it being no part of its business under its charter to maintain a hospital. At most it could be considered only a trustee for the proper administration and expenditure of the fund, and should be held only to ordinary care in the selection of competent and skilful physicians to administer relief and provide attention to sick and injured employees. If the railroad company did in fact realize a profit from the total deductions from the wages of its employees for the hospital fund, after paying for the support and maintenance thereof and the employment of physicians, or if it agreed and contracted with such employees in consideration of the fees paid by them to furnish proper medical attention, the rule might be different.

A physician cannot be regarded as an agent or servant in the usual sense of the term, since he is not and necessarily cannot be directed in the diagnosing of diseases and injuries and prescribing treatment therefor; his office being to exercise his best skill and judgment in such matters, without control from those by whom he is called or his fees are paid.

Powers Conferred by Statute on Board of Health—Unwarranted Regulation of Sale of Milk

(Commonwealth vs. Drew (Mass.), 94 N. E. R. 682.)

The Supreme Judicial Court of Massachusetts says that this was a complaint against the defendant for violation of a regulation of the board of health of the city of Boston which provided that: "No person or corporation shall sell or offer, expose or keep for sale in any shop, store or other place where goods and merchandise are sold, milk or cream, unless the same is sold or offered, exposed or kept for sale in tightly closed or capped bottles or receptacles which have been approved by the board of health." The court does not consider the question whether this regulation went beyond the constitutional power of the legislature to enact as a statute, or to authorize the board of health to establish locally, but simply holds that the statute under which the board assumed to act was not broad enough to give authority for it. That statute was as follows: "The board of health shall examine into all nuisances, sources of filth and causes of sickness within its town, or on board of vessels within the harbor of such town, which may in its opinion be injurious to the public health; shall destroy, remove or prevent the same, as the case may require, and shall make regulations for the public health and safety relative thereto and relative to articles which are capable of containing or conveying infection or contagion, or of creating sickness, which are brought into or conveyed from its town, or into or from any vessel."

That statute does not give the board power to make regulations as to all matters affecting the public health. If the board should be certain that the smoking of cigarettes by boys affects their health injuriously, it would have no power to make a regulation forbidding the smoking of them by boys under a certain age, or the sale of them to such boys. It has no power to make general regulations as to conduct or practices injurious to health, which, if indulged in by many persons, affect the health of the public.

The statute gives the board jurisdiction to deal with "nuisances, sources of filth and causes of sickness within its town." It was agreed that the milk kept for sale by the defendant was kept in a vessel contained in a covered cooler; that it was always kept at a temperature less than 50 degrees Fahrenheit, and that none of it was allowed to stand outside of the cooler except while a sale of milk was being made; that the cooler was always kept properly drained and cared for and tightly closed, except during such interval as was necessary for the introduction or removal of milk or ice, and was kept in such location and under such conditions as were approved by the board of health. The milk was wholesome milk of standard quality, was taken from a clean, new tin cylinder or vessel, set in a clean, new ice chest, surrounded by clean, wholesome ice. The vessel had a removable cover which was new and clean, and the measure which was used by the defendant in retailing the milk was new and clean, and hung inside the tin cylinder so that it was not exposed to the air. The cylinder was simple in shape, was easily cleaned and was susceptible of perfect sterilization. The sales were made in any quantities desired by customers from one cent's worth upward. Plainly the milk in question was not a nuisance or a source of filth.

In determining the meaning of the words "causes of sickness," the doctrine of *noscitur a sociis,* or the meaning of a word is or may be known from the accompanying words, was to be applied. Primarily it referred to something local, and the board was directed "to destroy, remove, or prevent the same."

The court is further of the opinion that, within the meaning of the language of the statute, milk kept in a vessel, as this was kept by the defendant, was not a "nuisance, source of filth, or cause of sickness," which gave the board of health jurisdiction to take any action or make any regulation under the portion of the statute which gives the board jurisdiction to make regulations "relative to articles which are capable of containing or conveying infection or contagion, or of creating sickness, which are brought into or conveyed from its town, or into or from any vessel." That has reference to the bringing into the town or conveying away of articles capable of containing or conveying infection, in such a way as to affect injuriously the public health or safety. It relates to articles of such a kind as to be dangerous in reference to their capability of containing or conveying infection or contagion, or of creating sickness, in connection with their removal from one town to another. Pure milk is not such an article as is referred to in the statute.

Another Court Holds Chiropractic a Practice of Medicine—Sufficiency of Complaint and Validity of Law—"Adjustments" are "Treatments"

(State vs. Greiner (Wash.), 114 Pac. R. 897.)

The Supreme Court of Washington affirms a conviction of the defendant who was charged with practicing a mode of treatment of the sick and afflicted known as chiropractic, without having at the time of so doing a valid, unrevoked certificate to practice such mode of treatment from the proper authorities. The court says that the Code makes it a misdemeanor for any person to practice, or attempt to practice, or hold himself out as practicing, medicine and surgery, osteopathy or any other system or mode of treating the sick or afflicted in the state of Washington, without having at the time of so doing a valid, unrevoked certificate from the Board of Medical Examiners of the state, entitling him so to do. The complaint, while not to be recommended as a model, charged in effect that the defendant, at a time and place certain, did wilfully and unlawfully practice a mode of treatment of the sick known as chiropractic, without having a license therefor from the proper authorities, in that she did then and there prescribe, direct and recommend certain treatment for the cure and relief of certain bodily infirmities and diseases of the complaining witness. That was sufficient. It was not necessary, under the Washington Code, that the acts constituting the offense be set forth in the complaint with the technical precision required at common law.

It was a material fact in the case that the defendant used a vibrator on the prosecuting witness.

The evidence, it was argued, was insufficient to justify a conviction. The statute, it will be noticed, makes it an offense to practice any mode of "treating" the sick and afflicted, and the defendant testified that, instead of using treatments for the ailments of the prosecuting witness, she used "adjustments," and hence was not guilty of any violation of the statute. But the court thinks that was a mere play on words. Her methods were fully described in the record, both by the prosecuting witness and by herself, and to the mind of the court they fell as well within the definition of "treatment," as they did of "adjustment." She had the patient remove her street clothing and put on a kimono; she diagnosed the patient's ailments with the aid of a vibrator; she manually manipulated the supposedly diseased parts; she prescribed a dietary for the patient; she collected a fee, and advised the patient to return for further manipulation. That, so far as the court's observation extends, did not differ materially from the methods of unlicensed practitioners generally, who confessedly give treatments for the sick and afflicted.

It was finally objected that the act under which the defendant was prosecuted was unconstitutional. It was objected, first, that it embraced more than one subject, and, second, that the science practiced by the defendant was not a subject for regulation by the legislature. Neither of these objections was well founded. The purpose of the act is to regulate the mode of treating the sick and afflicted, and the fact that it may contain provisions affecting a variety of practitioners, having different systems and methods of treating the sick, does not render it subject to the objection that it contains more than one subject. The science, if it be such, practiced by the defendant is clearly a mode of treating the sick and afflicted. As such it is by all authority subject to regulation. To call the method of treatment "chiropractic" and the treatments given "adjustments" does not change its nature. If the practice has any beneficial purpose at all, its purpose is to heal the sick and afflicted, and to regulate the practice of healing the sick and afflicted is unquestionably within the acknowledged powers of the state.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Surgery, Gynecology and Obstetrics, Chicago

August

1 *Peritonization in Pelvic Surgery, With Special Reference to the Use of the Sigmoid Flexure of the Colon. J. E. Summers, Omaha, Neb.
2 *Epispadias in the Female, and its Surgical Treatment. H. J. Stiles, Edinburgh.
3 *Improved Technic in Brain Surgery. E. W. Andrews, Chicago.
4 *Salt Solution as a Filling for Bone Cavities and for Vacant Spaces in the Hard and Soft Tissues. H. M. Sherman, San Francisco.
5 *Subcutaneous Injection of Normal Human Blood Serum to Prevent and Overcome Postoperative Hemorrhage in Patients With Chronic Jaundice. W. Meyer, New York.
6. Perforating Bullet Wounds of the Femoral Artery and Vein Resulting in Aneurysmal Varix; Two Wounds in Each Vessel Closed by Sutures; Recovery. G. T. Vaughan, Washington, D. C.
7 *Open-Treatment of Transverse Fracture of the Femoral Shaft. E. Martin, Philadelphia.
8 Primary Heart Failure in Normal Subjects Under Ether. Y. Henderson, New Haven, Conn.
9 Chloroform Anesthesia. J. E. Moore, Minneapolis, Minn.
10 *Uninterrupted Anesthesia in Operations on Face and Mouth. E. Souchon, New Orleans, La.
11 *Nitrous Oxid Anesthesia and Anoci-Association, New Principle in Operative Surgery. G. W. Crile, Cleveland.
12 *Recent Cases of Inoperable Sarcoma Successfully Treated With Mixed Toxins of Erysipelas and Bacillus Prodigiosus. W. B. Coley, New York.
13 *Intestinal Perforation in Typhoid. C. Bagley, Baltimore, Md.
14 Two Cesarean Sections on Unusual Indications. E. Essen-Möller, Sweden.
15 Treatment of Compound Fractures. C. Beck, Chicago.
16 Treatment of Fractures of Long Bones. W. Hessert, Chicago.
17 *Intestinal Anastomosis by Invagination. W. W. Grant, Denver, Colo.
18 *New Operation for the Vaginal Shortening of the Utero-Sacral Ligaments. H. Jellett, Dublin, Ireland.
19 *Local Uses of Formalin. J. C. Stewart, Minneapolis.

1. **Peritonization in Pelvic Surgery.**—The procedure to which Summers refers particularly and one with which he has had many personal experiences, consists in transporting the sigmoid flexure across the pelvis and suturing it in such a way that all raw surfaces are covered over. The sigmoid is only

fixed below and is almost always sufficiently mobile to be carried across the pelvis to the right side as far as the cecum. When the uterus is preserved the sigmoid is sutured to the lateral walls of the excavation and across the fundus of the uterus. When the uterus is sacrificed the sigmoid is sutured to the lateral walls of the excavation and to the bladder. Drainage should be made through the vagina. Except in cases of total hysterectomy, Summers has almost always employed a cigarette drain coming out of the extraperitoneally excluded space between two of the stitches, tacking the sigmoid flexure in position and draining externally at the lower angle of the abdominal incision. The fastening of the sigmoid as indicated has never, in a large number of cases in which Summers has used the method, interfered in any way with the function of the bowel. This technic is said to be particularly advantageous when septic pus or genital abscesses communicate with the intestine; for example, a pyosalpinx, or suppurating tumor of the ovary, opening into the large bowel; again, when there coexist a genital abscess with a perforative appendicitis. The intestinal sutures are situated under the protection of the cavity drained and are extraperitoneal.

2, 3 and 7. Abstracted in THE JOURNAL, July 29, 1911, pp. 414 and 415.

4. **Salt Solution as Filling for Bone Cavities.**—Some years ago, in doing an operation for the removal of the Gasserian ganglion, Sherman wounded the dura mater and had to suffer, during the operation, from the annoying leakage of cerebrospinal fluid. When it came time to close the wound the squeezed-up brain in the collapsed sac of the dura mater did not readily expand to fill the space within the skull. In order to avoid leaving a large amount of air in the wound, Sherman poured in sterile physiologic salt solution, and sutured the scalp over it. The wound healed normally and the patient recovered uneventfully. Since then he has used salt solution to fill all cavities or spaces that could not be closed by suture, except that he has not used it in cavities or spaces that were actually or potentially septic.

In four instances children presenting themselves with the symptoms and signs of hip-joint tuberculosis were shown, by radiogram, to have localized tuberculosis foci or abscesses in the diaphysial portion of the femoral neck. In these instances Sherman has opened the trochanter by a trephine, extended the wound to the abscess, cleaned it out and removed the softened bone around it, and then filled the cavity with physiologic salt solution and sutured the fascia and integument over the bone wound. In one instance there occurred normal healing which was permanent, the tuberculous process stopped and the child made a relatively quick and complete recovery, which has been permanent for four years. In two instances there occurred normal healing, but the tuberculosis was not controlled and the cases followed the usual course of a hip-joint tuberculosis, not benefited by the operation. In the fourth instance there occurred normal healing and the child returned home in a plaster-of-Paris spica. Within a month after the operation an acute pneumonia developed and caused death. Sherman secured the head, neck and trochanter on which he had operated. The wound cavity he had made in the trochanter and neck was filled by a layer of granulation tissues with a blood clot, apparently undergoing absorption, in the center. Four other cases are cited.

The method is, in reality, a reversion to Schede's filling, but with an improved technic, in that the wound is not closed before the removal of the Esmarch tourniquet, nor is a drainage arranged for. Instead of this, hemostasis is secured in the usual way, then the bone wound is filled with the salt solution and the soft tissues are sutured closely with no drainage. In all instances so far healing has been normal and permanent.

5. **Normal Human Blood-Serum to Prevent Postoperative Hemorrhage.**—This procedure, first used by J. E. Welch as a curative agent in hemophilia neonatorum, has been resorted to by Meyer in four cases with good results. The jaundice in all of the four cases reported was due to carcinoma. In none did any parenchymatous hemorrhage occur after the prophylactic and postoperatively resumed injections of normal human blood-serum. The favorable outcome in the first case was remarkable: after the preliminary injection of a total of 105 c.c. (3½ ounces) of normal human blood-serum, no more being on hand, and 30 c.c. directly after the operation,' a severe intestinal hemorrhage sets in ninety hours after operation; patient's condition desperate. Under resumed serum treatment the fever soon drops, bleeding ceases permanently, and patient recovers. Meyer says that the injections should be started at least two days before operation, 30 to 60 c.c. (1 to 2 ounces) to be administered three times per day, and should be continued right after operation for another forty-eight to seventy-two hours. It is wise to provide for the serum in time; both cephalics of two healthy individuals should be tapped; they will yield from 300 to 400 c.c. (10 to 14 ounces) of serum. Wassermann's reaction should, of course, be made; it does not seem of great importance, according to Meyer's observations, to test and follow up the coagulation time of the blood, although the latter appeared repeatedly reduced in course of the serum treatment.

10. **Uninterrupted Anesthesia in Operations on Face and Mouth.**—Souchon has devised a small apparatus for the purpose of keeping up the anesthesia uninterruptedly by introducing a rubber tube into the throat through the nose and mouth.

11. **Nitrous-Oxid Anesthesia.**—On the theory that nitrous oxid owes its anesthetic property to its power of limiting oxidation in the brain tissue, and the theory that shock is due to an exhausting activity of the brain cells due to injury, Crile says one might very properly infer that the brain cells were by nitrous oxid prevented from making the harmful expenditure of energy, thus minimizing the shock. The exclusion of fear and of trauma from the brain prevents any nocuous associations. This state is expressed by Crile by coining a new word, viz., anoci-association. Operations on neurasthenic subjects under anoci-association preserves to a remarkable degree the nervous system.

12. **Treatment of Inoperable Sarcoma.**—Up to the present time Coley has had sixty-five cases of inoperable sarcoma in which the tumors disappeared under the use of mixed toxins of erysipelas and bacillus prodigiosus. The utmost efforts have been made to trace the after-histories of these cases, with the following results: Seven remained alive and well at the end of fifteen to eighteen years. Seven remained alive and well at the end of ten to fifteen years. Seventeen remained alive and well at the end of five to ten years. Ten remained alive and well at the end of three to five years. That is, forty-one cases remained well from three to eighteen years, or thirty-one from five to seventeen years. As to the correctness of the diagnosis in these cases, Coley says that they were practically selected cases, i. e., selected by the leading surgeons of America, as hopeless, inoperable cases. In all of these cases, with exception of four, the diagnosis was confirmed by careful microscopic examination, in most cases not by one, but by several of the most competent pathologists. In order to still further eliminate all chance of error in diagnosis in a large number of the cases, there was a history of very rapid growth and repeated recurrence after operation. If further evidence were needed, it is furnished by a small number of cases in which, after the complete disappearance of the tumor under the toxin treatment, the disease afterward recurred locally and generally and caused the death of the patient.

13. **Intestinal Perforation in Typhoid.**—Bagley presents the results of a statistical study of all cases of intestinal perforation in typhoid recorded in the literature from 1884 to the present.

17. **Intestinal Anastomosis by Invagination.**—By invagination Grant means a complete invagination of one gut bodily into another, the lower end of the upper segment, preferably 2 or more inches. He reports one case of obstruction in the sigmoid due to a small tumor in which he employed the method successfully. A long, curved, strong-bladed forceps was inserted through anus and rectal segment, and the latter being very much constricted at inner, or upper, end was

stretched by spreading the blades of the forceps. The upper, or sigmoid segment, was grasped by the forceps and pulled through rectum and anus, making a snug fit at the upper rectal opening. The peritoneal cavity was now flushed with warm salt solution. Two or three interrupted stitches were applied to the invaginated gut and lower posterior uterine surface, the latter being the only fairly normal tissue in the vicinity. The patient was now put in lithotomy position, and the sphincter ani divided subcutaneously, in order to facilitate drainage. The invaginated gut was fixed with four silkworm-gut sutures to the mucocutaneous margin; and as an additional precaution against retraction and premature cutting through of the sutures, a safety pin was passed through a segment of the gut. For drainage, a rubber tube was inserted between the rectal mucosa and invaginated segment, and another through the invaginated or upper segment. By this means, drainage of both the pelvic peritoneal cavity and intestines was provided for. The abdominal wound was closed without drainage and patient put to bed in the Fowler position.

18. **Vaginal Shortening of Utero-Sacral Ligaments.**—This operation consists in exposing the utero-sacral ligaments at their insertion into the uterus, in cutting them off at the uterus, and in bringing them round in front of and below the cervix, and at the same time shortening them as may be found necessary, so that they become again a support to that part of the uterus. The operation is said to be indicated in cases of prolapse of the uterus due to or associated with elongation of these ligaments. Jellett says that if there is prolapse of the uterus alone, unaccompanied by prolapse of the vagina, then shortening of these ligaments followed by any operation for the cure of backward displacement, e. g., ventral suspension or Alexander's operation, is usually sufficient. If the perineum is torn, its repair and the suture of the levator ani muscles are also necessary. If the vagina is everted, and particularly if there is a large cystocele, Wertheim's interposition operation also is indicated, provided the patient is past the child-bearing period, or, if not, that the tubes are divided at the same time. If the patient is still likely to have children, an ordinary anterior colporrhaphy is safer. If the cervix is markedly hypertrophied in the supravaginal portion, then supravaginal amputation is also necessary. In a typical case of complete prolapse, with eversion of the vagina, hypertrophy of the cervix, and tearing of the perineum, Jellett usually performs an operation consisting of the following steps: 1. Curetting. 2. Supravaginal amputation of the cervix. 3. Shortening of the uterosacral ligaments by the vaginal route. 4. Interposition of the uterus (Wertheim's operation). 5. Colopoperineorrhapy.

19. **Local Uses of Formalin.**—Stewart has found that the 40 per cent. solution of formaldehyd is useful locally in infected wounds as a germicide. It should be used freely, left approximately one minute and then neutralized by abundant solution of hydrogen peroxid. In ulcerative offensive cancers its use checks discharge and odor with little pain. The fungus of sarcoma can be controlled very perfectly by this agent without bad results.

Lancet-Clinic, Cincinnati

August 19

20 Appendicitis Cases and Deductions. M. A. Tate, Cincinnati.
21 Intestinal Infections of Infancy and Childhood and Their Treatment. J. B. Ballinger, Bradford, O.
22 Venereal Prophylaxis. L. H. Montgomery, Chicago.

Journal of Nervous and Mental Diseases, Lancaster

August

23 *Etiology of the Occupation Neuroses and Neuritides. W. E. Paul, Boston.
24 *Pachymeningitis Interna. I. W. Blackburn, Washington, D. C.

23. Abstracted in THE JOURNAL, July 29, 1911, p. 417.

24. **Pachymeningitis Interna.**—Blackburn is convinced that the essential feature of the condition is the primary formation of a fibrinous exudation on the inner surface of the dura mater as the result of some form of irritation, and that at the same time the dural surface is to a great extent denuded of its endothelium, which permits of the emigration of leukocytes and proliferated connective tissue cells into the meshes of the fibrinous layer. These cells then begin to show formative activity, fibroblasts are formed which by their growth and fibrillation form a loose connective tissue from which the fibrinous matrix gradually disappears. The new tissue becomes vascular by the formation of wide, thin-walled capillaries which grow into it from the pre-existing vessels of the dura, the process being exactly similar to the so-called organization of inflammatory exudates elsewhere. At first the new membrane may show no hemorrhage and not even pigmentation; it is thin, soft, nearly transparent, and only slightly rose-tinted, by the presence of new capillary vessels; but the thin-walled vessels being under slight abnormal tension due to the congestive hyperemia of the dura, are easily ruptured, and hemorrhage occurs within the membrane or between it and the dura. The effused blood if small in quantity is absorbed in time, leaving pigment behind as a rust-colored stain in the new membrane. Such new membranes may be formed, layer after layer, if the process continues, the newer membranes being formed on the inner surface of the older ones, and subsequent hemorrhages will occur between the lamina as they did primarily between the first-formed layer and the dura.

The organic connections between the new membrane and the dura are at first slight, being only by means of the vascular extension, so that when rupture of a vessel occurs the blood forces its way between the layers, new vessels are torn, and in this way the larger hemorrhages occur, frequently only limited by the margin of the area where the organic adhesions are firmer. Though hemorrhage is almost the rule in these neo-membranes, it is by no means always a prominent feature. Quite frequently in the newest films they are absent, and in some old and well-organized fibrous membranes blood extravasation shows no evidence of ever being prominent. Such neo-membranes from their organization, their firm fibrous character, and their perfect organic junction with the dura may be overlooked, or, if discovered, may be taken by the inexperienced for the inner layer of the dura.

Wisconsin Medical Journal

July

25 *Relation of Physician to the Public Campaign Against Tuberculosis. H. E. Dearholt, Milwaukee.
26 *Rabies in Wisconsin and its Control. M. P. Ravenel, Madison.
27 Treatment of Puerperal Infections. F. W. Van Kirk, Janesville.
28 European Clinics. R. U. Cairns, River Falls.
29 Rupture of Uterus Before Term with Continuation of Pregnancy. F. R. Hyslop, Whitewater.

25 and 26. Abstracted in THE JOURNAL, July 22, 1911, pp. 313 and 315.

Boston Medical and Surgical Journal

August 17

30 Sixty Cases of Syphilis Treated with Salvarsan. J. H. Cunningham, Boston.
31 Boston's Hospital School for Tuberculous Children. E. A. Locke and T. J. Murphy, Boston.
32 Tree Cancer. H. Packard, Boston.
33 *Unusual Monstrosity. J. R. Torbert, Boston.
34 Skin Grafting in the Repair of Contractures Due to Burns. B. Vincent, R. M. Green, J. F. Tomkies and W. T. Graham, Boston.

33. **Unusual Monstrosity.**—In the case cited by Torbert labor started by a high rupture of the membranes. Palpation of the abdomen at this time was most interesting; the uterus was pulled well over to her left side and felt like a bicornuate uterus. In the left cornua was felt a soft solid tumor similar to a breech, but of a firmer consistency; the small parts were on her right and one fetal heart was heard. A head well engaged in the pelvis was felt from above and another breech was palpated on her right side. Labor was short, but the uterine contractions were frequent and severe, and at times the retraction of the median scar looked as if the uterus was about to rupture. After full dilation an easy low forceps operation was done under ether anesthesia and a male baby weighing 4 pounds delivered; the baby cried at birth. In a few minutes the feet of a second baby appeared in the vagina; these feet were clubbed and a monstrosity was then suspected.

Traction on the feet resulted in their coming off. Intrauterine examination disclosed the true condition; the smooth rounded upper pole of the monstrosity prevented any grasp of it. No fissures of the body could be felt in which to insert an instrument. Finally, after repeated efforts, the cranioclast was attached to one thigh extending up on to the abdomen; to the other thigh were attached two French hooks, and with suprapubic pressure and traction from below the monstrosity was delivered. The monstrosity weighed 3 pounds. There was one placenta, two cords and two amnions. The first twin had a temperature of 106 F., and died twelve hours after delivery; there was no autopsy.

The dissection of the monstrosity was interesting, showing an abnormal development of the genito-urinary tract with a deficiency of development of all of the other abdominal organs. The penis is an excellent example of congenital paraphimosis. Both feet were clubbed to a marked degree. On opening the monstrosity in the median line, the subcutaneous tissue was thick and edematous; several cyst-like cavities filled the tissues outside of the chest wall. In the chest cavity no lungs could be demonstrated, no heart was visible, but some tissue was run through, which proved to be cardiac in origin. No spleen, liver or pancreas were found. The intestines were rudimentary. The striking feature was the extraordinary development of the entire genito-urinary apparatus. The kidneys were large, the ureters patent, the testicles in the vicinity of the kidneys. The bladder and urethra were dissected out intact. The vertebral column stopped above at the dorsal region; section of the cord showed nothing abnormal on macroscopic inspection.

Sections were cut of pieces removed from the abdominal cavity, but no organs could be definitely determined, the probability being that the tissue was in the early embryologic form and so not recognizable.

Journal of Kansas Medical Society, Kansas City

August

35 Examination of the Insane. T. C. Biddle, Topeka.
36 Diagnosis and Treatment of Paresis. L. R. Sellers, Osawatomie.
37 Maternal Nursing. J. T. Scott, St. John.
38 Gastric Ulcer. C. A. Meyer, Wichita.
39 Appendicitis from a Practical Standpoint. W. F. Coon, Caney.
40 Syphilis as Seen and Treated by the General Practitioner. G. A. Blasdell, Garnett.

New York Medical Journal

August 19

41 Modern Vitalism. C. E. Woodruff, Cebu, P. I.
42 National Insurance Against Sickness and Invalidity. G. P. Forrester, Darmstadt, Germany.
43 The Regressive Psychosis of Alcoholism. A. D. Bush, Wakefield, Mass.
44 Arteriosclerosis; Its Treatment. B. Robinson, New York.
45 The Pathology and Surgery of Renal Infections. I. Colliea, New York.
46 Secondary Tumors of the Heart. H. L. Peters and L. S. Milne, New York.
47 *Strange Case of Anaphylaxis. B. Kaufman, Marysville, Cal.

47. **Anaphylaxis.**—The author was the patient in this case. While treating a virulent case of diphtheria in May, he took 500 units of diphtheria antitoxin. Beyond a slight urticaria, localized at the point of injection, there was no result. In December of the same year, he had three cases of diphtheria in the same family. While injecting one of the patients, a young boy, 5 years old, he struggled and the needle escaping from the skin of the lad, penetrated Kaufman's left thumb. He went to a drug store and injected himself with 1,000 units of diphtheria antitoxin. Inside of fifteen minutes the whole left arm was swelling until in a few hours it was about three times the normal size. There was intense pain in the member, with generalized aching, more or less nausea, and intense urticaria. There was no reaction at the site of injection suggesting infection, and, indeed, strict aseptic technic had been observed. The swelling gradually increased so that the fingers could not be closed. A blood count at that time showed 7,000 white cells with nothing abnormal, no rise of temperature and no symptoms of infection. He was given atropin sulphate, 1/150 grain, every four hours, until its full physiologic effect was apparent, ordered to bed and put on a restricted diet. The only comfort obtainable was by holding the arm in a vertical position. After four more days the swelling gradually subsided and has left no obvious effect.

Ohio State Medical Journal, Columbus

August 15

48 Care and Observation of Pregnant Women. C. M. Green, Boston.
49 *Choice of Method of Delivery in Difficult Labors. A. J. Skeel, Cleveland.
50 Diagnosis and Surgical Management of Perforation in Enteric Fever. S. D. Foster, Toledo.
51 Suggestions for Improving Public Health Service. C. O. Probst, Columbus.
52 Latest Advances in Our Knowledge of Syphilis. A. Ravogli, Cincinnati.
53 Cervical Glandular Infection from Diseases of the Throat. W. W. Pennell, Mt. Vernon.
54 Tuberculosis of the Nose with Report of Two Cases. W. Chamberlin, Cleveland.
55 Practical Points in Treatment of Nephritis. M. H. Fischer, Cincinnati.

49. Abstracted in THE JOURNAL, May 27, 1911, p. 1600.

Medical Record, New York

August 19

56 *Means of Controlling the Hemorrhage from Inoperable Neoplasms of the Bladder; with Cases Illustrating Trypsin and Hodenpyl Serum Therapy. L. B. Bangs, New York.
57 *Paralysis of the Upper Extremity Due to Nerve Injuries. N. Jacobson, Syracuse, N. Y.
58 Recollections of Cholera Epidemics in Russia. G. A. Friedman, New York.
59 *Chemical and Biological Aids in Early Diagnosis of Gastric Cancer. A. E. Austin, Boston.
60 *Some Experiences with Russo's Typhoid Test. F. W. Rolph and W. H. Nelson, Toronto, Ont.
61 Is Alcoholism a Disease? F. H. Barnes, Stamford, Conn.
62 Perirectal Abscess. C. J. Drueck, Chicago.
63 Adenoids in School Children. P. R. Wood, Marshalltown, Ia.

56. **Control of Hemorrhage from Inoperable Neoplasms of Bladder.**—Bangs states that one can relieve the hemorrhage from tumors of the bladder, which are a cause of great apprehension to the patient, by the use of a solution of creolin injected into the bladder. Creolin is an antiseptic with hemostatic properties. The author gives the histories of four cases in which it was used with benefit. A 1 per cent. solution is found to be efficient for this purpose. It relieves irritability of the bladder at the same time that it reduces the loss of blood, and in some cases it reduces the size of the tumor. Although there is no permanent cure to be hoped for by the use of the creolin treatment, still the life of the patient is made more comfortable and often prolonged considerably.

57. **Paralysis of Upper Extremity.**—Jacobson presents the histories of several cases of nerve injuries of the upper extremity with remarks on the diagnosis and treatment. The most frequent cause of partial paralysis of the upper extremity is injury of the musculospiral nerve; this occurs especially in fractures of the humerus, the nerve being torn at the time of the accident, or becoming compressed or adherent to the callus in the process of repair. The nerve can also be injured at a lower point, in the lower third of the arm in fractures. The injury is not always recognized at the time of the fracture, but appears when the splints are removed, with the characteristic wrist-drop and inability to extend the fingers. In two of the cases presented the nerve was adherent to the callus and separation of the nerve from the cicatrix brought about entire recovery. When there are visible changes in the nerve as a result of injury, recovery is slow. A case of fracture of the neck of the scapula with displacement of the head of the bone and adhesions to the brachial plexus caused complete paralysis of sensation and motion. No apparent injury of the nerve occurred, and a few days after operation motion began to return and recovery ensued. When there is complete division of the nerve trunk we have a different condition entirely. In such a case after uniting the nerve-ends six months after the injury good results were obtained; sensation was completely restored, and many muscular movements have returned. If a nerve is reunited soon after injury the immediate results are not better than after remote operation. If suppuration has occurred in the wound with granulation one will not get restoration of function without operation.

59. **Early Diagnosis of Gastric Cancer.**—Austin states that when patients are operated on before there is extensive stasis it is found that free hydrochloric acid is present in many cases. Positive hemolysis was found in twenty-two out of twenty-six cases of gastric cancer, while it was present but once in sixty non-carcinomatous cases of gastric trouble. When pepsin is found in marked amounts in the urine and there is little or none in gastric contents this points to gastric cancer. The presence of tryptophan in gastric contents is an indication of gastric cancer. The bromin test of stomach contents will give a violet color in the presence of tryptophan. In a series of cases tested by the author this test was negative in twenty cases out of twenty-two, and one of these showed a palpable tumor. The tryptophan test is considered by the author the most available test for cancer that can be used in a clinic.

60. **Russo's Typhoid Test.**—Russo's test for typhoid is performed as follows: To 4 or 5 c.c. of the patient's urine add 4 drops of a 0.1 per cent. aqueous solution of methylene blue; mix well and examine against the light; a mint or emerald-green coloration is positive, whereas any bluish tinge renders the test negative. Russo reported the reaction as being unaffected by boiling or by the ingestion of such drugs as calomel, quinin, salol or caffein, and also pointed out that the gradual resumption of the bluish tinge, as the patient advanced in the disease, was a valuable and favorable prognostic sign. During the past year Rolph and Nelson have been employing this test, as a routine proceeding, on most of the cases entering the Toronto General Hospital, and vouch as to its efficacy as a diagnostic aid in typhoid if applied early enough in the disease. Of fifteen patients examined, thirteen gave a positive Russo, eight of these gave a negative Diazo and seven a negative Widal. Two reacted negatively to all three tests. One of these patients furnished a positive blood-culture and had typical symptoms. The other was an unusual case.

There is one important fallibility of the reaction, which at first bothered the authors a great deal, until one of them discovered the cause, viz., that urines containing bilirubin will give a reaction which differs so slightly from the typical green, that they cannot be used in employing the test. Bile should be tested for, and in the event of its presence, the urine should be discarded. The earlier in the disease the more likely and the more typical the reaction. This is very important, as it differs, in this respect, from other laboratory tests, except blood-culture. The slightest tinge of blue must call for a negative interpretation, though experience will often enable one to distinguish the returning blue tint of a convalescent typhoid patient, from that of a normal or non-typhoid urine. The reason of the mint or emerald-green color is doubtful. but it is probably a reduction test, depending on the presence of unknown bodies in the urine. The authors did not find the gradually returning bluish tinge of much assistance in prognosis, as so many of the dangers of typhoid, are, as it were, accidental, and not directly dependent on the severity of the infection.

Journal of Indiana State Medical Association, Fort Wayne

August 15

64 Acute Anterior Poliomyelitis, with Report of Case. C. M. Kennedy, Camden.
65 Exstrophy of the Bladder. B. Van Sweringen, Fort Wayne.
66 Doctor in Politics. W. H. Stemm, North Vernon.
67 New York Summer Campaign Against Infant Mortality. H. K. Moderwell, New York.
68 Improvements at the Bacteriologic Laboratory of the State Board of Health. J. P. Simonds, Indianapolis.
69 Study of Diseases of Children. G. W. Finley, Brazil.

Northwest Medicine, Seattle

August

70 Child Surgery with Special Reference to Some of its Difficult Problems. E. A. Rich, Portland, Ore.
71 Federal Meat Inspection. J. C. Exline, Walla Walla, Wash.
72 Courage on Part of General Practitioner to Depart from Fixed Rules in Medicine and Surgery. J. B. McNerthney, Tacoma, Wash.
73 Importance of Exact Methods of Diagnosis in Pathologic Conditions of the Kidney and Bladder. G. S. Whiteside, Portland, Ore.
74 Practical Treatment of Acute Middle-Ear and Mastoid Disease. R. A. Fenton, Portland, Ore.
75 *Treatment of Hemorrhoids. J. E. Else, Pullman, Wash.
76 Sarcoma of the Chorioid. R. L. Nourse, Boise, Idaho.

75. **Treatment of Hemorrhoids.**—After the usual preparation, Else seizes the center of the posterior quadrant at its apex with forceps and makes an incision from ½ inch above its base to the mucocutaneous line. This incision is made eliptical at the summit of the hemorrhoid, in order that the edges of the mucous membrane may fall together after the dissection. The mucous membrane on one side is now seized with an artery forceps at about the center of the incision and, by producing slight traction on the forceps, with the handle of the scalpel the mucous membrane is freed from the hemorrhoidal mass for about one-eighth of the circumference of the rectum. The same is now done on the opposite side, after which the hemorrhoid-bearing area is dissected from the muscularis, ligated and removed. After all has been removed that can be reached through this incision the mucous membrane is closed with a continuous suture of chromic catgut No. 1, extending into the muscularis, in order to obliterate as much as possible of the space between the two coats. The lateral quadrant having the largest hemorrhoidal mass is now attacked in the same manner, then the opposite side and the anterior quadrant last. Often three longitudinal incisions are found sufficient.

After the operation is completed a simple dressing is placed over the rectum and retained with a T-binder. Else never packs the rectum. On the evening of the second day 2 grains of calomel are given in divided doses and the next morning 1 dram of magnesium sulphate every hour until the bowels move. The movement is preceded with an enema of olive oil. After this a semisolid movement is obtained daily. Else has done this operation several times and has yet to see an imperfect result.

Iowa Medical Journal, Des Moines

August

77 Acute Anterior Poliomyelitis, with Report of Cases Illustrating its Occasional Clinical Resemblance to Meningitis. P. Bassoe, Chicago.
78 Infantile Paralysis or Anterior Poliomyelitis. C. E. Ruth, Ponce, Puerto Rico.
79 Progress in Medicine. N. C. Schiltz, Des Moines.
80 Status Lymphaticus. J. Maynard, Adair.
81 Tuberculins and Their Indications. S. R. Klein, New York.
82 Operative Treatment of Varicocele of the Spermatic Cord. A. P. Heineck, Chicago.
83 Clinical Briefs in Medicine. W. L. Bierring and J. H. Peck, Des Moines.

Bulletin of Lying-In Hospital of City of New York

March

84 *Case of Hodgkin's Disease Complicated by Pregnancy. A. B. Davis, New York.
85 Plea for More Practical Laboratory Research. F. E. Sondern, New York.
86 Trichinosis Developing During the Puerperium. Ethmoiditis in a Newborn Infant. W. A. Morgan, New York.
87 Hospital Publications as Factors in Medical Journalism. G. W. Kosmak, New York.
88 *Puerperal Infection, Its Clinical Varieties and Treatment. J. A. Harrar, New York.
89 *Multiple Cesarean Section, with Results in Thirty-Nine Cases Done at New York Lying-In Hospital. R. McPherson, New York.

84. **Hodgkin's Disease Complicated by Pregnancy.**—In December, 1909, the patient, aged 32, v para, began to complain of a burning pain in the right side of the abdomen, which disappeared under treatment for the time being. It returned during the month of February, and continued to the time of admission. This pain was described as dull and aching, extending across the abdomen and into both shoulders, being accompanied at the same time by a feeling of constriction. The pain was always more severe on lying down, so that the patient was compelled to sleep in a Morris chair, which, however, seemed to give relief. About seven weeks before admission to the hospital the patient went to sleep in this chair feeling rather weak but otherwise well and having been able to walk up to this time without any difficulty. On the following morning the patient was unable to get up out of her chair and was never able to walk since that time. At first she could move her thighs and legs but this ability gradually disappeared. The lower extremities were alone affected in this paralysis, the onset of which was unaccom-

panied by chill, fever or other constitutional disturbance, aside from an indefinite paresthesia. After the patient's admission to the hospital she believed that she was able to feel her feet move and also whenever she "felt life," she said that the legs "were jerked." Involuntary defecation and urination were also present. The paralysis seems to have always been of the flaccid order.

The neck did not show any rigidity, but behind the angle of the jaw and extending beneath the right sterno-mastoid muscle there was a small, soft, lobulated, elastic tumor. This was freely movable and did not seem to be attached to the muscles of the skin. There was no infiltration of the surrounding cellular tissues. Behind the right sterno-mastoid muscle the posterior chain of glands was somewhat enlarged but not tender. The lungs were normal. The heart action was rapid and irregular and the area of cardiac dulness extended from the right border of the sternum to a point about 3½ inches to the left of the midsternal line. There was present a short, faint, systolic murmur, loudest to the left of the sternum in the sixth intercostal space. This was probably hemic in character and otherwise the heart sounds were regular and normal in quality. The abdomen was enlarged by an eight-months' pregnancy with the fetus in R. O. A. position. A diffuse acne was distributed over the back of the thorax and a bed-sore as large as the palm of the hand was present over the sacrum.

The legs were both very edematous, and a flaccid paralysis was present extending from the hips to the feet. There was an absolute anesthesia of the skin of both legs including pressure, heat, cold and pain. This area extended upward over the abdomen to a distinctly marked horizontal line 29 cm. above the symphysis and over the back to about the level of the iliac crests. The rest of the body was normal as regards sensation. The knee-jerks and the knee-clonus were absent. The Babinsky and plantar reflexes were doubtful. Occasionally on pricking the skin of the legs or feet, indefinite muscular twitchings occurred and with each twitch pain in the right side of the abdomen was complained of. May 27, 1910, the patient delivered herself in bed without any previous evidences of oncoming labor. The blood examination showed red cells, 3,880,000; leukocytes, 11,600; hemoglobin, 78 per cent.; neutrophils were increased to 88 per cent., small lymphocytes reduced to 10 per cent.; large lymphocytes to 1.5 per cent.; eosinophils, 0.2 to 1.5 per cent.

The Crile hemolysis test for lymphosarcoma proved negative. Von Pirquet's test was then employed twice and proved negative each time. Examination of the sputum was negative as regards the finding of tubercle bacilli. Finally a Wassermann reaction was done, likewise with negative results. It was then decided to remove a small portion of the enlarged gland under cocain for purposes of diagnosis. Sections of this tissue warranted a diagnosis of Hodgkin's disease. The cause of death was toxemia due to miliary abscesses of the kidney, cystitis and absorption from atrophic ulcers. The abscesses and ulcers were caused by paralysis due to pressure on the spinal cord by a Hodgkin's granuloma affecting the lymph-nodes situated in the posterior part of the dorsal canal. It is generally conceded that Hodgkin's disease is not accompanied by the formation of metastatic deposits in the manner which usually results in the presence of malignant new growths. The enlargements take place only in previously existing lymph-nodes and may occur in any part of the body. The condition noted in this case, in which paraplegia was caused by the involvement of the lymphatic structure in the spinal canal, is very unusual and it seems that only one other case of Hodgkin's disease can be found on record in which this complication took place, that single instance having been reported by Osler.

88. **Puerperal Infection.**—The treatment followed in the New York Lying-In Hospital when the temperature rises after labor is outlined by Harrar. Breast, lung and throat conditions, pyelitis, malaria and typhoid are ruled out. A cathartic is given and attention is paid to emptying the bladder. A full condition of either bladder or rectum interferes with proper contraction and drainage of the uterus. When there has been a recent perineorrhapy the wound is inspected and stitches removed if there is much tenderness or edema. The abdomen is examined, noting height of the fundus, areas of tenderness or resistance and whether there is tympanites or rigidity present. If there is a high rise of the pulse-rate accompanying the temperature, cultures are taken from the cervix and uterus whether the lochia is foul or not. At this procedure inspection can be made of the vagina and cervix, especially noting if the latter is distinctly patulous and gaping. Such a condition of the cervix points to retained portions of membrane or placenta. If the pulse rise is slight in comparison with the temperature rise no vaginal inspection or cultures are made. After this preliminary information has been obtained, the bed is elevated sharply at the head and an ice-bag induces a better tone in the uterus, possibly somewhat inhibits bacterial growth, and certainly gives great relief to the patient if there is any pain. If the temperature remains high or recurs, and the gonococcus or the streptococcus be reported, the former treatment is simply continued. If the colon bacillus is found or "no growth" reported and the lochia is foul, give a gentle intrauterine douche. At this time with the continuance of temperature and in the absence of the gonococcus or streptococcus it is permissible to make a gentle digital exploration of the interior of the uterus and remove any fragments of secundines that are present or release possibly retained lochia. This is in no sense of the word a curettage. Harrar says: Never curet, except in incomplete abortions at or before the third month. The further course of the treatment depends on the development of the case and already has been suggested in the description of the various conditions that may arise in bacterial infection of puerperal women.

89. **Multiple Cesarean Section.**—Thirty cases were done for the second time, seven for the third time, and one each for the fourth and fifth times. In eighteen cases there were no adhesions present at all, in eleven very few, in several there were many, in one the uterus was adherent to the abdominal wall and in two cases no note was made. The uterine scar of former operations was not seen in nine cases, was normal (not thinner than the rest of the uterus), in twenty-five cases, was very thin in four cases, and was ruptured in one case, the latter being one in which many adhesions were noted. In the series there were three deaths of mothers; one from anesthesia, occurring on the table before the uterus was opened, the second from sepsis on the third day and the third from pneumonia on the fifth day. One child died of hemophilia on the sixth day. Thus it is observed that the repeated operation offers very little danger over the primary and that in cases in which some obstruction to labor exists, such, for example, as contracted pelves, there is no logical reason why the patient should not become the mother of a normal family with periods of quiescence and comfort between pregnancies, making the operation of sterilization unnecessary and, in McPherson's opinion, as a routine measure distinctly unjustifiable.

Journal of Iowa State Medical Society, Clinton

August

90 Preventive Medicine. G. E. Decker, Davenport.
91 Tobacco, Its Effects. S. Bailey, Mt. Ayr.
92 Care of Children in Private Institutions. M. Bannister, Ottumwa.
93 Classification of Nutritional Disturbances in Infants; Treatment. C. G. Grulee, Chicago.

Journal of Biological Chemistry, Baltimore

August

94 Instability of Glucose at the Temperature and Alkalinity of the Body. L. J. Henderson, Boston.
95 Method for Study of Proteolytic Ferments. P. A. Kober, New York.
96 Analysis of Proteins by Determination of the Chemical Groups Characteristic of the Different Amino-Acids. D. D. Van Slyke, New York.
97 Partial Hydrolysis of Proteins. P. A. Levene, D. D. Van Slyke and F. J. Birchard, New York.
98 Oxidation of the Amino-Acids: Alanine and Tyrosine. W. Denis.
99 Phosphorus Assimilation of Aspergillus Niger. A. W. Dox.
100 Application of the Optical Method to a Study of Enzymatic Decomposition of Nucleic Acids. S. Amberg and W. Jones, Baltimore.
101 Melanin. Pigmentation of the Adult Periodical Cicada (Tiblcen Septendecim L.). R. A. Gortner.

Annals of Otology, Rhinology and Laryngology, St. Louis

June

102 Lateral Wall of the Cavum Nasi in Man, with Especial Reference to the Various Developmental Stages. J. P. Schaeffer, Ithaca.
103 Accessory Thyroid Tumors of the Tongue. H. E. Smyth, Bridgeport, Conn.
104 Three Cases of Mental Derangement Associated with Suppurative Otitis Media. E. W. Day, Pittsburgh.
105 Subdural Drainage in Purulent Meningitis and Brain Abscess. Reports of Two Cases with Autopsies. E. W. Day, Pittsburgh.
106 Radical Mastoid Operation. F. Allport, Chicago.
107 Four Cases of Foreign Body in the Esophagus Removed with Aid of the Esophagoscope. S. Yankauer, New York.
108 Two Cases of Foreign Body in the Bronchus; Case of Tumor in the Lower Trachea; Removal by Upper Bronchoscopy. S. Yankauer, New York.
109 A Speculum for the Direct Examination and Treatment of the Eustachian Tube. S. Yankauer, New York.
110 Mastoiditis Without Apparent Involvement of the Middle Ear. C. E. Perkins, New York.
111 Case of Spindle-Celled Sarcoma of the Mastoid. O. Glogau, New York.
112 Mastoiditis Followed by Cerebral Symptoms; Relieved by Decompression Operation. C. E. Perkins, New York.
113 Two Cases of Cerebellar Abscess with Thrombosis of the Lateral Sinus; Operation; Recovery. D. S. Dougherty, New York.
114 Possible Effect on the Auditory Labyrinth of the Ehrlich-Hata Remedy in the Treatment of Syphilis. G. Alexander, Vienna, Austria.
115 Preliminary Report of Some Two Years' Experience in Modified Blood-Clot Surgery of the Mastoid Region, with Presentation of Cases. H. B. Blackwell, New York.
116 Cases of Chronic Suppurative Otitis in Which Ossiculectomy is Indicated. O. A. M. McKimmie, Washington.
117 Three Cases of Removal of Coins from Esophagus of Infants by a Simple Procedure. H. L. Myers, Norfolk.
118 Osteofibroma Occupying the Tonsillar Fossa (Probably of Styloid Process). A. L. Kelsey, Los Angeles.

Therapeutic Gazette, Detroit

August

119 Effect of Sodium Cacodylate and Atoxyl on Experimental Infection with Staphylococcus Aureus. H. Newmayer, Philadelphia.
120 Present Status of Abdominal Delivery in Obstetric Surgery. C. Foulkrod, Philadelphia.
121 Total Paralysis of the Brachial Plexus Due to Traumatism Causing Evulsion of the Component Roots of the Plexus. C. K. Mills, Philadelphia.
122 Subacromial Bursitis. A. R. Allen, Carlisle, Pa.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

August 12

1 Psychoneuroses. E. D. Macnamara.
2 Present Position of Radium Emanation-Therapy in Germany. W. Engelmann.
3 Institutional Hydropathic Treatment as Compared with Spa Treatment for Certain Types of Invalids. T. D. Luke.
4 *Case of Complete Gastrectomy. B. G. A. Moynihan.
5 After-Care. H. W. McConnel.
6 Roentgenotherapy for Excessive Local Perspiration. A. H. Pirie.
7 *New Form of Trochiscus. Sir J. Sawyer.

4. **Complete Gastrectomy.**—In December, 1907, Moynihan recorded a case of complete gastrectomy. The patient was a man, aged 43, who had suffered for two years from gradually increasing distress after food. At the operation a small, greatly thickened stomach was found, and as no healthy part of its wall could be discerned the whole organ was removed. The cut end of the esophagus was stitched to the side of a loop of jejunum, brought upwards through an opening in the transverse mesocolon. The pathologic report stated that the stomach was involved in a neoplastic change of a particular type which has its analogue in the so-called atrophic scirrhus met with in the mammary gland. The patient made a good recovery from the operation.

During the three years and eight months that he lived after the operation he was under constant observation. He was perfectly well up to the early part of the year 1910, when he began to show the evidences of a profound anemia. He was strikingly pale and breathless, and he lost weight. Under treatment, however, he improved, and in May, 1910, his color had returned and he was able to ride and drive and attend to matters on the farm. In August, 1910, he began to fail again; he became easily tired, though he still tried to carry out the greater part of his work. His appetite remained good and he had no indigestion. In October, the signs of anemia reappeared, he grew much weaker, and had to cease work. He began again to lose weight, his appetite vanished, and he vomited occasionally. There were no abnormal signs of any kind in the chest or abdomen throughout the illness. Soon after Christmas, 1910, he had to take to his bed, and he died on the last day of January, 1911. He had gained 38 pounds after the operation and he held the gain for nearly three years. His appetite was good, he experienced the sensation of hunger, and he was able to eat the ordinary foods; but he had to take a rather longer time over a meal than in the days preceding his original illness. The chief points of interest in the case are: (1) Complete absence of any recurrence or dissemination; (2) the very profound anemia; and (3) absence of any striking jejunal dilatation at or near the site of anastomosis.

7. **New Form of Trochiscus.**—Sawyer suggests the assimilation into medical practice of the excellent pharmacologic basis afforded us by the popular modern sweetmeat known as the "chocolate cream." The following prescription illustrates its use:

℞	Gm. or c.c.		
Mentholis	006		gr.1/10
Olei eucalypti	003	or	♏ 1/5
Pastæ lactis			
Pastæ nuclei cacao, āā q. s.			

Fiat trochiscus, sec. artem.

Or the pasta lactis in each trochiscus may be medicated by the addition of 1 or 2 grains of borax, or ½ grain of sulphate of zinc, or 1 minim of oil of turpentine, or of oil of cajuput, or ½ minim of oil of anise. Sawyer suggests that the trochisci might be called cremules and, Latinized, cremulæ. When quickness of preparation is to be wished for, unmedicated ones can be medicated readily by remedies which are liquid in their form, by injecting a minim or so of the medicament into the center of a "simple" cremule, by the aid of a hypodermic syringe.

British Medical Journal, London

August 12

8 The Need for Unification in the Public Medical Services. R. A. Lyster.
9 Disease Carriers. D. S. Davies.
10 Medical Examination in Relation to Claims for Damages or Compensation. R. J. Collie.
11 Industrial Diseases of Birmingham. R. W. Edginton.

Journal of Tropical Medicine and Hygiene, London

August

12 *Mode of Transmission of Leprosy. T. L. Sandes.
13 Infant Feeding in the Tropics. W. E. Deeks.

12. **Transmission of Leprosy.**—Considering the enormous numbers of lepra bacilli in the infiltrated or ulcerated skin and nasal mucosa of an active "tubercular" leper and the ingestion of bacilli by certain insects, Sandes suggests that direct contact and transmission by flies, fleas, mosquitoes or other insects are possible modes of spread of the disease; but such infection, if it ever does take place, is accidental and exceptional. Having found acid-fast bacilli answering, as far as our imperfect tests permit, to the characteristics of lepra bacilli in a considerable proportion (about 30 per cent. of specimens of *Acanthia lectularia* up to sixteen days after feeding on lepers) there is reason to believe that this species of insect constitutes a very important agent in the spreading of leprosy.

H. M., aged at the time, 11 years (whose father had been removed as a leper to the asylum some time previously and whom the son used frequently to visit), observed for the first time in the year 1901 a small, red papule under his chin. It enlarged slowly, becoming in area, to use his own simile, about the size of a 6-penny piece. It was indurated and resistant to treatment. It remained thus, slightly raised, hard, and of a reddish hue, for two complete years before any further symptoms appeared. In 1903, he noticed for the first time a bluish puffiness of his cheeks, later slight thickening of his eyebrows, and a diffuse but moderate swelling of the entire countenance. Toward the end of the year tubercles began to appear on his face. Thereafter tubercles continued to appear at irregular intervals on his face. The glands of his neck became involved. From this time onward the tubercles and other typical signs were of universal distribution and showed a diffuse systematic infection. Sandes believes that the initial pimple, and later tubercle, on the chin would appear to have been the primary lesion, probably caused by the bite of a leprosy-infected bug.

Journal of Obsterics and Gynecology of the British Empire, London

July

14 Pelvic Cysts Due to Spinal Meningocele. J. S. Fairbairn.
15 *Retraction Ring as Cause of Obstruction in Labor. R. Jardine.
16 Dysmenorrhea; Hematometra of One Horn of Uterus Bicornis. E. Maclean.
17 Secondary Abdominal Pregnancy—Fourth Month. G. Fitx-Gibbon.

15. **Retraction Ring Cause of Obstruction in Labor.**—In an obstructed labor, when the retraction ring can be palpated through the abdominal wall, Jardine regards this as a danger signal which must not be disregarded. Prompt and proper treatment must be adopted, or rupture of the uterus will soon occur. If improper treatment is adopted, the rupture may be caused by it. In ordinary cases of obstructed labor the ring is not the primary cause of the obstruction, but rather the result. Occasionally, however, cases occur in which the ring is the cause of obstruction. In some of these cases the ring actually forms in front of the presenting part, while in others, it is behind the presenting part, which may be either the head or the breech. In obstructed labors the ring is due to excessive retraction of the main body of the uterus and thinning out of the lower uterine segment. In such cases it naturally follows that there must be a very palpable ledge where the thinned out lower uterine segment becomes continuous with the retracted and thickened main portion of the uterus. By an internal examination, the ring can be recognized before it can be palpated through the abdomen. There is no apparent obstruction from a contracted pelvis, tumor or an abnormal presentation, and yet the labor is delayed, although the uterine contractions are strong and frequent. The uterus may be in a tetanic condition without any relaxation between the pains. On palpating the abdomen, one finds that the presenting part is above the brim of the pelvis, but may not be able to feel the retraction ring. On making a vaginal examination the os is dilated, and the lower uterine segment opened up, but some 3 inches or so above the os, there will be a distinct ledge running round a portion of the whole of the uterine cavity in front of the presenting part. During a pain, this ledge will not relax, but it will contract, and prevent any advance of the presenting part. The membranes may or may not be ruptured. If they are intact, they will protrude into the vagina, and they may even be seen at the vulva. The condition is an exceedingly dangerous one for both mother and child. If it is recognized in time, both may be saved, but in most of the recorded cases, a definite diagnosis was only made when exhaustion had set in, and there was little chance of saving either mother or child. If the condition is recognized in time, and proper treatment is adopted, both mother and child should be saved, in the great majority of the cases.

As for treatment, give the patient a full dose of morphin, and when she is fully under the influence of the opiate, if the ring has not relaxed, anesthetize her deeply, dilate the ring manually and deliver with forceps. If one cannot dilate the ring manually, perform Cesarean section, if the child is still alive. Incision of the ring has been advised, but it will almost inevitably end in rupture of the uterus. If the child is dead, a craniotomy should be done, and delivery by means of an instrument which will thoroughly crush the head. If the shoulders obstruct, cut the clavicles, to allow the shoulder girdle to collapse. Hydrostatic bags have been advised to dilate the ring, but they are useless, as one cannot introduce them high enough to bear on the ring. When the ring is above the presenting part, in the majority of cases, there will be another obstruction, such as a contracted pelvis, a tumor, or a transverse presentation. These cases should be dealt with according to the rules laid down for the treatment of such obstructions.

Glasgow Medical Journal

August

18 Treatment of Inoperable Carcinoma of the Female Mamma. Sir G. T. Beatson.
19 Case of Peripheral Neuritis of Obscure Origin, with Secondary Changes in the Spinal Cord. A. W. Harrington and J. H. Teacher.
20 Review of the Public Health Administration in Glasgow. H. A. M'Lean.

Indian Medical Gazette, Calcutta

July

21 *Treatment of Leprosy by Use of a Vaccine Prepared from Cultivations of the Leprosy Streptothrix. E. R. Rost.
22 *Researches on Endemic Goiter. R. McCarrison.
23 Operation Theater with Accommodation for Twenty Students. W. G. King.
24 Division of the Suspensory Ligament of the Lens, as a Preliminary to Intra-Capsular Extraction of Cataract. V. Nesfield.
25 Averages of Weight and Chest Measurements of 705 Madras Coolies. B. Nicol.
26 Hydrocele. T. H. Foulkes.
27 An Anopheline Allied to Myzomyia Listoni. U. N. Brahmachari.

21. **Vaccine Treatment of Leprosy.**—Five of the twelve patients treated by Rost with this vaccine are now practically cured as far as clinical observation goes, while the remaining seven are all remarkably improved. The vaccine was injected weekly, and temperature records taken almost always showed a rise of temperature varying from 100 to 105 F. Rost has been using all along 1 c.c. of a 1 in 400 dilution of dried culture or the equivalent thereof, and 1 c.c. of a sterilized six-weeks' broth culture. He has found it to be advisable to obtain only slight reactions in nodular cases, whereas in anesthetic cases the higher the reaction, the better the result. The reason for this probably lies in the fact that in the anesthetic cases the bacilli being situated in the nerves, there is not the danger of metastasis that there is in the large masses of the nodular variety. The improvement after vaccine injection may come on gradually some months after injection. With the idea of trying to ascertain the interval at which injections should be given, opsonic indices were taken of treated cases, but the time at his disposal in this laborious research precluded the possibility of arriving at any result which one might rely on, and he had to judge the period from clinical observation of the treated patients. It is also probable that the time at which the vaccine should be repeated varies according to the case.

22. **Endemic Goiter.**—McCarrison has been employing vaccines in the treatment of goiter with good results. A coliform organism grown from the feces of sufferers from the disease has usually been employed for the manufacture of the vaccine. He gives this vaccine in doses of from 150,000,000 to 300,000,000 at intervals of from seven to ten days, and has found that five or six inoculations is all that is required to cause a complete disappearance of the swelling. In some recent cases as few as two inoculations were sufficient. This treatment is popular with the people as it does not involve the taking of medicines two or three times a day, and apart from the slight discomfort at the site of inoculation for twelve hours or so, the patient is free to follow his usual avocations. A portion of the skin of the upper arm is painted with iodin tincture and the inoculation made without any further preliminary sterilization of the skin. An autogenous vaccine is on the whole more useful that a stock vaccine, but McCarrison found the latter to act admirably. He says he cannot as yet attribute any specific action to the organism from which the vaccine is prepared. But so far at least as goiter is concerned, the efficacy of a vaccine does not depend on the specific nature of the organism from which it is prepared. He has employed other vaccines and in some cases with surprising results. One patient was successfully treated with a staphylococcus vaccine. The result could hardly be better. The staphylococcus was taken from a diseased femur in a non-goitrous individual. Three inoculations of 250,000,000 caused the bone to heal and the discharging sinuses to close up, while it took five doses to bring about the change in the goitrous individual shown in the figures. *Staphylococcus albus* is certainly not the cause of goiter, yet a vaccine prepared from it can cure the disease.

Dublin Journal of Medical Science

August

28 Early Diagnosis of General Paralysis. W. H. L. MacCarthy.
29 Use of Atropin as a Preventive of Pulmonary Complications Following Administration of Ether as a General Anesthetic. E. A. W. Henley.
30 *Clinical Reports of the Rotunda Lying-In Hospital, Dublin, 1909-1910. E. H. Tweedy and R. J. Rowlette.

30. **Clinical Reports of the Rotunda Lying-In Hospital.**—One hundred and sixty-one abdominal sections were performed in the Rotunda Hospital and in twenty cases the abdomen was opened through the vagina. Sixteen of these were vaginal fixations. Fourteen abdominal myomectomies were performed. Several of these necessitated the almost complete division of the uterus, and the recovery in all cases was uneventful. Two of these patients, who had come to the hospital because of sterility, have since been successfully delivered. There were ten Wertheim operations with one death. Tweedy thinks this operation should be performed when practicable in all cases of uterine cancer, whether of the body or cervix. He operated for the cure of complete tears fourteen times, with uniform success after the first operation. There were also performed eighty-five trachelorrhaphies and amputations; fifty-six ventral and sixteen vaginal suspensions; thirty-five hysterectomies; forty-seven vaginal operations; seventy-two operations on the ovaries and tubes. Eleven hysterectomies were done for malignant disease—seven cases of epithelioma of cervix, two of adenocarcinoma of the body and one sarcoma of the body. Only one of these patients, aged 60, died—a case of epithelioma of the cervix in which a Wertheim operation was done. The cause of death was congestion of the lungs. The ages of the others ranged from 35 to 61. Only five of the 504 patients operated on died. The causes of death were sloughing of spleen after subphrenic abscess, abdominal cancer, general peritonitis, congestion of lungs and septicemia. One of the cases of adenocarcinoma of the uterus was of interest in that two ovarian cysts were present, in one of which were masses of the same nature as the tissue in the uterus. Sarcoma of the uterus is a comparatively rare condition. This is only the third specimen met in six years' practice at the Rotunda. The tumor was a large, soft, homogeneous mass, situated, as nearly all these tumors are, in the endometrium of the fundus. It had infiltrated the wall of the uterus, so that it was invading the peritoneum and forming adhesions with neighboring viscera. Microscopically, it consisted of irregular, large, round cells. One of the cases of ectopic pregnancy was of special interest in that it is the first recorded case in Ireland of true primary ovarian pregnancy. Of twenty-one cases of inflammation of the tubes examined, six were tuberculous. The proportion in six years has been fifty-three and nineteen. A point of some interest is the frequency with which cysts of the ovary are related to chronic salpingitis. In four of the cases this year small cysts of the ovary occurred, i. e., in about 33 per cent. of the cases of chronic salpingitis, non-tuberculous in origin. Twenty-five cystic conditions of the ovary were examined; fifteen of these specimens were ordinary multilocular, smooth-walled cysts, one was a simple papillary cyst, and three were malignant papillary cysts; three lutein cysts are in the number, and three dermoids. Two dermoids occurred in one patient. Another dermoid examined was in part malignant. In addition to the three cases of malignant papilloma and this case of malignant dermoid, two other cases of malignant disease of the ovary were encountered. As usual in primary cancer of the ovary, the disease was bilateral. No primary focus of disease elsewhere in the body could be discovered.

Annales de Médecine et Chirurgie Infantiles, Paris

July 1, XV, No. 13, pp. 401-432

31 Tracheobronchial Glandular Disease. (Adénopathie trachéo-bronchique.) H. Barbier.
32 *Diet for Dyspeptic Children. (Régime des grands enfants dyspeptiques.) H. Legrand.

32. **Diet for Children Inclined to Dyspepsia.**—Legrand's article is a detailed review of food adapted for school children of all ages with recipes for numerous dainty French dishes. He lays great stress on passing certain dishes through a very fine "silk" sieve, especially beans, peas and green vegetables to form a digestible purée. The butter or cream should not be added, he says, until just as the dish is served. Potato should never be allowed a dyspeptic except mashed or in a soufflé. Bread should be allowed only in small quantities to dyspeptic children, and only very well cooked or toasted. Not much raw fruit should be allowed; the preference should be given to stewed fruits or jellies not very much sweetened. The dyspeptic should never drink at the commencement of a meal and very little through the meal, but between meals skimmed milk and kefir may be allowed. A rest after eating, immaculate condition of the teeth and slow chewing are indispensable for dyspeptic children. He adds the yolks of eggs and butter to certain soft mashed vegetables just as they are served, thus increasing the palatibility and nourishing value. He commends in particular frogs' legs and poached yolks alone as particularly digestible. Very little soup should be taken as it has small nutritive value while it dilates the stomach. He expatiates further on the importance of actually fresh eggs for dyspeptics; the more recently laid the more easily digested and the less likely to induce putrefaction in the intestines.

Journal de Chirurgie, Paris

June, VI, No. 6, pp. 617-740

33 *Primary Sarcomas of the Muscles—Myomectomy. (La myectomie large dans certains sarcomes primitifs musculaires.) P. Lecène and L. Mondor.

33. **Primary Sarcoma of the Muscles.**—Lecène and Mondor report a case each of sarcoma of the muscle of the thigh or leg, both patients apparently cured by extensive resection of the muscles into absolutely sound tissue regardless of possible functional trouble afterward. Twelve similar operations are on record. Only five of the total fourteen patients were women; one was a girl of 17, two about 22 and the others 40 and 58 years old. There has been no recurrence in any case during the three to eight years since the operation, but one patient has died of intercurrent heart disease. As is shown in an illustration, sarcomas in muscle tissue have something like a capsule around them, but it would be a grave mistake to restrict the operation to this; the muscle should be resected far beyond on all sides. The functional disturbances from the mutilation always proved surprisingly slight.

Lyon Chirurgical, Lyons

July, VI, No. 1, pp. 1-120

34 *Inflammatory Postoperative Gastric Tumor. F. Mouisset and X. Delore.
35 Operations on Cervical Sympathetic in Treatment of Exophthalmic Goiter. A. Chalier (Continued).
36 Gastro-Intestinal Neurofibromatosis. R. Leriche.
37 *Ultimate Results of Operative Treatment of Exophthalmic Goiter. (Les résultats éloignés des interventions thyroidiennes dans la maladie de Basedow.) H. Alamartine and E. Perrin.

34. **Inflammatory Tumor of the Stomach.**—Mouisset and Delore report a case of duodenal ulcer in which gastro-enterostomy was followed by development of a large tumor in the epigastrium, hard and irregular, accompanied by anemia. Under medical measures the tumefaction subsided and the patient, a man of 39, has been in fairly good health during the year to date, although the primary trouble was suspicious of cancer and the primary deep tumor in the duodenum is still palpable.

37. **Ultimate Results of Operative Treatment of Exophthalmic Goiter.**—Alamartine and Perrin summarize 120 cases of exophthalmic goiter in which an operation was done over three years ago as reported by seven different surgeons. In eighty-five cases the cure was complete, that is, in 70.8 per cent., while there was marked improvement in twenty-seven other cases, that is, 22 per cent., and only 6.6 per cent. of the patients were not benefited. Even when the goiter persisted yet the conditions in regard to the circulation were so modified that the special symptoms subsided permanently.

Presse Medicale

July 22, No. 58

38 New Urethrotome. F. Legnen.
39 *Action of Salvarsan on Acoustic Nerve. J. David.

July 26

40 Infantile Scorbutus. A. Broca.
41 *Pneumonic and Bubonic Plague. A. Manaud.

July 29

42 *Cysts of Cerebellum. L. Chauvet and E. Velter.
43 Physiologic and Orthostatic Albuminuria. M. Springer.

44 *Rôle of Interosseous Membrane in Overriding of Fragments in Fracture of Bones of the Leg. P. Salssi.
45 Treatment of Infectious Ulcers of Cornea. A. Oliveres.

August 2

46 Action of Calcium Chlorid as a Diuretic in Nephritis. G. Vitry.
47 Technic of Blood Transfusion. S. Voronoff.

39. **Action of Salvarsan on the Acoustic Nerve.**—David reports one case in which a defect of hearing appeared after the administration of salvarsan for a secondary syphilis. The injection was subcutaneous, a dose of 0.45 gm. (7 grains) being given. The ear symptoms appeared seven weeks later. The author has been able to collect twenty-eight other cases in which the acoustic nerve has been attacked after the administration of salvarsan. The reaction of Herxheimer which has been invoked does not afford a satisfactory explanation, neither is there evidence of a syphilitic relapse in these cases. In David's case both the blood and cerebrospinal fluid were negative to the Wassermann reaction. David suggests that salvarsan has special affinity for the nervous system, due to some product of decomposition and that in cases in which the ear affection comes on late, a storage of arsenic has occurred, probably in the liver. The ear trouble is likely to occur after all methods of injection. Another case has been reported by Beck in which hearing was partially recovered by the use of pilocarpin.

41. **Epidemic Relations of Pneumonic and Bubonic Plague.**—Broca brings forward evidence to show that epidemics of pneumonic plague occur in winter and those of bubonic form are found in summer. Epidemic pneumonic plague does not appear to be known in warm climates. The explanation of these facts appears to lie in the fact that the bacilli of pneumonic plague are highly virulent and are spread by means of human contagion without the intervention of the rat, while in the summer time when the insect carriers of the disease are able to infect the rat population, inoculation on the skin producing buboes is the most likely mode of infection and the epidemics of summer and of warm countries exhibit the bubonic type. Consequently during the summer and in hot climates the prophylactic measure chiefly to be employed is the destruction of rats and their infesting parasites, human contagion playing an insignificant rôle, while in winter quarantine and isolation must receive greater attention.

42. **Cysts of the Cerebellum.**—Chauvet and Velter discuss the symptomatology of cysts of the cerebellum and note that at times such a cyst runs its course without characteristic symptoms, the only complaints being such as are common to brain tumors in general. They report such a case, with necropsy. The cyst had developed in a glioma. Histologic researches on the rest of the cerebellum are promised. The authors suggest that in this way the absence of focal symptoms may be explained.

44. **Rôle of the Interosseous Membrane in Overriding of Fragments in Fracture of the Bones of the Leg.**—Saissi recalls the well-known difficulty of reducing fractures of the bones of the leg in which the fragments override, a difficulty which has usually been attributed to the contraction of the muscles. He has shown by experiment on the cadaver that it is the tension of the interosseous membrane which causes the difficulty. He sawed the bones in two, separating the tibia below and the fibula above in one case, and both bones at a low point in the other. In the first case he found a shortening and deviation of the lower fragment slightly outward so that the upper part of the interosseous membrane was put on the stretch. This was so pronounced that attempts to reduce the displacement by traction in a vertical direction caused the membrane to tear in almost its entire length. In the second case, it was practically impossible to effect the reduction by traction downward. He concludes that the membrane alone is sufficient to hinder the reduction of the overriding fragments in this fracture. With the view of obviating this difficulty, he devised the following maneuver which he has carried out experimentally, but so far has had no opportunity to put into practice. Taking the lower fragment of the tibia as an axis, he makes strong external rotation with the view of relaxing the interosseous membrane, then makes traction downward to draw down the displaced fragment, after which an internal rotation brings the two parts of the tibia into apposition.

Progres Médical

August 5, No. 31

48 *Panoptosis. E. Ledoux and Tisserand.

48. **Panoptosis.**—Ledoux and Tisserand discuss the nature of the syndrome represented by a general ptosis of the abdominal organs, a condition of atony and relaxation of the tissues in general, and nervous reactions, both local and general, a form of neurasthenia. While the theoretic explanations of this condition are generally unsatisfactory, the authors believe they have established in the majority of their patients an insufficiency of the thyroid, and from further observations, they conclude that the essential metabolic change is a demineralization and chiefly, a decalcification of the tissues. Acting on this supposition they have administered lime salts with apparently marked success. They are so convinced of the value of this treatment that they attribute to it a therapeutic diagnostic importance. Every patient suspected of belonging to this class they claim will show distinct, rapid and considerable improvement under recalcification, if the diagnosis is correct.

Archiv für Gynaekologie, Berlin

XCIV, No. 2, pp. 265-597. Last indexed July 22, p. 345

49 Transmission of Antibodies from Mother to Child. W. Wegelius.
50 Cystic Sarcoma of Pelvic Peritoneum Four Years After Vaginal Hysterectomy for Sarcoma of Uterus. E. Goldenstein.
51 Fibrinogen in the Blood in Normal Pregnancy and Puerperium and in Eclampsia. E. Krösing.
52 Cholesterin Production in Myoma of Uterus. (Cystischen Degenerationen im Uterusmyom.) F. Cohn.
53 Fat Absorption in Ovarian Tissue. (Fettresorption im Gewebe des Eierstocks.) E. Strogaja.
54 Experimental Research on Origin of Amniotic Fluid. (Herkunft des Fruchtwassers.) J. Wohlgemuth and M. Massone.
55 Changes in the Blood During Pregnancy and Puerperium. H. A. Dietrich.
56 *Structure and Growth of Carcinoma of Uterus Body. (Bau., Wachstum und histologische Diagnose des Carcinoma corporis uteri; atypische Epithelwucherung der Uterusschleimhaut.) M. af Heurlin.
57 Structure of Ovarian Interstitial Gland. (Die interstitielle Eierstocksdrüse.) A. Schaeffer.
58 Infantilism and Premature Sexual Maturity. (Entwicklungsanomalien bei Infantilismus und bei vorzeitiger Geschlechtsreife.) B. Wolff.
59 Justification of Abdominal Removal of Gravid Uterus on Account of Pulmonary Tuberculosis. M. Henkel.

56. **Cancer of the Body of the Uterus.**—Heurlin's article is based on forty-six cases with anatomic examination. A single center for the growth was evident in all the various types of cancer. There was always a distinct line of delimitation between the growth and the sound mucosa, under the microscope; this fact might aid in differentiating malignant disease in some cases.

Archiv für klinische Chirurgie, Berlin

XCV, No. 3, pp. 495-741

60 *Technic of Rhizotomy for Tabetic Gastric Crises; Five Cases. (Foerster'sche Operation by gastrischen Krisen.) N. Guleke.
61 *Atrophy of Prostate. A. Barth.
62 Amputation for Obstruction of Tibialis Anticus Artery. (Verschluss der Arteria tibialis antica durch Endarteriitis bei freier Art. tib. post. Nervenquetschung.) B. Riedel.
63 *Ligation of Branches of Pulmonary Artery to Produce Contraction of Lung. (Unterbindung von Pulmonalarterienasten zur Erzeugung von Lungenschrumpfung.) E. D. Schumacher.
64 Advantages of General Anesthesia with Nitrous-Oxid and Oxygen. (Die Stickoxydul-Sauerstoff-Narkose.) M. Neu.
65 *Chronic Appendicitis and Atony of the Cecum. (Ueber chronisch anfallsfreie Appendicitis und ihre Beziehungen zur Typhlatonie, Coecum mobile und verwandten Zuständen.) P. Klemm.
66 Technic for Exclusion of the Pylorus. C. Girard.
67 *Chronic Appendicitis and Movable Cecum. (Typhlospasmus, Typhlatonie, Typhlektasie.) M. Wilms.
68 *Combined Methods of Treating Cancer. (Leistungsfähigkeit der chirurgischen und combinirten Behandlungsmethoden des Krebses.) R. Werner.
69 Fire-Arm Wounds of Vessels in War. (Die Gefässverletzungen im modernen Kriege und ihre Behandlung.) G. Lang.
70 *Experimental Research on Exophthalmic Goiter. H. Klose.
71 Appendix to Close Defect in Urethra. E. Streissler.
72 Isopral-Chloroform General Anesthesia. V. E. Mertens.
73 Plastic Operations on Esophagus. P. Frangenheim.
74 *'Sliding Hernia" of the Large Intestine. (Erfahrungen uber den Gleitbruch des Dickdarmes.) O. Sprengel.

60. **Rhizotomy.**—Guleke has performed this operation five times in the last year for gastric crises and the immediate

benefit was amazing, he declares. There were no further pains or vomiting and the patients were soon weaned from their morphin. But this gratifying phase did not last more than a month or so before symptoms developed indicating intestinal crises. In one patient they were so severe that Guleke resected further the tenth and eleventh roots. In the others the intestinal crises were minimal or bearable in comparison to the former condition of the patient. The outcome of the rhizotomy is thus liable to be somewhat disappointing, but this possibly may be due to the preexisting chronic morphin poisoning; if the operation could be done before the drug addiction the results might prove incomparably better. The main point now in differentiation is to learn to distinguish between vagus and sympathetic gastric crises, as only the latter are amenable to rhizotomy.

61. **Atrophy of the Prostate.**—Barth has operated in two cases of senile atrophy of the prostate causing severe symptoms, incontinence alternating with retention, the urine infected and catheterization often necessary. Both patients were restored to normal conditions in respect to their urinary apparatus after prostatectomy. The prostate was found shriveled to two small bunches scarcely as large as a bean, with numerous adhesions to the surrounding tissue. The excellent outcome, he remarks, shows that we no longer need feel so helpless in the presence of senile atrophy of the prostate; prostatectomy promises as good results here as with an enlarged prostate. The vesical sphincter is probably suffering from the same atrophy as the prostate, but all trouble from this source is obviated when the fibrous ring at the neck of the bladder is removed. It is possible that a Bottini operation on this fibrous ring might answer the purpose without further intervention. Fuller has reported three cases which seem to sustain this assumption. His patients were between the ages of 37 and 45 and all were cured by merely slitting, through a perineal incision, the hard ring at the neck of the bladder. There was a history of gonorrhea in two of these cases, as also in one of Barth's.

63. **Ligation of Branches of Pulmonary Artery to Act on Lung.**—Schumacher declares that the results of three years of experimental research on cats, dogs, goats and sheep and two clinical experiences have all demonstrated that by shutting off part of the lung from the circulation by ligating its arteries, intense proliferation of connective tissue follows and the part of the lung involved becomes a hard, tough mass. He shows in ten illustrations the best technic for the ligation, and discusses the outlook in its application in treatment of lesions of the lung. There is already, he insists, no doubt of the advantages it offers as a preliminary to resection of a tumor in the lung or a plastic operation on the thorax.

65. **Atony of the Cecum.**—Klemm refers to the cases generally classed as chronic appendicitis but in which the disturbances persist after appendectomy. He ascribes the trouble to some obstruction to the outflow of the secretion in the appendix. The result is a slight inflammation, too mild to induce symptoms but serious enough to injure in turn the serosa of the cecum and impair the elasticity of the bowel wall, which stretches and atony follows as the feces stagnate here. The cecum may not be abnormally movable but its stretched walls sag; the best remedy is to take up a fold in the wall.

67. **Movable Cecum.**—Wilms ascribes the syndrome generally called chronic appendicitis to various anomalies affecting the cecum, abnormal length, size, adhesions, kinking, etc., most of which can be remedied by suturing the cecum in its proper place. In fifty-two cases in which he did this between 1907 and 1909, 75 per cent. of the patients were freed from all their disturbances, including their tendency to constipation. In six more recent cases the cecum was so abnormally large that he concluded to exclude it altogether, and the patients since have been free from all disturbances.

68. **Treatment of Cancer.**—Werner states that at the Heidelberg Cancer Institute the experiences with 2,000 cases of cancer have led to the adoption of the following outline of treatment. A radical operation is the rule whenever possible except for certain forms of sarcomas and epitheliomas which yield to radiotherapy or arsenic. The radical operation is not done with the knife but with the electric needle (de Forest's), especially when conditions interfere with excision far into sound tissue. Equally important is it to keep the wound open so that the Roentgen rays can be effectually applied. Fully 60 or 70 per cent. of all recurrences of cancer occur in the field of operation, and here is where improvement in technic is needed. Active immunization with the patient's own tumor material seems to offer encouraging prospects for warding off metastasis, but further experience is necessary to determine its harmlessness before it can be generally recommended. If a radical operation is not practicable at once, the cancer should be eventrated or exposed in some other way, so that it can be submitted to roentgenotherapy.

70. **Experimental Research on Exophthalmic Goiter.**—Klose injected dogs with the juice squeezed from goiter taken from patients with the exophthalmic form. The animals developed constantly a transient syndrome with the blood-findings of exophthalmic goiter, and exophthalmos in some instances. Comparison of the facts observed in the experiments and in the clinic seems to demonstrate that exophthalmic goiter is not due to excessive but to perverted thyroid functioning. The thyroid seems to be unable to collect and store the iodin in its normal form of iodothyrin but only in the form which might be called the Basedow form. In this form it exerts the same action as inorganic iodin injected into a vein. The theory thus elaborated harmonizes with and explains empirical observations and data.

74. **Experiences with "Slip Hernia."**—Sprengel defines the *hernie par glissement* as one in which a segment of the colon with no mesocolon or a very short one, is drawn into or slips into a hernial sac by the inclusion in the sac of the parietal peritoneum to which it is attached. He describes the mechanism involved and states that three of his thirteen patients in this category died soon after the operation, from peritonitis.

Correspondenz-Blatt für Schweizer Aerzte, Basel

July 10, XLI, No. 20, pp. 689-736

75 Fetal Atelectasis and Bronchiectasis. E. Buchmann.
76 Thyropriva Tetany Cataract. (Tetaniekatarakt nach Strumektomie.) A. Vogt.

Berliner klinische Wochenschrift

July 31, XLVIII, No. 31, pp. 1409-1423

77 *Etiology of Splenic Cysts. O. Küstner.
78 *Tincture of Iodin in Gonorrheal Arthritis. O. Hildebrand.
79 Mutation of Bacteria. Baerthlein.
80 Biologic Action of Mesothorium. A. Bickel and Minami.
81 *Vegetable Albumin in Treatment of Diabetes Mellitus. L. Blum.
82 Visual Field in Caput Obstipum. G. Abelsdorff and E. Bibergeil.
83 Bilateral Paralysis of Accommodation Caused by Salvarsan. Makrocki.
84 Eel-Blood Conjunctivitis (C. ichthyotoxica.) K. Steindorff.

77. **Etiology of Splenic Cysts.**—In a case of splenic cyst cited by Küstner, a woman, aged 39, had noticed a tumor the size of a head in the left hypochondriac region which had caused her considerable pain. This condition had existed for two years when the author decided to extirpate what he considered to be a cyst of the spleen. The result was an entirely successful one. The patient was discharged on the sixteenth day after the operation with a blood count of 23,000 leukocytes, 6,000,000 erythrocytes and 72 per cent. of hemoglobin. Three and a fourth years after the operation the patient is entirely well and is able to carry on her work. There have never been any nutritional disturbances or gland swellings. Four-fifths of the spleen in this case was occupied by the cyst which contained a sulphur-yellow fluid. Echinococcus cyst was ruled out. It is evident then that in this case splenic function had ceased long before the splenectomy was done so that the patient's economy had easily come to do without the spleen, to which fact the author ascribes the good results after the operation. As a cause of the condition in this case it is suggested that a twisted pedicle which was found at the operation was responsible.

78. **Iodin in Gonorrheal Arthritis.**—Hildebrand reports very favorable results from the injection of tincture of iodin into a joint that is the seat of a gonorrheal arthritis. For several

days after the injection the swelling increases notably and then disappears very rapidly. The pain subsides quickly, no new fluid is formed and motion is restored. He has used this method for nine months and thinks well of it. He cautions against using too much iodin. He injects a 5 per cent. solution.

81. **Vegetable Albumin in Diabetes.**—Experimental research and clinical observation have convinced Blum that vegetable albumin is a far more useful component of a diabetic diet than meat albumin. He suggests that the former be substituted for the latter more often than has been done heretofore.

Münchener medizinische Wochenschrift

July 25, LVIII, No. 30, pp. 1601-1627

85 Hyperthyroidism; Frequency and Diagnosis. (Thyreosen.) A. Krecke.
86 Prosthesis After Gritti's Amputation. B. Riedel.
87 Genesis of Atypical Epithelial Growths. (Kausalen Genese atypischer Epithelwucherungen.) L. Wacker and A. Schmincke.
88 *Adrenalin Anemia in Nephritis. H. Pribram.
89 Subcutaneous Syphilis Vaccination of Monkeys. (Syphilisimpfung niederer Affenarten.) G. Baermann.
90 Recovery in Psychoneuroses. C. Römer.
91 *Tolerance of Infants for Morphin. M. Wichura.
92 Tachycardia Occurring During Blood-Pressure Measurement. K. Grassmann.
93 Auto-Infection in Obstetrics. Miller.
94 Conservative (Bier) Treatment of Furuncles of the Face. W. Keppler.
95 Technic of Metreurysis. G. A. Wagner.
96 Physiology and Pathology of the Colon. G. Schwarz.
97 Trauma and Meningitis. H. Merkel.

August 1, LVIII, No. 31, pp. 1657-1682

98 Tuberculosis of the Female Genitalia. (Beziehungen der Tuberkulose zu den weiblichen Genitalien.) H. Sellheim.
99 Vasoconstrictors in Serum in Rachitis, Tetanus and Exudative Diathesis. (Vasokonstringierende Substanzen.) H. Hirschfeld and L. Hirschfeld.
100 Antibodies Formed in Vitro. (Sichtbarer Nachweis von Antigen.) W. Weichardt.
101 *Theory of Menstruation. Görl.
102 Feeding of Nursing Women. W. Birk.
103 Prophylaxis and Treatment of Ophthalmia Neonatorum. A. Hörder.
104 Peptic Ulcer (peptischen Affektionen) in Stomach, Esophagus and Duodenum. G. B. Gruber.
105 Action of Salvarsan in Syphilis of the Larynx. F. Henke.
106 *Salvarsan Accident. C. Mann.
107 *Displacement of Larynx in Tuberculosis. (Kehlkopfverschiebung.) O. Fried.
108 Diagnosis of Hemoptysis. (Erkennung der Lungenblutung.) Mann.
109 Rumpel-Leede's Sign in Scarlet Fever. C. Leede.
110 Technic of Saline Infusion. G. Lefmann.
111 Hyperthyroidism. (Thyreosen.) A. Krecke.
112 Genesis of Atypical Epithelial Growths. L. Wacker and A. Schmincke.

88. **Anemia in Nephritis.**—Pribram is of the opinion that in nephritis the retention of poisonous products serves to stimulate the function of the adrenals, thus leading to the production in excess of adrenal secretion. The retention in turn of this secretion leads to anemia. The author offers this as a solution for the occurrence of anemia in nephritis.

91. **Tolerance of Infants for Morphin.**—Wichura reports the case of a three months' old child whose father gave to it, by mistake about 2 centigrams of morphin. The child went to sleep at once. An hour after the mother became alarmed at the appearance and condition of the child and sought the aid of the author. The stomach was washed out at once and other measures of resuscitation were employed. Sixteen hours after the ingestion of the morphin the child was in a fairly good condition and on the following day had recovered entirely. The author points out that this case illustrates the fact that the usually assumed intolerance in infants for morphin is not always correct. This child was given more than twenty times the dose for an infant of its age and one hour elapsed before any measures to resuscitate were resorted to so that the initial gastric lavage would not contribute in large measure to the recovery of the child. Wichuria therefore believes that he is justified in assuming that this was a case of extreme tolerance for morphin.

101. **Theory of Menstruation.**—Görl reaches the conclusion that the internal secretion of the ovary first appears at puberty and that it leads to the development of the secondary sexual characteristics. At the time of the maturation of an ovum this secretion is changed in slight degree so that it cannot enter into combination with antagonistic substances and then menstruation occurs. A change in the chemical composition of the secretion or disturbances caused by irregular maturation of the ova will produce menstrual disturbances, and even lead to the formation of uterine myomas and cardiac disturbances. In other words, the condition produced may simulate shock. The internal secretion of the ovary is held to be a most important one and is believed to be related to disturbances both general and local.

106. **Salvarsan Accident.**—Three days after the intravenous injection of salvarsan the patient, whose history is given by Mann, became unconscious, with complete loss of all reflexes and sensibilities. This condition lasted for three days when it subsided gradually.

107. **Displacement of Larynx.**—In a case of pulmonary tuberculosis involving the right apex, extensive contraction of lung tissue displaced the larynx, pulling it over as far as the sternocleidomastoid muscle. There was no anatomic change in the larynx or thyroid. The median line of the larynx was directed toward the right, and the left cornu of the hyoid bone was very prominent. The extreme weakness of the patient made an extensive and thorough examination impossible.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

July, XXXIV, No. 1, pp. 1-132

113 The Mammary Theory of Eclampsia. (Das Martyrium der voraussetzungslosen Wissenschaft.) H. Sellheim.
114 *Urogenital Tuberculosis. (Ergebnis der Debatte des XIV. Gynäkologenkongresses über die Urogenitaltuberkulose.) B. Krönig.
115 *Symptomatology and Treatment of Retroflexion of the Gravid Uterus. M. Graefe.
116 Glycogen in the Human Placenta. K. Flesch.
117 Simplified and Improved Technic for Extraperitoneal Cesarean Section. H. Sellheim.
118 Serotherapy of Puerperal Sepsis. G. Bohnstedt.

114. **Urogenital Tuberculosis.**—Krönig comments on the wide divergence of views expressed at the recent Gynäkologen-Kongress on this subject, which was the main topic appointed for discussion. It was stated there that over 60 per cent. of the women with urogenital tuberculosis are under 30 and the primary operative mortality ranges from 10 to 13 per cent., while many clinicians have not observed that the general health seems to suffer very much from the urogenital tuberculosis. The point now is to compare the ultimate outcome in the operative cases with that under expectant treatment. This will decide the question. To date only one thing seems established beyond question, namely, that removal of the one kidney affected with tuberculosis gives brilliant results if done in the earliest stages.

115. **Diagnosis of Retroversion of the Gravid Uterus.**—Graefe states that sixty-one of his 200 patients in this class had no disturbances from their retroversion. The anomaly corrects itself in a large proportion of cases, but as it is impossible to foresee whether this will occur, he advises a pessary, especially if there is a history of preceding abortions. Spreading the fingers in the vagina, in front of the pessary, sometimes corrects the retroversion as also the ventral decubitus or knee-chest position. In seven cases the uterus was held down by adhesions, which he was generally able to correct by manipulations from without but a laparotomy was required in one case.

Zeitschrift für Urologie, Berlin

June, V, No. 6, pp. 409-496

119 *Endourethral Measures with Chronic Proliferating Urethritis. H. Lohnstein.
120 *Unreliability of Chromocystoscopy in Diagnosis of Kidney Functioning. M. Roth.
121 Regeneration of Prostatic Portion of Urethra in Connection with Experimental Research on Consequences of Prostatectomy. A. Wischnewsky.
122 Double Pelvis in Right Kidney. (Doppeltes Nierenbecken, das eine infiziert, das andere gesund.) W. Stark.

119. **Chronic Proliferating Urethritis.**—Lohnstein announced a while ago that the reason why gonorrheal urethritis in certain cases proves so rebellious to treatment is because the mucosa has thrown up ridges behind which infection still lurks or actual polyps or papillomas have developed. These proliferations cause no subjective disturbances, but treatment is ineffectual until they are removed or the parts are other-

wise sterilized. He has devised several instruments for visual inspection and cauterization or curetting, and he relates a number of cases showing their advantages and the cures he has realized with them in cases which would previously have been deemed incurable. In one case severe chronic prostatitis with diffuse proliferating inflammation of the posterior urethra simulated chronic retention from enlargement of the prostate. An incision with his incisor-urethroscope in the middle and right lobes put an end to all the symptoms. His treatment failed in four cases, owing to constant recurrence of papillomas without continuous medical supervision.

120. **Chromocystoscopy.**—Roth reports some experiences which show that the indigo-carmin method of testing the functioning of the kidney is less reliable than the old methods of cryoscopy and phloridizin glycosuria. Cryoscopy fails in all cases in which there is no functional disturbance. For these, catheterization of the uterus is the only means of obtaining information. The indigo-carmin method is instructive only in the cases of advanced disease while changes in the freezing-point and the phloridizin method show pathologic conditions in their incipiency in most cases. There is one exception to this, however, he adds; with calculi in the kidney the indigo-carmin method may give valuable information beyond that attainable with any other technic. With enlargement of the prostate and with retention of urine the indigo-carmin method is liable to do good service as a preliminary to operative treatment, but it is seldom necessary as the urine can be drawn with a catheter from the bladder without the need for the test.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 11, XXXII, No. 83, pp. 875-882

123 *Foot Sign of Meningitis. (Il tono del piede.) L. Minervini.

123. **Ankle Sign of Meningitis.**—Minervini has found it possible to elicit a sign of meningitis with the foot which seems to be the equivalent for the Kernig sign and to be the opposite of the ankle clonus. It is much easier to apply the test to the foot than the Kernig technic to the leg, and the interpretation of both seems to be the same. He found the foot tonus, as he calls it, pronounced in a typical case of tuberculous meningitis in a young man, reported in detail, confirmed by necropsy, and in a case of hysteric astasia-abasia, but it was absent in a case of infantile spinal paralysis, its absence here confirming its significance in the other cases. The ankle is grasped with one hand and the toes with the other, and the foot is bent up toward the knee with a forcible push. When the phenomenon does not exist the foot drops back again as soon as it is released, but in case of the pathognomonic reflex contraction, the flexion persists. This ankle tonus is frequently found in inverse proportion to the knee-jerk. It seems to be merely an exaggeration of the normal muscular tonicity, and thus he has encountered it in meningitis, sciatica, spastic tabes and hysteria.

Policlinico, Rome

July 9, XVIII, No. 28, pp. 873-904

124 Cysts in Spermatic Cord. (Contributo allo studio delle cisti connettivali del cordone spermatico.) A. Magi.
125 Treatment of Neurasthenia. (Appunti sulla genesi e sulla cura della neurastenia.) E. Fabbri.
126 Functioning of Remaining Kidney After Neprectomy. L. Dominici.
127 Hysteric Spasm of the Larynx. R. Sabelli.

July, Surgical Section No. 7, pp. 289-336

128 Elastic Tissue in Appendicitis. L. Gargani.
129 Incarcerated Hernia of the Bladder. (Caso di cistocele inguinale puro strozzato.) A. Venturi.
130 Antitoxic Action of Iodin in Tuberculosis. S. Ricci.
131 Pathogenesis of Reflex Anuria with Calculi. Puglisi-Allegra.

Upsala Läkareförenings Förhandlingar

XVI, No. 6, pp. 349-479. Last indexed May 13, p. 1432

132 The Osmotic Pressure During Development of Frog Embryo. (Osmotiska tryckets förhållande hos Rana temporaria under embryonalutvecklingen.) E. L. Backman and J. Runnström.
133 Mechanism of Inhibiting Action of Drugs on the Heart. (Om mekanismen vid hämningsverkan på hjärtat belyst genom farmakodynamiska iakttagelser.) C. G. Santesson.
134 Microscopic Analysis of Lipoids. (Om metoder att mikroskopiskt påvisa lipoider och därmed sammanhängande försök till mikrokemisk analys.) R. Holmström.
135 Three Cases of Focal Reaction in the Lungs Under Tuberculin with Comparison of Physical and Roentgen Findings at Apex. G. Bergmark

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Pathology and Bacteriology [of the Eye]. By E. Treacher Collins, F.R.C.S., Surgeon to the Royal London Ophthalmic Hospital, and M. Stephen Mayou, F.R.C.S., Surgeon and Pathologist to the Central London Ophthalmic Hospital. An International System of Ophthalmic Practice. Edited by Walter L. Pyle, A.M., M.D., Philadelphia, Member of the American Ophthalmological Society. Cloth. Price, $4 net. Pp. 558, with 237 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Studies on Fruit Respiration. 1. The Effect of Temperature on the Respiration of Fruits. 2. The Effect of Picking on the Rate of Evolution of Carbon Dioxid by Peaches. 3. The Rate of Accumulation of Heat in the Respiration of Fruit Under Adiabatic Conditions. By H. C. Gore, Assistant Chemist, Division of Foods. Bull. 142, Bureau of Chemistry, U. S. Department of Agriculture. Paper. Pp. 40, with 17 illustrations. Washington: Government Printing Office, 1911.

A Text-Book of Medicine. By G. Dieulafoy, Professor of Clinical Medicine at the Faculté de médecine de Paris. Authorized English Translation from the Fifteenth Edition of "Manuel de pathologie interne" by V. E. Collins, M.D., M.R.C.S., L.R.C.P., and J. A. Liebmann, Ph.D., M.A., LL.D. In two volumes. Volumes I and II. Cloth. Price, $12. Pp. 2081, with 105 illustrations. New York: D. Appleton & Co., 1911.

The Goulstonian Lectures on the Sensibility of the Alimentary Canal. Delivered at the Royal College of Physicians on March 14, 16 and 21, 1911. By Arthur F. Hertz, M.A., M.D., F.R.C.P., Assistant Physician and Physician in Charge of the Department for Nervous Diseases, Guy's Hospital. Cloth. Price, $1.50. Pp. 83. New York: Oxford University Press, 1911.

Carbonic-Acid Snow as a Therapeutic Agent in the Treatment of Diseases of the Skin. By R. Cranston Low, M.B., F.R.C.P., Assistant Physician to the Skin Department, Royal Infirmary, Edinburgh. Cloth. Price, $1.50 net. Pp. 117, with illustrations. New York: William Wood & Co., 1911.

Diseases of the Stomach, with Special Reference to Treatment. By C. D. Aaron, Sc.D., M.D., Professor of Gastro-enterology and Adjunct Professor of Dietetics in the Detroit College of Medicine. Cloth. Price, $4.75 net. Pp. 555, with 42 illustrations. Philadelphia: Lea & Febiger, 1911.

The Food Laws of the United Kingdom and Their Administration. By F. L. Dunlap, Associate Chemist and Member of the Board of Food and Drug Inspection. Bull. 143, Bureau of Chemistry. U. S. Department of Agriculture. Washington: Government Printing Office, 1911.

Theory and Practice of Thyroid Therapy. A Book for General Practitioners. By Herbert Ewan Waller, M.R.C.S. England, L.R.C.P. London, Honorary Anesthetist Birmingham Dental Hospital. Cloth. Price, $2 net. Pp. 154. New York: William Wood & Co., 1911.

Laboratory Manual of Physiology. By Frederick C. Busch, B.S., M.D., Professor of Physiology, Medical Department, University of Buffalo. Second Edition. Cloth. Price, $1.50 net. Pp. 212, with 46 illustrations. New York: William Wood & Co., 1911.

Fortieth Annual Report of the Managers of the Middletown State Homeopathic Hospital at Middletown, N. Y., to the State Commission in Lunacy. For the Year Ending Sept. 30, 1910. Paper. Pp. 70, with illustrations.

A Manual of Materia Medica for Medical Students. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Cloth. Price, $3.50 net. Pp. 525. Philadelphia: Lea & Febiger, 1911.

Clinical Lectures on the Acute Abdomen. By William Henry Battle, F.R.C.S., Surgeon to St. Thomas's Hospital. Cloth. Price, $1.50 net. Pp. 107, with 10 illustrations. New York: William Wood & Co., 1911.

Hygiene for Nurses. Theoretical and Practical. By Herbert W. G. Macleod, B.Sc., M.D., M.S. Edin. Cloth. Price, $1.50 net. Pp. 233, with 49 illustrations. New York: William Wood & Co., 1911.

Nineteenth Report of the German Hospital, 3305 Franklin Ave., Cleveland, Ohio. From April 1, 1910, to Jan. 1, 1911. J. S. Kosower, Superintendent. Paper. Pp. 39, with illustrations.

Forty-Fourth Annual Report of St. Peter's Hospital, Brooklyn. Under the Charge of the Sisters of the Poor of St. Francis. For the Year 1910. Paper. Pp. 16, with illustrations.

Twenty-First Annual Report of the Board of Managers of the West Philadelphia Hospital for Women, 4035 Parrish St. January, 1911. Paper. Pp. 40, with illustrations.

Forty-Second Annual Report of the Woman's Hospital and Infants' Home. For the Year 1910. Paper. Pp. 25, with illustrations. Detroit, Mich., 1911.

Annual Report of the Jewish Hospital Association of Cincinnati, Ohio, October, 1910. Paper. Pp. 48, with illustrations. Samuel Mayer, Secretary.

Forty-First Annual Report of the Bangor Children's Home. Reports read at the Annual Meeting, Jan. 3, 1911. Bangor, Me. Paper. Pp. 18.

Annual Report of the Hospital of the Sacred Heart, Manchester, N. H. For the Year 1910. Paper. Pp. 36, with illustrations. 1911.

Forty-Seventh Annual Report of the Carney Hospital, South Boston, Mass. For the Year 1910. Paper. Pp. 62, with illustrations.

Eighteenth Annual Report of the Beverly Hospital, Beverly, Mass. For the Year Ending Dec. 31, 1910. Paper. Pp. 53

Report of the Trustees of the Cambridge Hospital. For the Year 1910. Paper. Pp. 45. January, 1911.

The Annual Report of St. Joseph's Hospital, Willimantic, Conn. 1909-1910. Paper. Pp. 44.

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THE RELATION OF THE MEDICAL PRACTITIONER TO HEALTH DEPARTMENTS *

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CHICAGO

CHAIRMAN'S ADDRESS

As a general proposition we are willing to earn a thing but once. When a man has served years in an association, he sometimes comes to think he has earned its rewards. If, then, an office is bestowed on him he is likely to accept it as his just due and to give the duties of his position none of his brains or energy.

I have not done enough work in this Section to have earned reward at your hands. therefore, I have felt it incumbent on me to earn the honor which you have given me, by work as chairman.

Dr. Jones and I have worked out a somewhat novel plan for your meeting. This plan was submitted to the Executive Committee of this Section, Drs. Hurty, White and Gorgas, and then it had the approval of the general officers of the Association.

We submit it to you with this understanding: The responsibility for its success or failure rests on you who are in attendance on this meeting, and is shared by those who are to attend subsequent meetings.

The plan for this meeting has three parts. The first part is that in place of papers there will be committee reports on health methods. The Section will carefully consider these and then vote as their judgment directs.

Preventive medicine has newly come to American life. It has newly come to most of those who are practicing it. Two years ago there was no instruction leading directly to the position of health officer. Now Harvard and Columbia have courses preparing for such work, Michigan establishes such a department in the fall, and Northwestern and several other universities are giving courses in these subjects for medical men; various colleges of technology are giving courses in sanitary engineering which partially qualify. The School of Civics and Philanthropy gives a course in social science, and the Chicago Health Department, incorporated as the Chicago School of Sanitary Instruction, gives practical work. But, much as this appears, it is but a bagatelle as compared with the large number of physicians newly come to the position of health officer, untrained and untried, and the large number of towns with newly created health departments—like a butterfly newly come from a grub, looking around on a new world and beating a new element with a new organ—new wings. They all want to do what is right. But what is right?

Therefore, we have decided to deliberate on methods of doing things. When we have carefully counseled, we shall vote. Such methods as meet the approval of the Section will be sent to the House of Delegates or to the Council on Health and Public Instruction. The reason for thus referring the Section actions is twofold: First, the By-Laws of the Association prescribe that resolutions cannot be passed by the Sections; second, measures gain prestige by coming from the Association as a whole.

The second part of the plan is this: Prior to and during the meeting there will be a series of health talks for the general public. The American Medical Association is a peculiar organization. Its deliberations have something more to do with human welfare than those of the average organization. Hitherto it has gone to a community and deliberated behind closed doors.

The people of the host city have not seen much of those attending except as they have met them at receptions and lawn parties. That is not right. Why go to the trouble of entertaining four thousand physicians if no lasting good is to come of it? Should we not earn our welcome by conferring a lasting benefit on those who have given of their time and money for our entertainment?

A campaign of public education in southern California was begun last week. It will continue for another week. We trust that many citizens of this vicinity will have learned something new about right living as the result of lectures given by members of this Section and others.

The third part of the plan is a health education exhibit for physicians. Part of it hangs on the walls of the exhibit room and part of it is to be found in the California and Louisiana health cars.

This is the plan for this meeting which your officers have worked out.

You also honored me with an election as orator. As orator I wish to address you on "The Relation of the Medical Practitioner to Health Departments."

ORATION ON STATE MEDICINE

Death represents the passing of the human being from the known into the unknowable. What is life? What is death? Why is death? What after death? All of these are unknowable. The end of life is no more a mystery than its beginning, but the mind of the being at the beginning is too feeble to know or care. At the end it has learned much and yearns for more. It asks many questions. It does not enjoy being baffled. Therefore, everything connected with this mystery takes on attributes of mystery. The man facing death leans on his physician. His imagination clothes that physician with some of the superhuman qualities.

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* Chairman's Address and Oration on State Medicine before the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

At first he was a god, and then a demigod; then a man, but bewigged and "caned" and separate and oracular; and now he wears a bob-tailed coat, smokes cigarettes and is quite human. The old-style physician was regarded with awe, was given a blind faith and was tenderly loved. His scientific service was very slight—but he was good for sickness. His coming brought peace and hope. As the scientific capacity of physicians has become more worthy of faith, they have been given less. And now the old, blind, unreasoning faith has gone and it will never return. The bringing of medicine out into the plain, white light of common day has reduced the death-rates, increased the average age at death, the average length of human life. It has substituted real for psychic benefit. But all of this is working changes which are not fully comprehended by physicians or laity. Why has the old faith died? Several things have operated to bring it about.

Chief of these is the general growth of information. There was a good deal of humbuggery in the old practice, and humbuggery has fallen into hard lines everywhere. People are now better informed, and they judge physicians and everything else better than they used to. Wonderful cures made by physicians they know now were spontaneous cures.

Drug-stores have served to break the charm in two ways. More of a spell goes with medicine when the physician ladles it out than when he writes an easily-understood prescription which the druggist dispenses. In the second place, the very matter-of-fact druggist's over-the-counter prescription ends many an ill that formerly added to the miracles of the physician.

Patent medicines and advertising doctors cure many ills strangely like the ills the physician used to cure. When a patient hears the physician abuse patent medicines and advertising doctors, that patient's faith in them often dies, but his faith in physicians shrinks a good deal also. Then, too, those advertisements on the wrappers and in the papers, taught us a great deal of the false, but there was here and there a kernel of truth, and the people are learning how to winnow the wheat from the chaff. Learning from this source, abused by physicians, has decreased general faith in physicians.

The fight on homeopathy has served to decrease the old, blind faith. For did not the homeopathic physician's patients recover? And did not the old doctor say there was "nothing in it?" He could not have been infallible.

And then Christian Science has taught the people that if they would just sit still and bear their ills, they would occasionally get in bad holes, but that often they came out all right; and those who came out all right think the physician was not so smart after all. So they pay the "Science" healer all the more jubilantly because of their resentment against the older teachings.

A large part of the old physician's work was nursing work, and then along came trained nurses and did many of those mysterious things as well as, and often very much better than, we remember the man of mystery doing them.

Then the specialist in his highly trained field makes the old-style physician look awkward, inefficient, and very commonplace; the consultant, the very philosophy of whose presence is that he knows more, necessarily makes the patient think that the old-style doctor knows less; the hospital takes the patient from an atmosphere where the family physician is the only tall, strong thing, into an atmosphere of nurses, and other doctors, and comparisons.

It is a sad thing to see some parts of the old pass away, yet it is quite inevitable. Suppose an old-style physician were to determine that he would have no nurses, no hospitals, consultants, specialists or druggists, how long would he hold any patients? The people would lose not only old-style, blind faith, but all faith; he would be discarded, friendless—an outcast. It is inevitable. We can pause to drop a tear, but after this we must move on. We must adapt ourselves to the new requirements, being sure that somehow they are for the best.

In the last analysis the thing comes back to this: The people want to be cured, or kept well. It is for them to decide how this is to be done and by whom. What position toward this change is it wise for the profession to take? My position is that nothing is gained by opposing the inevitable. Much is lost by opposing it; much is gained by adjusting oneself to it. That which is inevitable for the long run is right for the long run.

Taking it on the average, I do not think physicians make much from treating contagious diseases. Diphtheria now means but two or three visits; and probably a reputation of attending diphtheria scares away more visits than that. The same thing is true, though in lesser measure, of other contagious diseases. Occasionally a physician carries contagion, or the family thinks he does; it comes to the same thing. It costs the practice of that family at the very least.

Do you think a physician who has a reputation as a hider of contagious disease gains anything in the long run? The number of mothers who are protecting susceptible children is such a great majority that their fear and distrust of a man with this reputation presently constitute a very definite liability.

There is not much money in treating consumption, above all in the old-fashioned way. The patient may pay for the visits for a few months, but soon the money is all gone and then the physician gets nothing, and oftentimes he has to chip in to help out. But suppose the physician is slow in making his diagnosis or hides it from the health department, or from the patient or family. If you have ever stood in the streams in which the consumptives flow, I need not tell you how violently they abuse the doctor who deceived. In the long run, the only money in consumption is for the man who for himself and his patient lives up to the law.

Suppose we shift the illustration to school inspection. It is disconcerting to have a child sent home for diphtheria determined by culture when you have told the family it was an ordinary sore throat. But the case being diphtheria, the school doctor must tell the truth. Averaging all the cases, the family physician gains more by standing up to the truth than by resisting.

Again, it is quite disconcerting to have a child in one of your families come home with a card saying the tonsils should be removed when you had not so advised; but the wise thing to do is to agree with the diagnosis when it is right, and remove the tonsils. The fact of the business is, the family gets accustomed to the appearance of the mouth-breather; the family physician is anesthetized by repeated monotonies; nevertheless the child is not well—is not able to study with a high degree of efficiency and needs what is advised. Shall the physician take the position that because there is no immediate danger there is no ultimate need? There is no surer way by which he can ruin his eventual standing with that family. There is no surer way by which he can accomplish his ultimate ruin than by assuming this point of view.

These illustrations might be multiplied indefinitely.

It is axiomatic that nothing which puts a great strain on the community, the family or the individual, brings money to the physician (examples: epidemics of cholera and yellow fever). Wherever industry is paralyzed the few who can pay are more than offset by the demands on time, energy and money from those who cannot pay. Not only is there an increase in bad accounts from those that have the specific diseases, but there is an increase in bad accounts for services rendered in connection with other illnesses. Any completely disabling illness continued for more than three months makes the average man a source of loss to the physician. The physician's best source of income is from the diseases which do not greatly disturb the serenity of the community, the family, the individual. By increasing the percentage of the population who are past 30 years of age, the incomes of doctors are increased, since these are the most profitable patients. By decreasing the death-rates among babies, the physician's revenues are increased.

But it is more profitable to return to the general principles.

The end is the cure and prevention of disease. Every measure and every man is a means to that end. The community is going to look to somebody for its health conservative functions. Health departments are community agencies created by and maintained by the community. Their general reputation for altruism is better than is that of the physician. They are closer to the people. Day by day they become closer. Day by day they do new things for the people. It is the more economic way for the individual; it is in keeping with the broader economies. For all of these reasons health departments are inevitable; they will survive. The people will look to them for health conservation. When they look, shall they find the physicians there in partnership, or shall they find them in antagonism? If the community comes to regard physicians as antagonistic to health departments, do the former gain or lose? There is but one answer which far-seeing would dictate.

There is a general law of society that those who serve are supported. Society starves the useless. If the medical profession is useful, in this inevitable program of society it will be supported; otherwise it will not be. As I see it, the wise thing for the medical profession to do is to get right into and man every great health movement; man health departments, tuberculosis societies, child and infant welfare societies, housing societies, etc. The future of the profession depends on keeping matters so that when the public mind thinks of these things, it automatically thinks of physicians, and not of sociologists or sanitary engineers. The profession cannot afford to have these places occupied by others than medical men. A requisite, therefore, is that there should be places where physicians can get training in sanitation, preventable disease and in hygiene, including housing and ventilation.

This all means a readjustment of medical work. In the readjustment, the revenues of medical men who are giving a low grade of medical service will decrease to almost nothing. Christian Science, hospitals, dispensaries and general intelligence have decreased the revenue of these men until it is now less than that of skilled labor. They have no money for luxuries, nothing for a rainy day, nothing for the proper education and care of their children. Nevertheless, the man who makes his money from superficial home visits must suffer more. Even much of the little that he is now doing will be lost to him in some measure through the care of health department officers, but much more through other agencies. The children who are now going through the schools and who have been going through them for ten years, will establish the practice within the next ten years. Would we not eventually gain by willingly giving to Christian Scientists, counter prescribers and others, all those who can be cured by any form of mental therapy, and concentrating our energies on more worthy fields?

Health department work imperils the existence of certain physicians, in that it tends towards socialism; it tends toward state medicine. The citizen says, "If the state will do these things for me, why should I employ a physician for anything?" Just now hospitals and dispensaries are doing this even more potently. Whatever position against health departments any group of medical men may take, they must take a similar position against hospitals and dispensaries.

Does this mean that all medical work will be taken over by health departments and that private physicians will have nothing to do? There is no disadvantage but some advantage to the physician in this, provided there is a proper regulation of the relation between work to do and men to do the work. But this will not come about in your time or mine. Because people don't rush to physicians for headaches, colds and constipation, some people believe that the rush to physicians has stopped. It has stopped, for that kind of physicians. But a better public intelligence will mean more medical work and more pay to the medical men doing high-grade work.

Perhaps the most illuminating way to look at the matter is to see what effect state education has had on educators. A physician is prone to let his irritation over the loss of a case of contagious disease through enforced hospitalization make him forget the many ways in which that policy, broadly applied, has inured to his benefit. Let us try for a broader view by seeing what has been the effect of enforced state education on teachers. The people are now practically universally educated. The work is done with regard for the broader economies. The number of teachers has multiplied many fold. The pay of teachers has increased; the old academies and private schools and private teachers have nearly all come to an end, but colleges, universities, high schools and grammar schools have replaced them several times over. Is it not reasonable to suppose that the impending and quite inevitable changes in medicine will mean people in better physical condition, work done more economically, more doctors, and especially better doctors?

What is the outlook for better service? One out of every twelve babies dies from birth accident. There should be no deaths from birth accidents. What a field for competent obstetricians! One out of every four babies dies from intestinal disease. None of the babies born on the boulevards or in the better residence districts dies from intestinal disease. What a field for pediatricians! Proper supervision through life prevents the development of heart and kidney disease. What a field for the alert family physician! There is a stage in every case of consumption in which the disease is certainly curable in three months. What a field for the alert internist!

Not one-tenth of the tonsils which should be removed are being removed. What a field for the laryngologist! A large part of our people are working at low efficiency by reason of poor sight. What a field for the ophthalmologist!

The orthopedist and the surgeon could increase the working capacity of a large part of the people if they could get at them. Probably there are not enough surgeons to do all the surgery demanded by considerations of the greatest efficiency, comfort and happiness. And certainly there are not enough dentists to do all the needed dentistry.

These views do not go far into the future. They are right at hand.

I hope I have said enough to prove that nothing is gained by the medical profession by opposing the inevitable—that there is the brightest of futures for the profession and for the individual physicians who recognize the inevitable and properly adjust their methods, their labors and their point of view so as to make the largest use of it.

CONCLUSIONS

1. The best interests of medical men demand that they adapt themselves to the inevitable evolutions in their work and in that of health-governing bodies.

2. The physicians should always take the leadership in health movements in their communities.

3. To offset unnatural prejudices, a campaign to demonstrate that this leadership has broad and altruistic motives must be maintained and all right-thinking people must be brought together in support of the great work of physical welfare.

4. This Section must be so enlarged as to affiliate with it associations of health officers, Young Men's and Young Women's Christian Associations, sociologists, sanitary engineers, school examiners, those interested in child hygiene, infant welfare, milk commissions and tuberculosis associations, ventilating engineers, housing students and school teachers' associations: in a word, all of those bodies that are working for physical welfare. A working plan for cooperation with these should be worked out by this Section of the American Medical Association, so as to prevent duplication.

5. Subsections for some of these should be established in this Section. The constitution and by-laws of the American Medical Association should be so amended as to include such workers for physical welfare as choose to come in.

6. Every county medical society should inaugurate sections to take up different divisions of welfare work and should give modified membership in their societies to all local workers for physical welfare.

7. There should be a health journal or health newspaper maintained by this Association for the purposes of public education on physical welfare.

8. This Section must work closely with the Council on Hygiene and Public Instruction, directing it and receiving direction from it.

Imbeciles as Potential Criminals.—G. A. Auden quotes Fernald (*Jour. Crim. Law and Criminology*) as saying that it cannot be too strongly impressed on our notice that every imbecile, especially the high-grade imbecile, is a potential criminal, needing the proper environment and opportunities for the development and expression of his criminal tendencies. The life history of the imbecile put under permanent protection and training at an early age is very different from that of the feeble-minded who grow up at large in a modern urban community. Nearly all of the imbeciles trained from childhood or youth may be taught habits of industry and comparatively good behavior, and a large proportion of them settle down to a condition of inhibition of the antisocial traits, and indeed to a condition of ostentatious pride in the virtues which they unwillingly practice.

SOME DIFFICULTIES ENCOUNTERED IN THE THERAPEUTIC USE OF TUBERCULIN *

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That the intelligent employment of tuberculin in the treatment of tuberculosis is attended with excellent results, is now almost universally admitted. To be sure, there are still some who are unconvinced. Absolute unanimity of opinion, however, has rarely been attained in medicine, and we are not expecting it in this instance.

Tuberculin is by no means an easy remedy to administer. It requires much careful study and close observation to be able to use it to best advantage. The proper administration requires the giving of the right dose at the right time. To administer the right dose at the right time requires judgment born of experience; for it cannot be determined by rule. Tuberculin treatment is not what it is often supposed to be: merely the introduction of a certain number of drops of a certain dilution of tuberculin into the body tissues by means of a hypodermic syringe, and repeating it at certain intervals according to rule. If this is all there is in tuberculin treatment it might as well be turned over to a nurse or to the patient for self-administration.

Tuberculin can produce a varying degree of good results, also a varying degree of harmful results, according to the method of its administration. Its proper administration can be carried out only when the physician has an intelligent idea of the nature of the remedy and its action and when he has made a careful study of tuberculosis, both as to its clinical course and its pathology. This should be self-evident; yet it is disregarded in practice, if we are to judge from the manner in which it is often employed to-day. It is often administered as though it were an indifferent remedy and as though tuberculosis were a disease of no seriousness.

The dosage of tuberculin is modified by many influences, such as individual susceptibility, the character and location of the lesion, whether it is extensive or circumscribed, active or quiescent, according to the conditions under which the patient is being treated, whether in an institution or in ambulatory practice; whether he is resting or working; according to the accompanying complications and conditions, such as colds, influenza, bronchitis, hemorrhage, menstruation; also according to the preparation employed. There can be no set rule. The man who understands this remedy individualizes and aims at the production of results. He forgets stated intervals, and rules for increase of dosage and is guided entirely by the effect obtained. A hypodermic syringe filled with tuberculin cannot cure tuberculosis. It requires an intelligent brain to guide it.

Having had the honor of being one of the pioneers in the therapeutic employment of tuberculin and for several years having been one of the largest users of it in our profession, I have been consulted personally by many physicians, and others have written me for instructions how to use it and have related their difficulties and asked my aid in overcoming them. From my own experience and from the experience of these physicians, I hope I may be able to steer others clear of some of the difficulties that are encountered in this line of therapy.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Unfortunately, those who use tuberculin most intelligently are divided into two camps, those who believe in using progressively larger and larger doses, suiting the dose to the patient and the pathologic process, and spacing the dose according to its size and the conditions present; and those who believe in the repeated small doses given at stated intervals. Between these two camps there are many stragglers who, without any particular ideas, are following no rule, but simply injecting tuberculin and trusting to the Lord to take care of the patient.

I have given both the repeated small doses and increasingly large doses a fair trial and found that I can, in most instances, produce best results by the progressively increasing dosage; and, this is what we should expect from a theoretical consideration of the action of the remedy. Tuberculin produces its beneficial effects in two ways; first, by stimulating the machinery of immunization to the production of more antibodies; and second, by causing a local hyperemia about the focus of infection which enables the antibodies to be applied more directly to the bacilli and which also stimulates the cells to the formation of fibrous tissue about the diseased foci. Examinations of the blood show that the agglutinins and other antibodies are produced in greater amounts after the larger doses although both large and small doses will increase the immune content of the blood. The treatment of local tuberculous ulcers shows that repeated small doses fail to produce hyperemia and that the progressively larger doses are necessary in order to maintain it about the focus of infection. Experience also shows that a condition of hypersensibility is more apt to occur when the small dose, administered at infrequent intervals, is employed. This is a very unfortunate condition from the standpoint of therapy and one which makes further use of tuberculin very difficult.

Whether or not hypersensibility will develop depends very largely, according to my observations, on getting the patient started right. It is a well-established principle in experimental immunization that small doses of protein cause a hypersensibility to further doses of the same protein, while larger doses cause an immunity to it. The time between doses is also an important factor. The space of time between the first few doses of tuberculin should not be long. Many men, who are unaware of these principles, in their attempt to be extremely cautious, give an initial minute dose and then delay for a number of days before giving another. This is not conservatism, it is error; and it shows a failure to comprehend the principles of immunity. The only conservatism in tuberculin therapy is the employment of the proper dose both as to size and time. No matter what preparation I use, I begin with a dose that I feel will not produce symptoms. This dose is determined by the condition of the patient and the nature of the lesion. I use a smaller dose in an active case than in a quiescent one, and in an early case than an advanced one. I also use a smaller dose in a young child than I do in an adult; in a nervous patient than in a phlegmatic patient; also when the infection involves a delicate organ such as the eye in contrast with the involvement in the lung. After the initial dose has been given I proceed with short intervals between doses, one day usually between the first and second, and one or two days between the second and third and two or three between the third and fourth, according to the patient, the lesion, the effect of the preceding dose and the preparation employed. I increase the dose rapidly, making each successive dose two, five or ten times the preceding one, according to the remedy and conditions present, until four or five doses have been given. After that I am guided entirely by my opinion of the case and the manner in which the patient reacts to the remedy. This method has proved very satisfactory inasmuch as it almost guarantees freedom from hypersensibility and troublesome reactions. I have not had a case of pronounced hypersensibility develop among my patients for the past four years. With my method of further carrying on the treatment, which consists in making each successive dose depend on the action of the preceding one, a temperature reaction of more than a fraction of a degree is almost unknown in my practice. Each dose of tuberculin is followed by what might be called a period of increased immunity or decreased sensibility to the remedy. The length of this period varies according to the dose employed; and the time of its appearance depends on the size of the dose, appearing later and lasting longer after large doses than after small ones. Within this period it is safe to repeat or increase the dose. Earlier will almost surely produce a reaction and later is apt to do so, especially if the dose is increased. An appreciation of this fact will greatly facilitate the employment of tuberculin.

The length of time that a patient should be treated with large doses of tuberculin is a very important question. After a large dose has been attained should this dose be repeated time after time? I am of the opinion that, as a rule, it should not. I am guided in this, however, by the character of the process. I use repeated large doses for a time in incipient or chronic inactive cases; but rarely in active, especially chronic active ones. I have found it best to have at my command several preparations of tuberculin. I usually run up to a high dosage on one and then drop back to the initial dose of another preparation and gradually work up again. This method has several advantages which commend it. In the first place, different preparations act somewhat differently and it is well to give the patient the benefit of their different actions. Again—and this I deem very important—it is not well to keep up a maximum focal stimulation such as is caused by the larger doses, for a long time. It has been shown, as mentioned above, that both large and small doses stimulate the machinery of immunization to the formation of antibodies; and that the larger doses cause the more pronounced focal reactions. Therefore, I deem it wise to carry my patient up to a large dose, and then if the case is an incipient one or a chronic inactive one, repeat it several times before changing to another preparation; but, if it is an active case, especially a chronic active one, not to repeat it, or at least not more than once or twice. The term "large dose" must be considered relative. A large dose for one patient is a small dose for another. I mean by a large dose, the one which my judgment tells me is large for the given patient, although I have never found it necessary to exceed the limit of dosage as usually laid down for the various preparations.

One of the greatest difficulties in the therapeutic administration of tuberculin, granting that one understands the pathology of tuberculosis, the nature and theory of the action of tuberculin and is capable of making a fairly accurate examination of the chest, is to be able to intelligently interpret the temperature curve of the patient. There are varied causes for the general temperature curves and so many factors which enter into the daily variations in the curve that one is often at a complete loss to interpret them. It is essential to know first that the curve of the tuberculous temperature is not uniform. It runs in waves. It is up for a time and then down for a time until the patient finally attains an arrest in the activity of the disease. It shows this same character whether the patient is taking tuberculin or not. The curve is modified by physical exertion, the mental state of the patient, the condition of the digestive system, atmospheric changes, complications and many other conditions. Unless this is understood it is impossible to carry out tuberculin treatment intelligently except in cases absolutely free from fever. Some physicians take each of these rises in temperature for auto-inoculations; others think that every time the temperature rises it is due to the tuberculin used therapeutically. Such interpretations prevent the proper administration of tuberculin and are based on error. It is necessary to be cautious, but unless one is careful to inquire into the causes of these temporary variations in the temperature curve and to assign to them their rightful causes, or at least not to allow them to interfere with the proper increase and spacing of dosage, no progress can be made at all in the therapeutic application of tuberculin to a given patient. Patients are sure to have rises in temperature every now and then from some of the innumerable causes mentioned above. When doses of tuberculin are being given every second to fifth or sixth day, the probabilities are that some of these rises will come on the day of the dose. It is most natural, under the circumstances, to interpret them wrongly as being caused by the remedy. Unless one recognizes this probability and uses care in his interpretation, he cannot use tuberculin to advantage. I am positive that in our endeavor to be cautious we often ascribe to tuberculin many rises in temperature that are not due to it at all.

This brings us to the discussion of the question as to whether or not tuberculin should be used therapeutically when fever is present. My extended experience in the use of the remedy permits me to say that tuberculin is of decided advantage to the patient suffering from fever. I am not unmindful of the fact, however, that fever patients are extremely difficult to treat and that they should not be treated except by those who are thoroughly conversant with tuberculin and its therapeutic employment. The variations in the temperature curve of fever patients are much more difficult to interpret than those in the usual non-febrile patients.

The action of tuberculin is to increase the patient's immune bodies and to favor healing by causing a local hyperemia about the focus of infection as mentioned above. Tuberculosis has a constant tendency to spread; in fact, this is the factor about it which destroys the patient. At no time is it more apt to spread than when the patient is suffering from fever, when activity is present and the tissues are breaking down. If there is ever a time when the tissues should be fortified and the body fluids should be surcharged with antibodies in order to save the patient, it is while this is occurring.

The objections raised against its use during fever are not well founded. They are based on a supposition that the fever is an indication that tuberculin is already circulating in the tissues in large amounts; but this is not true. As mentioned elsewhere,[1] if it were true, all local tuberculous ulcers would show constant reaction during fever, which they do not; and as a result of the constant focal reaction the tissues would break down and we should have a generalized softening of all tuberculous foci whenever a chronic temperature exists, which also does not occur. Further evidence of the fact that the body is not surcharged with tuberculin is afforded by the observation that visible tuberculous foci which do not show reactions even when fever is present can be made to react promptly by the administration of tuberculin.

Thus we see that the necessity for the administration of tuberculin is even greater when fever is present than when it is not present; and that the supposed argument which has been put forth as a contra-indication is not valid. To be sure, skill is required to treat patients with fever; but it is certainly gratifying to see portions of lungs clear and tuberculous complications improve while the fever is present; and see these patients come out of a siege of fever which has lasted for weeks or even months without the disease having spread to new tissues and with tissues which have been primarily involved cleared up. The disappointments in the results of tuberculin treatment which I have heard expressed by physicians seem to be due to three causes: faulty technic, a failure to recognize the limitations of tuberculin, and an inability to observe the beneficial changes which the remedy produces with sufficient accuracy.

I have already discussed the more important errors in technic although I have not mentioned the many little details such as those connected with making dilutions, cleansing the syringe, measuring out the dose, and administering it, that contribute so much to successful therapy, and which, when disregarded, mean almost certain failure. These, while very important, are too elementary for discussion at this time.

It is as important to know what a remedy cannot do as to know what it can do. If the limitations of tuberculin were thoroughly understood much disappointment would be avoided. That tuberculosis, after it extends beyond the initial stage, is always a complex condition, should always be borne in mind.

Tuberculin has only a specific action against the tubercle bacillus and its toxins. It cannot cure mixed infection nor can it prevent the deleterious effects resulting from enzymes and the products of their action. It can aid in the healing of tuberculosis; but it cannot be expected to exert a specific action on necrotic tissue. It cannot cure consumption although it can aid in curing the more recent lesions even in advanced cases, and it can aid in keeping the blood reinforced with antibodies, thus helping to prevent the disease from spreading. It cannot restore tissue when once destroyed, nor can it overcome the effects produced by the disease. Yet all of these impossible things seem to be expected of it.

Much of the value of tuberculin cannot be observed. We cannot see its action in stimulating the machinery of immunization and protecting the body from new infections occurring from the bacilli which escape from old foci. Unless examinations are made far more carefully than usual we cannot determine the healing of the areas of slighter infections in the lung. The changes are slow, as can readily be seen by the fact that it requires on an average six months for an early case of tuberculosis to heal. Only the most careful expert examinations can determine the changes which occur from month to month. Unfortunately few men have been schooled in making examinations with sufficient accuracy to be able to determine this; consequently, it is necessary in the treatment of this disease to take a great deal by faith. Physicians must not expect great changes to occur in a short time, but must be patient and remember that the changes which would occur in an ordinary acute illness in a few days or few weeks require many weeks or many months in this disease.

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[1] Pottenger, F. M.: A Study of Fever in Tuberculosis, with Reference to its Causation and Treatment, The Journal A. M. A., 1911; yet to be published.

ABSTRACT OF DISCUSSION

Dr. Walter Brem, Los Angeles: Von Pirquet in his recent article on "Allergy" in the *Archives of Internal Medicine* has discussed the subject of reactivity to tuberculin; he thinks that altered reactivity of the tissues to tuberculin is due to the presence of antibodies, which so act on tuberculin as to convert it into a toxic body. When an apparent tolerance for tuberculin is developed by the administration of gradually increased doses, von Pirquet thinks that what takes place is a decrease in the number of antibodies. If that view is correct, I think that one should be very careful how one creates this apparent tolerance for tuberculin, and that it would be desirable to graduate therapeutic doses according to the degree of reactivity so that the reactivity would not be altered by a decrease of the naturally developed antibodies. White of Pittsburgh has introduced a method of graduating doses of tuberculin by which he thinks that he can avoid altering naturally developed reactivity. He finds first the quantity of tuberculin that in the cutaneous test will produce a "minimal reaction," a papule 4 to 6 mm. in diameter, and then he injects that quantity subcutaneously. If, for example, .01 c.c. of a 1 per cent. solution (O. T.) produces a papule 4 mm. in diameter, then he uses an equal quantity, 0.1 mg., for the subcutaneous dose. By using a careful technic in his cutaneous test he finds a definite quantitative relation between the skin reaction and the reactivity when tested subcutaneously. A dose producing in the cutaneous test a papule 4 mm. in diameter will, when given subcutaneously, produce an area of redness 4 to 6 cm. in diameter, and such a dose never produces any general reaction. Furthermore, if the doses are spaced ten days apart no alteration of the naturally acquired reactivity is brought about. White's method is interesting in connection with the theoretical considerations of von Pirquet. The object aimed at by White is logical if von Pirquet's ideas are correct. In view of this and also in view of the fact that White has reported excellent results from the use of his method, it seems to me that the method is worthy of careful trial.

Dr. John Ritter, Chicago: Using tuberculin daily in practice in ambulatory cases I am very much impressed with what Dr. Pottenger has told us just now and feel assured that tuberculin finds its best application in the sanatorium. Ambulatory cases will not give such good results. Tuberculin is a double-edged sword. Tuberculin should only be used by those who are familiar with it. The more I use tuberculin the more I am convinced that it should be used in the sanatorium and only to a limited extent in ambulatory cases. One cannot watch ambulatory patients as closely as those in a sanatorium. The average physician looks on tuberculin as a specific. Tuberculin is a specific only in effect. It is not a specific in the degree that mercury is a specific in syphilis, but we get definite results in tuberculosis with tuberculin. It is not a curative measure, it only assists us in the cure of tuberculosis. This paper by Dr. Pottenger should be taken home and read again and again and then tuberculin should be used only when the practitioner is familiar with the cases, or he should send them to a sanatarium where they will be under careful observation at all times.

Dr. Edward von Adelung, Oakland, Cal.: Probably our principal interest centers on the question which covers the whole discussion, namely, Is tuberculin of value at all? We all know that some people do not feel that tuberculin is of any value, but I hasten to add that I am on Dr. Pottenger's side in feeling that tuberculin is a valuable addition to the usual hygienic, dietetic and climatic treatment of this disease. There was a time when I was in doubt. I was convinced only by clinical evidence, not by theoretical explanations. By clinical experience I do not refer alone to my own experience, which was of some satisfaction, but to the reports of men like Bonney, Trudeau, Baldwin, Pottenger and a number of men on the other side of the Atlantic, who stated that they had given patients the benefit of all treatment without tuberculin, had seen them attain a stationary degree of improvement and had then found that by giving tuberculin in addition, further improvement was obtained. This to my mind was convincing. We are pretty well convinced that when we cure tuberculosis we do it through cell resistance to the bacillus and its toxins. Hygiene and diet do it in that way. Tuberculin acts in the same way. In our attempt to measure the action of tuberculin we seized on Wright's demonstration as a gauge; but we found it to be inadequate. We have fallen back on the clinical valuation and we still rely on this method of gauging our treatment. We cannot state with mathematical accuracy the proper dosage or the number of days between doses. But as well pointed out by Dr. Pottenger these are matters of individualization and cannot be argued out. I should congratulate Dr. Pottenger when he says that he no longer—or exceedingly rarely—gets reactions. Here our experiences have differed somewhat. I find from what he says to-day that I am using tuberculin in practically the same way as he is, except that I try to find the maximum dose of tuberculin that I can give to each individual at fixed intervals of time, the theory being that I am using a stimulant to tissue resistance, just as we use strychnin, or digitalis, or atropin in appropriate conditions, realizing that we use these stimulants within their physiologic limits. And so I have been using tuberculin to the physiologic limit. I sometimes get a reaction; rarely a reaction of any importance; usually very slight. Then I know that I have reached, at least for some weeks, my limit of dosage for that patient. I have also found, as has Dr. Pottenger, that a change of brand of tuberculin is of value, the stimulation on changing is noticeable. The use of tuberculin during fever is a field that I have not trodden on. I have usually regarded a continued fever in tuberculosis as the result of a toxin and supposedly the toxin from the tubercle bacillus, or tuberculin, and hence contraindicating the use of tuberculin. I do recall now one patient with fever, who appeared to me to be fully saturated with toxin, whom I agreed to treat with tuberculin only at his pleading—an indigent who had been sent to the county hospital and came back and begged me, in a moribund condition, as I thought, to give him tuberculin. I did. His is one case which has opened my eyes to the fact that many hopeless-appearing patients can be helped. This man improved in many ways, including weight, appetite and strength and is now walking about the streets and earning a living. He had no treatment other than hygienic and dietetic, except the addition of tuberculin. I presume that bears out the contention that tuberculin has its use in fever conditions.

Dr. W. C. Voorsanger, San Francisco: I would like Dr. Pottenger to explain his position on the prophylaxis of tuberculosis and how far it may be effected by tuberculin therapy, i. e., tuberculin injections. By that I mean that, supposing a case of tuberculosis in the prebacillary stage, if you like, or supposing a case in which we only have the bronchial glands tuberculous—a glandular tuberculosis in which there are no actual symptoms—I would like to know exactly his position in the administration of tuberculin in these cases and how long he would give tuberculin and at what stage he would stop. In regard to the injection of tuberculin, I believe that the great difficulty which most people experience is that they are looking for an immediate, definite result and I do not believe it can be had. When one administers digitalis in a case of cardiac trouble, if the pulse is about normal and the patient about well, one does not go on administering digitalis two or three years longer. If the patient has another break in compensation, one administers digitalis again. I believe one should look for the symptomatic result. Dr. von Adelung spoke of using tuberculin up to its physiologic dose. I do not exactly understand what is meant by that. I do not believe we should use tuberculin any further than the patient can tolerate it, and that when we receive a symptomatic result from a dose, and the patient is doing well, then that dose should be maximum. I do not believe the same maximum dose for every patient is possible. In starting I use 1/20,000 mg. of bovine tuberculin. I always start with that and I have no maximum. When, after several months, a patient is doing well on a certain dose, this should be the maximum dose. I never could see any reason for increasing a dose to a definite maximum. I believe that each patient should have a different maximum. When the patient reaches the point where he can tolerate a certain dose of tuberculin, and do well, that should be the place to stop. In other words, one must individualize with tuberculous patients in the same manner as with patients afflicted with any other disease.

Dr. Charles O. Probst, Columbus, O.: I wish to emphasize the danger of improper use of tuberculin. A large producer of tuberculin, a physician, a skilled bacteriologist, a tuberculous subject who has taken tuberculin in its treatment, told me that it was with a great deal of trepidation that he placed it on the general market. He feared that if used widely it might do more harm than good. For the average physician, and especially those who have not had laboratory training, the mere making up of dilutions is a matter of difficulty. To meet that the producers are sending out doses in serials to be taken so many days apart. If what Dr. Pottenger tells us is correct as to the great care needed in the administration of tuberculin, I can see some danger in putting up tuberculin in that shape for the use of the general practitioner.

Dr. Max Rothschild, San Francisco: The necessity of individualizing in every case is undoubtedly of the greatest importance and I am in harmony with Dr. Hare in condemning the houses which put tuberculin on the market in serial dilutions and induce the general practitioner to treat tuberculosis according to a schedule. In regard to the treatment of fever I must say that I take a different standpoint from Dr. Pottenger. Before I try to give my patients, who have fever, tuberculin, I always put them to bed for at least four to six weeks and see if the fever does not go down with absolute rest in bed. It usually does and I have found that if the fever does not disappear with the absolute rest in bed after four to six weeks it very rarely disappears under the tuberculin treatment. The question whether it is always better to send patients with tuberculosis to sanatoriums is difficult to decide, and a very important one. There is no doubt that the patient who can afford it should go to a sanatorium, but there are hundreds of poor patients who haven't the money to do this, and the public institutions for the special treatment of tuberculosis are so few that only a small number of the tuberculous poor can be accommodated. Now, what is going to become of these? Are they going to be deprived of a treatment which most of us consider a very important one, and one which might save their lives? In a paper which I read about a year ago in Nevada, at the state medical meeting, I took up this point. I believe that every practitioner should learn how to use tuberculin. A good physician knows how to treat a difficult case of pneumonia and he knows how to treat a difficult case of typhoid fever. These diseases, like many others, need a good deal of knowledge and circumspection in order to be treated properly and successfully. Now, why should a general practitioner, who knows how to treat such other diseases well and correctly, not learn how to use tuberculin? It should be made a part of the physician's education, so many a poor tuberculous patient could be properly treated and perhaps saved, whose circumstances would make it otherwise impossible for him to receive the benefits of the tuberculin treatment in a sanatorium.

Dr. J. S. Trewhella, Los Angeles: Should we simply increase the dose of tuberculin until we get the reaction? What are the symptoms from a minimum reaction?

Dr. J. E. Pottenger, Monrovia, Cal.: I would like to speak of the possible value of the laboratory in aiding in the interpretation of temperature. As there is always more or less intoxication from stomach and bowel disturbance in these cases its detection by laboratory methods may aid in the interpretation of the temperature curve.

Recently I had two patients one of whom, with a very irregular temperature, was known to have considerable disturbance of this kind. The other was undergoing an acute extension of the disease in the lung, with atypical temperature. From daily twenty-four-hour quantities of urine the indican was determined quantitatively. From twenty-four-hour specimens of sputum the total amount of solid material was determined. White blood-counts were made each day. In the first case I found that the maximum indican elimination corresponded fairly with the rise in temperature, while the blood-counts and solid matter in the sputum remained approximately the same. In the second case there was a pronounced increase in the amount of solid matter in the sputum, while the indican and white blood-cells remained practically the same. The conclusion was that in the first case we were dealing largely with an atypical temperature due to intestinal intoxication. Such data may aid in clearing up doubt as to the effects of our tuberculin inoculations.

Dr. Mazyck P. Ravenel, Madison, Wis.: While agreeing heartily with what Dr. Probst has said, I wish to put in a plea for the commercial houses that put out those serial dilutions of tuberculin. We all recognize the dangers of careless or faulty dosage, and these houses are giving to the physician accurately measured doses. Dr. Lawrason Brown, who has had about the largest experience in the United States, has published a table of dilutions, and only the other day Dr. Kress of Los Angeles published a similar table in The Journal of the American Medical Association (April 29, 1911). I presume there are very few men in the United States who have made more tuberculin than myself, and yet to this day I never make dilutions without realizing that I have an exacting and difficult job on hand. Those firms that are putting out the serial dilutions are putting into the hands of the general practitioner the proper dosage, properly prepared and in an absolutely safe way.

The man who does not know when he is giving the wrong dose and does not recognize hypersensibility, has no business fooling with tuberculin at all. To condemn tuberculin because some men give it wrongly is as unfair as to condemn strychnin and morphin because poisonous doses are sometimes given.

Dr. Robert A. Peers, Colfax, Cal.: Serial dilutions commence with too high a dose. No. 1 in all serial dilutions contains 0.01 part to the cubic centimeter; the commencing dose should be 0.001. I have had prepared three dilutions, one in which there is 0.001 to a cubic centimeter, one in which there is 0.0001 and one in which there is 0.00001 to the cubic centimeter, and then I commence either with a 0.00001 mg., which would be a tenth of 0.0001, or else I give 0.000001 as the commencing dose. I believe there are some who start with smaller doses than that, but I think it is wrong for anyone who is using tuberculin to commence in all cases with serial dilution No. 1, because they will find that they will get a great many reactions. I am not sure that I understood completely Dr. Pottenger's attitude in regard to the administration of tuberculin in patients with fever. For two years I have not been giving tuberculin to patients with elevated temperature, except in rare instances. I do not believe that any man should advocate the use of tuberculin in patients with a temperature above 100 F. In patients who are running a temperature of between 99 and 100 F. I think there is good ground for its use in so far as we know about tuberculin. I believe we know very little about tuberculin yet. I believe very much in the use of tuberculin. If I had tuberculosis myself and was not running a temperature I would want tuberculin used and I would want somebody to use it who had experience in it. Perhaps Dr. Pottenger does not advocate it in temperatures above 100 F.; but if he does advocate it he cannot impress too strongly on the members of the profession that they must use the greatest caution in using it.

Dr. Gerald B. Webb, Colorado Springs, Colo.: I am a great believer in the value of tuberculin. I perhaps use smaller amounts. While listening to this discussion I wondered if Bernard Shaw had been present at a similar one before writing his "Doctor's Dilemma." Before antitoxin was introduced the treatment of diphtheria covered many pages in the text-books. It is evident from the discussions that we have no specific yet for tuberculosis. Tuberculin, after all, is a preparation of dead germs and little immunity can be obtained in tuberculosis without the use of the living germ. At the International Congress on Tuberculosis, 1908, I suggested a method of inoculating the living germ. I have had some fifty volunteers up to date. I have done no harm and I have felt the results were better than with tuberculin. I have fully satisfied myself as to its safety on guinea-pigs, rabbits and monkeys. The inoculation of the living germ frequently brings down the temperature, as Dr. Pottenger has found with tuberculin. Practically the whole human race becomes infected with the tubercle bacilli and I believe we can prevent this infection to a large degree by the inoculation of the living tubercle bacillus. We have been able to inoculate young monkeys with safety with enough virulent human tubercle bacilli to kill 20,000 guinea-pigs. By this method I have already safely inoculated two children.

Dr. F. M. Pottenger, Monrovia, Cal.: According to von Pirquet, as suggested by Dr. Brem, when large doses of tuberculin are administered, the antibodies should all be used up and the skin test should prove negative. I have tested numbers of patients who were receiving large doses of tuberculin and they reacted positively without exception. We must not let theory take the place of clinical observation. Whoever administers tuberculin should know the definite quantity of tuberculin in each dose, instead of so many drops of such and such a dilution. No man has any more right to undertake the use of tuberculin without first studying tuberculin and tuberculosis than he has to do major surgery without first studying his anatomy and witnessing operations. While the sanatorium offers the best conditions for the use of tuberculin, I do not agree with Dr. Ritter that it should be used only in sanatoriums. I treat many poor people in my city offices, who are compelled to work while getting well. My results are not so good as those in the sanatorium and the time of treatment is greatly prolonged, yet I am saving many patients who could otherwise not be saved. Those who are using tuberculin intelligently and not expecting it to remove all the results of consumption, put in new lungs, remove cavities and restore hearts and stomachs that have been injured, but who are expecting it to fortify the body against the spread of the disease and help rid the body of pure tuberculous foci; those who are administering it, not by so many drops of this or that dilution once a week, or once in two weeks, regardless of the condition of the patient, but by giving the right dose at the right time, are unanimous in their opinion that tuberculin is of value. The cure of tuberculosis depends on specific stimulation, on the one hand, and the reaction of the body cells on the other; consequently tuberculin should be reinforced by every known measure that will build up the patient and improve his resisting power. Clinical observations are ample for measuring dosage. The early signs of reaction will be detected long before the point of fever reaction is reached. Nervousness, depression, malaise, aching, increased cough and expectoration, nearly always occur on doses short of those which will produce fever. I would not recommend the wholesale use of tuberculin in fever by any means, but I would recommend that those who know tuberculosis and who understand fully the use of tuberculin, try it in fever cases.

Regarding the treatment of tuberculosis before the bacillary stage, as suggested by Dr. Voorsanger, I believe the future cure of tuberculosis is going to be the treatment of infected children. It is wrong to allow these early unhealed infections to become clinical tuberculosis.

As has been suggested I am of the opinion that there should be some man in every community who is capable of using tuberculin in the treatment of tuberculosis. The men who only have one or two patients a year to treat should not think of employing it. They do not have sufficient experience to use it correctly.

My experience with fever cases is different from Dr. Rothschild's. Unfortunately I do not find that the temperature is reduced in five or six weeks. The pathology of these cases makes it impossible for the fever to be of short duration. Very often I find that I can hasten the fall in temperature by tuberculin.

I congratulate Dr. Webb on his most valuable and interesting contribution on immunity in tuberculosis. To my mind he has struck the natural process that goes on in the child from the time of his birth.

Epilepsy.—Celsus, in describing epilepsy, used a term which ecame immortal. He called it "morbus major." The French ranslated this into their own inimitable language and gave a ame which is to-day the common description of the condiion *grand mal*, because the disease was terrifying and great nd grand.—E. L. Hunt in *Medical Record.*

THE PRODUCTION OF IMMUNITY IN TUBERCULOSIS BY INTRAVENOUS INJECTIONS OF TUBERCULIN *

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In the treatment of no other disease have there been such strides made in the past few years as in that of tuberculosis. From time immemorial this disease has attracted the best attention of the medical profession, and various have been the remedies and measures proposed for the alleviation and cure of the great white plague, which at the present time is depopulating this good old world of ours at the rate of 1,000,000 a year, and causing a loss to the nation of many millions in money.

Immunity against any disease is based on the fact that the body in the presence of infection and its products has the power to elaborate specific substances—antibodies—that neutralize the toxic microbic product, and promote the destruction of the infectious organisms. We are all familiar with the natural immunity produced after certain diseases, such as small-pox, scarlet fever, yellow fever, cholera, and so on. Metchnikoff says that the persistence of immunity that develops after infectious diseases is due to a permanent increase in the phagocytic power of leukocytes. According to Ehrlich's side-chain theory, which has been adopted as the best explanation of the manner in which immunity and the changes in the cells are produced, toxins are harmful only when they are able to unite chemically with certain cellular bodies—receptors; otherwise the cells are immune to the action of the toxins; that is, when this union cannot take place.

Antibodies in the blood are protective and curative because they unite with the haptophore group of the toxic molecule, and thus prevent the latter from uniting with cells and causing morbid changes in structures and functions (Ludvig Hektoen).[1] The great majority of mankind must have in some degree a natural immunity against tuberculosis. If it were not so the race would long ago have become extinct, for statistics show that 20 per cent. of all adults die of this disease, and 70 to 90 per cent. of all autopsies show evidences of healed or healing tuberculous foci. Our aim in the treatment of the disease is to reproduce this immunity in those cases in which Nature seems to have failed. When tuberculin was first put on the market by Koch it was hailed as a specific, was used in all stages of the disease and by inexperienced men, which was against his advice; with the inevitable result, as in the case of all so-called specifics, that it received a set-back that will take years to overcome. Owing to the careful investigations and experiments of some of the ablest members of our profession, interest has been revived in tuberculin therapy, and at the present time it is receiving a great deal of attention as an aid in the production of immunity in tuberculosis.

Judging from the results obtained up to the present time, there is apparently little difference between the actions of the various tuberculins when properly given, as all probably contain the specific proteid, the chemistry of which is still unknown. Some observers report beneficial results with the Old Tuberculin, some with the Bacillen Emulsion, and others with the watery extract. As Trudeau of Saranac Lake has pointed out, it is not the kind of tuberculin that counts, as much as it is the physician giving it; therefore the personal equation of the physician becomes a highly important factor. Sahli lays proper stress on this point when he says: "The qualifications of the physician who administers it are certainly of more importance in most cases than the kind of tuberculin."

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Hektoen, Ludvig: General Principles of Serum Therapy in Practical Treatment by Musser and Kelly.

The outcome of all the work done so far along these lines has been to establish the fact that tuberculins and their products are valuable aids in the production of immunity in tuberculous lesions. The earlier investigators attributed the curative action of tuberculin to the formation of agglutinins, and similar protective substances, by the cells of the tuberculous when stimulated by tuberculin.

Von Pirquet[2] states that the tuberculin reaction is dependent on the presence of antibodies. In a person who has no antibodies no reaction can be elicited; therefore normal individuals do not react. Neither do individuals in advanced stages of tuberculosis, for the reason that their antibodies have been used up in the fight of the body against the disease.

Hamburger[3] points out that tuberculosis is acquired almost wholly in infancy and early childhood, and that, therefore, adults either are suffering from tuberculosis acquired in early childhood or possess a latent focus which renders them immune to a further infection. The prophylactic employment of tuberculin in infancy and childhood, therefore, should constitute one of its most valuable uses, considering the fearful death-roll caused by this disease among the little ones.

Maragliano[4] says that "Tubercle bacilli, living or dead, are able by their toxins to produce in the organism, specific protective bodies, antitoxins, lysins, bacteriolytic substances and agglutinins. The production of these protective bodies can be brought about by the introduction of tuberculin into the patient."

Trudeau says: "The production of tuberculin immunity is capable of favorably influencing the course of chronic tuberculosis, of prolonging life, and in many cases of aborting a commencing infection, or extinguishing the smoldering fires of a chronic infection."

Sahli (1896) believes that tuberculin is not merely a specific, but like digitalis in cardiac disease, is a functional therapeutic means, which acts in a definite way on the toxin-susceptibility of the organism. In the ordinary course of the disease, tuberculin is formed so gradually in the patient's system that the organism is rarely stimulated to the formation of any antibodies. In the tuberculin treatment a large amount is thrown into the circulation at once, and so permits the bacteriolytic properties of the tissues to exert themselves—it permits an auto-immunization to take place. Now, if the dose injected is too large, the cells are so affected, with a body already overloaded with toxins, that they can no longer respond to stimulation, and this explains the failure of many patients in advanced stages to react to tuberculin.

Leukocytosis takes place in almost every disease of bacterial origin except tuberculosis. Metchnikoff, in his work on the phagocytic action of the white cells, concluded that these bodies played the part of an armed force, ready to combat any invasion. Buchner followed with the observation that the blood-serum, exclusive of the cellular elements, could destroy disease germs. Finally Vaughan of Ann Arbor announced that by the administration of substances containing nucleinic acid, the number and activity of the leukocytes could be increased.

Having, I think, fully explained that the protective substances which cause immunity can be produced by the injection of tuberculin, and are aided by the administration of other remedies that increase leukocytosis, I shall briefly compare the various methods of administration.

The subcutaneous method is the one commonly used by the profession, and at the different sanatoriums at the present time. I cannot see that it has any advantages when compared with the intravenous method. It is slower in action, painful to the majority of patients, and is often the cause of the production of local abscesses.

The intraperitoneal method has been used by some, and Maragliano has used an intrapulmonary method with some benefit. Tuberculin has also been used by the mouth, with doubtful results, some observers stating that antitoxic serum cannot be absorbed from any intact mucous membrane, and others to the contrary, that a child can be rendered immune by feeding it the products of the tubercle bacilli. I have had no experience with these methods, having used the subcutaneous, and for the past three years, only the intravenous. Koch, Denys and Rothschild have used and advocated the intravenous method for years, but the advantages of this method over all others have not received the attention they deserve. It is absolutely painless, avoids the danger of abscess formation, allows the use of smaller doses, and gives quicker results than by any other method. It is being used in this way by Dr. Max Rothschild at the California Sanatorium at Belmont, Cal., and at the Cottage Sanatorium at Needles, and with marked success at each institution.

Ludvig Hektoen[1] says:

> The fact that intravenous injections immediately give a far greater concentration of antibody in the blood, and hence in the lymph also, than is ever obtained by the gradual absorption from the subcutaneous tissue, is a strong point in favor of direct injection into the blood. . . . According to Berghard, the curative value of antidiphtheritic serum for guinea-pigs on direct injection into the blood, is 500 times greater than on subcutaneous injection, and so far no dangerous symptoms have developed from these intravenous injections.

Also, further, in the same article, Hektoen, quoting Friedberger and Doerner, says: "Small quantities of bacteria may cause a greater output of specific antibody on intravenous than on subcutaneous injection."

As an experiment I took six guinea-pigs of the same age and weight that had previously been infected with the disease from the same source, gave three of them subcutaneous injections of O. T., and the other three intravenous injections of the same preparation, only lessening the dose one-third. I found that the three which received the intravenous injections reacted in from four to eight hours sooner than the three which received the subcutaneous injections. This was repeated several times with the same results. Changing the animals around, so that the three which received the intravenous injections at first, now received the subcutaneous, and *vice versa,* produced the same results, showing that I had absolute control of the reactions and proving that the intravenous method was the best way to give the remedy to get quick results. This has been further borne out by clinical results on patients.

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[2] Von Pirquet: Wien. klin. Wchnschr., Nov. 17, 1905.
[3] Hamburger: Wien. klin. Wchnschr., July 16, 1908.
[4] Maragliano: Die specifische Therapie der Tuberkulose, Tr. Internat. Cong., 1908.

The true fundamental principle, underlying all therapeutic measures in the effort to secure the arrest of the tuberculous infection, is that of conservation of strength and augmenting the inherent resisting power of the patient. The physician should study each case separately and all the time, because the susceptibility to tuberculin varies in different patients, as well as in the same patient at different times. As Hammer[5] says: "As a first condition for its harmless use, it is certainly necessary that the physician who desires to add it to his therapeutic equipment must be experienced enough to be able to judge even the slightest sign of reaction."

The most important rule to remember is that too little never injures, while too much may result in a strong reaction, which is to be avoided. Those who have made use of the subcutaneous method of administration know that at times, in spite of all precautions used, an abscess will occur, especially when the B. E. preparations are used; and everyone knows what effect this has on the mind of the patient as to the advisability of continuing the treatment. These bad effects can be avoided by using the intravenous method and, as stated before, results will be quicker.

Koch pointed out that success would be secured in the application of the treatment in the earliest stages of the disease. We go further to-day and say that the remedy should be administered before any of the ordinary symptoms of the disease manifest themselves. After three years' use of tuberculin, I can say without hesitation that treatment can be carried out in all cases, even in the most advanced, when there is reacting power, without danger. I have never seen any harm result, in spite of the fact that I have not picked my cases for treatment, but have taken them in all stages of the disease. On the contrary, I have found under the use of tuberculin a hard, irritating cough easing up, a tenacious sputum becoming thinner and easier to raise, and the appetite increasing, in cases that were hopeless for any marked improvement, and under such results it cannot be denied that the resisting power of the whole organism had been raised.

In giving tuberculin or any other preparation intravenously, great care is necessary that absolute asepsis is secured, that the solutions used are freshly made and are sterile, and that the needle and syringe are thoroughly sterilized. I prefer and use a Sub-Q Tuberculin syringe with a 27¾ gauged needle. The syringe is graduated to 100 parts and contains 1 c.c.

As to the technic of the injection, selecting as a site the veins in the hollow of the elbow, I have the patient hold the arm parallel to the body, and open and close the hand rapidly for a minute. This with the application of a rubber strap applied above the elbow by an assistant, makes the veins prominent and easy of access. Now I have the patient close the hand tightly, then I tighten the strap, wash the site thoroughly with alcohol, inject the solution slowly, and withdraw quickly, elevating the arm for a moment, loosening strap and opening hand, seal the puncture with collodion. No other dressing is required.

I use the O. T. and B. E. preparations and make my own solutions. I usually commence treatment, in a suitable case, with a dose of 1/10,000 to 1/1,000 mg. of tuberculin, drawing first into the syringe about 05 lines of the diluent, then the required amount of tuberculin, and again the diluent to about 15 or 20 lines, seeing that all air is expelled from the syringe. For a diluent I use a 15 per cent. solution of atoxyl. Care must be taken in the preparation of the atoxyl solutions, as the drug is very unstable and spoils rapidly. A yellowish color shows that chemical decomposition has taken place and the solution should be discarded; otherwise if used, there will be symptoms of arsenical poisoning. For the past year I have had it prepared for me with the addition of 4 minims of chloroform to the ounce of solution, which has the effect of preserving the solution for some time, and as I use only about 15 lines of the solution, or about ⅓ gr. of the salt, the amount of chloroform has no effect on the patient that I can see. Large amounts of phenol (carbolic acid) and its preparations are used as a preservative in antitoxin, and yet we never hear anything of its effects when used in this manner. Using small amounts of atoxyl, as I do, I have never had any of the bad results reported by others, such as atrophy of the optic nerve. I think that these deleterious effects are caused by using either too strong a solution or an impure salt. I have given thousands of injections without any bad effects. I have found that atoxyl is a powerful adjunct to tuberculin in producing phagocytosis, which is one of our aids in producing immunity. Dr. Ward of Philadelphia is advocating the intravenous use of nuclein for the same purpose in tuberculosis, and from his reports and others it looks as if we had another valuable aid at our command in the treatment of this disease. I have always relied on nuclein by the mouth in tuberculosis but have never used it intravenously. Atoxyl has been used with marked benefit in cases of pernicious anemia, and is especially lauded by Mendel of Essen.

The increase in dosage of tuberculin must be governed entirely by the signs of reaction, both local and systemic, and one reaction must have subsided before another treatment is given. Some of the symptoms of reaction are a slight rise of temperature, increased rate of the pulse and respiration, headache, aching of the limbs, increased cough and expectoration, loss of appetite, and so on. These symptoms will vary in intensity according to the case and the amount of tuberculin used. These, though they may be slight and seem insignificant, must be noted, and caution used before increasing the dose or even repeating it. As to the interval between injections, there should be a lapse of from three to seven days, depending on the case and susceptibility. The physician should individualize each patient so that he will be able to recognize any deviation from a normal condition, caused by the injection, because the recognition of the slightest sign of reaction will be his best protection against danger.

In order to secure the immunizing effect of tuberculin and its preparations it is not necessary, as we once thought, to give large enough doses to produce marked reactions, but just enough to keep below this reacting point. This will vary in each case and under different conditions in the same case, and must be watched carefully; hence the importance of individualizing. I believe in starting the patient on small doses and gradually increasing the dose until I reach the patient's tolerance. This will require from six months to two years or even longer in some cases. I have seen all symptoms disappear within three months in very early cases.

Toxin tolerance as a method of treatment has been strongly supported by Sahli, Denys and Trudeau. The former two look on toxin tolerance as the only object, while Trudeau believes that mild reactions are of benefit. If it is at all possible, I think it is best to avoid all marked reactions, and this can be learned by experience.

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[5] Hammer: Value and Practicability of the Use of Tuberculin, Tr. Internat. Cong., 1908.

Specific action consists in the production of a congestion more or less marked out, at the site of the infection —a congestion which can be demonstrated by examination, whenever the disease is superficial in the lung, or when the larynx is affected. Recognizing this congestion enables us sometimes to diagnose latent tuberculous foci when other symptoms are absent.

It is my plan in treating patients to put them to bed for at least a week prior to taking treatment, have the temperature taken every two hours and urine and sputum examined, so that the exact condition can be determined and the subsequent injection watched with greater accuracy. If there is no rise of temperature I advise the patient to rest for a few days to secure complete relaxation, and see to a thorough flushing of the system. These precautions enable us to estimate the size of the dose which is one of the most important parts of the treatment.

I regard the opsonic index as a test of accuracy, but impractical, because when a number are taking treatment it takes up too much valuable time. The technic is too delicate and the results so often so difficult to interpret, that there is little hope of its ever proving useful in establishing an early diagnosis, or in guiding us in the treatment, when we have the clinical signs to guide us without the aid of trained observers and special apparatus, which the taking of the index requires. I think that studies and investigations made by such observers and with such apparatus are important and essential for the improvement of the practical side of the subject, as demonstrating the active and comparative value of different preparations, as well as showing us that the products of the tubercle bacillus act in a truly specific manner, by inducing active antibacterial or antitoxic immunity. In active antibacterial immunization specific amboceptors for tubercle bacilli can readily be demonstrated in the blood-serum of treated patients by the hemolytic method of Gengou.

From my own experience, and watching the results of others, I consider that we have at our command in tuberculin and its preparations, when used intravenously, powerful remedies for good when used rightly, but capable of doing much harm when used wrongfully. Until we have a better method we must consider it of the greatest importance in the treatment of the disease, to bring about a more general use of the intravenous method of administration; I feel confident that once the physician has used it in this way and has found that he can secure the best of results with small doses, less reaction, less discomfort to his patient and likewise to himself, and absence of all pain and swelling, he will never use it any other way, and will simply wonder why he had not used it so before. To secure this end it will be necessary that every physician should acquaint himself with the method of employment, the dosage and the behavior of the remedy, and it goes without saying that he should have a more thorough knowledge of the disease in the early stages than the general practitioner has to-day.

I want to report the results secured in ninety-five patients treated by me in the last three years. Of these, forty-eight were incipient cases, thirty-two moderately advanced, and fifteen far advanced. Of all these patients, 80 per cent. had cough, 78 per cent. expectoration, 38 per cent. hemorrhage, 15 per cent. pleurisy, 35 per cent. dyspnea, 75 per cent. loss of appetite, 35 per cent. night sweats, 30 per cent. hoarseness, 5 per cent. involvement of the larynx, 90 per cent. fever, and 100 per cent. loss of weight. On their discharge, classified according to the National Association, in the progressive stage, or unimproved, there were thirteen, or 86.66 per cent., in the improved stage six, in the arrested stage, physical signs stationary or retrograding for at least three months, twenty-eight, or 87.5 per cent.; in the apparently cured, signs of healed lesions for one year under the ordinary conditions of life, forty-eight, or 100 per cent.

A word as to the danger of the production of thrombosis and embolism, which has been one of the strongest arguments of the subcutaneous advocates against the intravenous method, and the stumbling-block to so many who really wanted to use the intravenous injections. I will say that in my opinion this is purely imaginary, for if proper asepsis is used and the solutions are sterile there is absolutely no danger. I have never had any such trouble, though treating patients in all stages, nor have I heard of it happening to others when the proper care was taken. It is not tuberculin alone that is going to cure patients, but it is a combination of all methods, fresh air, proper nourishing food, abundance of sunshine, regulation of the habits, tuberculins and autogenous vaccines rightly used and at the right time, by experienced men, that will bring us to the time when we can safely say that we have at last conquered the disease.

But it is incumbent on us to gird our loins, take a fresh hold, educate the general practitioner, and then the layman, to the effect that tuberculosis can be cured, urge the necessity of getting them under treatment and in proper surroundings as quickly as possible, urge on our statesmen the necessity for the erection of state sanatoriums where the people of little means can have the best of care and treatment; also for the establishing of day camps for early cases, and for the open-air schools for afflicted children, which have been tried in the eastern states with such marked success.

I must condemn the action of some physicians who place a syringe and a bottle of tuberculin in the hands of their patients for them to use on themselves. I have had several of these cases fall into my hands. As Pottenger[6] says:

> Any man should be capable of using these remedies if he has sufficient intelligence and sufficient determination to acquire a knowledge of their action and the proper method of their use, and if he will familiarize himself thoroughly with tuberculosis. It is just as rational to put the surgeon's knife in the hands of a blindfolded physician, as to put these specific remedies in the hands of a man who does not understand both them and the disease to be treated by them.

As the author was referring to physicians, what must the danger be when laymen try to use it!

Some assert that meteorological conditions may be disregarded in the treatment of tuberculosis—that the climatic factor may be ignored in all cases. This is wrong. Bonney[7] says:

> The fact that individuals recover from incipient tuberculosis without climatic change is no more to be considered as an argument against the wisdom of its intelligent application in individual cases, than is the recovery without operation of a given patient with appendicitis to be considered a reflection on the general expedience of surgical interference.

As Dr. Knight says, "If weather conditions make no difference, why do patients improve at one season more than another?" as we all know is the case.

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6. Pottenger: Pulmonary Tuberculosis, 1908, p. 206.
7. Bonney: Pulmonary Tuberculosis and Its Complications, 1910.

Many of the effects of climate on the human system are well known, and there is no reason to suppose that the tuberculous patient is exempt from the ordinary laws of Nature in this respect. It is not so easy to live the outdoor life at rest or in activity in a place where fog and rain, snow and cold, stormy weather prevails, as it is in one where week after week passes without a cloud in the sky or a drop of rain fall. And what state in the Union has such a glorious climate as ours; what state has the combination of desert and valley, mountain and sea, giving us almost any altitude and kind of air we desire for the different classes of cases? And what state has men better versed in the diagnosis and treatment of this disease than we have here in California—such as Rothschild of San Francisco, Pottenger of Monrovia, Bridge, Barlow, Cole and Browning of Los Angeles, and many others who are doing such a noble work among us?

A word as to the physician himself, for, after all is said and done, as Dewey said of his gunners at Manila, "It is the man behind the gun that does the work." In the treatment of no other disease does the personal equation of the attending physician have such an important bearing. It is *the man* who administers the remedies who produces results. If he is capable of impressing his will and personality on his patients he can get the closest supervision of their lives. Cheerfulness in a patient aids in his recovery, for good spirits is the best medicine, and the sunshine of a smile can dissipate many a cloud. From the doctor should come the will, the interest, the cheerfulness and enthusiasm for the patients.

ABSTRACT OF DISCUSSION

Dr. Max Rothschild, San Francisco: The varied opinions of different authorities in regard to immunization and the divergent views of other authorities in regard to the effect of the different tuberculins show clearly that we are still in a condition of deplorable uncertainty in regard to immunization and treatment with tuberculins. Hypotheses and theories have been published, accepted, and condemned. Statistics have been given by which reliable authors have tried to prove that the use of tuberculins is misjudged; that the method has no merit whatever, and that just as good results have been achieved with proper dietetic, climatic and physical treatment. On the other hand, other authorities, just as reliable, show by their statistics that such results as theirs could be achieved only by the use of tuberculins. I am a strong believer in tuberculin. Carl Spengler and his followers claim wonderful results from their immunizing bodies; another school asserts that treatment with these bodies is ridiculous. If I had the time, I could bring up many other points in which the opinions of well-recognized authorities are directly opposed. We must admit that as yet we have only a little absolute knowledge of immunization, as well as of the way in which the different tuberculins act, and of the ultimate results. We know very well that we can produce immunity against certain poisons and toxins; but we do not definitely know where these immunizing bodies, or antibodies, or antitoxins, are to be found in the system. The theories of phagocytosis, opsonins, agglutinins, precipitins, etc., have all been very alluring and attractive, but they have helped our real knowledge very little. We know that we can produce immunity against tuberculins, but this immunization against tuberculins does not produce immunization against tuberculosis. This is a most important fact, which we are apt to overlook. For the administration of tuberculins, two methods exist at present. Koch's school endeavors to work the tuberculins up to large amounts. Sahli and his followers, on the other hand, try to avoid all reaction, and use small amounts of tuberculins. The latter method gives good results, is not dangerous, is a better way for the practitioner, and for ambulatory treatment. I have used it for a number of years; in fact, I had advocated it quite a while before Sahli's first publication appeared. I hope not to seem immodest if I mention my first paper on the subject, which I read in 1906 before the San Francisco Medical Society, in which I gave my experience with intravenous injections of atoxyl and tuberculins for the first time. In this paper I called attention to four points which, in combination, had given the most satisfactory results: keep your tuberculous patients in bed as long as you can, have them stay out doors in the fresh air day and night, use tuberculin in combination with atoxyl, intravenously, and avoid reactions. This brings me to the end of Dr. Shepard's paper, where he recommends the use of intravenous injections. I have used only this method for the last eight or ten years. I like it because it is clean, accurate and painless; and because the negative phase after the injection is shorter, and the positive phase longer, than after a subcutaneous injection. I do not maintain that it is better than other methods—it is to a great extent a matter of personal like or dislike—but I believe, with Dr. Shepard, that anyone who tries it for any length of time will become an advocate of this method.

Dr. Edward von Adelung, Oakland, Cal.: In private practice when asked to take care of a tuberculous person should we not always consider what we have learned from pathology, that the children of tuberculous parents are nearly always infected? As practicing physicians we should not consider our duty performed, especially to the children of a tuberculous family, until we have made it clear to the family that it is almost a certainty that the children are already infected. This point having been settled, the children of tuberculous persons should be put under treatment immediately. It does not seem rational to treat the tuberculous parent of a family and leave the children to fight the battle alone for years against the implanted tuberculosis. If tuberculin is of value, as I believe it is, to increase tissue resistance to tuberculosis, the time to use it is as soon as infection occurs. Not only the tuberculous parents but those associated with them should be given prophylactic treatment and tuberculin.

Dr. F. M. Pottenger, Monrovia, Cal.: In regard to the method of intravenous administration, I think that it, like the choice of a preparation of tuberculin, is largely an individual matter. I believe that any preparation of tuberculin is of value. I also believe that it can be used in any way in which it can be made to reach the circulation. I am often asked what preparation of tuberculin I would suggest in a given case. I always reply: "The one which the physician who is expecting to treat the patient knows best how to use." My reasons for preferring subcutaneous to intravenous injections are that they are simpler and less hazardous, although there should be no risk when intravenous injections are given correctly.

It is probable that tuberculin is changed by the first cells with which it comes in contact when it enters the body; and that, if antibodies are to be produced, they are largely produced by the cells at the point of inoculation. Probably one reason why tuberculosis does not heal out more often by the natural tuberculin which is given out from the foci of infection is that the cells which first receive the tuberculin stimulation are injured and unable to respond in the production of antibodies. It is possible that they may destroy the tuberculin without producing antibodies.

When tuberculin is introduced intravenously it passes directly to the lung and its force is spent in stimulating these same injured cells, while, when administered subcutaneously, its force is spent on the local cells at the point of inoculation, which should be better able to respond. I also believe that the slower absorption from the subcutaneous route is an advantage.

Dr. Gerald B. Webb, Colorado Springs, Colo.: In general the inoculation of toxins by the intravenous method yields the smallest amount of immunity. The subcutaneous inoculation of toxin yields more antitoxin. I would ask Dr. Shepard if he has measured in any way the antibodies produced by the intravenous method. Latham of London advocates the stomach route for tuberculin. As I pointed out in a paper earlier this morning, this is a hypoblastic route for treating disease of a hypoblastic structure. I do not agree with Dr. von Adelung that all children who react to tuberculin should at once be treated with tuberculin. The fact that 95 per cent. of children in certain communities will react to tuberculin at the age of 12 should be interpreted as Nature's crude way of vaccination. The hypersusceptibility produced is in a certain degree protective to further infection.

Dr. Charles A. Shepard, Needles, Cal.: I have used atoxyl for years in these cases. I have never seen any harm result, but I employ a much smaller dose than others have advocated, using only ⅓ to 1 gr.; I think it is of great benefit as an addition to tuberculin in producing phagocytosis. I think tuberculin is a most valuable agent used as a prophylactic in children whom we find to be tuberculous. In answer to Dr. Webb, we did not measure the difference in the antibodies intravenously and subcutaneously. We simply went by the signs of reaction.

A PLEA FOR LARGER INCISIONS AND MORE THOROUGH EXAMINATIONS IN ABDOMINAL SURGERY *

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While some surgeons make ample incisions and a thorough examination as a matter of routine, there are many more who do not do so, and it is with a hope of being helpful to this latter class that this paper is written. The average surgeon is prone to do his abdominal work through too small an opening. He points with pride to an inch and a half scar after an appendectomy, and a two and a half inch scar after an operation for the relief of pathologic conditions in the pelvis.

We acquired this habit, first, because of our earlier experiences with ventral hernias, which were not uncommon in the practice of every operator, in which, naturally, the smaller the original opening the smaller the subsequent hernia. Then men with dextrous fingers vied with each other to see who could do his work through the smallest opening. With our improved technic stitch abscesses and infected wounds are practically eliminated, and a ventral hernia is a rare sequel; hence this reason for a small opening no longer obtains. It would be very discomfiting to us if we could fully realize how often we have left unrecognized pathologic conditions because our opening was too small to admit of a proper examination, and because we had not acquired the habit of making a thorough examination of the whole abdominal contents in every instance.

When made at one of the accepted points of election there is no valid reason why an opening should not be amply large to permit the introduction of a hand, and, if need be, an arm, for a thorough exploration of the most remote corners of the abdominal cavity. It is infinitely better to make the opening large enough to admit the hand without force than to contuse the edges of the wound by a forcible introduction of the hand or with retractors. Faulty wound-healing has very often been due to too great or too prolonged pressure from retractors, or to forcing a tumor through too small an opening.

With our present technic a large opening will heal just as surely and as perfectly as a small one, and there can be no objections to the larger opening except those based on our former and less perfect technic. Our natural prejudice against a long cicatrix for esthetic reasons, is no longer tenable because the objection is only a fancy, while the fact is that we can do our patients much better service through a longer incision. The laity are now so accustomed to abdominal scars that the size of the scar is no longer a matter of importance to them.

At one time I was quite proud of the fact that I could remove an appendix through a McBurney incision just large enough to admit my index-finger. My pride sustained several serious jolts, however, when I was called on to perform a later operation for the relief of conditions overlooked at the first one. Doubtless many other patients who were not relieved by my esthetic operation went to other surgeons for relief, the result being that I was discredited and my patients were subjected to the suffering, danger and expense of a second operation, and had two scars instead of one, all for the sake of a dainty little scar in the first instance. Every surgeon present must admit that he has had like experiences unless he was wiser than I and made large incisions from the first.

These experiences led me to question the merit of the small opening, but I did not fully realize the error of my ways until I had the following experience. A young man was brought to me for immediate operation with a diagnosis of acute appendicitis. He gave the history of having had a number of previous attacks, but none so severe as the present one. He had been ill but a few hours, had vomited repeatedly, and was suffering very severe pain all through the abdomen, but worse in the right iliac region. His whole abdomen was very rigid. There was marked tenderness over McBurney's point. A McBurney incision was made through which a slightly swollen and congested appendix was removed. Some serum escaped through the wound. The condition of the appendix did not seem serious enough to account for the severity of the symptoms, so a finger was passed into the opening and by forcibly depressing the abdominal walls with the knuckles a distended viscus could be felt. The original incision was closed, and a liberal median incision made through which a hand was introduced, and an intussusception of the ileum into the cecum found. The intussusception, which was caused by an inverted Meckel's diverticulum, was reduced, the diverticulum removed and the patient restored to health. The real condition here might, and ordinarily would, have been undiscovered through the short incision, and the patient would have lost his life unless subjected to a second operation very promptly. As it was, two incisions were made, whereas one of the right size and properly located would have sufficed.

The making of large incisions will not prevent oversights unless a thorough examination is made. A very common mistake made by operators is to be content when they have relieved one condition without looking for others. Even when a condition is found seemingly sufficient to account for all the symptoms, a careful search should be made for others. When one adhesive band is found there are very likely others. An appendix may be removed leaving gall-stones behind, or *vice versa.* Gall-stones may be removed from the gall-bladder and one or more left in the common duct. One typhoid perforation may be closed and others left. Since following the practice advocated in this paper my findings have been so numerous and my surprises so great that I wonder I ever had the temerity to operate through a small incision. The examination should be systematic and thorough, and the operator should never be content until he has found conditions that will fully account for all the symptoms. The appendiceal region, the pelvis, gall-bladder and stomach regions should always be examined as a matter of routine. Most surgical conditions will be found in these regions, but the following experience impressed on me the fact that grave conditions may be found in most obscure and unsuspected regions:

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911

A country physician recently telephoned to me that he was sending a patient on the next morning's train for an operation for appendicitis. He said, "My diagnosis is appendicitis, but the symptoms don't check up right. Do whatever is necessary for the boy." The patient, a boy of 16, had a normal temperature, an accelerated pulse, a slightly distended abdomen, with tenderness most marked in the lower right quadrant. The most marked feature in the history was that he had been suffering for some weeks with severe cramps and occasional vomiting immediately after eating. An incision was made along the margin of the right rectus, and the appendix was found slightly congested and swollen, but in no condition to account for the symptoms. On inspection the intestines looked normal, but there was some serum present. The danger regions were all carefully examined and nothing found. Beginning at the ileocecal valve a search was made for a Lane's kink, and a small Meckel's diverticulum was found from which a long narrow band extended to a point high up and deep within the abdomen. Underneath this band was a large loop of bowel, not tightly constricted, but the lumen of the bowel was reduced about one-half. The intestine was thickened and sore at the point of constriction, showing that it had been in that position for some time. It was evident that the patient's pain after eating was due to the peristalsis set up by the food. The removal of the diverticulum and band were followed by recovery, with complete relief from pain.

The appendix is so frequently the seat of trouble that the tendency is to make a diagnosis of appendicitis on insufficient grounds. The diagnosis of appendicitis is about the easiest of all diagnoses of intra-abdominal conditions, yet the diagnosis of appendicitis is probably the most frequent wrong diagnosis made. This may be accounted for partly by the fact that appendicitis so frequently complicates other conditions; but it is doubtless due often to the natural tendency of mankind to jump at conclusions. The mistake of removing the appendix when the real cause of the patient's suffering is elsewhere can be so easily avoided by a thorough examination through an ample opening that it seems almost superfluous to argue the matter. Since adopting this method as a routine practice I have found unsuspected gall-stones, appendicitis, adhesive bands, Meckel's diverticulum, internal hernia, Lane's kink, intestinal adhesions, tuberculosis and other conditions too numerous to mention, most if not all of which could not possibly have been certainly diagnosticated by any other method.

The location of the incision is not so important as its size. When the location of the pathologic condition is not definitely known, or when it is definitely known to be in the pelvis or lower abdomen, the median incision is undoubtedly the best, as it affords easy access to all parts, and does the minimum amount of harm. In the upper abdomen the incision should be through or at the inner edge of the rectus because of the presence of the triangular ligament in the median line.

Useful and anatomically correct as the McBurney incision is, it is undoubtedly the one which is responsible for the greatest number of oversights, because it is satisfactory only when it is made small. It can be made large, but in so doing much greater damage is done to the muscles and nerves than by a median incision, and its location is not nearly so satisfactory for general work. It is very much easier to remove an appendix through a median incision than it is to do pelvic work through a McBurney incision. The muscle-splitting incision should be restricted to cases of suppurative appendicitis in which there is no indication for going far into the abdomen, and to unmistakable cases of chronic appendicitis without complications.

In other words, the day of the short incision is past in all but exceptional cases.

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STUDIES IN INFARCTION

EXPERIMENTAL BLAND INFARCTION OF THE KIDNEY AND SPLEEN [*]

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The early history of the study of thrombosis and embolism is so completely reviewed in the articles of Virchow,[1] Cohn[2] and Welch,[3] that it seems hardly necessary at this time to consume time and space with its detailed presentation. It is very evident that Galen, Vesalius, Lancisi, Bartoletti, Bonetus, Boerhave, and Morgagni had, in a general way, fairly clear ideas as to the nature of these conditions, although, as would naturally be expected, they made no sharp distinctions between the two. Laennec's description of hemorrhagic infarction of the lung, under the name of pulmonary apoplexy, was most illuminating, although he seems to have had little knowledge of the nature of infarction in general. Rokitansky[4] had a much broader conception, but failed to differentiate the possible causes. The results of Cohn's experimental work, as well as of Pannum's,[5] are not conclusive, in that infection and secondary inflammatory changes were almost constant complications.

In 1872 Cohnheim[6] published his "Untersuchungen." The largest part of his work was done on the frog's tongue, but he also extended his experiments to the rabbit's ear, guinea-pig's mesentery and the mammalian kidney. He formulated the conception of end-arteries; a distinction which later observers, notably von Recklinghausen,[7] have shown to be less absolute than Cohnheim taught. Disregarding the earlier work of Cohn and of Blessig,[8] Cohnheim concluded from his own work that the blood in a hemorrhagic infarct represents a reflux from the veins.

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[*] Read in the Section on Pathology and Physiology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[*] From the Department of Research Medicine and McManes Laboratory of Pathology, University of Pennsylvania. Aided by a grant from the Committee on Scientific Research of the American Medical Association.

[1] Virchow, R.: Gesammelte Abhandlungen, Frankfort, 1856.

[2] Cohn, B.: Klinik der embolischen Gefässkrankheiten, Berlin, 1860.

[3] Welch, Wm. H.: Hemorrhagic Infarction, Tr. Ass. Am. Physicians, 1887, ii, 121.

[4] Rokitansky: Handbuch der pathologischen Anatomie, Vienna, 1844, ii, 60.

[5] Pannum, P. L.: Experimentelle Beiträge zur Lehre v. der Embolie, Arch. f. path. Anat. u. Phys., 1862, xxv, 308.

[6] Cohnheim, J.: Untersuchungen über die embolischen Processe, Berlin, 1872.

[7] Von Recklinghausen, F.: Handbuch der allgemeinen Pathologie des Kreislaufs, Stuttgart, 1883, p. 156.

[8] Blessig: Ueber die Veränderung der Niere nach Unterbindung der Nierenarterie, Arch. f. path. Anat. u. Physiol., 1859, xvi, 120.

Von Zielonko,[9] working under von Recklinghausen, studied areas of obstructed circulation in the web of the frog's foot. He showed conclusively that, at least in the web of the frog's foot, the blood enters and distends the capillaries of the infarcted areas from the capillaries of the neighboring areas and never by a return flow from the veins. He also showed that the arterial pressure in the surrounding areas is an important factor in determining the degree and rate of hemorrhagic extravasation. He noted at the end of five or six days the beginning decolorization of the hemorrhagic area. Kossuchin,[10] in 1876, working on the frog's tongue, reached practically the same conclusions; and in 1878 Küttner[11] demonstrated, by injections, the free capillary anastomosis existing between the bronchial and pulmonary circulations in both amphibian and mammalian lungs, and thus opened the way for an explanation of the hemorrhagic character of pulmonary infarcts. A more effective influence, however, in overthrowing Cohnheim's teaching was Litten's[12] repetition, in 1881, of Cohn's and of Blessig's experiments on the kidney. After ligating the renal artery of the rabbit, he obtained greater hyperemia and hemorrhage when he ligated in addition the renal vein, than when he left it open; on the other hand, if he also ligated all sources of collateral circulation, the hyperemia and hemorrhage were reduced to a minimum even although he left the renal vein free. Von Recklinghausen[13] attributed to partial hyaline thrombi, which he observed in the capillaries of hemorrhagic infarcts of the lungs and spleen, an influence which raises the pressure in these capillaries and predisposes to diapedesis. Brown-Séquard[14] had pointed out the possibility that lesions of the vasomotor nerves accompanying the obstructed artery might be a factor in the capillary dilatation. Recently Bier[15] has emphasized the same possibility and has shown that, after section of the artery and vein of the hyperemic area, the blood still remains in the dilated capillaries; whence he concludes that the capillary dilatation is to some extent independent of the transmitted arterial or venous pressure. Mall[16] found it exceedingly difficult to inject from the mesenteric veins into the capillaries and impossible to inject from the veins back through the capillaries into the arteries.

Detailed studies of the anatomic and histologic changes in infarcts of the spleen and kidney, at different periods after infarction, have been made by several observers. Beckmann[17] believed that the infarcts of the kidney were seen as pale infarcts with little evidence of blood, and opposed Rokitansky's view that the pale renal infarct represented a decolorization of the earlier hemorrhagic infarct. Later Weigert[18] emphasized the same conception of anemic infarcts as distinct from hemorrhagic infarcts, and in spite of much evidence to the contrary, his view attained wide general acceptance. Both von Recklinghausen and Thoma[19] apparently accepted his view. In 1877 Argutinsky[20] studied renal infarcts in the dog twenty-four hours and seven days after the injection of wax pellets into the aorta through the crural artery. Contemporaneously Uhthoff[21] made a similar study, using mercury instead of wax. Both observers noted the presence of hemorrhage, or of pigmentation the result of hemorrhage, widespread throughout the infarcted area, thus opposing the theory of Beckmann and Weigert. Talma[22] studied rabbits in which he ligated one branch of the renal artery. In the first twenty-four hours he found the infarcted area swollen and red, but laid stress on the hyperemia rather than on the hemorrhage. Foa[23] in a similar series found that a few seconds after ligation, the infarcted area might be pale, but that at the end of twenty-four hours it was swollen and red. He noted the presence of moderate hemorrhage.

In spite of this work, Thoma[19] in 1894, still described the renal infarct as pale from the outset. More recently Beattie and Dickson[24] report work done by Forbes[25] under Greenfield's direction, in which seeds were injected into the arterial circulation. In the kidney they note, in the early stages, congestion with slight hemorrhage, most marked in the medulla; later, pallor develops both centrally and peripherally, associated with necrosis throughout the infarct. In the spleen they find hemorrhage to be very conspicuous in the early stages, with decolorization appearing later.

Regarding regeneration in the kidney, Litten, Petrone,[26] Arnold,[27] Weigert, Podwyssozki,[28] Thorel[29] and Pearce[30] all have noted epithelial proliferation after various renal lesions, but no true tubule reproduction and no formation of new glomeruli. Pisenti[31] alone claims to have seen, after excising small pieces of kidney, some attempt at the formation of glomeruli and true tubules. Except in those cases associated with abscess formation, organization of the infarcted area has been noted by all observers, beginning, during the course of the first week after infarction, at the periphery and gradually extending toward the center. Very recently MacNider[32] has presented a series of experiments on the cat, in which he ligated one branch of the renal artery and made histologic studies at intervals of from twenty-two hours to ninety days, especial attention being given to the regenerative changes.

The present group of experiments represents the first of a series in which is contemplated the study of infarction in all its phases. Up to this time the greater number of investigators in the field have studied not only infarction, but also the closely related subjects of thrombosis and embolism. That these two latter conditions, of importance in the etiology of infarction, have distracted attention from the infarct itself is reflected in the insufficient reports on the gross and minute anatomy of infarcts and in the incompleteness of experimental procedures to elucidate the various changes found. We propose to study the anatomy of the infarcted areas in various stages, both under normal conditions of circulation and with certain experimental variations in the general circulation of the organ in question; we shall take up certain problems in physiology and physiologic chemistry suggested by our observations and shall extend the investigations to all the available organs of the body so as to be able, on the completion of the study, to make definite and conclusive deductions.

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[9] Von Zielonko, J.: Ueber Entstehung der Haemorrhagien nach Verschluss der Gefässe, Arch. f. path. Anat. u. Physiol., 1873, lvii, 436.

[10] Kossuchin, A.: Zur Lehre von dem embolischen Infarkte, Arch. f. path. Anat. u. Physiol, 1876, lxvii, 449.

[11] Küttner: Beitrag zu den Kreislaufsverhältnissen der Froschlunge, Arch. f. path. Anat. u. Physiol., 1874, lxi, 21; Beitrag zur Kentniss der Kreislaufsverhältnisse der Säugethierlunge, Arch. f. path. Anat. p. Physiol., 1878, lxxiii, 476.

[12] Litten, M.: Untersuchungen über haemorrhagischen Infarkte, etc., Ztschr. f. klin. Med., 1880, i, 131.

[13] Von Recklinghausen: p. 160.

[14] Brown-Séquard: Quoted by von Recklinghausen: See Note 7.

[15] Bier, A.: Die Entstehung des collateralen Kreislaufes, Arch. f. path. Anat. u. Physiol., 1898, cliii, 434.

[16] Mall, F.: A Study of Intestinal Contraction, Johns Hopkins Hosp. Rep., 1896, i, 37.

[17] Beckmann, O.: Embolie der Arteria mesenterica superior, Arch. f. path. Anat. u. Physiol., 1858, xiii, 501.

[18] Weigert, C.: Ueber die path. Gerinnungsvorgänge, Arch. f. path. Anat. u. Physiol., 1880, lxxix, 87; see p. 104.

[19] Thoma, R.: Lehrbuch der pathologischen Anatomie, Stuttgart, 1894, vol. i.

[20] Argutinsky, P.: Beiträge zur normalen und pathologischen Histologie der Niere, Halle, 1877.

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[22] Talma, S.: Der Verschluss der Nierenarterien u. seine Folgen, Ztschr. f. klin. Med., 1881, ii, 483.

[23] Foa, P.: Ueber Niereninfarkte, Beit. zur path. Anat. u. Physiol., 1889, v, 275.

[24] Beattie, J. M., and Dickson, W. E. C.: General Pathology, Philadelphia, 1908, p. 165.

[25] Forbes, quoted by Beattie and Dickson: See Note 24.

[26] Petrone, A.: La rigenerazione del fegato e del rene per neoformazione dei loro dutti escretori, Giornale Morgagni 1881, xxiii, 805.

[27] Arnold, J.: Beiträge z. Anat. des miliaren Tuberkels, Ueber Nierentuberkulose, Arch. f. path. Anat. u. Physiol., 1881, lxxxiii, 289; see page 295.

[28] Podwyssozki, Jr., W.: Ueber Regeneration der Drüsengewebe, Beitr. z. path. Anat. u. Physiol., 1888, ii, 3.

[29] Thorel, C.: Ueber typische u. Pseudoregeneration bei Niereninfarkten, Arch. f. path. Anat. u. Physiol., 1896, cxlvi, 297.

[30] Pearce, R. M.: Notes on Late Stages of Repair of Kidney Tissue, etc., Jour. Med. Res., 1909, xx, 53.

[31] Pisenti: Sur la cicatrization des blessures du rein et sur la generation partielle de cet organe, Arch. ital. de biol., 1884, vi.

[32] MacNider, William de B.: The Pathologic Changes which Develop in the Kidney as a Result of Occlusion by Ligation of One Branch of the Renal Artery, Jour. Med. Res., 1911, xxiv, 425.

METHODS

The study presented at this time concerns infarction in the kidney and spleen of the dog under normal and variously altered conditions of circulation. In the spleen the vascular arrangement is comparatively simple and the only practicable experimental variation in circulation of any significance was the cutting off of the general arterial supply. In the kidney, however, the fact that the organ is supplied and drained by renal, ureteral and capsular vessels makes matters more complicated. With the capsular vessels we include the anastomoses with the adrenal and lumbar circulation. It was, therefore, necessary to study the kidney under the following conditions:

1. With normal circulation.
2. With renal artery ligated.
3. With renal vein ligated.
4. With renal artery and vein ligated.
5. With renal artery, vein and ureteral vessels ligated.

In female dogs the additional anastomosis with the ovarian circulation is usually very rich and required special ligation. In all cases with ligation of the ureteral vessels any possible flow of urine from the kidney was provided for by the insertion of a small aluminum cannula into the ureter, the silk being tied around it. Decapsulation in addition to universal ligation was not practiced, since it was found that it led to extensive suppuration of the kidney and, moreover, the universal necrosis under these conditions rendered the study of the infarcts impossible.

In ligating the splenic artery, particular care was taken to tie off also the branches anastomosing with the gastric artery. On several occasions simple ligation of the splenic veins was tried, but the early infarcts were entirely obliterated by the swelling resulting from this procedure, and the later ones showed no marked differences from those of normal spleens, with the exception that the entire mass of the spleen was much diminished and the organ pallid in appearance. Accordingly, it was felt that no additional information of value could be obtained from an extended series of this kind. The dogs in all the groups were killed two, four, twelve, twenty-four, forty-eight hours, and four and seven days after the production of the infarcts.

The operations were all done aseptically and under deep ether anesthesia. A median abdominal wound was made from 2 cm. above the umbilicus to the pubis and the left common iliac artery exposed. For the insertion of the emboli an annealed soft copper tube, 35 cm. long and 1 mm. in caliber, provided with a flexible steel obturator, was used. After orientation experiments with begonia, aldike clover, mustard and tobacco seeds, the last were found to be most satisfactory, and were used uniformly throughout the series. About 50 seeds were placed in the end of the copper tube in a space left by drawing the obturator back for a distance of 2 cm. The instrument was inserted into the iliac artery and as far up the aorta as desired. It was not long before sufficient skill was acquired to avoid abrasion of the intima of the aorta. For the production of splenic infarcts it was necessary to have the end of the tube 2 to 3 cm. above the origin of the celiac axis and to occlude, by pressure with the finger, the superior mesenteric, renal and right common iliac arteries. For the production of renal infarcts the end of the cannula was placed just below the origin of the celiac axis and the superior mesenteric and right common iliac arteries occluded. In those cases in which both renal arteries were left open, it was found that placing the cannula at any point above the origin of the right renal artery resulted in more frequent infarction of the right kidney than of its fellow; and when both organs were infarcted, the infarctions were more numerous in the right. For this reason most of the work was done on the right kidney. It was necessary to occlude the mesenteric artery temporarily, so as to avoid the entrance of seeds into the arteries of the intestines and the consequent production of gangrene. Where several renal vessels were ligated, the artery was tied first, then the vein, then the ureteral vessels, and, in females, the ovarian circulation.

Heavy white silk (Corticelli EE) was used for all ligations. The wound was closed by the usual surgical procedure, and after the given time had elapsed, the animals were killed with chloroform. At autopsy the success of the ligations was carefully determined, gross notes and diagrams were made, the tissues fixed in Zenker's fluid, embedded in paraffin and stained with Delafield's hematoxylin and alcoholic yellow eosin. The minute study of the slides was aided by and correlated with the gross diagrams and notes.

RESULTS

Grossly, the experimental infarcts of the kidney became distinctly visible at the surface of the organ in from three to five minutes after the injection of the seeds into the aorta. The first noticeable change was the appearance of a brilliant purple color which occupied a large part of the infarcted area. This congestion gradually extended until, in about ten minutes, the infarct in its entirety was sharply defined. (In only one infarct was there any exception to this rule. This was in a somewhat fibrosed organ, the infarct appearing first as a pallid area with a purple marginal zone, the entire area becoming purple, however, in less than two minutes after the infarct became distinguishable.) No definite swelling was noticeable in this early stage, probably because of the tension of the kidney capsule. At the expiration of two hours, however, the entire kidney, which at first had been of a bright pink color, became of a color so closely matching that of the infarct that the outline of the latter, in a large number of cases, was almost entirely lost. At the end of four hours, although still lacking in definition on the outer surface, the infarct could be fairly well defined in the cut surface. At this time in all the kidneys examined, the infarct was seen as a purple mass of deeper color than the surrounding kidney, rather poorly defined, moist and bloody, usually bulging on section and occasionally protruding somewhat above the surface of the organ. At this stage there was present in the vast majority of instances, a peripheral zone rarely more than 1 mm. in width, in which the tissue was somewhat lighter in color than in either the infarct or the surrounding kidney substance. The fact that this zone could not be distinguished microscopically, leads to the conclusion that it represents a zone of relative compression anemia. This pallid area remained visible for several hours, disappearing in from twenty-four to forty-eight hours, when the infarct reached the limit of its elevation and deep color and began to fade and retract. Necrosis began in the infarcts of the normal kidneys in forty-eight hours, the same being true of the infarcts in those kidneys in which the arterial supply was cut off without other interference with the circulation. After simple ligation of the vein, necrosis appeared in the infarct at the end of twenty-four hours; and with additional ligation of artery and ureter, it appeared in from twelve to twenty-four hours. Usually coincident with the necrosis, a clearly visible, but always very narrow, zone of reactive hyperemia appeared at the margin of the infarct, but congestion of this kind was by no means a constant feature. The necrosis appeared first as irregularly distributed, minute areas near the middle of the infarct, in the later stages becoming larger and fusing to form solid, fairly large masses of necrotic material. In the late infarcts (four to seven days old) where the outer surface and cut surface showed retraction of the infarcted mass, the central necrotic mass was often surrounded by a red zone, which histologically was found to be in part the remnant of suffused blood that had not undergone complete necrosis and in part blood which had infiltrated from the reactive hyperemia. Outside this zone was frequently seen a pallid zone which histologically corresponded to the zone of forming connective tissue. There is little doubt that with the progress of the necrosis, the intermediate zone of redness gradually disappears. Furthermore, in small infarcts this red zone was completely absent at the end of seven days. It must be said, however, that the sequence of gradual changes was not shown nearly so well in gross as in microscopic specimens. Indeed, it seems highly probable that the infrequence of the finding of red infarcts in the human kidney, is due to the fact that in this early stage the infarcted area is so ill defined as to be practically indistinguishable. A point of considerable interest is the fact that the infarcts were often very irregular in outline and varied markedly in general conformation, being most frequently conical, but very frequently hemispheric or cylindric.

The infarcts of the spleen became easily visible even more rapidly than did those of the kidney. They appeared as deep purple, fairly well-defined areas, usually triangular in shape near the poles or margins, but when occurring midway between the poles, extending as linear masses transversely across the organ. No portion of the spleen was more commonly infarcted than another. The most striking feature of the infarcts in this early stage is their marked swelling, which in many cases caused infarcts 1 cm. broad to project 3 to 4 mm. above the surface of the organ. At two and at four hours after infarction, the appearance of elevation was lessened and the outline of the infarct was not so well defined, probably because of the general enlargement and increased depth of color of the organ resulting from general congestion. A small percentage of the earlier infarcts showed a narrow pallid marginal zone, similar to that sometimes seen in the kidney infarcts, but again histologic examination failed to prove its nature. Necrosis did not appear in the infarcts of the spleens with unaltered general circulation until a week had elapsed, but in the series in which the splenic artery was ligated, necrosis was noted at the end of forty-eight hours. The necrosis, at first, was irregularly distributed, but later extended throughout the center of the infarct, except in one infarct in which the white necrotic mass had a central dry, red area. No zone of reactionary hyperemia was demonstrable at any stage of the condition, and it may safely be said that the only significant difference brought about in the course of the infarcts by artificially altering the circulation was that ligation of the artery caused necrosis to appear earlier than when the general circulation was not disturbed.

Histologically the infarcts presented pictures that showed very clearly the progress of the condition. In those infarcts which grossly were distinguished only with the greatest difficulty, the microscope showed unmistakable signs of focal interference with circulation and no mistake in the diagnosis was possible. Rather vaguely outlined in the early stages, definition became clearer and sharper as the condition progressed.

In the normal kidney, two hours after infarction, there was a small zone of subcapsular hemorrhage overlying the infarct, and well-marked congestion of the intertubular capillaries and of the capillaries of the tufts. The blood in both regions was distinctly conglutinated, although in a specimen taken one hour after infarction (not included in the general series and only differing in this one respect) the conglutination had appeared in the intertubular capillaries, but not in the glomerular loops. The blood at this time was confined to the vessels, with the exception of a few corpuscles found here and there in the midst of the space occupied by a very well-marked interstitial edema, and in the subcapsular space which also showed a finely granular albuminous deposit, evidently of an edematous fluid. The tubular epithelium, especially of the convoluted tubules, showed marked cloudy swelling but practically no desquamation, and the nuclei of these cells showed slight fading of the central chromatin, the margins being still sharply defined. The lumina of the tubules were somewhat enlarged because of thinning of the cells surrounding them, but were well filled with a finely granular albuminous material, probably edematous in character. The larger vessels and the vessels of the medulla showed fairly well-marked congestion, but the medulla in this, as well as in all other sections, showed no other notable changes except for moderate fibrosis in the very late stages.

At four hours the conglutination had progressed, and some of the blood in the middle of the infarct showed fading of the hemoglobin. The tubular epithelium was more markedly degenerated and showed moderate desquamation. Desquamation and well-marked cloudy swelling were also observed in the epithelium lining the capsule of Bowman. The edema had become more marked in all situations, being accompanied in the glomerulus by distention of the capsule. Well-marked pyknosis and karyolysis were present.

At twelve hours, aside from the fact that the infarct was sharply defined, there were no notable changes except in degree.

At twenty-four hours the infarct was very clearly defined and it had become possible to distinguish two zones: an outer zone in which the necrosis had evidently come on rapidly, giving the infarct its sharp definition; and an inner zone where hemorrhage had become well marked. The tubules and subcapsular spaces of this marginal zone appeared as coarsely granular, or almost hyaline, acidophilic masses and the interstices between the tubules, in the inner part of this zone, were occupied by conglutinated red blood-cells, and, in the outer part, by fresh, well-stained, non-conglutinated red cells, the latter being largely intravascular and very evidently dependent on a slight hyperemia in the surrounding living tissue. A few polymorphonuclear leukocytes were found in this zone.

At forty-eight hours the conditions were much the same, except that the center of the infarct showed hemorrhage more clearly, and the fading of the red cells had progressed to a considerable degree.

At four days the necrotic central zone was greatly increased in size. A zone of solid necrosis, seen as a peripheral zone in the preceding sections, now became an intermediate zone, due to the appearance of an outer marginal zone of growing connective tissue, somewhat poorly vascularized. No mitotic figures were demonstrable.

At seven days the fibrosis was more extensive, and occasional mitotic figures were seen in the tubules near the margin, but with no evidence of new formation of tubules.

Ligation of the renal vein resulted in several changes in the microscopic appearances of the infarcted and non-infarcted areas. The most notable change was in the blood content, which in the infarct was very much greater than in the non-infarcted area; and two hours after infarction there was seen slight, but easily demonstrable, hemorrhage into the subcapsular space and the interstitial tissue of the pulp. Edema was about the same in this as in the preceding series. The infarct became sharply defined in four hours (earlier than in the first series), showed somewhat more rapidly progressing hemorrhage and conglutination and an early fading of the masses of blood in the middle of the infarct which became almost complete at twenty-four hours. As a whole, the series was characterized by more marked circulatory alterations and more rapid degenerative changes in the parenchyma than were evident in the kidneys with normal general circulation. At four and seven days after infarction, the central zone showed a rich, very fine network of fibrin in the positions from which the erythrocytes had disappeared. The new growth of connective tissue was not especially different in progress or character from that seen in the previous series. In the surrounding kidney substance, cloudy swelling, edema, and congestion were observed very early; definite necrosis was not demonstrated; hyaline casts became evident in four hours, and rapidly increased; and regenerative changes in the epithelium were not demonstrable.

With ligation of the renal artery alone, the blood conditions in the infarct were much the same as in the series with normal general circulation, except that the blood-content of the necrosing area was less, although not markedly so. The changes in the suffused blood progressed with the same rapidity as in the first series; the infarct became sharply defined at four hours (earlier than in the first series, at the same time as in the second series); decolorization of the corpuscles was well-marked at twelve hours and progressed somewhat more rapidly than in the first, and less rapidly than in the second, series; degenerative changes in the parenchyma followed much the same course as in the second series, and fibrin appeared in the center of the infarct just as in the second series. Organization was well-marked at four days. A few mitotic figures were found in the epithelium immediately surrounding the infarct at seven days. The non-infarcted areas showed, in the early stages, well-marked capillary congestion which became much less marked after twelve hours; also moderate edema, well-marked cloudy swelling, going on to distinct necrosis in the later stages, and in the seven-day kidney the presence of hyaline casts.

On ligation of the renal vein in addition to ligation of the renal artery, the infarcts progressed in practically the same way as with ligation simply of the renal artery. This statement applies to blood-content, blood-changes, degenerative changes, and regenerative appearances. Neither did the appearance of the non-infarcted areas differ in any essential feature.

Ligation of renal artery, renal vein and ureteral vessels (and, in female dogs, the ovarian anastomoses) resulted in no distinct variation in the amount of blood in the infarct, or in the subsequent alterations in the blood, from that seen in the third and fourth series, and organization was not noticeably retarded, but the infarct became sharply defined histologically at the end of two hours (more rapidly than in any of the other groups), necrosis progressed with great rapidity (also clearly noted grossly at twelve to twenty-four hours) and no mitotic figures were found in the surrounding epithelium. The non-infarcted kidney substance was anemic from the first and showed rapidly progressing degeneration and necrosis of the epithelium. Hyaline casts were present in considerable numbers at, and after, twenty-four hours; only in the series in which the renal vein alone was ligated, had they been seen so early and in such great numbers.

Throughout all the groups careful microscopic examination showed no very marked leukocytic infiltration. The slight degree of infiltration noted was always marginal, never showed deep penetration and usually appeared at from twenty-four to forty-eight hours.

The spleen at the end of two hours showed rather poor definition of the infarct histologically, with a narrow zone of uninfarcted tissue immediately under the capsule. In the periphery of the infarct was found a marked distention of isolated blood-sinuses with but little or no extravasation. The pulp in this area showed no change, but in many instances the follicles, even though not apparently within the zone of infarction, showed slight pyknosis and karyorrhexis in those cells situated near the middle of the follicles, but not in direct apposition to the central artery. In the middle of the infarct there was more marked distention of the sinuses, more uniformly distributed congestion and very distinct extravasation. Here, also, the follicles were uninvolved by the hemorrhage, but showed somewhat more marked pyknosis and karyorrhexis than did the follicles at the margin of the infarct. Those parts of the pulp that were almost obliterated by congestion and hemorrhage showed moderate pyknosis and karyorrhexis in the remaining cells. Conglutination was moderate in the areas both of congestion and of hemorrhage. The non-infarcted areas showed no pathologic alterations.

At four hours the only changes worthy of note were somewhat more marked conglutination, more extensive nuclear degeneration and a degeneration of the protoplasm of the cells in the infarcted zone as shown by a lessened affinity for the eosin. Trabeculæ, blood-vessel walls and follicular outlines were well preserved.

At twelve hours the infarct became sharply defined by the extension of the hemorrhage into the marginal zone, which previously had shown only congestion. Conglutination was well-marked and necrosis advanced. In the pulp immediately surrounding the infarct, there was a moderately well-marked infiltration of leukocytes which, however, penetrated but a very short distance into the hemorrhagic area.

At twenty-four hours no additional changes could be demonstrated.

At forty-eight hours conglutination had reached such an extreme degree that the infarct appeared as an almost hyaline, red mass, containing the trabeculæ and small circular areas of nuclear fragments representing the follicles. At this stage the nuclei of the trabeculæ showed a marked diminution in the affinity for the hematoxylin. The marginal leukocytic infiltration was about the same as at twenty-four hours.

At four days the infarct was sharply defined and still showed a narrow zone of living tissue immediately beneath the capsule. In the margins of the infarct a few of the trabeculæ with their blood-vessels persisted apparently uninjured. From the tissue immediately surrounding the infarct, i. e., from the trabeculæ in the margin and their blood-vessels, from the fine fibrillar connective tissue framework of the living pulp, from the thin layer of living tissue underlying the capsule and from the capsule itself, a slight new growth of connective tissue, rather poorly vascularized, had developed. The infarct itself appeared as a mass of almost completely decolorized erythrocytes and many irregularly distributed nuclear fragments. In the center of this mass, the red blood-cells had almost completely disappeared and there was found a fine network of fibrin, enmeshing a relatively small number of fine albuminous granules.

At the expiration of one week, the new growth of connective tissue was somewhat more extensive; the leukocytic infiltration had almost completely disappeared, and the central area of complete necrosis and fibrin formation was somewhat more extensive. At this stage was present a very slight hyperemia in the smaller vessels outside the zone of organization, a feature not demonstrable earlier in the course of the development of the infarct. At no time could granular or crystalline pigmentation of the infarct be demonstrated.

Ligation of the splenic artery produced practically no change in the microscopic character of the infarct, except that the process extended to the capsule without any intervening rim of living cells. In the later infarcts, however, a zone of new growing connective tissue appeared between infarct and capsule, evidently taking its origin from the latter structure. Decolorization of the erythrocytes appeared somewhat sooner than in the preceding series and progressed more rapidly. Necrosis of the cells of the pulp and follicles followed the same course as in the spleens with normal general circulation. The non-infarcted tissue showed no effect of the ligation, except that, after one week, the protoplasm of the larger lymphocytes and endothelial cells showed diminution in affinity for eosin.

CONSIDERATION OF THE DATA

In the discussion of the various facts established by, and inferences to be drawn from, this study, it is proposed to take up, first the circulatory changes with especial reference to congestion, conglutination of red blood-cells, solution of hemoglobin, fibrin formation, then the progress of degenerative changes in parenchymatous and connective tissues, and finally the evidences of regeneration and organization.

A conclusion from the work that is unavoidable is that, in the kidney and spleen, all infarcts are primarily hyperemic. The term "hyperemic" is used advisedly, for in the earlier stages, at least in the kidney, hemorrhage plays a very unimportant part in comparison with hyperemia. In the spleen, the extravasation can be seen distinctly in the center of the infarct four hours after embolism, but in the kidney it does not become an important feature for from twenty-four to forty-eight hours. The hyperemia is diffuse and is much more striking in the capillaries and small vessels than in the larger arteries and veins. The hemorrhage is considered by most writers to be the result of diapedesis due to injury of the vessel walls. From our histologic examination this statement cannot be gainsaid; indeed there is much experimental evidence for accepting it. In the walls of the larger arteries, however, we were not able conclusively to demonstrate early degeneration; their walls were distinctive until long after the hemorrhage had appeared. This does not by any means controvert the statement in question, because diapedesis naturally would take place from the smaller vessels, vessels whose walls are not likely to be well defined under conditions such as are found in the infarcted areas. In the kidney, the early hyperemia was most notable in the intertubular and glomerular capillaries, and as it was in these places that extravasations were seen there is little room for doubt that the capillaries which are the seat of the most intense congestion, furnish the blood that later appears as extravasations. In the spleen, the sinuses of the pulp showed intense early congestion, a congestion which was not, and did not later become, evident in the follicles; the hemorrhage appeared in corresponding position and evidently came from the thin-walled vessels.

In determining the source of the congestion, arteries, veins and capillaries must be considered. It is very unlikely that the capillaries play an important part, because very early they become occluded with the conglutination thrombi, which will be discussed later. In addition, the work of Mall[16] leaves very little doubt that physiologically the capillaries soon become impermeable. The possibility that reflux from the veins plays an important part has also been ably refuted by the same writer. In addition also, the study of our specimens shows that ligation of the veins had practically no effect in varying the amount of congestion after the pressure of the arteries had been eliminated. That the general vascular pressure in the kidney has an influence on the blood-content of the infarct, was shown by the increased amount of blood in the infarct when the vein alone was ligated. Ligation of the main artery and vein was followed by the appearance of relatively little blood in the infarct, doubtless because of the relatively low pressure maintained by the collateral circulation. Cutting down the circulation to a minimum, however, as was done by additional ligation of the ureteral and ovarian circulation, was in no case followed by what might be called an anemic infarct. Where all circulation was cut off, necrosis was so extensive that no infarcted areas could be clearly seen. The assumption is obvious, therefore, that whatever hyperemia is present, is due to the dilatation of the vessels in the infarcted areas and is dependent on the arterial pressure of the surrounding, living tissue; regurgitation from the veins plays no significant part in its production.

Edema of the interstitial tissues and the presence of an excess of albuminous precipitate in the subcapsular space, were constant and early but tended soon to disappear.

Marginal hyperemia, the so-called collateral hyperemia, usually did not appear until forty-eight hours or more had elapsed. It would seem that this is a local condition dependent on the irritation of the necrotic mass, because it did not appear until necrosis was distinctly in evidence. That it is local was evidenced by the fact that variations in general circulatory conditions did not appreciably influence it.

The term conglutination, used freely in describing the microscopic appearance of the infarcts, is taken to mean clumping and fusion of the corpuscles; mere clumping, however, is of little significance because, of necessity, the corpuscles are in close apposition as they lie in the tissues and vessels. The condition appeared within two hours after infarction, gradually became more marked and reached its height in from twenty-four to forty-eight hours, and then slowly became less manifest because of fading of the corpuscles. Little change in this process was found under the various circulatory conditions, except that in the series of kidneys in which the vein alone was ligated, conglutination reached its height somewhat earlier than in the other groups. What part the heightened pressure played in this variation is problematic, but it seems likely that the chief reason why the change was so notable is that, when the vein alone was ligated, the vessels were richer in blood and the extent of conglutination correspondingly great. In the spleen, conglutination occurred much as it did in the kidney, the only difference being that it appeared to be fairly extensive in the earlier infarcts, probably because the blood is in greater masses in the distended splenic sinuses than in the smaller kidney capillaries.

Fading of the corpuscles or solution of their hemoglobin did not appear, as a rule, until forty-eight hours had elapsed. It was usually seen in the center of the infarcted mass and progressed peripherally, but even at the end of a week, at least in the larger infarcts, there was usually a fairly large mass of conglutinated, well-stained cells between the central pale areas and the marginal zone of the infarct. In none of the slides was granular pigment deposit found, and it seems probable that the hemoglobin diffused into the surrounding tissues without further decomposition. If any flow of tissue juice or plasma occurs in the vessels of the infarcted area it must be extremely slight because of the conglutination thrombi in the capillaries and the coagula in the larger blood-vessels. It is but natural to expect that the earliest and most extreme degeneration would occur centrally, because this part of the mass is furthest from the source of nutrition. It is not likely that leukocytes play any part in the removal of the hemoglobin, because none of the specimens showed deep penetration of these cells into the infarct. Indeed, with the exception of some of the later infarcts in the spleen, there was never more than a very moderate peripheral infiltration of polymorphonuclears, and in the kidney the lymphocytes were even less prominent. That venous drainage has little or nothing to do with the decolorization, is evidenced by the fact that ligation of the vein played no important part in the fading of the cells, the central pallor of the infarct appearing quite as soon in this series as in the others. The same is true of changes in the arterial conditions, for solution of the hemoglobin was quite as prominent a feature in the groups in which the artery was tied as in the group in which no vessels were ligated. It would appear, therefore, that plasmatic diffusion is responsible for the disappearance of this pigment.

Coincident with the disappearance of the hemoglobin, fibrin could be seen in the center of the infarcted area. It did not appear as heavy bands at any time, but was clearly distinguishable as a closely woven mesh of very fine threads with the typical nodes at the points of intersection. This applies equally well to kidney and spleen.

The degenerative changes in the parenchyma put in their appearance early, first as simple cloudy swelling, then desquamation, nuclear degeneration and finally at the end of about forty-eight hours, complete necrosis. All these changes reached their height in the central parts of the infarct before the marginal parts became affected, and also showed more markedly in the convoluted than in the other tubules. An interesting feature is the fact that the epithelium in the center of the infarct tended to break up into a finely granular mass, whereas that in the margin, slightly affected at first, suddenly underwent complete necrosis and the necrotic material filled the tubular spaces as a coarsely granular, almost hyaline mass. This marginal epithelium probably receives just sufficient nutrition by imbibition to keep it alive for a short time. When this nutrition fails, probably because of the pressure of the swelling infarct, the epithelium suddenly undergoes this peculiarly rapid necrosis.

In many of the infarcts, for the first twenty-four or forty-eight hours, a small number of tubules in the margin and, indeed, a few fairly deep in the infarct, retained their form and normal staining reactions, but at the end of this time, as the infarct became sharply defined, these tubules became less frequent and were very exceptional in older infarcts.

In the spleen, the degeneration of the cells of the pulp and follicles appeared first as nuclear pyknosis and fragmentation, which was especially evident in the center of the follicles. It extended rapidly, however, so as to involve the entire follicle and pulp. The protoplasm showed little demonstrable change until about forty-eight hours had elapsed, when there was distinct solution.

The interstitial tissue did not degenerate until late in the course of the condition. In the glomerular tufts necrosis was evident first in nuclear fragmentation and then in complete disappearance of nuclei and vascular loops. In the spleen, the trabeculæ lost their nuclei rather by lysis than by rhexis, and subsequently the whole mass of tissue lost its outlines.

Regeneration of the parenchyma in the kidney was evidenced only by the presence of mitotic figures, sometimes typical and sometimes atypical, in the tubules immediately surrounding the infarcted zone. In concordance with other workers, we were unable to demonstrate tubule formation. We were not able to demonstrate regenerative changes until a week had elapsed, and in the series in which artery, vein and ureteral circulation were cut off, the sections showed no mitoses whatever.

In the spleen, no evidence of regeneration was found. In both spleen and kidney, however, organization at the periphery of the infarcted areas was demonstrable at four days and was well under way at the end of one week. The newly-formed tissue in both organs was notably poor in new blood-vessels. In the kidney, variations in the growing connective tissue, under the differing circulatory conditions, was not noted.

In the series in which practically all the circulation was cut off, marked progressing fibrosis throughout the non-infarcted areas was present, but the growth immediately about the infarct was no greater than in the other series.

CONCLUSIONS

The most important conclusions are:

1. Regardless of general circulatory conditions, all infarcts of the kidney and spleen of the dog are first hyperemic, then hemorrhagic and finally become pale from coagulation necrosis.

2. The hyperemia of the early infarcts is, in a general way, proportional to the vascular pressure within the organ as a whole, and is not due to reflux of blood from the veins.

3. Conglutination of the red blood-corpuscles is the earliest demonstrable change in the blood of the infarct; removal of pigment from the infarcted area is probably due to plasmatic diffusion; definite fibrin formation appears relatively late in the course of the condition.

4. Necrosis progresses more rapidly in infarcts in those organs in which the general circulation is altered in some way (either from damming back of blood by vein ligation, or from cutting down arterial supply), than in organs in which the general circulation is normal.

5. The pallor of the white infarcts is due to decolorization of the contained conglutinated and coagulated blood; decolorization begins in a general way in the middle of the infarct and extends peripherally.

6. Organization progresses as well in organs in which the general circulation is diminished as in those in which the general circulation is normal.

7. Regeneration is seen, in the kidney, only in the occurrence of mitotic figures in the epithelium near the margin of the infarct; it is diminished by any decrease in the general circulation. Regeneration of the cells of the splenic pulp or follicles is not demonstrable previous to, or at the end of, one week.

THE IMPORTANCE OF MEDIASTINAL GLANDS

AND FAILURE TO MAKE PROPER DIAGNOSIS *

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This investigation, the results of which are shown below, was undertaken to determine the significance of mediastinal or bronchial glands in early or mistaken cases of tuberculosis of the right lung apex. Before considering the diagnosis of these glands and their connection with mistaken cases of right apical tuberculosis, it may be well, however, to examine anatomically the location of the bronchial glands and their relation to other lung structures and to review the literature on this subject.

As seen in the diagram (Fig. 1, Sukiennikow's[1]), the greater number of glands are situated on the right and along the main bronchial vessels; there is also greater massing of glands on the right as well as chain formation. Normally, we also find that the right bronchus branches off at a higher point than the left, corresponding to the fifth dorsal vertebra (Gray[2]); it is also shorter, wider and more vertical than the left bronchus. The right bronchus apparently is also a more direct continuation of the trachea than the left (Gray). Sukiennikow, describing the development of the tracheobronchial and the bronchopulmonary lymph-glands, concludes that the appearance and the grouping of these glands have a fixed regularity of massing, and that those situated in the angle of the bronchi are bound there. It is also well to remember that the cervical lymph-nodes are not anatomically connected with the tracheobronchial lymph-nodes (Bartel[3]), so that these glands are excluded from our consideration.

In 1889 Krönig practiced a method of percussion of the apices, which determined for him the existence of a simple non-tuberculous collapse induration of the right lung apex; and in 1907 he issued a treatise[4] wherein he set forth his studies regarding the false dulness obtained at the right lung apex, usually over the clavicle and spine which had a great similarity to incipient tuberculosis. Associated with this was a residual light bronchial catarrh, cough, expectoration, etc. His explanation was a physiologic one, namely, an impaired infiltration caused by adenoid growths and catarrhal mucous membranes, and that, with a greater inspiration of dust-laden air on the right, an induration resulted at the right apex and later a collapse of that portion. The bronchial breathing is slightly increased, but varies very little from the normal. In 1908 Blumel[5] substantiated these findings of Krönig. On the examination of 1,700 referred tuberculous patients, eighty-five did not have tuberculosis, and twenty-eight of these were considered as cases of collapse-induration. Wolff-Eisner,[6] in 1909, with the aid of conjunctival tuberculin reactions, demonstrated the same thing in several cases. Bing,[7] in 1910, in the examination of a great many cases by means of a sagittal method of percussion like Goldscheider's[8] found another cause for false dulness at the right apex. This dulness occurs in older children of tuberculous families. He found by percussion either a slight or an increased dulness, but with auscultation nothing very definite. These findings covered a much less surface than his cases of apical infiltration, and the harsh breathing usually found in such cases was virtually absent. On a closer examination and by lighter sagittal percussion with firm pleximeter pressure, especially in the intercostal spaces, which brings one closer to the lung, he concluded that he was dealing with enlarged bronchial glands. According to Bing, no cases were found of Krönig's retraction dulness, and he concludes that it should not be considered unless all evidence of adenopathy has been ruled out, and that wherever swelling of the bronchial glands occurs, there will be found a false dulness at the upper half of the right lung apex. This is slighter on the inner and greater on the outer side, thus differentiated from true infiltration dulness by position and by Goldscheider's method of sagittal percussion which emphasizes the median line and upper borders of the lung, front and back surfaces with the accompanying dulness over sternum and back. Bing's explanation includes the statement that by the swelling of the bronchial glands, more or less air-spaces are shut off, and that, as a result of this, dulness can also be demonstrated at the junction of the second rib and the sternum, along the right of the sternum, and at the back from the third to the sixth rib. Figure 2 is made from one of his cases.

Bing declares that should one percuss by Krönig's more or less vertical method, a clear sounding zone or isthmus would be found above the upper border of the lung. In disease processes this zone is decreased and the

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* From the X-Ray Department, Boston City Hospital.

[1] Sukiennikow: Berl. klin. Wchnschr., 1903, xl, 316, 347, 369.

[2] Gray: Illinois Med. Jour., 1908, xiv, 54.

[3] Bartel: Sixth Internat. Tuberc. Cong., Vienna, 1907, p. 141.

[4] Krönig: Deutsche Klin., Berlin, 1907, xi, 612.

[5] Blumel: München. med. Wchnschr., 1908, lv, 1573.

[6] Wolff-Eisner: Klin., 1909, v, 890.

[7] Bing: Berl. klin. Wchnschr., 1910, xlvii, 376.

[8] Goldscheider: Berl. klin. Wchnschr., 1907, xliv, 1267, 1309.

percussion sound diminished, but if his method of sagittal percussion is used, no actual dulness is found, which is present only with the vertical method. It is apparent, therefore, that a dulness at the apex in the median line is due to an infiltration. If found more lateral and below the apex, in first or second intercostal space, by sagittal percussion, it is due to a more or less solid process occurring lower down in the lung. Consequently, it may be dependent on the swelling of glands and verified by dulness over the sternum at the first intercostal space. Some of Bing's cases were corroborated by *x*-ray examination. These findings do not apply to cases in which there is more muscular development on the right side or any other physical changes.

D'Espine,[9] in 1907, described an auscultation sign which some investigators claim of value, in determining the presence of tuberculous bronchial glands in children, namely, the whispered voice with a bronchial ring heard at the level of the spinous process of the seventh cervical vertebra and over the first dorsal vertebra. This, he explains, is due to the enlarged ganglions which surround the lower part of the trachea and the bifurcation of the bronchi. In a number of non-tuberculous cases (bronchopneumonia with measles and four cases of grip), the sound was present from the seventh cervical and over the first four dorsal vertebræ. Autopsy showed that in some cases adenopathy was present. He therefore emphasizes that where the sound persists for five or six months and longer, there can be no doubt of the presence of enlarged bronchial glands.

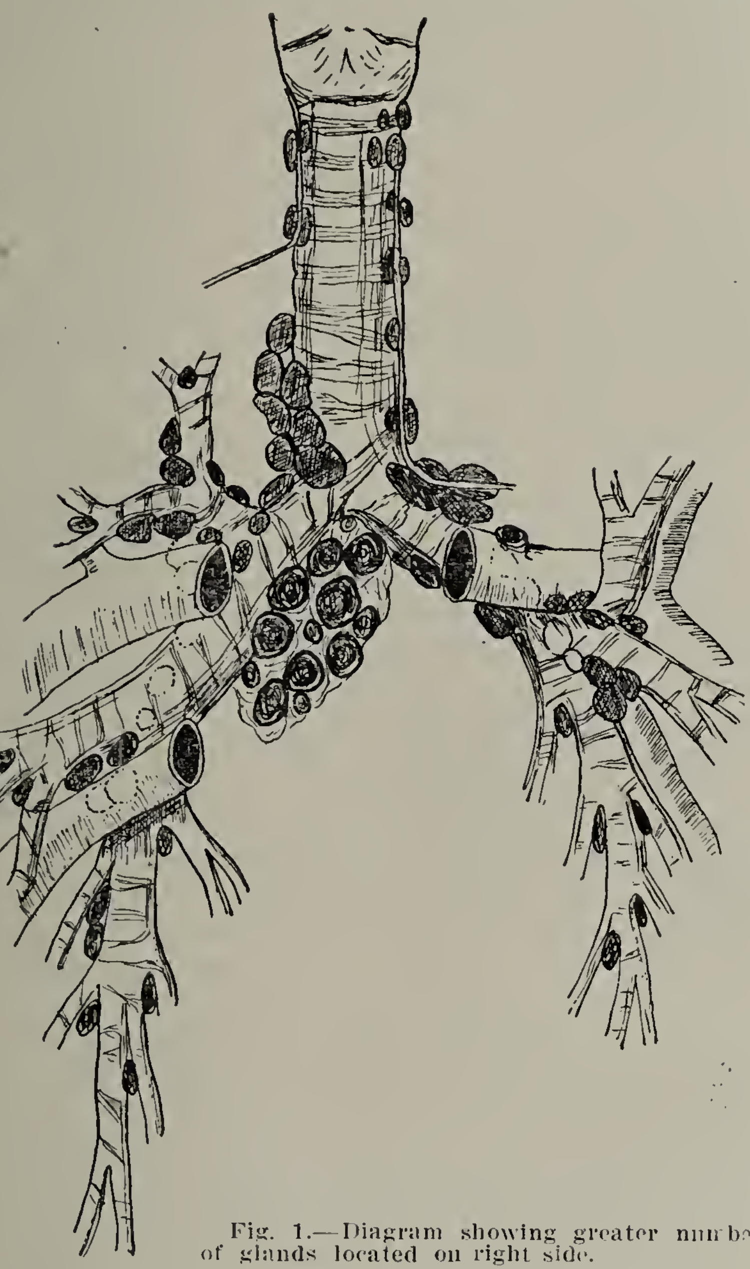
Fig. 1.—Diagram showing greater number of glands located on right side.

Gray, in 1908, found with auscultation according to D'Espine's method over the vertebral column the bronchial respiratory murmur. He emphasizes that in examining children in auscultation certain voices are husky and lacking in resonance owing to laryngeal disease and that other tracheal sounds may also predominate; but he does find that vertebræ auscultation offers certain almost constant findings. Sokolowski[10] has found in enlarged gland cases that the expiration is prolonged and more intense and inspiration rougher, especially between the shoulder blades. Stoll,[11] in the examination of 175 children for tuberculosis of the bronchial glands, obtained some results which, although not conclusive, are interesting. He found that dulness over the sternum or in the inner third of the first left intercostal space was present in forty-one cases, of which 49 per cent. reacted to tuberculin. On percussion of the vertebra spines, at or below the fifth dorsal, positive signs were present in nine out of forty cases; all nine reacted to tuberculin, and the seven adults, all of whom had other signs of bronchial gland enlargement, had either vertebral or paravertebral dulness. Vertebral bronchophony was present in eighty out of 168 children and sixty-six of the eighty reacted to tuberculin, and in twenty-four adults who had vertebral bronchophony 80 per cent. gave positive tuberculin reaction. Roberts[12] says that in a fair proportion of cases glands do not give rise to any symptoms or they may be obscured by existing lung trouble, but when the bronchial glands are affected and attain a sufficient size, the character of the breathing and cough will reveal more or less obstruction of the main air passages or nerve irritation; and it is to the phenomena thus originated that special attention must be paid

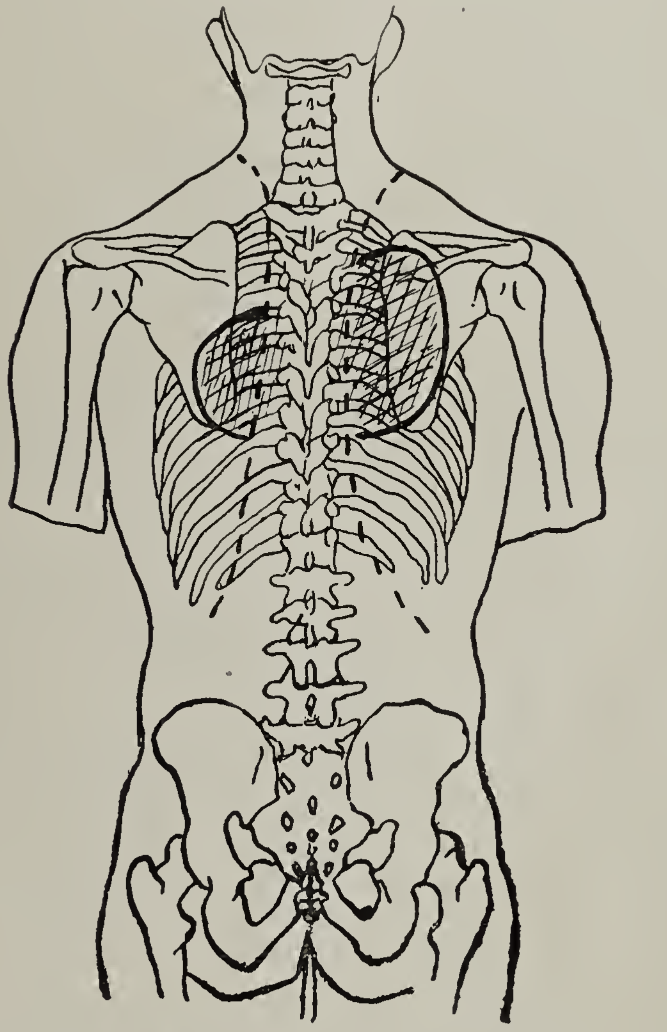
Fig. 2.—Diagram showing area of gland dulness and lung outline.

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[9] D'Espine: Bull. de l'Acad. de méd., Paris, 1907, January, p. 142.

[10] Sokolowski: Klinik der Brustkrankheiten, Berlin, 1906.

[11] Stoll: Tr. Nat. Assn. Study and Prev. of Tuberc., Sixth Ann. Meet., p. 252.

[12] Roberts: Allbutt and Rolleston System of Medicine, v. pp 595-669.

in early diagnosis, particularly in children. Numerous other signs, such as enlargement of the veins of the chest, pains, hiccough, cough, etc., are fully mentioned in literature (Sahli,[13] Osler,[14] Roberts, and others), but, in the opinion of investigators, they are secondary considerations to auscultation and percussion. It is apparent, however, from the foregoing that when the tracheovertebral and bronchovertebral spaces are occupied by glands, they may then become sound transmitting. When on examination the patient bends forward, the structures are in close proximity to the vertebral column and on auscultation and percussion disease conditions are more easily determined. It is also clear, from an anatomic-physiologic point of view, that if inflammatory conditions or pressure are present on the bronchi, the right lung and apex would more easily convey any abnormal sound that is produced.

TUBERCULIN REACTION

In the past few years discussion has been caused by the fact that tuberculosis reactions were obtained in so-called negative tuberculosis cases. Hamman and Wolman[15] reported that in non-tuberculous cases, 57 per cent. reacted to the skin tuberculin test and 83 per cent. reacted in the doubtful cases. In seventy-seven cases of Stoll's, 57 per cent. reacted to tuberculin, and in sixty-nine cases not classified 32 per cent. gave reactions. These were from a total of 175 children whom he studied to prove the reliability of certain signs said to be indicative of tuberculosis of the endothoracic glands. Sachs[16] concludes, in discussing the value of local tuberculin reactions, that the verdict of to-day is that a positive reaction following the local application of tuberculin signifies the existence of a tuberculous focus somewhere in the organism, without giving a definite idea of the active or latent character of the process. It will be sufficiently plausible, then, to suggest that a great many patients may have had tuberculous thoracic glands.

Pathologically, it is obvious that in considering enlarged glands which occur in the chest we are dealing with no one disease class. In all likelihood, tuberculosis is in the majority of cases responsible for their enlargement. But the glands alone may be involved, either in an acute or subacute stage, or inflammation of neighboring structures may have been extended to them. The tracheobronchial or mediastinal glands act as filters in which lodge the various foreign particles which escape the normal phagocytes of bronchi and lungs (Osler). It has been pointed out by various writers that catarrh of the mucous membranes predisposes to disease of the mediastinal glands. The lymph tissues and possibly the tonsils are so impaired that the bacteria find their way down until taken up by the lymphatic glands. Should spontaneous healing not take place, which Osler states happens too often, acute tuberculosis results. These glands may enlarge to such an extent that they produce pressure symptoms (Osler, Roberts, Sokolowski and others). The bronchi, and especially the right bronchus, may be compressed to such a degree that abnormal breathing sounds are caused, which may arouse suspicions of apical tuberculosis. Other symptoms, of course, may arise and in one case examined at the City Hospital there was reason to believe that pressure on the esophagus, giving rise to stricture signs, was due to enlarged mediastinal glands (Osler). Suppuration of the glands and perforation of adjacent vessels is not uncommon (Sokolowski). Abscess may occur (Hare[17]) and is not uncommon. It was found in a collection of mediastinal disease cases that the anterior mediastinum was far more frequently affected than the other two spaces and that the disease, whatever it may be, occurs more among males than females (Roberts, Hare). In a list of non-suppurative mediastinitis Hare gives only two cases in which the glands were affected, one occurring in the middle and the other in the posterior mediastinum; this was from a total of sixteen cases. Of 104 cases of miscellaneous diseases of the mediastinum, fifteen cases were of glands.

The question of tuberculosis of the glands and whether primarily infected has been broadly argued by most pathologists. Wollstein,[18] in a study of the distribution of the tuberculous lesions in 185 infants and young children (post mortem) under 3 years of age, showed that 16.4 per cent. gave tuberculosis of one or more organs. In thirteen cases the lungs and bronchial nodes were alone involved and in one case the bronchial lymph-nodes were alone involved; this was at the root of the right lung.

Considering the bronchial nodes alone, there occurred in 131 cases tubercles with cheesy degeneration, in three cases suppuration and in six cases calcareous degeneration. In thirty-eight cases the mediastinal lymph-nodes were markedly affected.

What is especially interesting for consideration is that ninety-seven cases gave the largest bronchial lymph-nodes on the right side, compared with thirty-four cases on the left side. This is naturally explained by the previously stated fact that the right main bronchus is shorter and wider and a more direct continuation of the trachea, so that inspiration is facilitated in the right lung. There appears to be no question as to the primary affection of the glands (Roberts), but whether any previous disease predisposes to this is to be considered, and Roberts states that it is a question whether these glands are contracted glands of a previous disease or the early affection of a present disease. He also believes that heredity is a factor in primary tuberculosis of the glands.

Tendeloo, in his article on the channels of infection,[19] decidedly states that if there is tuberculosis of the bronchial lymphatic glands without tuberculosis elsewhere, it has occurred from the bacilli coming from the lung. He also states that the primary tuberculosis foci occur not in the apex but near the apex and the vertebral column. He more precisely says that the primary foci occur most in the peribronchial, perivascular tissue, concluding, however, that it is possible that bacilli go from the pulmonary lymphatics either directly or after having infected one or more peribronchial lymphatic glands, then from these glands elsewhere in the lung lymphatics. Hare's statement is that the tubercles may arise in the glands themselves, or become secondary growths, owing to primary disease of the lung or pleura, and in many cases at the post-mortem the tubercular involvement is so general that it is impossible to decide as to the primary seat.

In 151 cases of healed tuberculosis (Adami and McCrae[20]), the thoracic glands were involved in forty-five cases and in these the group of glands at the lung root predominated thirty-eight times, and where only a

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13. Sahli: Diagnostic Methods.
14. Osler: Practice of Medicine.
15. Hamman and Wolman: Tr. Nat. Assn. Stud. and Prev. of Tuberc., Sixth Ann. Meet., p. 240.
16. Sachs: Tr. Nat. Assn, Study and Prev. of Tuberc., Sixth Ann. Meet., p. 203
17. Hare: Mediastinal Diseases, 1889.
18. Wollstein: Arch. Int. Med., 1909, iii, 221.
19. Tendeloo: Sixth Internat. Cong. Tuberc., 1908, i, 86.
20. Adami and McCrea: Tr. Sixth Internat. Cong. Tuberc., 190, i, 325.

single site was found it was twenty-three times in the lung root group. In the latent tuberculosis cases (93), the thoracic nodes were involved thirty-five times and eighteen times in combination with disease of the lungs. The relation of pleural adhesions to healed and latent tuberculosis gave eleven cases in which tuberculosis existed in the thoracic nodes and six in combination with disease of the lungs.

In considering the sites of early tuberculosis infection, Adami and McCrae show that the thoracic nodes were affected in 33 per cent., which is second to the lungs in frequency of infection. In another group of generalized tuberculosis the figures are still more interesting from our point of view, in that the lungs were involved only in 14 per cent. more (that is, in 95 per cent.) than in the lymph-nodes which showed 81 per cent., or thirty-five cases; of this number all but two cases were in the glands of the thorax. In connection with, and under the head of, tuberculous infection of other organs, there are forty cases given of involvement of the thoracic nodes.

From the foregoing figures it can, therefore, be accepted that tuberculosis of the thoracic lymph-nodes occurs next in frequency to tuberculosis of the lungs, and that the disease does occur alone in these glands. It is also consistent to say that since there are more glands on the right side and since physiologically or anatomically the structural position of the bronchi is such that disease in aspirated infection is more likely to occur on that side, there is all the more reason to believe that tuberculosis of the right bronchial or peribronchial lymph-nodes can be confused with the diagnosis of tuberculosis of the right apex. This contention, that many cases of questionable tuberculosis of the right apex is due to disease in the glands, is strengthened if Adami and McCrae's findings are accepted—that tuberculosis does not occur more often in the right apex—and also Krönig's reports on *Collaps-Induratie* of the right apex in which the symptoms closely resemble those of early infiltration. Bing also emphasizes the difference between early tuberculosis of the right apex and the enlargement of thoracic glands. Sokolowski states that the enlarged glands are mostly found post mortem and as such have little significance.

RESULTS OF INVESTIGATION

The physical and fluoroscopic examination of the chests of 620 patients at the Boston City Hospital has demonstrated the common failure to recognize accurately the presence of mediastinal or bronchial glands. The majority of these patients were referred to the *x*-ray department to ascertain or verify the presence of tuberculosis of the lungs. In the light of recent statements made concerning the percussion dulness found at the right lung apex (Krönig, Bing), the results shown in the accompanying tables may be interesting.

Of these 620 patients examined by fluoroscope, 147 showed the presence of glands in the mediastinum or at the root of the lungs. The majority, as stated, were either tuberculous or had signs in the chest which were thought might be tuberculosis; most patients had several physical examinations. Of these 147 patients, in only two did the question arise of the probability of enlarged bronchial or posttracheal lymph-glands.

It is conceded that in most of these cases the glands were not large enough to cause marked disturbances, but considering that there were a number of cases of questionable right apical tuberculosis, one may presume that in the cases proving negative by fluoroscope, the glands may have given rise to the signs which were interpreted as early apical tuberculosis.

In a large number of early apical tuberculosis cases examined at the Boston City Hospital and at the Boston Consumptives Hospital it was noted that a certain percentage proved negative, while among these patients, the majority of whom were children, many reacted to tuberculin. There was no idea at that time of examining for thoracic glands, but as a result of this interesting study the indefinite thought occurred whether enlarged glands by pressure or otherwise might not be the cause of the questionable dulness at the right apex, with the sharp or rough inspiration, etc. Since then definite statements

TABLE 1.—CLINICAL DIAGNOSIS

100	cases	clinically	suspected	of	pulmonary tuberculosis.
24	“	“	diagnosed	as	“ “
8	“	“	“	“	bronchitis.
7	“	“	“	“	pneumonia.
5	“	“	“	“	probable aneurism.
4	“	“	“	“	cardiac disease.
2	“	“	“	“	asthma.
2	“	“	“	“	influenza.
2	“	“	“	“	pleurisy.
1	case	“	“	“	bronchiectasis.
1	“	“	“	“	abscess.
3	cases no diagnosis.				
159					
—12	cases included with two diagnoses.				
147	cases.				

TABLE 2.—DIAGNOSIS BY *X*-RAYS

35	cases	tuberculosis of both apices	showed glands on	both sides	23 times
35	“	“ “ “ “	“ “ “	right side	8 “
35	“	“ “ “ “	“ “ “	left “	4 “
13	“	“ “ “ sides	“ “ “	both sides	11 “
13	“	“ “ “ “	“ “ “	right side	1 time
13	“	“ “ “ “	“ “ “	left “	1 “
25	“	“ in one apex-with	“ “ “	both sides	13 times
25	“	“ ? of disease	“ “ “	right side	9 “
25	“	“ in other apex	“ “ “	left “	3 “
28	“	“ of right apex	“ “ “	both sides	9 “
28	“	“ “ “ “	“ “ “	right side	15 “
28	“	“ “ “ “	“ “ “	left “	4 “
4	“	“ “ left apex	“ “ “	both sides	2 “
4	“	“ “ “ “	“ “ “	right side	1 time
4	“	“ “ “ “	“ “ “	left “	1 “
14	“	“ apical, either side	“ “ “	both sides	8 times
14	“	“ “ “	“ “ “	right side	4 “
14	“	“ “ “	“ “ “	left “	2 “
11	“	all other diseases	“ “ “	both sides	4 “
11	“	“ “ “	“ “ “	right side	6 “
11	“	“ “ “	“ “ “	left “	1 time
17	“	negative	“ “ “	both sides	9 times
17	“	“	“ “ “	right side	7 “
17	“	“	“ “ “	left “	1 time

TABLE 3.—POSITION AND NUMBER OF GLANDS

94	cases	had	two or more glands.
53	“	“	single gland.
50	“	“	glands on right side.
44	“	“	“ “ both sides.
36	“	“	“ in mediastinum (above lung roots).
17	“	“	“ on left side.

TABLE 4.—100 MALE, 47 FEMALE PATIENTS

6	patients	aged	from	1	to	10	years.
21	“	“	“	11	“	20	“
42	“	“	“	21	“	30	“
34	“	“	“	31	“	40	“
28	“	“	“	41	“	50	“
8	“	“	“	51	“	60	“
6	“	“	“	61	“	70	“
2	“	ages not given.					
147	total.						

TABLE 5.—OCCUPATIONS OF PATIENTS

Bakers, cooks, etc.	5
Bartenders, waiters, barbers, etc.	5
Factory workers	11
Farmers, messengers, etc.	4
Firemen, machinists, metal workers, etc.	12
House, home, etc.	26
Laborers	21
Physicians, nurses, etc.	5
Printers	4
Salesmen, clerks, etc.	8
School	18
Tailor, seamstress, laundry, etc.	13
Teamsters, junk-dealers, etc.	8
Not given	7
Total number of patients	147

have been made, as already quoted, by Bing and others that dulness at the right apex can be caused by the swelling of bronchial glands.

In 100 cases of this investigation of questionable tuberculosis, it was shown that in fifteen there was no tuberculosis and of twenty-four diagnosed as tuberculosis, seventeen proved negative. In these thirty-two negative patients the glands were shown to be enlarged. In eighty patients of 100 diagnosed as questionable and in twenty-four diagnosed as positive cases the apices were the parts under consideration. Of the eighty, the right apex was questioned in thirty-two, the left in eight and both in forty cases. In five cases of enlarged questionable aneurysm of the aorta, there proved to be enlarged glands present and no aneurysm. Therefore, we have apparently found dulness in a number of cases at the apices and especially at the right apex where no congestion or infiltration was found, but where enlarged thoracic or bronchial glands were evident. Considering that of 147 patients with questionable or positive cases of tuberculosis or other diseases, there were glands on the right side in fifty, on the left in seventeen, on both sides in forty-four and in the mediastinum—that is glands above the roots of the lungs—in thirty-six cases, we can state that glands do occur more often on the right side than on the left and in conjunction with the right apex dulness. In the examination of these cases it was difficult to determine the presence of glands or their number when there was either tuberculosis, congestion or some such disease extending over a great part of the chest and consequently overshadowing the glands. It does not, therefore, follow that when glands have been seen on the left side, and not on the right, that they may not, however, be present there also. It is a question also whether the statement which Bing makes that bronchial glands occur mostly in young children is absolutely correct. In this series of cases, 118 patients were adults, that is, above 20 years of age. It is a more difficult matter to percuss an adult chest for bronchial glands than a child's. In the adult chest we must take into account development due to occupation, habits, etc. On the other hand, children show a so-called physiologic dulness at the right apex which may prejudice one in favor of bronchial glands. In fluoroscopic examinations a child's chest gives a greater opportunity to discover bronchial glands than an adult's. Still, of 145 patients, only twenty-seven with thoracic glands were below 20 years of age. Another group of cases, which is not included in this present paper, but which may have bearing on the consideration of bronchial or mediastinal glands, is that in which there is obscurity of the space behind the heart and aortic vessels. On account of the more questionable nature of this obscurity, these cases were not investigated.

Sukiennikow states that the prevailing position of the lymph glands is anterolateral, especially the tracheobronchial group, and gives this as a reason for the difficulty that is encountered in diagnosing them, when enlarged, by percussion. Osler's statement is broader still. He says that unless the glands are large enough to cause compression of lung tissue, he doubts whether the ordinary bronchial adenopathy ever can be determined by percussion in the upper interscapular region.

One other difficulty was the inability to tell in certain obscure cases whether a gland was single or whether two or three were adherent. From our anatomic knowledge, it is very likely that in the case of bronchial glands there were several instead of one.

Usually, where the glands appeared on both sides the apices were also affected, and in a large number of questionable cases of tuberculosis the glands were either single or on one side.

The conclusion is that in a number of cases the glands were enlarged where tuberculosis was either not present or suspected, and were of sufficient importance to either produce certain physical signs confused with tuberculosis or were the probable cause of a tuberculin reaction.

CONCLUSIONS

1. Enlarged glands occur more frequently on the right side than on the left.
2. Enlarged glands may cause the signs which are often considered as those of early apical tuberculosis. This has been explained in anatomic and physiologic terms.
3. Enlarged glands occur in both tuberculous and nontuberculous patients and probably occur as frequently in adults as in children.
4. Positive tuberculin reactions may, therefore, in negative tuberculous cases, be due to enlarged glands in the mediastinum, etc., when apical signs are not present.
5. The results of this investigation demonstrate the common failure to diagnose the presence of mediastinal or bronchial glands, and show the importance of emphasizing the more careful examination of so-called early tuberculosis cases.

In addition to the articles previously cited the following references will be found of interest:

Bosman: Nederl. Tijdschr. v. Geneesk., No. 15, 1910.

Walsh: Tr. Nat. Assn. Study and Prev. of Tuberc., Sixth Ann. Meet., pp. 166, 324.

2 Arlington Street.

IMPROVED TECHNIC OF THE THIERSCH GRAFT FOLLOWING THE RADICAL EAR OPERATION *

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In the preliminary report of the improved technic of the Thiersch graft following the radical mastoid operation,[1] I reported a series of eighteen cases, in which graft was applied four days following operation, and said that never before had such a series of cases been brought to healing in such a short time and that never before had the hearing been so uniformly good (Table 1).

I shall here report a series of twelve cases in which I operated. Graft was applied at the time of operation. This report will be even better than the former, besides eliminating a second operation that consumes almost as much time as the original mastoid operation, while the original operation is only lengthened about fifteen minutes. This of itself, I consider a great boon for the procedure; in fact, it makes the radical ear operation a simple, concise and precise operative procedure, attended with no risk to life whatsoever, providing the cochlea and canals are intact (Table 2).

The further improvement of the technic will consist in a more thorough removal of the mucous membrane of the tube, the mucous membrane of the inferior part of

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* Read in the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Ann. Otol., Rhinol. and Laryngol., March, 1911.

the tympanic cavity, and the cutting away of the inferior bony meatus, so that it is absolutely on a plane with the floor of the tympanic cavity. I shall repeat the detailed technic of this operative procedure.

Every individual cell is destroyed until hard bone is encountered, or the dura, sinus or nerve uncovered. This final destruction of cancelous bone is best accomplished by me with a hand burr; it can be done with a burr driven by electricity, however, I prefer such burr for the bone of greater density. It is very essential that all the uneven surfaces be made perfectly smooth.

The outer part of the bony meatus must be removed sufficiently to be on a horizontal plane with the floor of the tympanic cavity. The posterior bony wall must be cut down to the floor of the newly-made bony meatus. By this procedure more room is gained and the pocket which was formed by the tympanic cavity has been eliminated. In the removal of the posterior bony meatus and facial spur, great care must be exercised in not injuring the facial nerve. This is best avoided by chiseling the wall away with large chisels and working parallel to the nerve, so that in the event that the nerve is uncovered, it would not be cut. This particular point will enable the operator to remove more bone than any other with more safety to the facial; in fact, the facial will not be cut by an experienced operator.

The mucous membrane of the tympanic cavity must be entirely removed. I literally mean that after a very thorough inspection, none can be detected, at this place it will be necessary in most cases to use a hemostatic agent of some kind, as hot saline solution, hydrogen peroxid or epinephrin. Most careful attention must be directed to the tube in order to remove the mucous membrane thoroughly.

The tympanic wall should be so thoroughly removed by chisel and made smooth by burrs, so that the small searchers of Jansen's will not be arrested.

TABLE 1.—EIGHTEEN CASES OF RADICAL EAR OPERATION BY IMPROVED THIERSCH GRAFT

Case No.	Age	Sex	Discharge	Operative Findings	Hearing Before and After Operation Before	After	Duration of After-Treatment (weeks)*
104	26	F.	Childhood.	Cholesteatoma.	Whisper, 6 ins.	Whisper, 6 ft.	Six.
105	14	M.	Two yrs.	Cholesteatoma.	Speech, water, 6 ft.	Speech, water, 15 ft.	Four
107	28	M.	Childhood.	Cholesteatoma.	Whisper, 3 ft.	Whisper, 3 ft.	Six.
108	19	F.	Childhood.	Cholesteatoma.	Whis'r, water. 12 ft.	Whis'r. water, 26 ft.	Four.
109	10	M.	Childhood.	Cholesteatoma.	Whisper, 1 ft.	Whisper, 26 ft.	Four.
110	14	M.	Childhood.	Cholesteatoma.	Whisper, 1 ft.	Whisper, 25 ft.	Four.
111	25	M.	Two yrs.	Cholesteatoma.	Whis'r, paper, 3 ins.	Whisper, 6 ft.	Six.
113	33	F.	Childhood.	Cholesteatoma.	Whis'r, paper, 3 ft.	Whis'r, paper, 20 ft.	Three.
115	26	M.	One yr.	Cholesteatoma.	Whis'r, paper, 15 ft.	Whis'r, paper, 26 ft.	Four.
117	16	M.	Childhood.	Caries.	Whis'r, paper, 1 ft.	Whis'r, paper, 6 ft.	Four.
118	12	M.	Five yrs.	Caries.	Speech, 3 ft.	Whis'r. chair, 25 ft.	Three
119	16	M.	Two yrs.	Caries.	Whisper, 25 ft.	Whisper, 3 ft.	Four.
120	9	M.	Seven yrs.	Cholesteatoma.	Whisper, 1 ft.	Whisper, 6 ft.	Three.
121	29	F.	Childhood.	Caries.	Whisper, 6 ins.	Speech, 1 ft.	Three.
122	29	F.	Childhood.	Caries.	Whisper, 3 ft.	Speech, 3 ft.	Four.
123	4	F.	Three and one-half yrs.	Cholesteatoma.		Good.	Four.
124	30	M.	Childhood.	Cholesteatoma.	Whis'r, chair, 2 ft.	Whis'r, chair, 15 ft.	Five.
125	18	F.	Ten yrs.	Cholesteatoma.	Speech, 2 ft.	Whisper, 25 ft.	Four.

Duration of after-treatment:

In 4 cases 3 weeks.
In 10 cases 4 weeks.
In 1 case 5 weeks.
In 3 cases 6 weeks.

Hearing, following operation, for whisper:

In 6 cases 25 feet or more.
In 3 cases 15 feet or more.
In 3 cases 6 feet.
In 2 remained the same.
In 1 case could not be measured, but good.

* The duration of the after-treatment dates from the day of the radical mastoid operation and not from the day of the graft, which was four days later.

TABLE 2.—TWELVE CASES OF RADICAL EAR OPERATION

Case No.	Age	Sex	Duration	Operative Findings.	Hearing Before	After	Duration of After-Treatment (weeks)
127	21	M.	Childhood.	Caries.	Whisper.	Improved.	Three.
128	21	M.	Childhood.	Caries.	Whisper, 3 ft.	Improved.	Two.
129	31	M.	Childhood.	Caries.	Whisper, 6 ins.	Whisper, 25 ft.	Ten.
130	38	M.	Five yrs.	Caries.	Whisper, 6 ins.	Whisper, 18 ft.	Six.
131	20	F.	Childhood.	Caries.	Whisper, 3 ins.	Remnants.	Four.
132	46	M.	Childhood.	Caries.	Whisper, 2 ins.	Whisper, 15 ft.	Four.
133	34	F.	Fourteen yrs.	Negative.	Whisper, 3 ft.	Whisper, 26 ft.	Three and one-half.
134	17	M.	Eight yrs.	Caries.	Whisper, 6 ins.	Whisper, 6 ft.	Three and one-quar.
135	9	M.	Three yrs.	Caries.	Whisper, 1 in.	Whisper, 4 ft.	Three and one-half.
136	7	F.	Infancy.	Caries.	Whisper, 3 ft.	Whisper, 25 ft.	Four.
137	17	M.	One yr.	Caries.	Whisper, 6 ft.	Whisper, 26 ft.	Three.
138	9	M.	Childhood.	Caries.	Whisper, 3 ft.	Not made.	Three.

Everything said so far, while absolutely important in every radical operation, is much more important when Thiersch grafts are to be applied, as any infection that may remain in the bone will ultimately destroy the graft and one will fail to accomplish what he set out to do.

The Neumann plastic should be made in preference to all others for this particular procedure, the upper and lower flap sutured in place and the point of the V sutured to the auricle. The sutures to be used in holding the V part of the plastic should be catgut. The sutures for the upper and lower flap had better be catgut, as the use of other sutures, if allowed to remain, may or may not cause trouble in the after treatment of the case.

At this time I use hot saline solution as a hemostatic agent inspecting the cavity from time to time; finally, to réassure myself, I use peroxid of hydrogen several times. When I am satisfied beyond a question of doubt that everything is away, I put in gauze saturated with epinephrin (P. D. & Co.), this gauze is held in the cavity under pressure by an assistant, while the grafts are being prepared. At the time I begin my preparation of the ear plastic, the nurses are preparing the leg or part from which the grafts are to be taken. In this preparation, mercury bichlorid has never been used. Sterile salt solution used in excess, following all the other aseptic procedures.

I try to get about three or four grafts ½ inch wide by 1½ inches long, and some smaller ones, ¼ inch by ½ inch. Some of the grafts may be lost in preparation or in applying them.

The Jansen spatula is used, grafts are taken from the razor directly to the spatula, all edges straightened and put aside for use. When grafts are in readiness the epinephrin tampon is removed from the ear. The cavity will be found to be absolutely dry and if not, more epinephrin must be used; the cavity must be free from oozing blood or the grafts will not adhere.

The first graft is fastened with a searcher into the tube, bringing it out over the floor of the tympanic cavity posteriorly; second superior to the first, brought back over facial into mastoid cavity. The third usually covers the remaining wall of the attic and antrum. The three which have been used are the larger ones. The uncovered areas that are left are covered by the remaining grafts, the one being selected that will cover the denuded area best. Small pledgets of cotton are now used to fix the grafts; they must be so small that they do not touch either surface while being put in place The first one is put over and into the tube, the second firmly applied to the posterior inferior quadrant, the next over the stapes and so on until all the grafts are held well in place, so they will not be materially disturbed when a dry tampon is introduced. The size of this tampon will correspond to a piece of gauze 2 or 4 inches square. After the dry gauze, a similar piece of gauze is saturated with 0.5 per cent. solution of phenol (carbolic acid) in paraffin oil, U. S. P. (especially sterilized in 10 c.c. ampoules),[1] and packed within the mastoid cavity; after this a similar piece, larger or smaller as the occasion may demand, is used to fill the entire cavity made by the operation. The posterior wound is now closed in the usual manner. It will be found that an additional tampon by way of the meatus will assist materially in holding the plastic in the way intended, resulting in a very large meatus with cut surfaces all within the ear. This materially adds to the comfort of the patient, as well as preventing a contracted meatus. The usual outside dressing is used. The ear tampons are removed on the fourth day. If there is any difficulty or pain in the removal of the tampons, contrary to the ordinary teachings, hydrogen peroxid can be used in excess to soften and loosen them; this procedure will also aid in getting rid of the blood and stop bleeding, so that the small cotton fasteners that were put in to hold the grafts in place can be seen and taken away. I wish to add that it is quite important to know the number of small cotton balls that have been put in the ear to hold the grafts, otherwise one may be left which will cause trouble sooner or later.

In 50 per cent. of the cases one will look into a white cavity; in fact, all of them are white if one takes the time to stop the bleeding that comes from the inner surface of the soft parts which have been sutured and could not be covered with graft.

This is the improved technic of the Thiersch graft in the radical ear operation.

In fact, a graft never adheres to the tampons to be torn from its attachments. In some of the cases, the outer layer of epidermis will loosen in ten days or two weeks after they have been applied; they will always leave a delicate epidermis that will harden in a very short time. I hardly know how to account for the fact that, in some cases, the entire graft remains in place, while in others the outer layer comes away. The only explanation that I can offer is that, in some instances, the graft is too thick. This does not seem to be serious, however, as the cases heal in about the same time. Occasionally it will happen that granulation tissue makes its appearance when the edges of the graft are not in perfect apposition. They are very easily destroyed with the ring knife. At the following dressing, the denuded area will be completely dermatized.

Occasionally, excessive granulation tissue makes its appearance in the region of the plastic. This is removed with curet and packed tight with gauze saturated with sterile liquid petrolatum. Contrary to the teachings of to-day, bichlorid of mercury is used to irrigate the cavity. This is necessary where there is an unusual amount of pus or odor from secretion. In other instances where there is more debris than should be, I always irrigate with the intratympanic cannula and under inspection, so that the force of the stream is directed to the particular spot that requires attention. I also irrigate with normal salt solution and boracic acid.

As has been said before, the oil dressing is removed in four days, or sooner if necessary. In two days a second dressing is made which includes an irrigation of bichlorid of mercury, 1-3000, and from this on, dressed daily until complete recovery. The particular reason for the bichlorid at the second dressing is to remove disagreeable odor, debris, or to see with more accuracy that all the cotton tampons have been removed.

The final procedure of every dressing is a thorough drying of the ear. After this, pulverized boracic acid is blown into the ear, single small pieces of gauze, ½ inch square, introduced into the ear, with a small roll of gauze fitting snugly into the outer meatus. As a rule, the bandage is left off in from ten to twelve days after the operation.

The majority of this series of twelve cases have been more or less complicated because of prior operations or existing labyrinth complications that added somewhat to the risk of operation. Some of the cases are quite out of the ordinary. In many of the cases, healthy dura was uncovered by the chisel and grafts used as described. In two instances dura with a granulating surface presented, the grafts covered everything but the granulating surface of the dura.

In conclusion, I wish to state that all cases of chronic suppurative otitis media (chronic after one year duration, nose and throat in order) are dangerous to the individual; all patients should be operated on, and all will recover if properly operated.

Second, the hearing will be improved in all cases, providing that the internal ear is intact as shown by the tuning fork examination.

Third, there is no danger associated with the operation provided that the labyrinth is intact. This latter statement is based on approximately two hundred radical mastoid operations.

CASE REPORTS

Case 127.—*Patient.*—A man, aged 21, a laborer, had had discharge from the right ear since childhood. At the age of 15 the ear was operated for the first time, and he had three different operations since. He came to me with an acute exacerbation of a chronic suppuration, pain over the whole side of the head, especially over tip of the mastoid. For three weeks previously he had had repeated attacks of vertigo.

Examination.—Head on diseased side was sensitive to touch and especially over the tip of the mastoid. Temperature 101 F., surface temperature of mastoid more than that of other side. The mastoid cavity was filled with connective tissue, foul smelling pus and debris; denuded bone detected by a probe. Patient could not hear whisper, except with the 7-foot hearing-tube. Weber to the opposite side. C^1, C, c^4, all negative. Watch on bone, negative. Neumann's alarm apparatus, positive. Intense vertigo, tinnitus, spontaneous nystagmus to the opposite side. Caloric reaction, positive; the cold water was continued for quite a while before the nystagmus was increased. Fistula symptom, negative. From the findings it must be concluded that the cochlea and canals were intact.

Operative Findings.—Large mass of organized connective tissue filling the greater part of the cavity made by previous mastoid operations. The whole tip of the mastoid was carious, caries of the zygomatic cells, as well as the overhanging walls of the attic and antrum. My findings offer evidence that the last radical mastoid operation was not sufficiently complete to hope for a cure. Neumann plastic, grafts applied in the usual way. Dressing removed in six days, every graft adherent. Eleven days after operation every graft came away, leaving a very delicate epidermis which became white in a very short time. Between the grafts were small granulating areas that were covered in a few days by epithelium from the graft.

This patient was practically well two weeks after operation; however, there was a serous discharge that continued for a few days longer. I think this discharge was due to the sensitiveness of the new epidermis.

Hearing improved, absolutely dry in three weeks.

Case 128.—*Patient.*—A man, aged 21, laborer, had had a discharge from ear since childhood, and had three mastoid operations, the ear always having discharged. About one week before I saw him, he began to complain of pain over the whole side of the head, and had such intense vertigo that he had fallen in the street three times during the last week.

Examination.—The whole side of head painful to pressure, extremely painful over tip of mastoid. Temperature 100° F.; surface temperature of the mastoid increased over the other side. Scar of previous operation; foul, offensive discharge, large mass of organized connective tissue, uncovered bone discovered by a probe. Weber to diseased ear. Whisper (paper), 3 feet. Rinné, negative. Schwabach shortened. Negative for low forks, positive for high. Watch on bone, positive. Vertigo. No spontaneous nystagmus. Caloric reaction positive, very much exaggerated with only a small amount of water (hypersensitive). Fistula symptom, negative.

Operative Findings.—Overhanging attic and antrum walls carious. Polypi in antrum, horizontal canal stood out quite prominently; considerable of the bone about it had been destroyed by caries; large amount of connective tissue and additional caries of the tip of mastoid.

Neumann plastic, grafts; cavity dressed in five days, all grafts found adherent. Eight days after operation one graft came away, leaving a delicate pinkish-white epidermis. Case entirely dry fifteen days following operation. Hearing improved—as to how much I cannot say, because the patient left the city during the next few days without my permission.

I attribute the rapid healing in these two cases to the fact that the patients had been operated on before and were not cured; from this fact the bone was oversupplied with blood which in turn nourished the grafts very quickly.

Case 129.—*Patient.*—A man aged 31, capitalist, whose ears had been discharging since childhood, during the year previous to operation had felt pain back of right ear, with increasing severity. For the last three years he had had headache on diseased side of the head; during the last three months, vertigo following headache had kept him in bed for twelve hours at a stretch. During this time he had been taken home in a conveyance repeatedly, because of intense vertigo. The patient said that the pictures on the wall would jump; when eyes were closed he would feel the eyes jumping.

Examination.—Sensitive over tip of mastoid; entire destruction of drug membrane; hypertrophied tissue covering promontory; no great amount of pus, not much odor. Whisper, 6 inches. Weber to this ear. Rinné, negative. Schwabach, short. C^1, positive. C, negative. c^4, positive. Watch on bone, positive. Vertigo and tinnitus, spontaneous nystagmus, negative. Caloric reaction, positive (hypersensitive). Fistula symptom, negative.

Operative Findings.—Former fracture across mastoid and into attic and antral wall, making same irregular. This does not appear in the history at all (confirmed later by question). Sclerosed mastoid, sinus well forward, dura size of quarter uncovered. Facial uncovered by caries, horizontal canal stood out quite prominently surrounded by spicules of carious bone, caries being very deep posteriorly. Neumann plastic and primary graft.

Following operation the patient had considerable vertigo, nystagmus and headache; in fact he was not quite free from it until the primary dressings were removed which was on the sixth day. All grafts were intact. Fourteen days after operation graft over exposed dura came away leaving the characteristic pinkish-white appearance; no vertigo, nystagmus or headache at this time. About ten days following operation a granulation appeared posteriorly, just under the facial nerve, on more careful investigation a fistula was found that was quite deep, this was repeatedly curetted and touched with silver nitrate in substance until it finally healed in ten weeks.

The ear was entirely epidermized at the end of three weeks with the exception of the fistula; the hearing at that time had been increased from a whisper at 6 inches to a whisper at 25 feet. The hearing at the time he was declared well was 25 feet.

I mention this case more or less in detail to show why it required so long to heal. Had I been sufficiently careful to find this fistula, the patient would have been entirely well in three weeks. It accentuates the very points I wish to emphasize, namely, that complete search must be made, and so long as the Jansen sound is arrested the operation is not complete.

Case 130.—*Patient.*—A man, aged 38, laborer, had had intermittent discharge from the ear for the last three years; three weeks before operation he began to have pain in the ear and had frequent dizzy spells, though he never fell. A swelling appeared below mastoid about one week before I saw patient.

Examination.—No pain on pressure or percussion. Swelling below tip of mastoid (Bezoldt's mastoiditis), large granulating mass was filling up meatus; offensive discharge. Whisper 6 inches. Weber to both ears. Rinné, negative. No spontaneous nystagmus. Caloric reaction, positive.

Operative Findings.—Sclerosed mastoid; small blackened areas throughout his sclerosed mass of bone; dura uncovered. From the abscess cavity the whole tip could be outlined. Neumann plastic. graft. Hearing before, whisper 6 inches; after, 18 feet.

I cannot say why healing was so slow in this case.

Case 131.—*Patient.*—A woman, aged 20, stenographer, had had discharge from the ear since childhood, and repeated attacks of facial erysipelas; also repeated attacks of vertigo for several years past.

Examination.—No pain or sensitiveness on pressure or percussion; entire destruction of membranum tympani; small granulation protruding from attic. Whisper, 3 inches. Weber to opposite ear (marked adhesive process in the other ear). Rinné, negative. C^1, positive. C, negative. c^4 positive. Watch on bone, positive. Vertigo, positive. Tinnitus, positive. Spontaneous nystagmus, negative. Caloric reaction, positive. Hearing 7-foot tube, whisper positive.

Operative Findings.—Caries of attic and antrum; dura uncovered, the size of two thumb-nails. Fistula of the oval window with a blackened margin about it, which demonstrates that it has existed for some time; a good-sized probe was introduced into the fistula. Neumann plastic, grafts in usual manner and closed.

First day after operation, everything satisfactory; second day, some vertigo. Third day, vertigo, nystagmus to the opposite side, vomited five times. Fourth day, dressing removed, not so much nystagmus, patient vomited twice. Grafts all adherent.

During the four days, the patient had no fever, the vertigo and nystagmus disappeared gradually. The patient left the hospital in ten days, well in twenty-eight days.

Observations.—My only careful examination of this patient was made nine months prior to operation. From the examination as made at that time, the cochlea and canals were intact, so that a radical ear operation would not have been attended with risk to the patient's life; but when I found a fistula and an old one at that, I felt sure there would be induced an acute exacerbation of the old labyrinth suppuration. However, the patient made an uninterrupted recovery. This patient should have had an operation on the labyrinth at the time of the ear operation, or no operation at all.

I relate this case in detail to accentuate the importance of repeated examinations, should the case not be operated within a few days.

At the time of examination the patient heard a whisper 3 inches; this was much reduced because of the opening of the vestibule. She still hears on this side but it is of no practical use. Had my labyrinth instruments been accessible, I would have destroyed the labyrinth at once; as they were not, I concluded the operation with a skin-graft. The patient made a good recovery which can be attributed to good luck rather than to modern otology.

Case 132.—*Patient.*—A man, aged 46, a structural iron worker, had had discharge from both ears since childhood, had had pain repeatedly back of the ear, on both sides; attacks of vertigo increasing in frequency.

Examination.—Tenderness over the whole side of the head, especially over the mastoid, exquisitely sensitive over the tip. Temperature 101 F. Increased surface temperature of mastoid when compared with the other side. Pupils widely dilated and sluggish. The ear was filled with a mass of granulation tissue, foul discharge. Whisper, 2 inches. Weber to bad ear. Rinné, negative. Schwabach, normal. C^1, positive. C, negative. c^4, negative. Watch on bone, positive. Vertigo and tinnitus, positive. Spontaneous nystagmus, negative. Caloric reaction, positive. Fistula symptom, negative. Seven-foot hearing-tube whisper, positive.

Operative Findings.—Sclerosed mastoid, caries of attic and antral walls. Neumann plastic, graft and closed.

Remarks.—Skin-graft spatulæ were forgotten and I applied the grafts from surface of round chisels. Patient entirely well twenty-eight days after operation. Whisper before operation 2 inches, after, 15 feet.

Case 133.—*Patient.*—A woman, aged 34, was hooked by a cow when 3 years of age; the ear and scalp were severely injured. The ear discharged from this time for fourteen years, since this; two or three times a year it discharged for a day or two. Never had pain back of the ear or in the ear. When the ear stopped discharging, seventeen years ago, she began to have vertigo which lasted for some two years. There was no vertigo for a period of four or five years. Since that time there had been more or less at intervals, lasting as long as five days. For the last year she had scarcely been free from vertigo; there had been so much and it had been so severe that it has incapacitated her as a housewife. At times so dizzy she would fall; vertigo and attacks of vomiting which have lasted for several days. Intermittent tinnitus began at 14, for the last year preceding operation it was so severe that it annoyed patient very much, at times explosive in character.

Examination.—Marks of injury about ear and scalp, not sensitive to deep pressure or percussion. Drum membrane intact, hammer very much retracted, membrane shows marks of previous suppuration. Whisper, 3 feet. Weber to diseased ear. Rinné, negative. C^1, positive. C, positive. c^4, positive. Watch on bone, positive. Vertigo and tinnitus as described in history. Spontaneous nystagmus to the opposite side. Caloric reaction, positive. Equilibrium disturbances, positive. Fistula symptom, negative.

Conclusions.—From the fact that the discharge from the ear followed an accident, I was led to believe that there was either a possible fracture with a spicule of bone pressing on one or the other of the canals, or a possible mass (bony) pressing or pinching the membranous labyrinth, or lastly, an erosion induced by the chronic suppuration, such an erosion would be increasing in depth or magnitude. Such a picture could easily be drawn when one remembers that the patient said that she had a discharge from her ear two or three times during the year preceding operation and that it would last but a few days.

From this reasoning I concluded that a radical mastoid operation would relieve her of this distressing vertigo. Cerebellar tumor had been excluded by Drs. Newmark, Lennon and myself, as the only other condition that would be likely to produce such symptoms.

Operative Findings.—No fracture of temporal bone (more detailed history, discharge from ear started before accident). Sclerosed mastoid, otherwise healthy macroscopically, with the single exception that the facial nerve was uncovered by caries anteriorly, and that at this particular place there was an erosion or excavation. This latter condition was found only after very careful search; at the time of operation, I did not think it sufficient to cause so much trouble. However, it proved to be correct and the day after operation the patient said her vertigo was less.

Neumann plastic, grafts. Uninterrupted recovery. Hearing before operation, whisper 3 feet; after operation, whisper 26 feet. Healing, twenty-four days. Vertigo and spontaneous nystagmus entirely gone.

Case 134.—*Patient.*—A school-boy, aged 17, had had a discharge from the ear for the last eight years. One year ago had pain deep in ear; no headache or vertigo.

Examination.—No pain on deep pressure or percussion. Complete destruction of drum membrane; foul, offensive discharge. Whisper, 6 inches. Weber to good ear. Rinné, negative. Schwabach, normal. C^1, positive. C, negative. c^4, positive. Watch on bone, negative. Tinnitus, positive. Vertigo, negative. Slight spontaneous nystagmus. Caloric reaction, positive (hypersensitive). Fistula symptom, negative. Seven-foot hearing-tube, positive.

Operative Findings.—Caries of the attic and antrum. Neumann plastic, graft, closed.

Hearing before operation, 6 inches. After operation, 6 feet. Duration of after treatment, twenty-four days.

Case 135.—*Patient.*—A school-boy, aged 9, had had a discharging ear for several years past; never had pain back of ear or deep in ear.

Examination.—Painful over the tip of mastoid, granulation tissue filling meatus, foul, offensive discharge. Whisper, 1 inch. Weber to opposite ear. Rinné, negative. C^1, positive. C, positive. c^4, positive. Watch on bone negative. Vertigo and tinnitus, negative. Spontaneous nystagmus, positive. Caloric reaction, positive (hypersensitive). Fistula symptom, negative. Hearing-tube whisper, positive.

Operative Findings.—Attic and antrum were full of granulation tissue, no mastoid cells. Neumann plastic, graft, closed.

Hearing before operation, whisper 1 inch, after operation, 4 feet. Twenty-eight days, cured.

The reason there is not more improvement in this case is easily understood when one examines the fork findings prior to operation.

Case 136.—*Patient.*—A girl, aged 7, had had a discharge from her ear "on and off" since 1 year old; six months previous to operation had an acute exacerbation, also considerable pain back of ear at that time.

Examination.—Whisper, 3 feet. Weber to bad ear. Rinné, negative. Schwabach, normal. C^1, positive. C, positive. c^4, positive. Watch on bone, positive. Vertigo and tinnitus, negative. Spontaneous nystagmus, negative. Caloric reaction, positive. Fistula symptom, positive. Hearing-tube, positive for whisper. Not painful on deep or superficial pressure; great amount of offensive discharge from ear; bulging of the posterosuperior wall, mass of granulations coming from above.

Operative Findings.—Pneumatic mastoid entirely destroyed by caries. Pyogenic membrane the size of a half dollar which pulsated when uncovered, looking very much like diseased dura. This cavity was almost as large as half an English walnut. The membrane must have been one-sixteenth or one-eighth of an inch in thickness and was more or less dense. The under part of the cavity was the dura mater which was covered by small granulations. The dura was uncovered until healthy dura made its appearance. Neumann plastic; grafts covering all but the diseased dura, closed.

Hearing before operation, whispering 3 feet, after operation, whisper 25 feet. Duration of after treatment twenty-eight days.

Case 137.—*Patient.*—A school-boy, aged 17, had had a discharge from ear for three years previously.

Examination.—No tenderness on percussion or pressure over mastoid. Entire destruction of tympanic membrane. Small polypi coming from above; partial destruction of bony attic wall. Whisper, 6 feet. Weber to diseased ear. Rinné, negative. Schwabach, normal. C^1, C, c^4, positive. Watch on bone, positive. Vertigo and tinnitus, negative. No spontaneous nystagmus. Caloric reaction, positive. Fistula symptom, negative.

Operative Findings.—Caries limited to the walls of the antrum. Dura covered by caries, the size of two thumb-nails, in the region of the attic. Neumann plastic, grafts over all, closed. Hearing before, whisper 6 feet, after, whisper 26 feet. Complete dermatization twenty-one days.

CASE 138.—*Patient.*—A school-boy, aged 9, had had discharge from left ear since infancy.

Examination.—Not painful on deep pressure or percussion over the mastoid. Foul-smelling discharge; entire destruction of drum membrane. Whisper, 3 feet. Weber to non-suppurating ear. Schwabach, normal. C^1, C, c^4, positive. Watch on bone, positive. Vertigo and tinnitus, positive. Spontaneous nystagmus to opposite side and same side, more to opposite side. Caloric reaction, positive. Equilibrium disturbances negative. Fistula symptom, negative.

Operative Findings.—Caries extending to tip of mastoid. Neumann plastic, grafts, closed in usual way. Dressed in four days, every graft adherent.

More nystagmus to either side than he had before operation. Did not speak of vertigo. Left hospital in eight days.

ABSTRACT OF DISCUSSION

DR. HUGO FREY, Vienna, Austria: The after-treatment of surgical operations is very important and any advance along that line must be welcome to us. Many do skin-grafting after the operation; very often, of course, not primarily but later on. In the clinic we have given up skin-grafting in these cases, because the results did not seem to be very satisfactory. Since I have been in this country I have seen a number of cases, especially in the hands of Dr. Welty, and I am induced to try skin-grafting again after the method advocated by him, because his cases have impressed me very much. Many of his patients show good hearing. It seems to me that the problem of the radical operation now is practically solved. But the question of the function after the radical operation has not been so well settled, as it seems to depend largely, not on the scars on the outer wall, but on the growth of the granulation tissue on the inner wall. Often we find considerable production of scar tissue in the inside as the result of operative work. It seems to me better to simplify matters by confining the healing process to the outer labyrinthine wall. The patients operated on in this way look better than when treated with simple plugging. It has been recommended to give up tamponading, but I must say the results then have not been so successful. The method of immediately tamponading the cavity with the patient's own tissue seems to be the method which will give the more favorable result and shorten the time, in comparison with the other methods. I find Dr. Welty did tamponading the first time only. It may be for this reason that the hearing function is so favorable after his operation.

DR. H. B. GRAHAM, San Francisco: My results in skin-grafting are about the same as those of Dr. Welty. The hearing in my patients is about the same as he has recorded. Alexander and Mackenzie, in Vienna, some two or three years ago made an examination of their patients in the polyclinic, as far as hearing was concerned. Whereas it was formerly thought there was a certain percentage of cases in which the hearing was made better by operation, they found that universally a year afterward the hearing was worse than before the operation. Dr. Welty has a good many cases in which he operated over a year ago, so that the lapse of time has evidently had no influence on the hearing in his patients, and he is to be congratulated on that point. Not only has the hearing been made better, but it has remained better. I think the after-treatment with the skin graft is just as long drawn out as the after-treatment in the other procedure. The patient is called healed in two or three weeks, but he has to be followed up for a long time after the operation. The tube is the responsible factor, I think, in a good deal of this delay in healing after a skin graft. Even after the healing of the cavity with epidermis, there is often still a discharge of pus, which comes from the tubal region. If the tube is washed out for two or three months the patient will eventually recover. But we must keep track of these patients for a month or possibly a year or even longer.

DR. HENRY HORN, San Francisco: The results of Dr. Welty are exceedingly interesting and the value of those results are just in proportion as they can be obtained by other men. The more witnesses the more convincing the conclusions appear. Dr. Graham has reported his cases. I have had, since I returned, only twelve cases of radical operation in which I could use skin-grafting and my results were uniformly good. The question arises, why are these results so good when men all over the world have tried skin-grafting only to give it up. Surgeons have already used petrolatum and oil and the application of pieces of cotton and various other methods somewhat similar to this have been applied in skin-grafting, but it seems that in this particular technic there is a fortunate combination and unless the operation is done exactly as described in the paper you will not get the same results. On looking into the wound after operation, it looks like an aseptic operation. The wound is practically healed when we take off the dressing. Of course, I do not agree with Dr. Graham at all when he says that the after-treatment is as difficult with the skin-grafting as it is otherwise. That is perfectly absurd. In fact, that is the most valuable part of this operation. One who has had to treat a nervous patient for a number of weeks by the older method can appreciate what a boon this technic is in the after-treatment.

There is one point yet to be solved, which would make this procedure an ideal one. In a few of my patients the entire cavity was practically healed at the first dressing. The exception is always in the region of the tube. In spite of most careful curettement with the Yankauer instruments, the closure of the tube is not always certain. I doubt very much if the grafts take in this cone-shaped cavity. On the other hand, I doubt very much if a graft could be spread across the cavity, thereby closing it off from the rest of the tympanum. My impression is that healing in this locality takes place by the filling in of granulations and the epidermization from the surrounding grafts. If this were not so and the technic was perfect, we should get a complete healing every time in about two weeks.

DR. J. F. BARNHILL, Indianapolis: I want to congratulate Dr. Welty on his results. They are certainly better than anything I have obtained. In regard to the hearing, granting that the grafts stick, I cannot understand why these patients should have better hearing than after natural epidermization. We know that after natural epidermization the patients do not hear so well as before the operation. Dr. Welty speaks of doing a smooth, clean operation and in that I agree with him, but it is often impossible to remove all of the disease. It is in my opinion unwise to guarantee this in any case. I have a specimen in which the cells go one-half inch deeper than the facial nerve and we know that the diseased cells often extend deep into the petrous portion of the temporal bone.

DR. M. W. FREDRICK, San Francisco: The brilliant results which Dr. Welty achieves have impressed me also, but I fear that, as in many other cases, their brilliancy will exceed their permanence. I object to the use of the word "cured" in this connection. I do not consider a patient cured until he can leave his physician and go wherever he chooses. Recently I have seen two or three patients operated on according to Dr. Welty's method, although they were not operated on by Dr. Welty. In all of these cases the resultant cavity was filled with a mass of débris and cholesteatomatous-like bodies that were removed with some difficulty. When a tissue that is foreign to the locality is used in repair one must expect these masses to form and to require attention several times a year. I prefer the somewhat more tedious process of allowing the cavity to obliterate itself, then the patient may be allowed to go at will.

Dr. Fred Stauffer, Salt Lake City: I would like to ask whether Dr. Welty selects his cases for this operation, and, if so, what kind of cases he selects. In our part of the country we have a great many cases of cholesteatoma, in which the dura and lateral sinus are often exposed, and in removing the diseased bone we often find that the facial nerve is exposed. In such cases the method Dr. Welty uses, of employing hydrogen peroxid and hot solutions, would cause paralysis of the facial nerve. It seems to me it would be difficult in some of these cases to make a skin-graft. I would like to know how he would treat such patients. I do not think his method would be applicable to all cases requiring operation.

Dr. E. C. Sewall, San Francisco: Before I heard Dr. Welty's communication before the San Francisco eye, ear, nose and throat surgeons some months ago, I had been using primary skin-grafts for a considerable length of time. At that meeting Dr. Welty made the statements he has made here, except that at that time he was doing his skin-grafting secondarily, and insisted that it should be done on the fourth day and never on the third or fifth. That evening I criticized his paper, because I felt that the readministration of an anesthetic is not desirable if it can be avoided. Since then Dr. Welty has adopted the primary skin-grafting. I have used the small pledgets which he recommends. He says that they should be counted and that is very necessary, but it is difficult to remove them by count, because they stick together and it is often difficult to know whether you have removed one, two or three of them. I have sometimes left some of those plugs and removed them later, to my chagrin. I found once after the third day a beginning facial paralysis. There was no paralysis immediately following the operation. It developed on the third day and was almost complete. On searching the cavity and removing some hidden pledgets, the paralysis gradually cleared up. There are certain objections to the applications of the grafts. I consider it absolutely unsurgical to do what Dr. Welty says, namely, to cover the exposed dura with skin-grafts. We all know that safety, after exposure of the dura, depends on the completeness of the exposure. If we make a puncture here we make a larger opening for safety. I am quite in sympathy with Dr. Barnhill's entire speech, in regard to facial paralysis, and more in sympathy with the point of view that there is danger in operating on a chronic suppurating middle ear. We will all get deaths if we operate often enough. The use of the cotton pledget is a difficulty. It is the best we have, but it seems to me it would be better if we had something else to use in applying the skin-grafts. I have even thought of something along the line of bismuth paste.

Dr. C. F. Welty, San Francisco: Of course, it is easy to find objections, but I have considered the various points brought up to-day and no doubt shall be able to answer the criticisms, if not in accordance with your notions, at least in accordance with my own. The only thing I have considered is the oiled dressing. In quite an extensive article Alexander and Mackenzie showed that all their patients have diminished hearing after one year. Now, the two series that I have shown here comprise thirty patients operated on in the last year, and in my report next year I expect to analyze the cases. I have patients who hear a whispered word 25 feet after more than a year. When I say that such results are better than anything before presented, you can readily understand my enthusiasm in this improved technic. The hearing is one of the important reasons that I present this particular improved technic. And the reason the hearing is good is that the cochlea is covered with a delicate epidermis. In the other process it is covered with cicatrical tissue from one-sixteenth to one-half inch thick. You can imagine what would result. In a series of thirty cases of this particular procedure the patients are all well. There have been relapses from the accumulation of débris, etc., and in that way pus may form and require care. A patient may require care once in a month, another once in two months and another once in a year. Much depends on the personality of the patient. In passing I will give you something that in my practice has worked very well. After clearing the ear of epidermis and débris, provided there is no pus, mop the cavity out with oil. I have seen patients treated that way, after six or eight months, without the formation of new epidermis. In regard to facial paralysis I have had now eight cases of facial paralysis prior to operation, one in an acute case and seven in chronic cases. Of those patients six recovered and the patient who did not recover was unconscious forty-eight hours before he was operated on and died. I have had no case of facial paralysis following an acute or radical ear operation, except a case of temporary facial paralysis due to pressure, which disappeared in ten days. The after-treatment is concise and precise. You must dry your cavity and you must do it in a delicate way and not put in the gauze in a reckless manner. You will possibly spend more time in the after-treatment than in the after-treatment of the other class of cases. But your time is well spent, for in a few weeks your patient is well. Dr. Sewall said occasionally your patients will die. But remember what I said: If the labyrinth is intact you can do pretty much as you please and the patients will not die.

THE RATIONAL TREATMENT OF FURUNCLES *

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While the treatment of furuncles seemingly may be summed up in two words—incision and drainage—yet I apprehend that a thorough, complete and permanent cure involves a broad survey of many principles, based on a brief consideration of their cause and pathology.

A furuncle, as described by Da Costa, is "an acute and circumscribed inflammation of the deep layer of the true skin and the subcutaneous tissue following bacterial infection of a hair-follicle or a sebaceous gland." The exciting cause is usually *Staphylococcus aureus*. Burrowing down into the hair-follicle and invading the adjacent sebaceous gland, the bacteria excite the surrounding subcutaneous tissue to inflammatory defensive reaction. The blood-vessels dilate and become engorged, resulting in active hyperemia. Leukocytes transmigrate and serum exudes into the zone of defense resulting in a little tumor which is hard, painful and tender. In the center of this little tumor, corresponding to the position of the hair-follicle, is a pinhead-sized vesicle containing clear or slightly turbid serum and projecting hair-shaft. The little tumor grows for three days until it becomes a relatively formidable looking object, harder, more painful and more tender. Regional lymph-nodes become acutely hypertrophied and equally hard, painful and tender. This unwelcome state of affairs causes the patient no little discomfort and a varying degree of septicemia brings on fever and malaise. On the fourth day, strangled by the great pressure of the acute tissue hyperplasia, the hair-follicle and sebaceous gland begin to ulcerate, and liquefaction necrosis sets in. The skin immediately around the hair is slowly dissolved. Liquefaction now proceeds more rapidly and the tumor, from being hard, becomes softened in its center, and fluctuation is palpated. The furuncle, while less hard, is still painful and tender. Left to itself the softened center projects more and more and on about the seventh day bursts, and seropus escapes, affording the patient some relief. Shortly a white slough composed of the destroyed hair-follicle and sebaceous gland and bacteria is loosened and expelled from the central cavity of the furuncle. It is followed by the escape of serum which soon becomes tinged with blood. There is now seen a little red pit exuding serum and blood and surrounded by granulations. The lymphadenitis subsides and the patient is comfortable. Granulations soon fill the pit and regeneration of epithelium completes the resolution of the furuncle.

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Predisposing causes are diabetes and other constitutional maladies, but more commonly violation of simple rules of hygiene. The established routine of "boils—look for sugar" is rarely fruitful. It will usually be found, however, that the patient is a little underweight, perhaps from overwork and insufficient or excessive or poorly selected food, and that he has become a little careless in the care of the surface of the body. He may be an athlete who thoughtlessly dons a suit soiled and sweaty from previous exercise, or a person who for sake of economy is equally careless about change of underclothing. He may wear frayed linen collars, whose edges grind bacteria-laden dust into the nape of the neck.

Prophylactic treatment, then, requires attention to nutrition and to hygiene of skin. Proper nutrition is maintained by sufficient plain, wholesome food taken at stated intervals and well masticated, and by daily evacuation of bowels to prevent absorption of intestinal toxins. A tonic of iron, quinin and strychnin, and free draughts of water, often from a quassia cup, are desirable. Hygiene of entire skin requires antiseptic baths and fresh undergarments, preferably of linen mesh, daily. Local hygiene of nape of neck is important, and requires cropping of hair every fortnight, daily shampoo, and bathing with witch hazel or cologne water, and the wearing of clean, smooth and preferably soft collars. Scissors should be used on the nape of the neck instead of clippers.

The treatment of furuncles is divided into that of the furuncle itself and that of the low opsonic index of the blood. The immediate treatment of the furuncle itself varies according to whether it is in the stage of formation, the stage of ulceration and liquefaction necrosis, or the stage of resolution. When seen early in the stage of formation, the furuncle, if superficial, may often be decisively aborted in the following manner: Take a wooden applicator or matchstick and whittle to a fine point. Dip in liquefied phenol (carbolic acid). Shake off excess. Bore the point of this phenol-stick firmly and deeply into the vesicle in the center of the furuncle. Withdraw. In the wake of the stick there is seen a pit surrounded by a white eschar, aseptic because the active bacteria have been destroyed. A trace of blood may well up into the pit. The initial pain is quickly relieved by the anesthetic action of the liquefied phenol. If the furuncle is still in the early stage, but rather deep, a method recommended to me in a personal communication from Dr. George H. Simmons—that of injecting by the hypodermic syringe several drops of liquefied phenol right at the base of the furuncle—is effective. There is momentarily a sharp, excruciating pain, but after that, analgesia is established, and the patient freed from his previous tension-pain.

When seen late in the first stage it is common practice to make an incision. I believe this is wrong, for a furuncle, whether incised or not, completes its seven-day course as surely as night follows day. The furuncle still remains painful and hard. The incision in this case is futile because not in accord with the pathology of the lesion. A furuncle is a self-limiting process, always. The serum and leukocytes assemble to wage war against the bacteria. They seek to strangle and cast out the infected hair-follicle and sebaceous gland. This they eventually and invariably accomplish, on the principle of the sacrifice of one for the good of many. The knife, on the other hand, divides the infected hair-follicle and sebaceous gland and invades the demesne of those allies of health and foes of disease—serum and leukocytes. It shortens the process in no way, benefits the patient in no way, and leaves an entirely unnecessary scar. If healing takes place rapidly after incision, it is because the furuncle was well advanced, for in such case the slough will be found to be loose.

Given a furuncle late in the first stage, what is the most rational method of treatment? It would seem to be to establish an outlet, not for the beneficent serum and leukocytes, but for the products of liquefaction necrosis which are formed by Nature according to her best judgment, *secundum artem.* With the scalpel scratch off the little central vesicle. This causes no pain. A drop of discarded seropus follows and the ulcerating hair-follicle and sebaceous gland are exposed. Apply a Bier cup[1] and suck out as much as possible of the exhausted serum and blood. In the wake of the latter from nearby tissues comes fresh blood, with fresh serum and fresh, vigorous leukocytes. It is these that are going to cure the furuncle, and not the surgeon's knife. The knife inflicts unnecessary trauma, and gives the tissues two lesions to deal with instead of one. Often the vesicle does not even have to be scratched, in which case the cuticle is thin enough to be readily ruptured by the cup alone. Apply a dressing of plain sterile gauze wrung short of saturation from a solution of normal saline with sodium citrate. An important consideration in this method of treatment is that of drainage. If a gauze drain is inserted, it plays the rôle of a cork in a bottle. If left alone and allowed to dry, the lymph coagulates, thus plugging the furuncle. In keeping with modern pathologic conceptions what is desired is free bathing of the bacteria with fresh serum from the blood, with its highly antitrophic power. Sodium citrate, 1 per cent. solution, precipitates the calcium salts in the lymph and ensures a comparatively free outlet of the lymph discharge. By osmosis, the sodium chlorid sets up a flow of lymph through the walls of the furuncle, the citrate maintaining the fluidity of the serum. Thus, there is brought about a continuous flow of lymph of high antitrophic power from the congested blood-vessels through the wall of the furuncle and out through the wound. A bit of rubber dam may in addition be inserted if there is much tension on the outlet. The citrate is required for only about three days, and during its use the surrounding skin should be protected from pustulation by an ointment. The patient may make up his own solution for home use by adding a teaspoonful of sodium citrate and two and one-half teaspoonfuls of table salt to a glass of hot boiled water. Over this aseptic drain-poultice apply a piece of waxed paper or oiled silk, then a compress of non-absorbent cotton or wool and a cotton bandage. If the patient is going to lay up, leave the dressing open, instructing him to renew the drain-poultice frequently. The solution prevents the vesicle crusting over and the gauze absorbs the products of disintegration as Nature dispenses them. Sodium citrate should also be administered internally, 15 gr. three times daily after meals, both for its alkaline action on the blood, and for its diuretic action on the kidneys. The cupping and dressing may be repeated and renewed frequently

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[1] While Sir Almroth Wright objects to the Bier cup on the same grounds that I object to squeezing, yet practically harmful traumatic effects are not apparent, and in any case are far overbalanced by the benefit that ensues.

(every four hours) until the slough is loose, when this may readily be removed by a pair of small dressing forceps. After this, no matter how the resolving furuncle is treated, resolution proceeds rapidly and uninterruptedly, and the resulting scar is always the smallest obtainable in proportion to the size of the furuncle. In most cases it is invisible.

In some cases the granulations, instead of being firm, red and rapidly growing, are flabby, bluish and sluggish. The trouble here I believe is due to relaxation of the tissues and mobility of the part. These conditions may be overcome by strapping the edges of the wound with adhesive strips which compress the granulations and immobilize the skin. Then the granulations are dried, mopped with tincture of iodin, and dusted with Bier's powdered nitrate of silver. Exuberant granulations should be snipped off with scissors; for, as Colles long ago pointed out in his lectures, the silver stick does not "burn down" granulations, as it is commonly supposed, but stimulates them. To promote epithelial regeneration—which, in this method, has a very limited area to cover—8 per cent. scarlet red ointment or amido-azotoluol may be employed.

I object to flaxseed poultices on the ground that, while they may soothe the patient, yet they devitalize the edge of the furuncle, prolong the period of resolution, and leave a legacy of an unsightly depressed scar. I object strongly to the bichlorid of mercury on the ground that it is a corrosive poison, that it devitalizes the vigorous leukocytes and disintegrates the beneficent serum; that it destroys feeble bacteria on the skin but does not reach the more active bacteria in the depths of the wound, and that on tender skin it causes pustules to spring up anew. I am unalterably opposed to incision for the reasons given above. If incise you will, then excise the furuncle entirely; otherwise withhold the knife.

How is auto-inoculation of adjacent hair-follicles to be prevented? By shaving the area of skin wide of the furuncle and disinfecting it with 70 per cent. alcohol, tincture of iodin with benzin, a dilution of liquor formaldehydi or of aluminum acetate. Local disinfection should be repeated at each dressing, benzin being an excellent medium thoroughly to cleanse the skin of wound discharges, effete products, and remnants of adhesive plaster.

Of course, if a patient presents himself for the first time with a furuncle well advanced in the second stage, where there is marked softening and fluctuation, in fact, merely a subcuticular abscess, a small incision through the thinned skin is indicated on the surgical principle of *ubi pus ibi evacuo*. This principle is in no way applicable to a furuncle in the first stage, because there is no pus to be evacuated. I strongly object to squeezing a furuncle in any stage. Squeezing is unsurgical in that it causes acute suffering quite needlessly, traumatizes the furuncle, breaking the barrier of protecting leukocytes, and provokes hemorrhage which interferes with drainage. Make the drain, aided by the Bier cup, remove the pus. It is less painful and at least equally efficient. To hasten the subsidence of the enlarged lymph-nodes and of the acute hyperplasia about the furuncle, thiosinamin may be given by mouth in 1½ gr. doses three times daily after meals.

Immunization against furuncles, when carefully and judiciously supervised, plays an important and efficient rôle. It is either passive or active. Passive immunization is indicated in the active stage of furunculosis, when a furuncle is present on the body, and consists in injecting antistaphylococcic serum, rich in antitoxins, near the infected area, twice a week. Active immunization is indicated in the passive or resting stage of furunculosis, to prevent subsequent appearance of furuncles. It is also efficient in the presence of a furuncle, the course of which is often considerably shortened. In bacteriemia, on the other hand, bacterins are contraindicated, because here they would add to the toxins with which the body is already surcharged. Bacterin therapy consists in injecting subcutaneously killed staphylococci —which act by virtue of their bacterins (bacterial toxins)—in ascending doses, the body cells thus producing more and more antitoxins until the opsonic index is restored to normal. With this accomplished, the patient is not only immune to staphylococcic invasion, but his serum, now rich in antitoxins, could be used passively to immunize another patient with active furunculosis, but the potency of such serum is difficult to determine.

Most efficient are the autogenous bacterins. These are prepared by identifying and isolating the organism from a furuncle, scraping loopfuls from an agar slant, suspending in saline solution and killing by heat. At the University Hospital we suspend approximately 400 million killed bacteria in 1 c.c. of saline. Starting with an initial dose of 0.25 c.c., we increase by weekly injections to 2.5 c.c., the size of the increasing doses depending on the degree of reaction as shown by headache, malaise and possibly fever. While control by clinical symptoms is usually sufficient, yet to perpetuate the cure the patient's opsonic index should be taken at weekly intervals, to anticipate a change from a positive to a negative stage. The waning of the attacks of furunculosis is often indicated by the appearance of abortive furuncles.

The next best treatment of recurrent furunculosis is by yeast (*Saccharomyces albicans*), which stimulates phagocytosis and liberates carbonic acid, thus recalling John Hunter's recommendation of carbonate of sodium for boils. While brewer's yeast (*Oberhefe*) is inelegant pharmaceutically, is a nauseating substance and is hard to keep and to handle, yet it has strong advocates. I have seen furunculosis checked by the use of nuclein in the assimilable form of compressed tablets.

This method of treatment, then, commends itself because it is gentle, simple, painless, rational and effectual. Where, as sometimes happens, the furuncle is exceptionally large and severe—the carbuncular furuncle of some writers—I employ a little operation which seems to meet the indications very well. I fill a hypodermic syringe with a 3 per cent. solution of novocain, enter the needle through the sound tissue at the margin of the furuncle and plunge it under the base of the tumor. After waiting five minutes until the furuncle is completely anesthetized, I take a small curet and remove the core from the center of the tumor. This method is also applicable to furuncles on the face where, because of the wide-spread infiltration from the laxity of the tissues, there is danger of sinus thrombosis by way of the facial and ophthalmic veins. In case the supposed furuncle develops into a full-fledged carbuncle—and it is often impossible to say whether we will have to deal with a furuncle or a carbuncle except with the lapse of time—the safest and surest treatment is excision of the entire carbuncular area, hemorrhage being controlled by the Paquelin cautery and firm compresses, and pure liquefied phenol being applied. Thus will the progress of septicemia and of its effect, cloudy swelling—particularly of the kidneys—be checked, and often the life of the patient saved.

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THE NATURE OF THE VIRUS OF MEASLES *

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AND
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As soon as we had satisfied ourselves of the susceptibility of the monkey to inoculation with measles[1] we turned our attention to the study of the nature of the virus as it exists in the circulating blood. Accordingly we made experiments to determine its filterability, its resistance to drying, heat, freezing and "age," and now desire to present briefly some of our results, reserving greater detail for publication in a bulletin that will cover all of our work.

FILTERABILITY

We have made four separate attempts to determine this point. In each case the blood-serum was obtained by centrifugation of defibrinated blood and was diluted with three volumes of saline solution before filtering through a Berkefeld candle.

Our first two experiments appeared to be negative. In our third experiment we inoculated four monkeys with filtered serum which on account of an accident we had been obliged to pass through two Berkefeld candles. Of these four animals only one, Rhesus 101 b, presented any recognizable evidence of a reaction.

In our fourth experiment, following the inoculation of two Rhesus monkeys (113 a and 113 b) with filtered serum, one, 113 a, developed a well marked reaction with an eruption which began to appear twenty-one days after inoculation. From this animal we obtained some blood with which we inoculated two others, one of which, (a *Macacus sinicus*) No. 125, later developed a fairly well defined febrile reaction.

We conclude from the foregoing that the virus in measles blood is capable of passing through a Berkefeld filter.

DRYING

We have two experiments to record. In each the required amount of defibrinated monkey blood was put into a Petri dish and this with its cover tilted placed over concentrated sulphuric acid in a desiccator. The air was quickly exhausted from this apparatus and it was then placed in our cold room at 15 degrees C. At the end of twenty-four hours under these conditions the blood was found as a dry scale. This was rubbed up and dissolved in saline solution and then used for inoculation.

In our first experiment we inoculated two Rhesus monkeys, Nos. 107 a and 107 b. Of these animals No. 107 b gave no recognizable evidence of a reaction while No. 107 a presented, ten days after inoculation, only a slight rise of temperature that was sustained for two days. Subsequent reinoculation of both animals with virulent blood was followed in neither by any appreciable indication of a reaction.

In our second experiment we used the defibrinated blood of Rhesus No. 110 a, and, as in our first, after drying inoculated two Rhesus monkeys, Nos. 116 a and 116 b. Following this inoculation No. 116 b presented a well marked reaction with an eruption which began to appear fifteen days after the inoculation.

We conclude that the virus in the circulating blood of measles may resist desiccation for twenty-four hours under the conditions of the experiment.

HEAT

We have made three attempts to determine whether the virus in measles blood retains its infectivity after heating, in one experiment at 57 C. and in two at 55 C, for fifteen minutes. None of the monkeys inoculated with blood so heated has given any recognizable evidence of a reaction although the unheated blood used in each case was shown to be infective by control inoculations.

This, we think, strongly indicates that the virus of measles does not retain its infectivity when heated to 55 degrees for fifteen minutes.

FREEZING

We froze some defibrinated blood from Rhesus 110 a shown by controls to be highly infective, by putting a test tube containing it into a freezing mixture, the temperature of which was a little under 13 C. It was kept frozen solid at a temperature between 13 C. and 0.0 C. for twenty-five hours. At the end of this time the blood was quickly thawed out, warmed to 37 degrees and inoculated intravenously in a Rhesus monkey (No. 118 a). Following this inoculation the animal developed a reaction marked by the appearance of an eruption that was first noted twenty-six days after the inoculation.

The virus appears, therefore, to have resisted "freezing" for twenty-five hours although the long incubation period would perhaps indicate some reduction in its virulence.

We think it right to add that some doubt of the validity of this experiment exists because the animal was inadvertently exposed to "contact" during the period of observation. While we are unable to exclude the possibility of contact infection our experience inclines us to believe this possibility rather remote in this instance.

AGE

We made two experiments to test the "keeping" quality of the virus in measles blood. Virulent defibrinated monkey blood was kept in a sterile test-tube plugged with cotton, at 15 C. for twenty-four hours in the first and for twenty-five and one-half hours in the second experiment. At the end of these periods the blood was used for the inoculation of monkeys. Neither of the two inoculated in our first experiment presented any recognizable evidence of a reaction.

Of the two animals inoculated in our second experiment only one (No. 117 b) gave any suggestive indications of a reaction. In studying the temperature curve of this animal one notes a moderate rise on the fifteenth day after inoculation followed by a decline, and this by a second rise of equal degree sustained for about six days.

We are inclined to interpret this as a reaction, and, therefore, think it probable that the virus still retains some of its infectivity after twenty-four hours at 15 C.

SUMMARY

We may summarize our conclusions as follows: The virus in measles blood may (1) pass through a Berkefield filter, (2) resist desiccation for twenty-five and one-half hours, (3) lose its infectivity after fifteen minutes at 55 C, (4) resist "freezing" for twenty-five hours, (5) possibly retain some infectivity after twenty-four hours at 15 C.

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* From the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service.

[1] Anderson and Goldberger: Experimental Measles in the Monkey: A Supplemental Note, Pub. Health Rep., June 16, 1911, p. 887.

It is a pleasure to express our indebtedness to Dr. H. B. Deal, attending physician and Dr. A. C. Smith, resident physician, Garfield Hospital, to Dr. H. A. Fowler and to Dr. J. R. Wilder for access to cases of measles. We are also grateful to the medical profession of the District, particularly to Drs. Percy Hickling, R. T. Holden, E. E. Richardson and M. O. Dumas for their courteous cooperation in offering us access to some of their measles patients.

PREVENTIVE MEDICINE SECTION COMMITTEE REPORTS †

REPORT OF COMMITTEE ON STATE METHODS OF PUBLIC EDUCATION IN HYGIENE *

I. SHOULD STATE BOARDS OF HEALTH UNDERTAKE AN EDUCATIONAL CAMPAIGN IN HYGIENE?

There seems to be not a shred of an argument against the opening and the continuing of a strong campaign of education of the public in hygiene by state, city and town boards of health. The advantages would be many and the disadvantages none. That the public sadly needs the education, appears in the fact that not 2 per cent. of all people born escape being stricken with preventable ailments. The masses of people do not know how to breathe, do not know why they breathe and do not know what they breathe. Dust, smoke, the products of combustion and vile odors, so far as their hygienic bearing is concerned, are simply words to them. The masses are beginning to have permanent glimmerings of the importance to health of drinking pure water and pure milk, but are not yet quite ready to stand the expense by which these blessings are to be obtained.

The necessity of hygienic housing for the benefit of society and the nation by raising the general health is yet little appreciated by those who are directly affected, is not at all appreciated by those who own living blocks, and business men generally are all too indifferent. Well-to-do farmers and well-to-do merchants, in not small numbers, still strongly oppose the erection of sanitary school houses on account of the initial expense; they oppose necessary sewers, they oppose building good roads and streets, they oppose drainage for the purpose of conquering malaria, and they settle any proposition to conform to the laws of health, by hurling the epithet "crank" at any one having the temerity to propose such a thing. Yes, public education in hygiene is badly needed, and the labor properly falls on health authorities.

II. WHAT SHOULD BE THE FINANCIAL PROVISION FOR SUCH A CAMPAIGN?

The answer to this depends on many conditions. If hygiene be effectually taught in the public schools and if medical inspection of school children is in force, then, within a decade, public health exhibits and pamphlet distribution may largely be done away with. Until then, however, public exhibits, pamphlets, bulletins and lectures are decidedly in order. The expense must, with rare exceptions, be borne from public treasuries, and a vital question is, how may the said treasuries be opened for this good purpose? In instances, funds may be secured from persons who are the holders of accumulated wealth; and such source might appropriately be termed accidental. Wherever it can be laid hold on, there most probably will be found a practical philanthropist who will be keen enough to do it.

In order to secure funds for such work from public treasuries, certain influential members of the laity must be converted to the cause, and they must publicly express themselves. In the state of Indiana, Governor Thomas R. Marshall was convinced by his own family physician and other members of the profession of medicine that in preventive medicine the state would find a source of revenue, a source of strength, and a source of happiness. He spoke forth his convictions from the platform and in message and the holders of the keys to the money-boxes listened and heeded. In consequence, eight out of nine bills bearing on different phases of preventive medicine were enacted into law and the appropriation of the state board of health was doubled. The lesson is, those interested must make politics out of humanitarian and philanthropic causes, showing their economies, in order to secure the wealth and happiness to society which lie in such forces.

As to the amount of money necessary to carry on campaigns of education in public health work, this will depend on many conditions, but it may be safely predicted that the practical politicians, holding the strings to the public money bags, will not loosen said strings sufficiently to swamp the cause.

III. SCHEMES OF ORGANIZATION

1. Each state board of health and each board of health of large cities should have a bureau of education, or a publicity bureau with a superintendent whose whole time should be given to this phase of public hygiene. Said superintendent should, of course, be capable; but more, his heart should be in his work and he should stand ready at any time to make large sacrifices for the cause.

2. Proper help, in numbers and character, in the line of intelligent clerks should be provided, and every effort put forth to secure the moral support of the people.

3. Proper pecuniary support must be secured. Obviously the amount must be commensurate with the work that is projected and if not, the process must be reversed, and the work projected must be commensurate with the appropriation.

4. A scheme of organization for a department of publicity must be according to the size of the state or city and the moneys available, and no syllabus for said organization will be offered herewith.

IV. METHODS OF MAKING USE OF EXHIBITS AND LECTURES

Of course a Cæsar or a Napoleon would make use of and find advantages in general methods of any kind and for any purpose which would be unthought of by the ordinary person, and so, whatever force or advantage any one method of addressing the public might have will depend on the man in command.

Car Exhibits.—The excellent examples set by Louisiana and California in the matter of traveling exhibits could well be followed by other states. The financing and the securing of the aid and cooperation of the railroads are the first two steps in the enterprise. These being secured, the character and arrangement of the exhibit follows. The aid of the press, on account of its unusual comprehension of public needs, is always easily secured, and said aid may always be assured to be at hand.

The coming of an exhibition car to a community should be fully heralded in the local press; posters, descriptive and explanatory of the exhibit, should invariably precede the car, and it would be well to have a box for contributions in a conspicuous place and to supply tags for all visitors. These would lend a personal interest to visitors and especially to contributors.

Hall Exhibits.—While car exhibits have the advantages of novelty, rapid transportation and always being in order, still, they must be expensive and the space is not large. Halls for hall exhibits may quite always be secured without rent, even an empty store room answering the purpose very well. Indeed, such rooms are to be frequently preferred because they are usually in the business district of a town and very accessible. It is certainly true of the car and the hall exhibit; both have their advantages and both should be used.

Lectures and Sermons.—Illustrated and not illustrated, lectures and sermons are usual and excellent methods of educating the public. The effectiveness of speakers will differ greatly, but sincere, earnest and plain presentation of the facts will always be potent in arousing action. Unless action is aroused, the lesson is of little worth. The presentation of moving pictures will not be forgotten, although the very refined police of Indianapolis did forbid the showing of the now famous fly film, which has done such excellent service in cities and towns everywhere in the land. In Indianapolis, a woman complained to the police that the maggots hatching into flies shown by the fly film made her sick, and the horrid thing should not be exhibited. The police responded and suppressed the show and it was afterward found that the maggot-passing-into-fly process was actually and really happening in the complaining woman's backyard and also in many places near the police headquarters. The incident is related simply to show that certain kinds of women and certain kinds of police must be considered in getting up exhibits for the instruction of the people in any of God's truths.

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† Other reports will appear in succeeding issues.

* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

V. HEALTH OFFICERS' SCHOOLS

Schools for health officers are a real necessity in these days. Health officers should be called together at least annually by state boards of health or health commissioners, that matters pertaining to public hygiene may be discussed and acted on, that instruction might be given by persons who have become prominent in the work, and also that all may profit by criticisms and through questions and answers. The enthusiasm and interest which health officers' schools arouse in an invaluable help in the cause.

Public Schools.—The most promising soil in which to plant the seeds of hygiene is the public schools. The minds of children, being plastic and receptive, will readily accept and assimilate new truths, and these becoming a part of the composition of the child will find practical expression when adult age is reached. It sometimes seems to be a waste of time to try to secure the action of adults in the matter of the practical application of well-known hygienic truths. They, in considering the matter, remember they have survived, and then draw wholesale conclusions to the effect that the truths and arguments presented in regard to disease prevention are all bosh.

The advice given by President David Starr Jordan is certainly sound: "If ever you wish to go in for philanthropy, if ever you wish to be of any use in the world, do something for little children." And further, "If the great army of philanthropists ever exterminate sin and pestilence, ever work out our race's salvation, it will be because a little child has led them."

Posters, Wall Cards, Etc.—The usefulness of posters, wall cards, charts, cartoons, pictures, etc., in education is very great. Directions for preparing them cannot be given, as they must be devised by the intelligence, tact and ingenuity of the individual. The posters and charts presented by the New York Health Commissioner and other health authorities are most ingenuous and excellent. They all forcibly illustrate various phases of disease prevention, and health authorities who find themselves unable to excel such charts and posters will undoubtedly be given permission to use those from other states on request.

Bulletins.—All kinds of bulletins in all kinds of causes have always been effective. A fully successful bulletin treating any phase of the public health cause will depend for its success on lucid and striking expression. The prosy, dull bulletin, telling its story in humdrum style, will never make a hit. It will not interest and will not cause its readers to act. The healthgrams of the Chicago Health Department Bulletin, and like grams of other bulletins, have made good and lasting impressions. The lesson is that bulletins on health subjects must be bright and original, presenting their matter briefly and strikingly.

The Press.—Most potent of all educational forces, except the schools, is the press. We are a nation of newspaper readers and through the papers is found the best method for immediately reaching the public. Everywhere newspapers most gladly publish live readable matter on public hygiene. Without the aid of the press public health work would move slowly indeed. In using the press, as in other methods of reaching the public, success depends very largely, perhaps altogether, on the tact and talent of those who prepare the matter.

J. N. HURTY, Chairman, Indianapolis.
WILLIAM F. SNOW, Sacramento, Cal.
OSCAR DOWLING, Shreveport, La.

ABSTRACT OF DISCUSSION

DR. W. F. SNOW, Sacramento, Cal.: The subject of educating the public should be divided into at least two divisions: the children and the "grown-ups." At the age of 14, 85 per cent. of children leave our schools never to return. The problem, therefore, is very different with our children up to the age of 14, and from that age on.

In the teaching of children I believe the most important new factor for us to emphasize is the use of the moving pictures. Somehow or other, teachers are very slow to utilize this wonderful mechanical invention. Our high schools are nearly all equipped with stereopticons, and many of our grammar schools are similarly equipped and have weekly lantern-slide shows; but the moving picture itself, which is the same kind of a mechanical device, is not used, and many teachers think that moving pictures are to be frowned down. In California we are trying to have arrangements made for a weekly educational day in every town which has a moving picture show.

We have had some experience in California with a traveling sanitation car, which I think was the first one sent out in this country. We had to operate some such plan to cover the great distances in California. This car has had a great influence with the schools, but as Dr. Hurty has emphasized, these methods are somewhat transitory. They create a great deal of interest at the time and do excellent work in getting newspaper publicity, in distributing literature and in reaching all the children of the schools with preliminary impressions of public health and hygiene. But permanent results do not follow unless such general methods are supplemented with something else that is more durable.

Just now in California we are trying a supplementary experiment with what we call small serial demonstrations. We have small relief maps, so provided with models of houses, dairies, vegetable gardens, etc., that the children may lay out the sanitary situation in their own districts and then move these houses around to correct the bad features. In other words, the outfit is designed to teach the children at the round-table to play sanitary games. These outfits are boxed up, sent out to the different schools for a period of a week or two and then sent on to other teachers. In a similar way we are sending out small bacteriologic exhibits. We have a pure food exhibit along the same lines. The State Board of Health is sending these out in an effort to stimulate communities to establish permanent work along these lines in their schools.

So far as general results are concerned, Dr. Hurty has undoubtedly wisely emphasized the newspapers. If we stop to think of it, when we lose 85 per cent. of our children at the age of 14 or 15 from our schools and they go into our industrial occupations, from that time on they never get any organized instruction except through the daily and weekly papers of their community. I believe that the newspaper is truly the great educational system for adults at the present time. We have only just begun to realize this, and to cooperate tactfully and efficiently with the newspaper editor in utilizing his opportunity in the field of education.

In regard to exhibits, up to the present we have largely gone before the public without any attempt at correlating the ideas put forward. The result is that the public believes all these things to be a matter of hobbies. We must work out some scheme for presenting to the public all the time a connected, comprehensive idea of health conservation in all its phases, no matter what particular phase is being agitated in the community at any given time.

DR. FRANCES M. GREENE, Cambridge, Mass.: Until now sex-education has always been relegated to the mother; seldom to the father or the physician; and the physician has always lent himself to the little fairy tale which forms the first lie that a child is obliged to hear. But when the great congresses met in order to face the question and to solve the problem of venereal disease, they all turned to the mother and said, If we want to do anything to help these conditions, we must begin by teaching the infant, by being serious with the child. This was very easy to say, but exceedingly difficult to do;

and I find, after several years of work in trying to teach mothers how to be sincere, that we need help in all directions; and in this the doctor can serve us greatly. The family physician should do his best to make the mother realize, not only what she is going through at childbirth, but the responsibilities she is going to take on herself; and that what is about to happen to her is one of Nature's mightiest phenomena, whose significance should be reverently understood by the children in the household. She should not try to conceal her position, and nothing can help so much as having the family physician talk to the father and make him realize his responsibility in the matter.

In the first place, the first question that the child asks should be answered with sincerity instead of falsehood, coldness and very often a distinct rebuff. Then the confidence between the parent and the child will be made fast; the child will not turn elsewhere for information which the parent can give best of any one; and as he grows to puberty, instead of getting information about the most necessary and natural things from strangers, the mother and father will be his natural teachers. Then by a very easy and natural process, when the boys and the girls go out into the world, they will be told about the dangers which they are there to meet, and be prepared to meet them. In this matter the physician can greatly help or greatly harm. I have had women say to me: "What can I do when I go to my physician and tell him that my boy has had night emissions, and he answers that the only cure is to send him to a prostitute?" or when the boy is given a latch-key and sent by his own father as soon as he is 14 or 15?

Dr. William C. Woodward, Washington, D. C.: A method of educating the people that has not been referred to at this meeting was forcibly pointed out at the general meeting this morning, in a letter that was sent to the Association by Senator Robert L. Owen. In substance, he pointed out that if we would have the people believe our teachings and live up to the principles that we enunciate, we ourselves must follow such teachings and live up to such principles. And what is true of individuals is true also of communities. No city or state, nor the federal government itself, should impose on the individual sanitary requirements which the city, or the state, or the federal government does not live up to.

Dr. Oscar Dowling, Shreveport, La.: In Louisiana, since Nov. 5, 1910, we have made a state-wide health-educational campaign. The majority of the people, not only in Louisiana, but in many other states, do not know how to practice the simplest health rules, or know why they are necessary. They think of disease as inevitable. This is no reflection on them. It means simply that we, as a nation, have not emphasized principles of hygiene and sanitation either in legislation or administration. I believe Louisiana has the distinction of being the only state in the Union to own a health train. In our campaign these cars—two containing exhibits, one used as living quarters—were transported over 7,000 miles in the state. Two hundred and fifty-six towns were visited. Nearly three thousand inspections were made. In order to have accurate personal knowledge of conditions and a correct judgment of the attitude of the public mind toward health reform, I myself made these inspections, with very few exceptions.

It has been estimated that eight years could be added to the normal period of human life by merely securing reasonably pure air, water and milk. Having this in mind and the tremendous importance of food in physical welfare, the effort was to make plain to all those engaged in manufacture, production, or sale of foodstuffs, that surroundings, including the method of handling, must come up to a certain standard of cleanliness. Dairies especially were selected as an object lesson. Five hundred and eighty-one were inspected. I am sorry to say conditions in some were rather bad. In one town our officers picked up one morning six samples of milk. Five of the six had been watered. One dealer on being asked to show cause why he should not be prosecuted replied that he had brought it $3\frac{1}{2}$ miles. If he didn't add water, the milk was so rich it would turn to butter before he could get to town. The score card of the American Dairymen's Association was adopted and we require that every dairy to receive a permit to sell, shall score 50 points. We taught the people how the actual cleaning should be done. We require a tuberculin test and when the cows react, they must be slaughtered. We find that in the country where the herds are kept in the open, fewer react. In one herd of 180 in the city, 37 reacted; in the country in four herds numbering 300 there was only 1. Since the inspection tour many dairies have been remodeled, and we believe the time is near when Louisiana will have as pure a milk-supply as any other state in the Union. Nearly every slaughter-house inspected was condemned. These are being replaced by sanitary and modern structures. In this campaign instruction in prevention of disease was given in every talk, demonstration and lecture. Louisiana, as all members of the medical profession know, is free from yellow fever. Now we want to get rid of the mosquito. Cleanliness and drainage will do this and as a result we shall be practically free from malaria.

It was predicted that the abolition of the public drinking cup would meet with much opposition, but we had four months in which to carry on this educational campaign before the regulation went into effect and we are glad to say that the people are loud in their praise of its abolition. The enforcement of this law has had a widespread educational influence. In effect it enters into the lives of many classes of people.

We have secured beyond our hopes the cooperation of the citizens in the reporting of births and deaths. A little story of Dr. Hurty's relative to a lost inheritance seemed to appeal to the people and arouse their interest. A regulation which will go into effect July 1 will further protect the people from infectious disease, namely, the abolition of the common towel. Foodstuffs also, after July 1, will be further protected by the regulation which requires wrapping of bread and protection of other products from dust and flies. We have the cooperation of the people throughout the state and believe that Louisiana, in response to an earnest effort for ideal conditions, will be in a short time as clean—we won't say cleaner—but we hope will be just as clean as any other state in the Union.

REPORT OF COMMITTEE ON STANDARD METHODS OF PROCEDURE FOR THE CONTROL OF BOVINE TUBERCULOSIS IN RELATION TO MILK-SUPPLIES *

We, the committee to whom was referred the question concerning standard methods of procedure for the control of bovine tuberculosis in relation to the milk-supply, beg leave to suggest the following recommendations as a basis for laws, regulations and ordinances by municipal health officers:

1. That all cows on dairy farms producing milk for market purposes be tagged, tattooed or otherwise marked for identification.
2. That (a) all milk produced on such dairy farms shall either come from tuberculin-tested cattle, which shall be retested at least once a year; or
   (b) if sold from untested cows the latter must be given a careful physical examination every three months by competent veterinarians accepted by the board of health, all suspicious animals being eliminated, and the physical score-card of each animal in the herd filed with the proper health authorities (commissioner, board, veterinarian); or
   (c) the milk must be subjected to pasteurization under the supervision of the health authorities in case the herd is not handled in accordance with the above requirements.
3. That no additions to any herd, whether the herd has been tested or not, shall be made in the future without subjecting the additional cattle to the tuberculin test.
4. That no license for the sale of milk shall in future be granted except to applicants having herds known to be free from tuberculosis, as indicated by the tuberculin test.
5. That the milk of cattle showing any udder affection, or anthrax, rabies, gastro-enteritis, septic conditions, or clinical symptoms of tuberculosis, shall not be utilized as human food,

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

even though the milk be pasteurized. Milk from cows fifteen days before and five days after parturition, and that from animals receiving any deleterious medicaments or foodstuffs shall likewise be excluded.

6. That veterinary inspectors of health departments make frequent visits to dairies having untested herds, in order that they may discover all advanced cases of tuberculosis, or udder tuberculosis, as early as possible.

We favor the amendment of all state laws in order to make them include the following features:

1. The compulsory testing of all dairy cattle and the requirement of certification of the tuberculin test for all dairy cattle sold, except for purposes of immediate slaughter.
2. The adoption of an official system of marking reacting animals in such a way that they can be definitely identified.
3. The payment of appropriately-guarded indemnity to all owners of tuberculous cattle which come under the respective jurisdictions of the various states, the said animals to be slaughtered in abattoirs having federal, state or other efficient inspection. Exceptions should be made in case of cattle valuable for breeding purposes, but such animals must be kept in quarantine under strict supervision.
4. The prohibition of the sale or feeding of unpasteurized milk from reacting cattle.

THE TUBERCULIN TEST

1. "That tuberculin, properly used, is an accurate and reliable diagnostic agent for the detection of active tuberculosis.

2. "That tuberculin may not produce a reaction under the following conditions:

"(a) When the disease is in a period of incubation.
"(b) When the progress of the disease is arrested.
"(c) When the disease is extensively generalized."

"The last condition is relatively rare and may usually be detected by physical examination.

3. "On account of the period of incubation and the fact that arrested cases may sooner or later become active, all exposed animals should be retested at intervals of six months to one year.

4. "That the tuberculin test should not be applied to any animal having a temperature higher than normal.

5. "That any animal having given one distinct reaction to tuberculin should thereafter be regarded as tuberculous.

6. "That the subcutaneous injection of tuberculin is the only method of using tuberculin for the detection of tuberculosis in cattle which can be recommended at the present time.

7. "That tuberculin has no injurious effect on healthy cattle.

"That a positive reaction to tuberculin in any properly conducted test, official or otherwise, in any animal in any herd, shall be considered evidence sufficient on which to declare the herd to be infected." (From report of International Commission on the Control of Bovine Tuberculosis.)

In the application of the tuberculin test as well as in the interpretation of the results obtained, the following conditions are recommended in order to secure uniformity of procedure:

1. Keep stable cattle under usual conditions and among usual surroundings, feeding and watering in the customary manner.
2. Make a physical examination of each animal, and give to each one some designation by which the animal will be known throughout the test.
3. Take each animal's temperature at least three times at two- or three-hour intervals on the day of injection; for instance, at 2, 5 and 8 p. m. When the last preliminary temperature (which would immediately precede the injection) registers above 103 F., the injection of the tuberculin should not be made; the test of such animal should be postponed.
4. At 10 p. m., inject a dose of tuberculin under the skin in the region of the shoulder, using a sterile hypodermic syringe, after disinfecting the skin at the seat of injection with a 5 per cent. solution of carbolic acid or a similar antiseptic solution.
5. The dose of tuberculin (Koch's original concentrated) is from 0.25 to 0.33 c.c. for adult animals, weighing about 750 pounds. It is convenient to dilute this with a 0.5 per cent. solution of phenol (carbolic acid) until the size of the dose to be given is 2 c.c. Yearlings and 2-year-olds, according to size, should receive from 1 to 1.5 c.c. of such solution, while bulls and very large animals may receive 3 c.c. Double, or even triple, doses should be given to cattle recently injected with tuberculin; also in the case of animals which, on physical examination, are supected of being tuberculous.
6. At 6 a. m., on the day following the injection of tuberculin commence taking temperatures, and continue every two hours until the twentieth hour after injection, at which time if there is no tendency for the temperature to rise the test may cease.
7. A rise of 2 F. or more above the maximum temperature observed on the previous day, or one which goes above 103.8 F. should be regarded as an indication of tuberculosis, provided the temperature reaction shows the characteristic rainbow curve.
8. Animals which, after injection, show a rise in temperature of 2 F., with a maximum between 103 and 103.8 F., as well as those which show a rise less than 2 F., with a maximum temperature of 103.8 F. or more, are to be regarded as suspicious. These suspicious cases should be held for a retest six weeks later, giving double the original dose.
9. The ophthalmic, cutaneous or intradermal applications of tuberculin are still in the experimental stage, and cannot be recommended for a routine practice at the present time.

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REPORT OF COMMITTEE ON REGULATIONS FOR THE PASTEURIZATION OF MILK *

1. No milk shall be used for pasteurization which comes from a dairy scoring less than 55 on the Department of Agriculture score-card, which has been scored by an official inspector.
2. The milk must have been kept cool (below 50 F.) from the time it leaves the dairy to the time it reaches the pasteurization plant and shall be kept below 50 F. at the plant up to the actual time of pasteurization.
3. The "flash process" for pasteurization is to be condemned.
4. The "holding process" shall be the only process recognized as efficient. The milk must be held for twenty minutes at 145 F., or for five minutes at 160 F.
5. The heated milk must be cooled immediately after the period of holding has elapsed to 50 F. or below.
6. Automatic temperature devices recording the exact temperature in the pasteurizing machine during the process are to be attached, and keys for these devices are to be kept by the health department.
7. Bacterial counts and acid determinations to control efficient cooling during transportation shall be made at regular intervals. These counts should be made before and after pasteurization to control the efficiency of the pasteurizing process.
8. Pasteurized milk, on leaving the pasteurizing machine, should not contain more than 50,000 bacteria per cubic centimeter, no matter what the initial bacterial content of the raw product was.
9. The pasteurized milk must be kept below 50 F. up to the time of delivery to the consumer.
10. Pasteurized milk should be designated as such on the bottle cap or in any other suitable manner.
11. Employees in the pasteurization plant should be subject to medical examination at regular intervals. If any employee contracts a contagious disease, this fact should be reported to the health department without delay.
12. Pasteurized milk should receive the same care as raw milk under all conditions.

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P. G. HEINEMANN, PH.D.,
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Committee.

ABSTRACT OF DISCUSSION

DR. L. M. POWERS, Los Angeles: The proposal is a very good one. I would like to make one amendment. Milk should not be allowed to be pasteurized more than one time. It is not a provision of our ordinance at the present time; but I see that we will have to enact it. Milk that is shipped from a long distance into the city is pasteurized more than once: pasteurized up north, a couple of hundred miles from here;

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

shipped in here and then, to prevent it from spoiling, is repasteurized; if the delivery wagon goes out and any milk has been returned undelivered, again it is repasteurized. If it is not spoiled the customer gets it after three pasteurizations, or three cookings. Otherwise, I think the provisions are excellent.

Dr. William C. Woodward, Washington, D. C.: In determining whether milk is or is not fit for pasteurization, it is not, I believe, possible to rely absolutely on the mere rating of the dairy farm in terms of the total score attained as shown by the score card of the Department of Agriculture or by any other score card. The Department of Agriculture allows on its latest score card for conditions pertaining directly to the cattle themselves fourteen points out of a possible 100. It would be quite possible, therefore, to have every cow in the herd tuberculous and dirty, and yet to have the total score for the dairy farm above that fixed by the committee as entitling the milk to use for pasteurization. In order to determine the meaning of a score card, it must be interpreted by some one trained for that very work. The total score considered alone means very little, and no rule of thumb can be adopted for determining the significance even of the detailed score.

REPORT OF COMMITTEE ON THROAT CULTURES *

Your committee, after having conducted an investigation of the present status of methods of throat culturing for the diagnosis of diphtheria, has elected to submit the accompanying report of progress with the recommendation that the committee be continued, with authority to investigate the subject further during the ensuing year.

The work of the committee has been thus far confined to the collection and study of data furnished by public health laboratories in which routine bacteriologic diagnosis of diphtheria is regularly performed. With this object in view, a large number of inquiries and requests for sample outfits were sent out. The information thus collected has been studied with the view of the ultimate recommendation of standard procedures in so far as this is possible. It does not seem desirable, at this time, that a complete culture outfit be recommended for adoption by the Section, or that a standard laboratory technic be outlined. It is deemed advisable, however, to submit a brief summary of the information thus far collected, together with such recommendations as have been agreed on by the committee, and to invite free discussion by members of the Section of the subject-matter presented.

CULTURE OUTFIT

Your committee recommends that the outfit used by state laboratories be so constructed as to be mailable. The present postal regulations require that such an outfit shall consist of two screw-topped metal cases, one fitting inverted within the other, in the inner of which are contained the tubes of infectious matter, protected from breakage by cotton wrappings.

It is further recommended that the culture outfit used in state laboratories shall not contain culture medium, but shall contain swabs only,[1] preferably two in number, enclosed in separate test-tubes for nose and throat cultures. This method eliminates the difficulties and delay arising from the use of old, dried or contaminated culture media, and insures the proper inoculation of the medium by expert hands in the laboratory.

The swabs on arrival in the laboratory should first be used for inoculation of cultures, after which direct smear preparations should be made. All frank positives obtained by the direct smear method (which in expert hands amount to from 60 to 80 per cent. of the total final positives) should be reported at once, and the others should be held for the result of the culture.

Outfits supplied by municipal laboratories may be mailable or non-mailable, as circumstances may dictate, but as mailable outfits are, as a rule, much more expensive, non-mailable outfits are usually to be preferred.

The omission of the culture medium in the outfit designed for municipal use is left optional. It is to be noted, however, that a number of municipalities are now sending out swabs only.

Your committee recommends that all swabs be returned to the laboratory irrespective of the presence or absence of culture medium in the outfit. For this reason, swabs should be sent out in sterile glass tubes plugged with cotton. The swabs so returned are more certain of proper sterilization and are available for direct smear examination and for reinoculation of the culture medium in case of doubtful diagnosis.

Of the materials used for swab sticks, wood, aluminum wire or iron wire seem preferable. Copper or brass wire is not recommended, as there is a possibility that copper salts derived from the oxidation of the wire may, at times, exert an antiseptic influence on the organisms with which the swab is impregnated.

Tongue-depressors are omitted from the outfit by the majority of laboratories.

Drying of the culture medium is prevented in various laboratories by the use of rubber caps, paraffin, sealing wax, aluminum foil and paraffin, and corks enclosed in cotton and dipped in paraffin. In case the aluminum salve box is used a rubber band or strip of physicians' adhesive tape will serve the purpose.

INSTRUCTIONS AND PRINTED MATTER

It is recommended that information as to the interpretation of findings be enclosed in the outfit. This is intended to save the laboratory unnecessary, irrational complaints and to guard against misinterpretation of results on the part of those unfamiliar with laboratory diagnosis. A sample statement of such information is herewith submitted:

A positive report cancels all previous negatives on the same case.

A negative report may mean any one of the following:

1. Absence of *B. diphtheriæ* in the throat.
2. Failure to reach the bacilli with the swab. This occurs frequently in laryngeal cases and may occur in pharyngeal cases through imperfect technic. (See instructions.)
3. Failure to inoculate the medium properly.
4. A very few diphtheria bacilli in the presence of many other varieties may be overlooked by the bacteriologist. Statistical study shows this to be infrequent.

"Suspicious organism" calls for a second culture. Antitoxin should be given at once and temporary isolation instituted. All suspicious cultures will be reincubated and will be reported a second time if more definite findings are obtained.

"No growth" means nothing. Diagnosis is withheld and a second culture is required. It may be due to—

1. Use of an antiseptic in the throat previous to taking the culture.
2. Failure to inoculate the medium properly.

"Contamination" means nothing. Diagnosis is withheld and a second culture is required.

It is further recommended that the report of the laboratory cover the following findings only:

B. diphtheriæ present.
No *B. diphtheriæ* found.
Suspicious organism.
Streptococcus (when the predominating organism).
B. influenzæ (when the predominating organism).
Spirillum of Vincent.
No growth.
Contamination (when sufficient to invalidate the diagnosis).

Sample instructions for making throat cultures are also included herewith. (See accompanying sheets.)

RECOMMENDATIONS AS TO POLICY

It is recommended that two successive negative cultures, taken at intervals of not less than twenty-four hours be required for release from quarantine.

It is further recommended that all terminal cultures be taken from both the nose and the throat.[2] The taking of nasal cultures for initial diagnosis is left optional with the physician.

In case of doubtful laboratory findings, temporary isolation of the patient should in all cases be ordered and maintained until a subsequent culture proves negative.

LABORATORY PROCEDURE

Under this heading the committee makes no definite recommendations, but merely submits information as to the customary procedure in public health laboratories. The culture medium in common use for diagnosis of diphtheria is Loeffler's blood-serum. For its preparation horse-serum, pig-serum and ox-serum are used according to the following formula:

Serum ....3 parts
Broth, containing 1 per cent. dextrose and 1 per cent. peptone.1 part
Glycerin ....4 to 5 per cent.

Some laboratories are still using fractional sterilization on three to four successive days, but the majority are now using the autoclave, either with or without previous inspissation. One correspondent recommends egg-medium for emergency use (25 c.c. of physiologic salt solution to four eggs sterilized in the autoclave or fractionally in an Arnold sterilizer).

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Slack, Arms and Wade: Longevity of *B. Diphtheriæ* on Swabs, Jour. Am. Pub. Health Assn., 1910, xx, 639.

[2] Nose and throat cultures should be taken with separate swabs to avoid transferring the infection from one cavity to the other. In release cases, if desired, both swabs may be rubbed on one and the same culture-tube or box. In diagnosis cases separate culture-tubes should be inoculated from each swab.

The temperature commonly recommended is 37 C. The time of incubation varies from six to twenty-four hours, and in most instances falls between twelve and eighteen hours.

Loeffler's methylene-blue is the sole staining agent recommended by the majority of correspondents and Grübler's preparation is universally recommended as a satisfactory brand.

A few special stains are mentioned, e. g., those of Gram, Neisser, Grouch, Rush and Epstein, as aids in the case of doubtful diagnosis. Of these the one last mentioned appeals to the committee because of its simplicity. The directions are as follows: Stain the slide in the ordinary way with Loeffler's methylene-blue; flood half the slide with Gram's iodin solution. Wash in water and examine. The stain brings out the granules, which are colored blue. The body of the bacillus stains brown.

As to the Wesbrook types, the majority of correspondents report that they are a satisfactory basis for diagnosis for twenty- and twenty-four-hour incubation periods. Two observers report them unsatisfactory in a few instances. All are agreed that the Wesbrook classification is of no diagnostic value for five- or eight-hour incubation periods when the organisms are stained in the ordinary way with Loeffler's methylene-blue.

The virulence test is made in some laboratories in cases of prolonged quarantine, and in a few instances on non-sick carrier subjects. One state institution conducts virulence tests of the organisms in all cases in which the duration of the quarantine is thirty days or over. Another conducts the test after five weeks. The isolation of the organism in pure culture is obtained by streaking on blood-serum. The animal used is commonly the guinea-pig. Death of the animal within four days after a subcutaneous inoculation, with localized necrosis at the sight of injection and successful recovery of the organism, is considered a positive test.

COMMITTEE ON THROAT CULTURES

American Medical Association

Sample Directions for Culturing

(Outfit contains two swabs in one test-tube and one culture-tube or culture-box.)

Throat Culture.—No local antiseptic application should be made for at least two hours previous to taking the culture. The patient's throat should be cleared of any adherent food particles, etc.

1. Have the patient in good light.
2. Rub the swab thoroughly against any membrane, exudate or inflamed area in the throat, revolving the swab in the fingers in such a way as to bring it thoroughly in contact with the suspected area.
3. *Do not lay the swab down* or allow it to touch anything other than the surface of the serum.
4. Insert the infected swab into the serum-tube and rub it gently back and forth over the entire surface of the serum, revolving the swab so as to bring it thoroughly in contact with the serum. Do not break the surface of the serum by pushing the swab through it. Do not use the medium if it is dry or contaminated.
5. Replace the infected swab in its own tube and replace the cotton plugs in both tubes.
6. Directions for sending to the laboratory.

Nasal Culture.—Cultures for release must be taken from both the nose and throat in all cases. Use one of the two swabs in the outfit for the nose and the other for the throat, rubbing both swabs on the same serum. Cultures for diagnosis may be taken from the nose alone or from the throat alone. If it is desired to take cultures for diagnosis from both the throat and nose, use a different serum-tube for each.

1. The physician should stand behind the patient, who should preferably be in a sitting posture.* Place the left hand on the patient's chin and hold the head firmly against the body of the operator. With the right hand insert the swab about one-half inch upward into the right nostril. Then raise the hand so that the shaft of the swab is parallel to the floor of the nose and with gentle rotation pass the swab back to the posterior pharyngeal wall. Withdraw the swab and repeat the process in the other nostril.
2. *Do not lay the swab down* or allow it to touch any object other than the surface of the serum.
3. Insert the infected swab into the serum-tube and rub it gently back and forth over the entire surface of the serum, revolving the swab so as to bring it thoroughly in contact with the serum. Do not break the surface of the serum by pushing the swab through it. Do not use the medium if it is dry or contaminated.
4. Replace the infected swab in its own tube and replace the cotton plugs in both tubes.
5. Directions for sending to the laboratory.

F. O. Tonney, M.D., Health Department, Chicago,
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Committee.

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* If the patient's condition allows it.

Therapeutics

OBESITY

The first question to be considered in connection with this subject is what should be considered an excessive degree of fatness. This can be determined with a fair degree of accuracy for practical purposes from a consideration of the weight of the entire body. The weight of the bones, the muscles, and the viscera constitutes a nearly definite, but of course not exact, proportion of the weight of the whole body. The fluctuations in the same body during the different periods of life are mainly dependent on the increase or diminution in the amount of fat. It has been estimated that the proper weight of any individual may be determined by multiplying his height in inches by 2½. His minimum weight should not be less than twice the number of inches in his height, and his maximum weight should not exceed three times the number of inches in his height. Suppose, for example, a person 5 feet 8 inches in height; his minimum weight should not be less than 136 pounds, and his maximum weight not more than 204 pounds, while his ideal weight would be 170 pounds. But it must be remembered that the average weight varies in different decades, and many would consider these figures too high. Furthermore, it has been estimated that the fat of the whole body should constitute about 1/15 to 1/20 of the whole weight of the body. These figures give a fair index of when treatment should be undertaken.

Excessive fatness is seen in different kinds of subjects. First, there is the overfat person who is descended from ancestors one or more of whom have been unusually stout. That the tendency to fatness is frequently hereditary is indisputable, but it is difficult to understand why a special facility in the conversion of food into fat and its deposition in the body should be transmitted from parent to child. Second, there is the person who eats and drinks more than is necessary for his well-being, and yet who is apparently in good health aside from his fatness. Third, there is the person who eats more than is necessary, who exercises very little, and is anemic and has poor circulation and a weak heart.

The fat of the body is, theoretically, food which is changed into fat and is stored in convenient parts of the body to be used later on when necessity arises. Fat is the form in which reserve energy is stored in the body. It is believed that the chief source of the deposits of fat is the fats, the starches, and the sugars taken into the body as food, but it is probable that under certain conditions a part of the fat is formed from protein.

Undoubtedly the most common causes of acquired fatness are excessive eating, or the eating of excessive amounts, especially of foods rich in fat, sugar and starch. The habitual use of alcoholic drinks, especially of beer and ale, also promotes fatness, because they stimulate digestion and consequently assimilation. Furthermore, the alcohol furnishes material for oxidation, so that less of the tissues of the body undergo oxidation and removal.

An inadequate amount of exercise is another important contributing factor to this condition. Abundant exercise promotes oxidation and uses up a part, at least, of the surplus food which is ingested. People of sedentary habits ordinarily have a weak circulation, and this furthermore predisposes to sluggishness of the metabolic changes, lessened oxidation, and consequently increased deposition of fat.

The physiologic changes connected with the reproductive system are often attended by changes in the amount of fat in the body. Many children put on a large amount of fat during the second decade of their lives. Toward the end of this decade many of them lose a part at least of this excessive development. This is more apt to happen with boys than with girls. In the latter if the menstrual function is not established at the usual time and does not take place in a normal physiologic manner, the fatness often continues into and through adult life. In a somewhat similar way, after middle life, after the menopause in women in particular, and in men after castration, the weight is gradually increased, due to an excessive deposition of fat.

The excessive amount of fat present in the body is usually deposited about the breasts, shoulders, neck, and limbs in young people, while in older people it is deposited in the wall of the abdomen, around the hips, in the large omentum, and around the various abdominal and thoracic organs. Obesity occurs in children, but is most frequent in adults, in whom it is especially likely to make its first appearance toward middle life. It is rarely seen in very old people.

It is scarcely necessary to enumerate and describe the various systems of treatment which have been proposed and recommended for the cure of obesity. In undertaking the treatment of an obese patient, as in the treatment of all conditions, the first thing to do is to get a complete history. It should go without saying that the heart and lungs should be examined, and a thorough examination should be made of the urine. But special inquiry should be made of patients who present themselves for treatment for obesity in regard to the number and frequency of meals, and the food habitually taken at each meal; whether food is taken between meals; whether the food taken at meals is thoroughly chewed; whether it is eaten moist or dry; whether much fluid is taken with the meals, or between the meals; whether the patient takes exercise, when and how much he takes; and how willing he is to put himself to some inconvenience and perhaps discomfort to remedy his condition. Next the heredity should be discussed, and the age at which the weight began to increase above normal.

The next point to consider is, what result should be hoped for or should be aimed at in the treatment of the patient. By very great limitation of the diet the weight may be decreased rapidly, but a decrease in weight greater than two pounds in each week is not desirable, and is likely to be followed by dangerous results to the patient. While the patient is under treatment, his weight, with uniform clothing, should be taken and recorded every week, and the measurement of the circumference of his abdomen should be determined.

It is customary to consider the treatment of this condition under three heads: first, the diet; second, the exercise; and third, the medicine. Naturally the diet is considered first, as that is the foundation of the condition and of its cure. Various writers have given widely different advice in regard to what food should be allowed and what food should be forbidden.

Some have advised an exclusive milk diet in the treatment of obesity. This is not difficult to prescribe if the patient has confidence and is willing to follow the advice. While taking it the patient should be confined to bed, and should drink from two to three pints of milk a day. This treatment should not be continued for more than from five to ten days at a time, but may be repeated at intervals of two or three weeks. In many instances it has given very good results, but should not be advised unless the patient is under the constant observation of the physician.

The exclusively vegetable diet has been recommended by some writers. A strictly vegetable diet may be maintained for from four to six weeks, and then a small amount of meat may be allowed on alternate days. But a too restricted diet is usually not desirable.

While some allow the use of fat, it is fair to presume that the fat taken with the food forms the material most ready for transformation into fat in the body. Unless one disbelieves this, he will naturally advise his patient to abstain from fat of all sorts in his food. Cream, butter, the fat of pork, including bacon, and the fat of various forms of meat should be avoided. In regard to carbohydrates, the starches and sugars, these must be used in limited amount. It is better to reduce the sugar to a very small amount. Some advise forbidding it entirely and using saccharin in place of it for sweetening the food, but the utility of this course is, to say the least, questionable, and it is probably better to allow a limited amount of sugar for sweetening various articles of food which are habitually seasoned in this way. Starches should be reduced, but not entirely forbidden. If the history has been carefully taken, it will be learned whether the patient uses much potato or much bread. As these are the articles of diet which contain the greater part of the starch used, it will generally be found wise to diminish whichever of these two articles of food is chiefly used by the patient. It is in regard to the starches, sugars, and fats that the chief reduction in the amount of food taken should be used, but other foods should also be used in moderation, and particularly meat and eggs.

Much may be accomplished toward the reduction of the total amount of food taken by a regulation of the meals. In the first place, the taking of food between meals should be forbidden, and also evening lunches after the theater or before going to bed. The meals should be strictly limited to three. The breakfast, being with a large proportion of people a light meal, should be maintained in this way. As an example, for breakfast some fruit, as an orange or an apple, one or two eggs, with two not large pieces of bread or dry toast, and a glass of milk, or a cup of tea or coffee with a little milk and a very little sugar. Whole wheat bread or graham bread is less objectionable than white wheat bread. The other light meal is preferably taken at night, and should consist of a light supper, as for instance: a small piece of cold meat, one or two pieces of stale bread or dry toast, a salad of tomatoes, lettuce, or celery eaten without an oil dressing, and a glass of milk or a cup of tea or coffee, as at breakfast. The heaviest meal, the dinner, then, should be taken shortly after noon. It may consist of a light, watery soup, without the addition of flour, and without any fat; meat or fish (fresh or salt) in moderation; potato; no bread; the various vegetables such as cabbage, spinach, cauliflower, turnips, carrots, parsnips, string beans; salad made of the various green vegetables which are in season; and a dessert of fruit such as strawberries in their season, peaches, oranges, grapefruit, apples, pears, and melons. The amount of liquid ingested with the food should be limited. All kinds of alcoholic liquors should be avoided. If the patient insists on taking an alcoholic drink, the least harmful are whisky and a sour wine like claret. It is perhaps wiser to allow no fluid with the meal, but to allow a single glass after the meal. Patients will eat less and will chew their food more thoroughly if they do not intersperse the mouthfuls of food with mouthfuls of drink. It is probably wise to limit the entire amount of fluid taken in the twenty-four hours to six glasses; one glass taken shortly after each meal and the others from half an hour to an hour before the meal. Taking the glass of water before eating will lessen the appetite and be the means of the patient taking less food. If the patient is lithemic, more water is indicated.

It is important in prescribing different articles of food to consider the matter of the patient getting a sufficient amount of bulk in the food to cause the more or less agreeable feeling of distention in the stomach which generally leads one to think of ceasing to eat more. If a person is so stout as to suffer discomfort from the condition, it is a matter which should arouse the sympathy of the other members of the family, and they should be willing to submit to the slight inconvenience of having the food for the whole family arranged somewhat with reference to the person who is undergoing treatment. If this can be arranged it will greatly simplify the treatment and make it much less irksome.

The majority of people who suffer from obesity take too little exercise. The history of the patient will have shown to what extent this is true with the individual under consideration. It is necessary to find, if possible, some exercise which the patient will take systematically and continuously and which will not be too irksome. Practically the best exercise is walking. If the patient is not used to walking at all, he should commence walking a short distance several times a day. The exercise should not be carried to the point of undue fatigue. It should be taken after each meal, and should be gradually increased so that the patient walks six or eight miles a day. It may not be practicable to divide this equally among the three periods after eating, but the aggregate should be about up to that amount. The walking should not be a leisurely saunter, but should be a brisk, business-like walk; and the patient should not divest himself of too much of his clothing, because one thing to be sought by the walking is a moderate degree of perspiration. It is rather better to take the exercise after eating than before eating, because if taken before eating the patient's appetite will be so increased that he will desire an unusually large amount of food, instead of being satisfied with an unusually small amount.

Cold bathing is an excellent adjunct to the exercise by walking. It should be followed by a vigorous rubbing, which not only exercises the muscles, but promotes the circulation.

In warm weather swimming is a most admirable form of exercise, combining both the exercise of the muscles and the advantages of bathing. The warm bath is frequently recommended, but is far inferior to the cold bath in usefulness. The Turkish bath has been frequently recommended, but it is of little value, as it simply causes exudation of water from the body which is promptly replaced from the tissues or by the fluids swallowed.

If walking and bathing systematically are impracticable, much benefit may be obtained by systematic calisthenic exercises. These should involve especially the muscles of the legs, hips and abdomen, and should consist of various movements of flexion, extension and rotation. It is not easy to persuade patients to follow these with regularity, but if they are used in this way they are exceedingly efficient.

Drugs come last, and are of the least efficiency. Phytolacca has been recommended as a drug which has a specific influence on the deposition of fat, for it was observed by someone many years ago that birds who ate phytolacca berries were entirely devoid of fat. For this reason preparations of the phytolacca berries have been tried in obesity, but reports of its favorable action are few and inconclusive.

The use of various mineral waters has been highly commended by some writers in the treatment of this condition. Cathell has especially praised the taking after each meal of a glass of Kissingen water, alternating daily with Vichy water. He believes that this has some specific action on the metabolism of fat so that it is not deposited in excess. Cathartics have been used, especially the saline cathartics, with the idea that in this way the amount of food assimilated might be diminished, but this sort of treatment is liable to result in damage to the patient.

Unquestionably the secretion of the thyroid has an important relation to the deposition of fat. A diminished secretion of this gland is commonly accompanied by a tendency to fatness, and an excessive secretion often tends to produce emaciation. Hence it has been proposed to administer the extract of thyroid to patients who were too fat. The dose ordinarily recommended is 3 grains, two or three times a day. In many cases this has seemed to produce favorable results, but it must not be continued too long, and its action must be very carefully watched, so that it may be discontinued as soon as unfavorable symptoms appear.

What has just been said in regard to the treatment of obesity has had reference to robust, well-nourished people who are fat. When the patient is fat, but feeble and anemic, it is necessary to bear in mind certain considerations which must influence the treatment. If the patient is anemic, iron should be systematically administered, and will frequently prove very beneficial in improving the general condition, although of course it will not have any special effect on the obesity.

If the circulation is feeble and the heart weak, it will frequently be advisable to prescribe digitalis to improve the strength of the heart and the force of the circulation.

In regulating the diet it is necessary to avoid reducing this below the needs of the body for nourishment, and especially should caution be observed in reducing the amount of protein taken.

A few points of practical importance it is well to remember are the following:

1. The last meal of the day should be light because there is likely to be less demand made on oxidizable tissues during the night.
2. In prescribing a diet it is necessary to remember and include a sufficient amount of nourishment to maintain the strength of the patient.
3. While water does not materially increase the deposition of fat, if taken with meals it is likely to lead to excessive eating.
4. In arranging the diet consideration must be given to obtaining a considerable bulk of ingested material without at the same time taking an excess of the nutritious elements of food.
5. Alcoholic stimulants should be entirely prohibited.
6. Exercise should be carefully and specifically prescribed, preferably in the form of walking or swimming.
7. The patient should be regularly weighed and measured, so as to determine the results which are being obtained.
8. A diminution in weight should not be effected too rapidly.
9. In prescribing both medicine and food care should be taken to avoid bringing on indigestion, and with it serious impairment of nutrition.
10. The object of treatment is to maintain normal nutrition, and at the same time to avoid overnutrition.

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[*For other information see second page following reading matter*]

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HEATING AND VENTILATION

It has long been the custom of hygienists to insist that ventilation or perflation of crowded rooms is necessary in order to remove poisonous emanations arising from the human body. More than twenty years ago, however, observations made to determine the nature of the alleged poisonous properties of the expired air and of "crowd poison" led to negative results. No toxic organic constituent could be demonstrated in the air of crowded rooms, and as for the carbon dioxid, it was so relatively slight in amount that it could not be held responsible for the physiological effects observed, and could at most be regarded as "a measure of danger." To what, then, are due the disagreeable consequences of remaining in an overcrowded, poorly ventilated room? There can be no doubt that such consequences are real and not imaginary, and that they range all the way from slight depression and headache to severe nausea, vomiting and collapse.

The answer to a question that has caused much perplexity seems to have been given by various physiologic experiments of the last few years. To put it briefly, the whole trouble seems to be due to a disturbance of the normal thermal relations of the body. It is a common observation that the depression and fatigue experienced on a hot, humid August day are very similar to the feelings that develop in a crowded "close" room. The cause is apparently the same in both cases, namely, interference with the normal rate of loss of body heat. At least three atmospheric factors may be concerned in such interference: high temperature of the ambient air, high moisture content and lack of air movement. Paul[1] kept healthy persons for several hours in a close cabinet until the carbon dioxid rose to 100 or 150 parts per ten thousand—more than ten times the amount usually stated as "allowable"—but so long as the temperature and moisture content were kept low no symptoms of illness or discomfort developed. Other experimenters have reached the same result by simply having electric fans whirled in such an experimental cabinet. The motion these imparted to the air was sufficient to facilitate a normal, physiologic loss of heat from the body in spite of high temperature and humidity. Similar cabinet experiments in which the subject was enabled to breathe the fresh outside air through a tube, but was otherwise subjected to the conditions of a close room, likewise showed that the symptoms attributed to "bad ventilation" are in nowise due to poisons excreted in the breath. The upshot of all such experiments is that it is not the chemical constitution of indoor air that is injurious, but the overheating, the stagnation and sometimes the moisture content.

Among the more important recent papers dealing with this question may be mentioned especially an article by Crowder[2] on the ventilation of sleeping-cars. In addition to an admirable critical summary of the experimental evidence on the subject the article contains valuable data from the writer's own study of car ventilation. Much of the discomfort experienced by sleeping-car travelers is undoubtedly due, as Crowder suggests, to overheating and not to insufficient air-supply. Important practical results may be looked for in the field of ventilation as soon as engineers come to realize and to apply the knowledge gained by hygienists in the past few years. We are likely to hear less about "impure air" and more about stagnation and overheating.

All this does not, of course, mean that there is no harm in crowded rooms or that the open-air treatment of tuberculosis is based on false assumptions The investigations cited merely substitute the right for the wrong interpretation of observed facts. Bodily resistance, as bacteriologists have shown us, may be lowered by a variety of factors. It might conceivably be diminished by the inhalation of "crowd poison," or by interference with the heat regulation of the body. The latter seems to be the true explanation of the undoubtedly injurious effect of overcrowded rooms. So far as tuberculosis is concerned, the predisposing effect of damp houses and damp climates is well known. The experiments recorded by the investigators mentioned above suggest that there are as yet undeveloped possibilities in the control of indoor climate. Precise knowledge of the factors concerned in producing the bad effects of overcrowding is the first step toward a scientific remedy for the condition.

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[1] Paul: Ztschr. f. Hyg., 1905, xlix, 405.

[2] Crowder, Thomas R.: Arch. Int. Med., 1911, vii, 85.

CHLOROFORM FOR THE DISINFECTION OF TYPHOID CARRIERS

The sanitary problem presented by the so-called "typhoid carrier" is one of great difficulty, and any steps leading toward its solution merit special consideration. For this reason, a recent article by Bully[1] on the disinfecting power of chloroform on typhoid infections of rabbits is of interest, although as yet it appears to have little practical applicability. The work of Bully is in large part an experimental review of a previous investigation by Conradi.[2] The latter started with the assumption that chloroform, or similar lipoid-solvent narcotics, should have a special affinity for cell and bacterial lipoids, and by virtue of this should be able to penetrate and destroy intracellular bacteria. Experimental work on animals confirmed this assumption, and later work by Hailer and Rimpau[3] lends it strong support, as does that of Bully. Bully's method consisted in inoculating rabbits intravenously with a culture of typhoid bacilli, and in following this with daily rectal injections of 0.5 c.c. of chloroform, in emulsion, for variable periods, at the end of which the animals and their controls were killed and examined bacteriologically. In all, the experiment was carried through on forty-two animals, with forty others serving as controls. The chloroform injections were begun at various intervals after the inoculation, and were kept up for periods ranging to a maximum of ten days. Of the forty-two animals so treated, five (15 per cent.) could be shown still to contain living typhoid bacilli. Of the forty control animals, nineteen (48 per cent.) were still infected. In all cases in which the organism was recovered, it was found in the bile; occasionally, but much less frequently, in the spleen as well.

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[1] Bully: Ztschr. f. Hyg. u. Infektionskr., 1911, lxix, 29.

It is evident that the administration of chloroform had definite effect on the disinfection of the animals. But the dosage, approximately one four-thousandths of the weight of the animal is for a substance like chloroform relatively enormous. Calculated for a man of average weight (70 kg.) such an amount would mean the daily administration of almost 18 gm., or over half an ounce, of chloroform—altogether too large a quantity to be given with assurance of safety. The experiment has been tried of giving human typhoid carriers chloroform in more moderate doses—up to 2 c.c. daily—without any appreciable effect on the typhoid bacilli in their stools.

While in all probability chloroform itself is too toxic for use as a disinfectant of chronic typhoid infections, possibly other substances of the same general class may be found that will be active within the limit of safe dosage. It is almost too much, however, to hope for the finding of any disinfectant capable of freeing the body of the organisms without itself having some injurious action on the host.

CHEESE AS A FOOD

Important observations regarding the food value of cheese, and its cheapness by comparison with some other dietary staples, are to be found in a government report,[1] which details exhaustive experiments made not only in artificial digestion, but also with human subjects, the office of experimental stations of the Department of Agriculture cooperating. The Cheddar or American cheese in various stages of ripening was studied, as were also some foreign kinds of cheese. From this publication we learn there is no warrant for the popular theory that cheese, even when green or unripened, is difficult of digestion; or that unripened cheese, or cheese in any stage of ripening, is constipating. There is a marked difference in the physical characteristics of the cured and green products; the water-soluble material in well-cured cheese is high, while in the uncured product it amounts to almost nothing; no doubt these evident physical and chemical differences have been largely responsible for the popular and established misconception above stated. The milk solids are very digestible and make an almost perfect food. With the addition of rennet, and the development of lactic acid in cheese-making, some chemical changes take place; but it is rather difficult to explain why these should transform digestible solids in milk into indigestible solids in cheese. Nor can the experimenters understand why any sort of cheese, green or otherwise, should tend to constipation; the cause of the idea is probably that many people are fond of the mild-flavored curd and eat large quantities of it when it is constantly at hand. The digestive disturbances attributed to peculiarities in the cheese itself are probably due merely to over-eating, or to the custom of eating cheese only at the close of the meal, when one has already had more than enough food.

Skim-milk cheese, when sold as a whole-milk product, is a fraud that is a positive injury to the dairy business; but skim-milk cheese, stated and sold as such, is entitled to consideration by both producer and consumer. It is digestible and has a food value; made to have an agreeable taste it could be sold cheaply to poor people. Cottage cheese is another cheap and palatable product, much of which could be added to the dietary at a great saving in the total cost of food. Indeed, all kinds of cheeses, even the very highly flavored and so-called condimental cheeses, have a high food value.

Cheese contains, in unusually concentrated form, every essential to human sustenance. It has been held by epicures to be a stimulant to digestion, when taken with the salad, or at the end of the meal. But we now learn that it is digestible both as a condiment, and as the chief factor in a meal. Many European people eat largely of cheese, either by itself, or sprinkled on vegetables, or cooked with other food. Here, as in some other matters, America may learn much from the Continent. The Italians have many foods, such as macaroni, with which cheese is mixed. They have cheese grated and constantly at hand as a flavoring, quite as we use pepper and salt. The Swiss eat largely of cheese, which with bread forms the greater part of the dietary of this very healthy people; and those Swiss farmers who have settled in Wisconsin continue to manifest the athletic attainments and the physical endurance of their forbears. The sensible Germans consume large quantities of the cheap, but highly flavored skim-milk cheese, one popular kind of which is officially credited with "perhaps the most pungent odor of all the varieties of cheese made." The French also have some gorgeously flavored cheeses which the polite ask at table, not to have "passed this way," but to have "directed this way." Nevertheless such cheeses are wholesome; and their flavors are caused by beneficent microorganisms. One may here note the rejoinder to a gourmand who, having devoured some Roquefort, observed that, like Samson, he had slain his thousands and his tens of thousands: "Yes, and with the same weapon."

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[2] Conradi: Ztschr. f. Immunitätsforsch., u. exper. Ther., 1910, vii, 156.

[3] Hailer and Rimpau: Arb. a. d. k. Gsndhtsamte, 1911, xxxvi.

[1] Doane, C. F.: The Digestibility of Cheese, Circular 166, U. S. Department of Agriculture, Washington, D. C.

The consumption of cheese by the American people should be increased, on the grounds both of economy and of superior food value. A pound of cheese has nearly the same food value as two pounds of lean meat or eggs, or the same weight of ham. In comparing cheese with meat, it should be noted that not only is the former superior in food value as measured by the cost of an equal number of calories, but also it furnishes nitrogen without the accompaniment of purins which will increase the amount of uric acid in the system. For this reason, it may be eaten by those inclined to gouty affections to whom meat is denied.

THE CHARGE AGAINST DR. WILEY

II. THE INDIANA CASE

We continue this week[1] the publication of some of the testimony brought out before the congressional committee which investigated the Wiley matter. This time we deal with the Indiana case, which, as our readers may remember, created considerable talk some years ago. As our readers, of course, know, Indiana has a pure food law and a good one. One of its requirements practically prohibits the sale of foodstuffs preserved with benzoate of soda. Two of the largest catsup manufacturing concerns which preserve their products with this chemical—Curtice Bros., of Rochester, and Williams Bros., of Detroit—finding that their business in Indiana was being injured, attacked the pure food law of that state and attempted to have it declared unconstitutional. These firms naturally wished to present as strong evidence as possible and attempted to have the referee board—which had declared sodium benzoate innocuous—give testimony in their case favorable to its use. As will be seen by the evidence we quote this week, Secretary Wilson sided with these firms and urged members of the referee board to testify in their favor. This they did either by deposition or by personal appearance at the court in Indianapolis—and the United States paid their expenses!

Nor was this all. As is well known, Dr. Wiley also had carried out a series of experiments to determine the harmlessness or harmfulness of sodium benzoate. His work was done before the referee board was created or even thought of; it extended over a longer period of time than that given to the same subject by the referee board and it was, moreover, carried out under Dr. Wiley's personal supervision. As he said at the hearing:

> "I gave personal attention to this work and did not delegate it to other people. I was at the Bureau on the coldest winter mornings long before daybreak to supervise the preparation of the breakfast for these young men and was there late to see that the supper was properly prepared."

As a result of his experiments, Dr. Wiley declared sodium benzoate harmful, a position which he has consistently maintained. Naturally the Indiana state officials in defending their pure food law from destruction, wanted to have his testimony; they also wanted to be permitted to submit to the court the findings of Dr. Wiley in his experiments. Did the federal officials cooperate with the officers of the State of Indiana in the latter's attempt to get all the facts on both sides? No. On the contrary, the Indiana officials had the greatest difficulty in obtaining from the Department of Agriculture Dr. Wiley's data. When Solicitor McCabe learned that they wanted Dr. Wiley to testify, he submitted a decision to the effect that they could not compel the Chief of the Bureau of Chemistry to go to Indianapolis and that if he did go, it would be on his own responsibility. This, of course, was paramount to ordering Dr. Wiley not to give testimony that would support the Indiana pure food law. In fact, as will be seen by the evidence, McCabe admitted that he "did not want Dr. Wiley to testify in this case."

The attitude of Wilson and McCabe in the Indiana case is the attitude they have shown in every case in which the interests of the people and the interests of the manufacturers clashed. We wish we had space to quote all the evidence that was given before the congressional committee; we feel sure, however, that what we do give this week will prove interesting and instructive.

Current Comment

FRANCIS TRUTH—A DIVINE HEALER UP TO DATE

Mr. "Francis Truth," divine healer, has recently been arrested in San Francisco. This is no new experience with him, however, since he has undergone similar experiences at Jacksonville, Denver, New York and no doubt other cities. A brief "appreciation" may, in the circumstances, not be amiss. In March, 1895, a half-page advertisement appeared in newspapers, setting forth the wonderful powers of "Francis Truth." This was not the man's real name, but was assumed as indicating the chief and most resplendent trait of his mellow character; his actual name seems to be N. H. Bemis. There was a portrait of "Truth" gazing calmly upward, as one in the confidence of the Infinite. Above his refulgent countenance, crowned with impressive locks, was pictured "Truth's Temple of Divine

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[1] Propaganda for Reform Department, p. 991.

Healing," in Boston. To the right were the lame, the halt and the blind who, in great numbers, were coming to the Temple; to the left were those who had just seen "Truth." There was no sickness, no lameness among them now; no tuberculosis, no cancer, no leprosy—nothing but health! Naturally they were happy, and were felicitating one another. Below the portrait were represented the scores of stenographers, who were busy attending to "Truth's" heavy mail, which had been sent him by the suffering and the afflicted. "Truth" stated: "I have cured every disease known to man. Through me He has thought wise to rejuvenate the power of Divine Healing, after it has lain dormant for nearly two thousand years. Perhaps I merited it. I have always led a good Christian life." An enthusiast stated in this advertisement: "What a busy man Francis Truth is! The sacred power of Divine Healing which has been intrusted to him—to one man among the many billions of men—is a mission for the public weal that gives him little time for the society of his wife and baby, whom he loves devotedly." A few months before this "Truth" was working on a salary of some twenty dollars a week. He looked about to see how this could be bettered. It would seem that reports of the large profits being made by medical charlatans stimulated his imagination—an admirable one when it got to work. He set up a healing establishment of his own. Within a few weeks his enterprise assumed the proportions indicated in the advertisement here reviewed. Half-page advertisements, by the way, cost a good deal of money, especially when they are to appear in metropolitan newspapers. Very shortly afterward he was arrested on the charge of using the mails for fraudulent purposes. He pleaded not guilty, and was released on bail. His case came up for trial on July 10, 1900. He retracted his former plea, and changed it to "guilty." On five charges he was fined the maximum penalty for each: he paid the fines—$2,500 in all. He could afford it. Between the times of his arrest and of his pleading guilty over 30,000 letters addressed to him, about all of which were believed to contain money, accumulated in the post office. These were returned to their senders. It would appear that subsequently other communities have been even "easier" than Boston in which to do business of this kind.

CHARITY AND STAMINA

It has often been observed that living organisms require for their fullest development a certain amount of resistance in their environments. The individual or the species for which things are made too easy loses the unused function. The butterfly helped from its chrysalis has imperfect wings; the man fed on soft foods has bad teeth. The parasite is always a weakling and sometimes a degenerate monster. The parasitic dodder, which draws all its sustenance from the sap of the host, is a plant without a root or a leaf. The hermit crab, which, instead of growing a shell for itself like other crustaceans, makes use of the cast-off shells of mollusks, is atrophied in some of its members and enfeebled in its whole organism. So with the intellectual environment and the mental qualities of man. The pauper and the pampered child of wealth are alike deprived of those qualities of initiative and self-reliance on which their respective environments make no demand. Unnecessary charity is twice cursed; it curseth him that gives and him that takes; all of which goes to prove (if proof were needed) that abuse of medical charity is as bad for the public as it is for the profession.

Medical News

CALIFORNIA

Personal.—Dr. Anna M. Flynn, San Francisco, fractured her left leg, below the knee, in a fall of 30 feet down a quarry embankment, August 27.——Dr. Fred T. Bond has been appointed president of the board of health of Vallejo, and Dr. Edwin A. Peterson health officer.

Against Advertising Specialists.—The San Francisco Board of Health has recommended the passage of an ordinance prohibiting medical specialists from advertising. The board declares that: "The claims toward curing diseases which are made by this class of fraudulent so-called practitioners are but a lure to attract the innocent and inexperienced."

Permanent Home for Society.—At the meeting of the Board of Councilors of the Los Angeles Medical Association, July 17, a resolution was adopted, providing for the formation of a separate committee to be known as the Permanent Quarters Committee to have control of the funds set aside for permanent quarters for the association. The committee consists of the president and secretary, exofficio, and Drs. H. Bert Ellis, Los Angeles; Fitch C. E. Mattison, Pasadena, and Walter Lindley, Los Angeles. The association has already a nucleus in the form of a term deposit of $803.56.

ILLINOIS

Report on Health of Employees.—The manufacturing department of the Pullman Company is said to be the first of the large employers of the state to comply with the new occupational disease act, and file its report with the State Board of Health. The report shows that of 433 employees, 378 were healthy.

Personal.—Dr. Perry H. Wessel has succeeded Dr. August H. Arp, resigned, as health commissioner of Moline.——Dr. Emerson M. Brewer, Rantoul, has been appointed district physician for the Illinois Central System.——Dr. Tyler Meriweather, has succeeded Drs. Cassidy and William J. Chenoweth as local surgeon for the Illinois Central system at Decatur.——Dr. Harvey L. Hensley, Oakwood, who has been seriously ill with typhoid fever in Minnesota, has returned home.——Dr. A. Albert Absher, Sibley, had three ribs broken by the overturning of his automobile, August 30.——Dr. J. K. Egbert, Sycamore, has sailed for Europe.

Chicago

Medical Esperanto Association.—The American Medical Esperanto Association (American Esperanto Asocio Kuracistoj) has been incorporated by Drs. Jacob Frank, Isaac J. K. Golden, Paul Gronnerud and others, to promote the study of Esperanto.

Personal.—Drs. Ludvig Hektoen and Anton T. H. Holmboe received the honorary degree of doctor of medicine, in connection with the centennial jubilee of the University of Christiania, September 8.——Dr. and Mrs. Philip F. Shaffner have returned from Europe.

How To Keep Well.—Under this title Dr. William A. Evans, formerly health commissioner, is conducting a department of public health daily in the *Tribune*. This department is devoted to the dissemination of information as to right living and to the stimulation of public interest in the subject.

New Head of Tuberculosis Institute.—James Minnick has been elected superintendent of the Chicago Tuberculosis Institute and secretary of the Illinois State Association for the Prevention of Tuberculosis. Plans will be worked out at once for the organization of local societies, the preparation of a traveling exhibit, and the examination for tuberculosis of employees in manufacturing establishments.

Free Serum.—The health department has announced that it is prepared to furnish antirabies serum free to all persons whose circumstances will not permit them to pay for the treatment in private institutions. The serum comes from the government laboratories at Washington. Physicians should send patients requiring this treatment to the Iroquois Memorial Hospital, 23 North Market Street, where they will be examined by the city's physicians and the health department notified. Individuals who have been bitten by dogs supposed to be mad will also be admitted to the hospital without direction from physicians.

INDIANA

Tuberculosis Cottage Dedicated.—The cottage at the Boehnne antituberculosis camp, Evansville, built and furnished by the local camp of the Woodmen of the World, was dedicated with appropriate ceremonies August 27.

Personal.—Dr. S. Kenosha Sessions, formerly a member of the staff of the Southern Indiana Hospital for the Insane, Evansville, has been elected superintendent of the Indiana Girls' School, Clermont.——Dr. Orion E. Maddox, Rockville, is reported to be seriously ill with ptomain poisoning.

City Takes Charge of Isolation Hospital.—At a meeting of the city council of South Bend, August 28, an ordinance was unanimously passed embodying the agreement between the commissioners of St. Joseph County and the city board of health, relative to turning the county isolation hospital over to the city. The agreement specifies that the city must provide a caretaker to be constantly on duty in the hospital, that patients from any part of the county shall be received at the hospital, and that no discrimination is to be shown in the treatment of the patients from different parts of the county.

Society Makes Recommendation Regarding Hospital.—The Knox County Medical Society at its August meeting made the following recommendations regarding the management of the Good Samaritan Hospital, Vincennes: That a medical superintendent be appointed, to be selected by the society and approved by the board of directors of the hospital; that he serve for a term of one year and be given the authority to appoint the head nurse; that he superintend the purchase of all medical and surgical supplies and appliances; receive and adjust all complaints, and that he be dean of the training school with full power to organize and superintend the same, and that the free use of the hospital be extended to the members of the society and their families.

IOWA

Personal.—Drs. J. Rea, William C. Kasten, John R. Walker, Charles F. Wahrer and France C. Roberts have been appointed by the Fort Madison Medical Association a committee of maintenance for St. Elizabeth's Hospital after the expiration of the term of the present board, September 15, until the Sacred Heart Hospital, now in course of construction, is ready for use.——Dr. William M. Morton, Iowa Falls, has moved to Southern California, and will be succeeded in practice by his youngest son, Dr. G. M. Morton, Marshalltown.

MARYLAND

Tuberculosis Dispensary Opened.—A dispensary for the free examination and treatment of persons afflicted with tuberculosis was opened in Federated Charities Building, Frederick, September 1. All the physicians of the city have offered their cooperation, and it is the intention of the local association to wage a vigorous fight against tuberculosis.

New State Hospital.—Sylvan Retreat, the Allegany County institution for the insane, is to be made a state hospital for the Western District of Maryland, embracing Washington, Allegany and Garrett counties. The institution has 102 inmates, of whom fifty-three are women. Eventually it is proposed to enlarge the hospital, creating male and female departments with industrial workshops.

Baltimore

Dr. Kelly Convalescent.—Dr. Howard A. Kelly, who was operated on recently in Rochester, Minn., is reported to be doing very well. Dr. Kelly had suffered from "dyspepsia" all his life, and recently the attacks became more acute, so that, while he was in camp, he decided to go at once to Rochester, Minn., where Dr. William J. Mayo operated, finding a badly-infected gall-bladder, with dense adhesions, especially of the duodenum, requiring two drainage tubes.

Personal.—Dr. Don P. Peters, for three years resident physician at the Church Home and Infirmary, has resigned and has been succeeded by Dr. Eugene Wright.——Drs. Harry Friedenwald and Joseph E. Gichner have returned from Europe.——Dr. Harry W. Stoner has recovered from a serious attack of septicemia.——Dr. Lewellys F. Barker sailed for Europe, September 2.——Right Rev. Luther B. Wilson, M.D., has returned after an absence of nine months in Africa, fully recovered from a fever which had lasted nearly ten weeks.

MICHIGAN

Medical Books Transferred.—On account of the overtaxing of the capacity of the Detroit public library, about 4,500 of its medical books have been transferred to the custody of the Wayne County Medical Society.

Sanatorium Notes.—Houghton County on August 22 awarded the contract for the construction of a county tuberculosis hospital, to cost $10,000.——Dr. Zell L. Baldwin is said to have been prohibited, by a restraining order, from maintaining a tuberculosis sanitarium in the residence portion of Niles.

Addition to a Hospital.—Ground has been broken for an addition to the Harper Hospital, Detroit, to cost about $400,000. The first building to be erected is to be six stories in height and of steel and cement construction. It is expected that the new addition will be ready for occupancy about Jan. 1, 1913.

Personal.—Drs. George L. Le Fevre and Frank W. Garber, Muskegon, sailed for Europe, August 26.——Dr. Charles L. Grube, formerly health officer of Saginaw, is reported to be seriously ill, as a result of overwork.——Dr. Ansel B. Smith, Grand Rapids, was operated on recently in Ann Arbor for appendicitis.

MINNESOTA

Home from Europe.—Drs. A. Torland, Minneapolis, and William C. Eichler, Underwood, have returned from Europe.

Hospital Dedicated.—Elliot Memorial Hospital, the first building to be completed on the new university campus, and the first and central building in the system of hospital buildings contemplated for the University of Minnesota, Minneapolis, was dedicated September 5.

Society Meeting.—At the annual meeting of the West Central Minnesota Medical Society, held in Morris, August 22, the following officers were elected: President, Dr. Amos Leuty, Morris; vice-president, Dr. J. G. Whittemore, Donnelly, and secretary and treasurer, Dr. Herbert L. Hulburd, Morris.

Association Merger.—At the joint meeting of the Southern Minnesota Medical Association and Minnesota Valley Medical Association, held at Rochester, August 3 and noted in The Journal of August 19, the associations were merged under the name of the Southern Minnesota Medical Association. It was decided that two meetings be held each year, the annual meeting to be held in Mankato, on the third Tuesday in January, and the semi-annual meeting on the first Tuesday after the first Monday in August, at such place as may be determined at the annual meeting. The following officers were elected to serve until the annual meeting: president, Dr. Louis A. Fritsche, New Ulm; first vice-president, Dr. John E. Crewe, Rochester; second vice-president, Dr. Hugh F. McGaughey, Winona; secretary, Dr. William T. Adams, Elgin; treasurer, Dr. George F. Merritt, St. Peter.

MISSISSIPPI

Fire in State Hospital.—Fire in the Mississippi Hospital for the Insane, Jackson, damaged the wards for negro inmates, several of whom escaped. Relatively little damage was done by the fire and all the patients were returned to the institution.

Personal.—Dr. and Mrs. Robert A. Strong, Pass Christian, have gone abroad.——Dr. J. E. Bayless, Hattiesburg, has been appointed health officer of Forest County, vice Dr. Lawrence B. Hudson, resigned.——Dr. Donald P. Street, Vicksburg, has been appointed local surgeon for the Yazoo & Mississippi Valley Railroad.

Cocain Use Among Negroes.—The Hinds County grand jury in its final report says: "The sale and use of cocain is alarming, principally among the negroes, who, in some sections of the county, when short of cash, have actually bartered their farm products for the drug. We trust good citizens will continue to assist the officers in rooting out this evil which is demoralizing labor and filling the jails with criminals."

MISSOURI

Personal.—Dr. John Punton, Kansas City, has returned from Europe.——Dr. J. R. Van Atta has been appointed pathologist by the hospital and health board of Kansas City.——Drs. David B. Robinson, Frederic C. Lamar, Fred B. Kyger, Frank C. Neff, William Marsh, Eugene P. Hamilton, James S. Hunter, Clarence S. Capell, Otho L. McKillipp and A. Isidor Anderson have been appointed physicians in the school inspection department of Kansas City.——Dr. Lynn G. Taylor has been appointed a member of the medical visiting staff of the Kansas City General Hospital, vice Dr. Arthur C. Leonard.

NEBRASKA

Ill and Injured.—Dr. George A. Byers, Snyder, sustained a fracture of the skull and other serious injuries by overturning of the automobile between Snyder and Scribner.——Dr. William M. Thomas, Beatrice, is seriously ill with typhoid fever.

New Medical Staff Appointed.—At the annual meeting of the directors of the Wise Memorial Hospital, Omaha, the following medical staff was appointed: Drs. Oscar S. Hoffman, Charles C. Allison, Robert Gilmore, John E. Summers, Byron B. Davis, August F. Jonas, James S. Goetz, Charles W. Pollard, Frank S. Owen, Abraham Romm, Adolph Sachs, Henry B. Lemere and Bernard A. McDermott.

NEW YORK

Personal.—Dr. James W. Russell, first assistant physician at the Willard State Hospital, has been appointed for similar position at the Matteawan State Hospital and Dr. William J. Tiffany, Binghamton, second assistant physician at the Binghamton State Hospital, has been appointed a member of the staff of the Matteawan institution.——Dr. Harley Heath, Albany, has been appointed physician of the Great Meadow Prison, Comstock.——Capt. Charles W. Farr, M. C., U. S. A., retired, Elmira, has been appointed physician at the State Prison, Sing Sing, vice Dr. Fred E. Lettice, resigned.——Dr. Fred M. Meader has succeeded Dr. W. W. White as city bacteriologist of Syracuse.——Dr. George Lenz has been elected president and Dr. E. D. Hagedorn secretary of the medical staff of the Nathan Littauer Hospital, Gloversville.

New York City

Dinner to Italian Physician.—The Italian Medical Society of New York gave a testimonial dinner to Prof. Dr. P. G. Spinelli, professor of gynecology in the University of Naples, September 4. Dr. Spinelli is making a study of hospital conditions in the United States with especial reference to gynecology and surgery.

Personal.—Dr. Theodore C. Janeway has been elected a member of the board of scientific directors of the Rockefeller Institute for Medical Research, vice Dr. Christian A. Herter, deceased.——Dr. J. Conger Bryan is said to have been committed for five days to the psychopathic ward of Bellevue Hospital, September 2.

Glasgow Physician Guest of Society.—On the occasion of the visit to New York City of Dr. Albert A. Gray, Glasgow, a meeting is to be held at the New York Academy of Medicine, September 20, under the auspices of the Eastern Medical Society of New York, which the medical profession is cordially invited to attend.

Reduction of Infant Mortality.—The Committee for the Reduction of Infant Mortality, satisfied with the results of the allied agencies in their warfare against diarrheal diseases this summer, plans now to turn its attention to a demonstration against the deaths of babies due to congenital troubles. Diarrheal or gastro-intestinal diseases cause about 38 per cent. of all infants' deaths. Congenital troubles, however, are second with about 17 per cent. of the total. Remarkable success has been attendant on the efforts against diarrheal diseases this summer as the figures given out week by week from the board of health attest, but in order to reduce infants' deaths to an unpreventable point, other causes must be attacked with equal intelligence. Special attention is now to be paid by the committee to 1,000 mothers who await the arrival of offspring, in an endeavor to bring to bear all of the community's resources which will enable the mothers to give to the world well children, strong enough to combat the many foes which city life has reared to assail them on every hand. An intensive study is to be made of these 1,000 cases preliminary to a genuine campaign along these lines next summer. Already the committee has begun this task and has 500 expectant mothers under the guidance of its nurses. An arrangement has been made with the Russell Sage Foundation which will detail a special nurse to devote all of her time to this work. The number of expectant mothers under guidance will be increased at once by another 500. All of the mothers will first be given a careful physical examination in order to detect disease or other ailments dangerous to the welfare of the coming child. In the meantime, the nurses will be instructing the women in methods of proper care of themselves, preparatory to the coming of children. The beneficial results of exercise are to be pointed out, a proper diet, regularity of sleep and freedom from worry prescribed. Whenever an expectant mother is forced to overwork, help will be provided for her that she may save her strength to give to the coming child. The use of drugs, beer and whisky are strongly advised against. The nurses are to make arrangements for the women to go to hospitals in ample time. If they do not care to do this, a physician is to be provided and proper nursing. No midwives are to be allowed to handle any of the 1,000 cases which the committee proposes to direct. The wishes of nationalities, such as the Italians, who do not like to have men doctors in attendance on confinement cases, will be respected and women physicians provided for them. After confinement rest will be provided for the mothers and the children referred to the milk stations. The babies born will be watched with extreme care during the first month and a careful record of results. Last year about one-third of all infant deaths occurred among children who were not yet 1 month old. The committee will endeavor to prove from the 1,000 cases that this one-third can be materially lowered. If the study prove this to be true an active general campaign will be undertaken next summer along these lines. A circular is also ready to deliver among expectant mothers, giving them information concerning the proposed work and instructing them how they may best give birth to healthy children.

OHIO

City Official Assaulted.—Dr. Sample B. McKerrihan, city physician of Portsmouth, while carrying out his official duties respecting quarantine of a house in which a child was ill with diphtheria, was dangerously wounded by the father of the child, August 22. His assailant has been charged with assault with intent to kill.

Ill and Injured.—An attempt was made August 28 by an inmate of the Ohio Soldiers and Sailors' Home, Sandusky, to shoot Major John Haynes, chief surgeon of the institution.——Dr. Louis H. Frechtling, Hamilton, was operated on for appendicitis, August 23, in Mercy Hospital.——Dr. James J. McClellan, Columbus, is reported to be improving.——Dr. John W. Nixon, New Philadelphia, was seriously injured in a runaway accident, August 15.

Personal.—Dr. Charles O. Probst, Columbus, for twenty-five years secretary of the state board of health, sails September 28 for Vienna.——Dr. John C. George, assistant physician at the Dayton State Hospital, has been selected superintendent of the Miami Valley Hospital.——Dr. E. A. Baber, assistant physician at the Dayton State Hospital, has been appointed superintendent of that institution, vice Dr. Arthur F. Shepherd, Dayton, who becomes a member of the State Board of Control of Ohio Institutions.——Dr. Frank McCafferty has been appointed a member of the Columbus board of pension examining surgeons, vice Dr. James U. Barnhill, deceased.

PENNSYLVANIA

Personal.—Dr. Malcolm Z. Gearhart, Reading, who was operated on in Jefferson Hospital for appendicitis, is recovering.——Dr. Augustine C. Luhr, formerly of Philadelphia, has moved to St. Mary's.

Fourth District Meeting.—About seventy physicians from Lancaster, Lebanon and Dauphin counties met at Mount Gretna, August 30, for the annual meeting and outing of the Fourth Censorial District Medical Society. Notwithstanding the cold and rain which prevailed the members kept up their spirits and the meeting was very successful. The following officers were elected: president, Dr. John B. MacAlister, Harrisburg; vice-president, Dr. Hugh Hamilton, Harrisburg, and secretary, Dr. Dewitt C. Laverty, Middletown. New by-laws were adopted, one of which changes the name of the association to the Association of Physicians of the Fourth Censorial District of the Medical Society of the State of Pennsylvania. Resolutions were unanimously adopted commending Dr. Harvey W. Wiley for his course in the war against adulterated foods.

Philadelphia

Back from Europe.—Drs. Howard F. Hansell, Judson Daland, S. Lewis Ziegler and Harvey Shoemaker have returned from Europe.

Spinelli in Philadelphia.—Dr. Pier Giuseppe Spinelli, professor of gynecology in the University of Naples, Italy, was the guest of honor at a reception given by the Italians of this city, September 8. He remained for a week, visiting the clinics of the various hospitals.

Gifts to Hospitals.—The will of the late Elizabeth C. Reakirt includes contingent bequests of $10,000 to the Children's Hospital under the care of the Ministerium of the Lutheran Church and of half of the residue of her estate to the German Hospital.——Dr. Gertrude A. Walker has given $1,000 to endow a baby's bed in the maternity of the Woman's Medical College Hospital.

Sterilizing Plant for Marcus Hook.—On September 8, the State Quarantine Board awarded a contract to the Kensington Engine Works to install a steam sterilizing and formaldehyd plant at Marcus Hook for $3,305. The plant will be able to sterilize 200 blankets at one time.

Typhoid Checked.—Typhoid fever in the Twenty-Second and Thirty-Second wards has been traced to the infection of milk from cows that were watered in polluted streams. The cases in the Thirty-Second Ward caused the city authorities much alarm as that section of the city is supplied with unfiltered water. Investigation showed, however, that the water while cloudy contained no infection. The residents of this section have presented a petition to city councils demanding that the work on the Queen Lane filter plant be rushed to completion.

SOUTH CAROLINA

Personal.—Dr. Morris J. Alexander, Tunica, has been appointed clinical assistant in pediatrics in the Medical College of Virginia, Richmond.——Dr. Frank B. Sanders, Hagood, has been appointed physician to the Minnesota state reformatory, St. Cloud.——Dr. A. M. Wylie has been appointed city physician of Chester.

TENNESSEE

Health Talks in Nashville.—The Public Health Department of the General Federation of Women's Clubs announces the following topics for use by all federated clubs in Nashville and by the organizations of women which desire to cooperate: October, "Community Health: Know-Your-City Campaign;" November, "Social Hygiene: Education in Home and School;" December, "Tuberculosis: Ventilation and Fresh Air;" January, "Mouth Hygiene: Tooth Inspection Day;" February, "Clean Food: How and Where to Find It;" March, "School Hygiene: Medical Inspection;" April, "Conservation of Vision: Prevention of Blindness;" May, "Infant Mortality: Don't Kill Your Baby," and June, "Food Sanitation: Needless Summer Dangers."

WISCONSIN

Work Starts on County Asylum.—Work was started September 11 on the new Shawano County insane asylum, Shawano. The building will be completed within a year.

Personal.—Dr. Robert A. Kitto, Racine, was seriously injured by being run down by an automobile, August 30.——Dr. Arthur H. Sanford, professor of physiology in Marquette University, Milwaukee, has resigned to take charge of the laboratory of the Drs. Mayo, Rochester, Minn.——Dr. Willard A. Pease, Rio, who was operated on recently for appendicitis, is reported to be securely convalescent.

GENERAL NEWS

Southwestern Physicians to Meet.—The Southwestern Medical Association, which includes the states of Missouri, Kansas, Oklahoma, Arkansas and Texas, will hold its annual meeting in Oklahoma City, October 10 to 12.

Annual Meeting of Missouri Valley Medical Association.—At the annual meeting of the Missouri Valley Medical Association held in Omaha, September 7 and 8, the following officers were elected: president, Dr. John M. Bell, St. Joseph; vice-presidents, Drs. Arthur C. Stokes, Omaha, and Dr. S. Grover Burnett, Kansas City; treasurer, Dr. Oliver C. Gebhart, St. Joseph; secretary, Dr. Charles Wood Fassett, St. Joseph. Colfax, Ia., was selected as the next meeting place.

Medico-Actuarial Investigation.—The medico-actuarial investigation which is now being made under the auspices of the Actuarial Society of America is a most important one. The experience of companies from 1885 to 1908 is being tabulated. The scope of the investigation included a study of sixty-eight groups of occupations involving hazards and seventy-six of medical impairments. The figures are being tabulated in order to provide an accurate standard of heights and weights, and to determine the influence of build and occupation on longevity.

Cumberland Valley Physicians' Meeting.—At the ninth annual meeting of the Cumberland Valley Medical Association, held at Mount Holly Inn, near Carlisle, Pa., August 31, the following officers were elected: president, Dr. W. Frank Skinner, Chambersburg; vice-presidents, Drs. John C. Gilland, Greencastle; Luther H. Keller, Hagerstown, and David W. Van Camp, Plainfield; secretary, Dr. John J. Coffman, Scotland (reelected for the tenth time); assistant secretaries, Drs. Leslie M. Kauffmann, Kauffmann, Pa.; John R. Laughlin, Hagerstown, Md., and Edward Roberts Plank, Carlisle, Pa., and treasurer, Dr. R. P. Koons.

Societies to Meet.—Among the society meetings that are to occur in September are the following:

Amer. Acad. of Ophthal. and Oto-Laryngol., Indianapolis, Sept. 25-27.
Amer. Assn. of Obstet. and Gynecol., Louisville, Ky., Sept. 26-28.
American Roentgen Ray Society, Richmond, Va., Sept. 20-23.
American Urological Association, Chicago, Sept. 26-27.
Assn. of Military Surgeons of United States, Milwaukee, Sept. 26-29.
Indiana State Medical Association, Indianapolis, Sept. 28-29.
Michigan State Medical Society, Detroit, Sept. 27-28.
Pennsylvania State Medical Society, Harrisburg, Sept. 25-28.
W. Va. State Med. Assn., White Sulphur Springs, Sept. 20-22.

Electrotherapeutic Association Meeting.—The twenty-first annual meeting of the American Electrotherapeutic Association was held in the College of Physicians, Philadelphia, September 5-7. The following officers were elected: president, Dr. William D. McFee, Haverhill, Mass.; vice-presidents, Drs. F. Howard Humphris, London, Eng., and George E. Pfahler, Philadelphia; treasurer, Dr. Emil Heuel, New York City; secretary, Dr. J. Willard Travell, New York City; registrar, Dr. Frederick M. Law, New York City, and trustees, Drs. Frederick deKraft, Haverhill, Mass., and Francis B. Bishop, Washington. The next meeting will be held in Baltimore in September, 1912.

CANADA

Academy Moves.—The Toronto Academy of Medicine has moved into large and commodious quarters in Queen's Park.

"King Cook" is Dead.—James Cook, who was known as "King Cook" to thousands of graduates of the medical department of McGill University, Montreal, and who for forty years was janitor in that institution, died August 15.

Hospital Notes.—The pathologic wing of the new Toronto General Hospital is almost ready for occupancy.——The new hospital for the insane at Coquitam, B. C., is progressing rapidly toward completion.——St. Mary's Hospital, New Westminster, B. C., is to be enlarged at an expense of $20,000.

Society News.—The Maritime Medical Association has voted itself out of existence, the step being taken in the interests of the Canadian Medical Association.——The British Columbia Medical Association held its annual meeting at Vancouver, August 30 and 31.——The first annual meeting of the Canadian Public Health Association will be held in Montreal, November 21 to 23.

Tuberculosis Sanatorium Open.—A new sanatorium for consumptives at Ste. Agathe des Monts, was recently opened. The institution is situated in the Laurentian mountains and is a little more than 100 miles from Montreal. The building is modern, the equipment admirable and the institute has at the present time a capacity of fifty beds. It has been erected by and is maintained under the auspices of the Laurentian Society.

Montreal Death Rate.—The death-rate in Montreal in 1910 was 22.40 per 1,000 as compared with 22.03 for 1909. There were 10,221 deaths during the year, 16,616 births and 4,386 marriages. In 1907 there were 919 deaths from tuberculosis; in 1908, 1,000; in 1909, 1,114; in 1910, 1,336, the increase being probably due to more complete returns. During 1910 8,749 cases of communicable diseases were reported.

Personal.—Prof. Dr. J. George Adami, Montreal, has started for the tuberculosis conference in Rome.——Dr. William Warwick has resigned as pathologist at the General Hospital, St. John, N. B.——Drs. Alexander S. Monro, Vancouver, John N. Elliott Brown, Toronto, and Dr. Duncan Graham, Toronto, have returned from Europe.——Drs. Charles O'Reilly, Toronto, and John H. Leeming, Winnipeg, have started for Europe.——Dr. Bruce of London, England, has been appointed superintendent of the London (Ont.) Tuberculosis Hospital.——Dr. J. Wilfrid Good, Winnipeg, was operated on recently at Rochester, Minn.——Dr. Duncan Graham has been appointed lecturer on bacteriology at Toronto University.

Tuberculosis Sanatoriums in Canada.—Dr. Charles D. Parfitt, Gravenhurst, Ont., reports in the *Dominion Medical Monthly* for August that there are now more than twenty tuberculosis sanatoriums in Canada. The movement was initiated in 1897. Twelve of these sanatoriums are in Ontario with a capacity for 547 beds, and treated during the last year 1,421 patients. It is estimated that there are at present in Ontario 10,000 cases of active tuberculosis and that 171,000 of those now living in the province will die from tuberculosis at the present rate. The death-rate from tuberculosis has diminished in Ontario and this, Dr. Parfitt believes, demonstrates and shows the value of sanatoriums. In 1897, when the sanatorium movement began the death-rate was 150 per 100,000, while in 1908 the rate from this cause was reduced to 112 per 100,000. The percentage of death from tuberculosis in 1908 was 7.7, which compares favorably with the rate of 11.0 which was reported in 1901.

LONDON LETTER

(From Our Regular Correspondent)

London, Sept. 2, 1911.

Annual Exhibition at the Royal College of Surgeons: The Prehistoric Races of Europe

Among the specimens added to the Museum of the Royal College of Surgeons, shown at the annual exhibition which has recently been opened, is one of unusual interest to those who are investigating prehistoric races. Hitherto no remains of a Bushman-like race have been found in Spain or France. However, during last winter Col. Willoughby Verner discovered in an unexplored cave in Spain fragments of the skeleton of a man covered by stalagmite and fossilized, of pigmy stature (4 feet 10 inches) and showing decided affinities to the Bushman type. Colonel Verner presented these remains to the museum, where they may be seen side by side with nine skeletons of Bushmen excavated from old graves in the Kalahari Desert. Prehistoric research is showing how abiding some of the types of mankind are, but it will be a remarkable revelation if it shall be finally proved that in the almost extinct race of South-African Bushmen we have representatives of the natives of Spain at the close of the glacial epoch. The Bushmen, the most specialized and peculiar of the negroid races, show a curious mixture of the adult and juvenile characters in their skeletons.

The Incidence of Anthrax

In spite of every precaution which science can suggest and a benevolent government enforce cases of anthrax continue to occur among workers in skins and hides. An important report on the incidence of anthrax and the means of preventing the disease has been presented to the Company of Leathersellers by Dr. Constant Ponder, bacteriologic assistant at the Leathersellers Company's Technical College. He finds that about 40 per cent. of all cases of anthrax that occur are due to handling Chinese or East Indian goods. Cutaneous infection is the most common, pustules on the head or neck occurring in 82 per cent. of the cases. No case of pulmonary anthrax, such as occurs among the Bradford woolworkers, has been observed in the workers in skins and hides and only two cases of intestinal anthrax in the last seven years. The point of greatest importance made by Dr. Ponder is that the anthrax spore is most likely to be found in discharges dried on fur or in blood spilled when the animal was flayed, and dried on the fur, and at the cut end of cutaneous capillaries. Hence the problem is how to destroy the spores when protected by a thin layer of blood, mucus, or fecal material without damaging the hides. Having studied the methods suggested from time to time at home and abroad Dr. Ponder recommends one based on the fact that no case of anthrax has ever been traced to wet, salted hides. He therefore recommends that all hides and skins should be imported in this state.

The same result can be achieved, adopting the method suggested by Mr. Seymour Jones, chairman of the International Commission for the Preservation, Cure and Disinfection of Hides and Skins. By this method the hides are practically converted into the wet salted state. They are soaked for twenty-four hours in a solution containing 1 per cent. formic acid and 0.02 per cent of mercuric chlorid and then transferred to the ordinary brine bath. This method destroys infection and does not interfere with the subsequent transformation of hide into leather.

The Dangers of Flannelette

Scarcely a day passes without a record in the press of some sad fatality, of which a helpless child is generally the victim, due to clothing made of flannelette catching fire. And yet, in spite of the verdict of a special home office commission, which investigated the matter, and that of coroners and juries throughout the country, who unite in condemning this material (which becomes more and more dangerous each time it is washed) no steps have yet been taken to decrease the heavy annual death-roll from this cause. In a pamphlet with the above title, the National League for Physical Education and Improvement makes out a strong case for legislation, basing its facts on evidence taken from blue books, on statements made by coroners, and on an independent investigation, recently carried on at the league's instigation by the *Lancet*. Deaths from burning, especially among children, are shown to be on the increase, and it is computed that of these deaths no less than a thousand a year in the United Kingdom may be ascribed to the fact of the victim having been clothed in ordinary flannelette. Nor is this surprising, when one realizes that if a child's flannelette garment becomes ignited that child is doomed if no person arrives within about three seconds to save it.

Some manufacturers appear to be alive to the dangerous nature of flannelette and are trying to remedy matters by making it with a short, close nap. But even this is not, according to the *Lancet's* tests, as trustworthy in regard to safety from fire as flannelette which has been treated by a lasting, chemical, fire-proofing process. Such flannelettes have been on the market for some time now. The danger to the public, however, lies in the fact, as proved by the *Lancet*, that not only is flannelette still sold at large with no pretensions to being non-inflammable, but flannelette is also sold which wrongly claims to be non-inflammable.

Here then, as a first step, is where legislation is urgently needed. It should be made penal, as recommended by the home office commission and the Lancet, to describe as uninflammable materials which will not stand certain prescribed tests for inflammability.

Tuberculosis Among Railway Clerks

An investigation of the prevalence of consumption among railway clerks has just been completed by the Railway Clerks' Association. It is found that 42 per cent. of the deaths among these clerks are due to the disease as compared with 25.8 in the general population. The officials of the association express the view that consumption is an occupational disease, which is encouraged by the unhealthy surroundings in which many railway clerks are obliged to work and that much could be done if the standard of sanitation and ventilation imposed under the factory acts were made obligatory in railway booking and other offices. A bill has been prepared with this object and will be presented to Parliament in due course. One of the large railway companies, the Midland, has decided to give immediate effect to some of the recommendations for checking the growth of the disease and have announced that when clerks are attacked they will allow six months leave with full pay.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Aug. 25, 1911.

Death of Professor Dieulafoy

Dr. Georges Dieulafoy, former professor of clinical medicine at the Faculté de médecine de Paris, has just died rather suddenly, aged 62. He was born in Toulouse and first studied medicine at the Ecole de Médecine of that city. Then he came to Paris, where he became the favorite pupil of the celebrated clinician, Trousseau. He received his doctor's degree in 1869, and was appointed *agrégé* professor in 1875. Twelve years later he obtained the chair of internal pathology at the Faculté de médecine de Paris. He was at first physician at the Necker hospital, and in 1869 went to the Hôtel-Dieu as professor of clinical medicine where he succeeded his master, Trousseau. In 1891 he was elected member of the Académie de médecine and was later chosen president of the academy. He had retired from his professorship two years ago.

The first work by which he became well known was his treatise on the aspiration of morbid exudates, published in 1873. Dieulafoy's aspirator has for a long time been employed for the evacuation of pleuritic fluids. Dieulafoy also drew the attention of physicians to the signs of obscure diseases and in particular to those of the insidious condition which he called *petit brightisme*. In later years he was occupied, with an evident predilection, with medicochirurgical questions, such as the treatment of appendicitis, early operations in ulcerating gastritis and diseases of the liver, kidney, etc. Dieulafoy's principal claim to distinction rests on his "Manual of Internal Pathology" from which many generations of students have been taught and which has gone through sixteen successive editions since 1880. He also issued the "Clinique médicale de l'Hôtel-Dieu" in six volumes.

Dieulafoy was not a laboratory man, but his remarkable facility for assimilation permitted him to put himself rapidly in touch with laboratory discoveries and to use them in his teaching. What especially contributed to his success as an instructor, however, was his great facility of language—his oratorical ability. It might even be said that his eloquence carried him a little too far sometimes. He was a little too fond of formulas. Thus about twelve years ago he made a sensational communication to the Académie de médecine which was summed up in the striking epigram that "no one ought to die of appendicitis," which is as much as to say that appendicitis should be operated on immediately in every case. Surgeons naturally hastened to follow his advice to such a degree that in 1906 Dieulafoy again mounted the tribune of the Académie de médecine, this time to reproach surgeons with operating too much. Many people merely affected with mucomembranous typhlocolitis, he said, were unnecessarily operated on for a non-existent appendicitis.

The Twenty-First Congress of Alienists and Neurologists

The twenty-first Congrès des médecins aliénistes et neurologistes de France et des pays de langue française was held August 1 to 6, at Amiens. It was not so successful as in previous years, owing perhaps to a defect in organization. The sessions of the congress were scattered in a way, being held now at Amiens, now at Boulogne-sur-Mer and now at the asylum of Prémonté, the members of the congress having to go to these various places at their own expense, which more than doubled the usual cost of 20 francs ($4). Another more important cause of unsuccess to which Dr. Deny, physician of the Salpêtrière and president of the congress, called attention in his opening address, consists in a certain coolness between the neurologists and alienists. This is due perhaps to the fact that psychoneuroses form a kind of debatable ground. Three interesting questions were considered.

VALUE OF LEGAL EVIDENCE GIVEN BY PERSONS OF UNSOUND MIND

Dr. R. Lalanne, head physician at the insane asylum of Maréville, Nancy, showed how the ordinary variation of evidence emphasized by recent researches in experimental pathology, the disturbances of perception (illusions, sensorial disturbances of the aged, etc.) gradually lead onto pathologic ground—to the evidence of persons of unsound mind whose mental disturbance is not suspected by the public or by the judges. The value of the evidence of these unsuspected insane persons is essentially variable. Lalanne, therefore, insisted particularly on the utility of having the judges rely on the assistance of a psychiatrist whenever they suspected a morbid mental condition in the witness. The expert should not pass on the evidence itself. He should confine himself to declaring whether the condition of the witness' mind is or is not such as to cast doubt on his evidence.

On the motion of Dr. Rémond of Toulouse, the congress passed two resolutions, one declaring that the evidence of any person who is or has been mentally unsound should be legally declared under suspicion, and the other emphasizing the value for judges of a course including medicolegal psychiatry.

Professor Ladame of Geneva drew attention to the severity of the law against perjured testimony. Since there are undoubtedly many psychopathic persons among the public at large, he offered a resolution which was passed to the effect that before conviction for perjury the court should have the mental condition of the perjured witness examined. The congress also passed a resolution offered by Dr. Ley of Brussels demanding that the methods of psychologic experiment should be used to test the evidence given by the insane.

TUMORS OF THE PITUITARY

Dr. Courtellemont of the Ecole d'Amiens divides the symptoms which indicate tumors of the hypophysis into results of the mechanical disturbances (signs of cerebral compression, properly speaking, headache, vomiting, vertigo, nerve compression and especially ocular troubles, etc.), and dystrophic conditions. As for the latter the present tendency is to attribute acromegaly and gigantism to the hyperfunction of the gland, and the adipose-genital syndrome to the hypofunction. There would thus be opposition between the two syndromes of hypofunction and hyperfunction. From the therapeutic point of view it seems certain that we are no longer helpless with regard to pituitary tumors. Even though opotherapy appears to be only a symptomatic treatment, radiotherapy has given very appreciable functional and physical results. In particular it diminishes the phenomenon of encephalic compression and ameliorates visual troubles. Partial hypophysectomy has given very good results in the hands of von Eiselsberg, Hochenegg, and others. It alone of all the therapeutic methods seems to have succeeded in causing the regression of acromegalic deformities. Nevertheless, in view of the still very formidable seriousness of the operation, Dr. Courtellemont thinks that it should be reserved for cases which resist opotherapy and radiotherapy.

Dr. Paul Sainton of Paris emphasized the special characteristics of glycosuria in cases of tumors of the hypophysis. The proportion of sugar is much higher than in other glycosurias of nervous origin. Moreover the glycosuria is accompanied by all the symptoms of real diabetes, polyuria, polyphagia, polydypsia, so that the expression, "hypophyseal diabetes" is entirely justified. These facts should be compared with the cases of diabetes in that other syndrome of hypofunction, namely, Basedow's disease (hyperthyroidism).

THE VARIOUS CLASSES OF PSYCHOPATHIC PAINS

The most important part of the paper presented by Dr. G. Maillard, assistant physician at the Salpêtrière, is the therapeutic portion. Should operation be performed for psychopathic pains? A distinction should be made among these. If there is an important lesion which in itself is an operative indication, evidently operation should be done and it may be hoped that the pain will disappear or at least a remission or attenuation be obtained according as the psychic or organic factor predominates. In cases in which there is no organic lesion apparently capable of producing psychopathic pains no operation should be done. Operation, real or pretended, would serve no purpose and in pains of paranoiac origin such operation would only furnish new ground for delusion. But between these two extreme cases there are many intermediary cases in which the proper course to follow is open to discussion. These are the cases in which the psychopathic pains seem connected with a lesion which in itself does not absolutely require operation but in which an operation would be justified as thereby the pains might be made to disappear. These embarassing cases are found, for example, in displacements of organs, movable kidney, uterine prolapses, etc. In such cases to try to do the best for the psychic condition and for the lesion is often very difficult. If the pain is a manifestation of a hysterical organic association the best chances of improving the condition of the patient or of effecting a cure are to be found in appropriate surgical measures together with psychotherapeutic measures.

Dr. Picqué of Paris emphasized the fact that a cerebral condition of the patient may constitute a contra-indication against an operation which would be indicated in patients whose mental condition is normal. Of course, in urgent cases operation should be done whatever the mental condition of the patient. But in elective surgery (for example, early operation on uterine fibromas), the mental condition should be reckoned with. Picqué believes that before any operation the mental condition of the patient should be examined as regularly as the urine.

PAINS AND PSYCHIC PHENOMENA

Apart from the three main questions of the day discussed in the congress, an interesting paper was read by Dr. André Léri, *agrégé* professor at the Faculté de médecine de Paris, tending to show that contrary to the general opinion, pain is not an intellectual or even a cerebral phenomenon. Pain exists in the absence of brain. Léri had an opportunity to examine repeatedly an anencephalus which lived three days. The child cried and struggled when it was pinched at the level of the limbs or of the face. It showed evident signs of pain. At the autopsy not only was no brain discovered, but there was not even a trace of protuberance. There was indeed a trigeminal nerve and Gasserian ganglion on each side, but from the ganglion the efferent nerve lost itself in the fibrous tissue on the border of the temporal bone. The trigeminal is considered the only sensory nerve of the face and the infant felt it when its face was irritated. Thus painful sensation seems to exist not only independent of the brain but even independent of any nerve center.

Death of Prof. G. Julliard

Dr. G. Julliard, former professor of clinical medicine at the Faculté de médecine of Geneva and formerly chief surgeon of the cantonal hospital of that city, has just died. He studied medicine in Paris from 1857 to 1865. Dr. Julliard took an important part in the organization of medical instruction which was inaugurated at the Université de Genève in 1876. He had the honor of installing open-air pavilions at the cantonal hospital which before the antiseptic period contributed to combat effectively the hospital gangrene which raged so cruelly in Geneva during the quartering of the French troops in 1871. He also carried on an earnest propaganda for the substitution of ether for chloroform in surgical anesthesia. Dr. Julliard was foreign correspondent of the Académie de médecine de Paris.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Aug. 25, 1911

Personal

Prof. A. Seligmüller, the neurologist of Halle, celebrated the semicentennial of his doctorate August 22.

The renowned Jena obstetrician and gynecologist, Prof. Bernhard Sigmund Schultze, celebrated the sixtieth year jubilee of his doctorate August 27.

The noted Bern surgeon, Professor Kocher, celebrated his seventieth birthday on August 25.

An Address of the Kaiser

On the occasion of his stay in Cassel, our Kaiser dedicated a new banner (in place of the one given by his father) at the gymnasium of that place, at which, as is well known, he received his schooling. In connection with it he delivered an address to the pupils of the highest classes, in which among other things he emphasized the importance of liberal studies. In the study of antiquity the emphasis should be placed not on the peculiarities of political life, which were entirely different from those of the present day, but on the harmony in art and philosophy which was peculiar to the Grecian people above all others and is especially lacking in our day; at the same time, study of the history of the fatherland should not be neglected. These statements are especially remarkable for the reason that they might suggest a retraction on the part of the Kaiser of the excessive estimate of physical science, which he gave in a speech a few years ago. At that time his words formed an introduction to the preference for scientific schools in Germany and further for the admission of graduates of these schools to the study of medicine and law. Probably now greater weight will be laid henceforth on the classical studies again and consequently the danger of the regular classic course becoming more and more neglected will be averted. In addition the Kaiser also in this address again emphasized the injuriousness of the misuse of alcohol, especially for college students. On this occasion he praised the custom of excluding the use of alcohol adopted by the college men in America, of whose ability we have often had occasion to be convinced, and he advised his audience to strengthen the body through sport, rather than to establish a record in the consumption of alcoholic drinks.

Shorter Hours in the Prussian Higher Institutions of Learning

The so-called short period of forty minutes already adopted in most of the Berlin higher institutions of learning is to be extended to all the similar institutions of Prussia according to a decision of the Prussian minister of education. In the edict the minister makes it the duty of the directors to exercise careful supervision, to see that no increase of work at home results from the shortening of the time of instruction in school, so that especially the free afternoons shall be devoted to physical recreation in the open air and to spontaneous intellectual work, if necessary by calling on the parents for aid. At the same time, the minister cautions that the pupil must not be under any compulsion to take part in the optional courses in the school.

Aid Bureau for Persons Discharged from Insane Asylums

Persons who have been discharged from an insane asylum and have now again to take up the battle of life as well as mentally abnormal people in general but who are not ill enough to need institutional care, have always caused great and often insurmountable difficulty to public charity. Already ten years ago the idea was advanced in Berlin of providing a special kind of care for this class of persons needing aid. Now a bureau for the care of discharged lunatics is being established on the basis of a program put forward by Privy Counsellor Moeli, chief of the Herzberg Asylum. The fundamental idea of this arrangement is that these persons need aid directed by a psychiatrist. There are four functions for the bureau: 1. Immediately after discharge, of which as far as possible the bureau must be previously notified, a suitable lodging must be provided, as far as possible in a family. Subsequently this lodging is to be permanently supervised. 2. Employment fitting the individual capacity and conditions of the patient is to be provided, and the bureau is to secure an appropriate place to work, in which the one receiving care shall be employed, at first necessarily at small wages and gradually providing for an improvement of the conditions of labor. 3. Also the conduct of the patient must be constantly superintended, and in the case of those previously addicted to alcohol, they are to be induced to join temperance societies, and injurious associations are to be prevented if necessary by removal to another environment. 4. To aid the ward in all business relations of daily life.

It has been determined to adopt a mixed form of care, similar to that which has already been adopted in the infant welfare stations. The station will be placed under the supervision of a salaried physician. The business management is to be looked after by a municipal official. The soul of the special care is a salaried nurse experienced in the treatment of those mentally afflicted. She will be aided by a number of unsalaried assistants.

Protest of Physicians at Königsberg Against Pollution of Water

In Königsberg the River Pregel which flows through the city has for many years given off a quite intolerable odor. This nuisance, of which much complaint has been made in the course of time, has not been removed, in spite of all the efforts of the city authorities. The odor has become even stronger in the last year. The water of the Pregel is of a dark color and with a west wind exhales a pestilential smell which extends far into the suburbs. Last Saturday the local physicians determined to present a remonstrance to all of the present authorities, declaring that it is held to be an elementary duty of all of the officials who have to do with the matter to leave nothing untried in order to remove this disgusting nuisance from the city. The president of the Königsberg medical association (*Aerzteverein*) was commissioned to forward a copy of this protest to the governor of the province, to the national legislature, the mayor and the city council.

The Movement of the Population in Germany in 1909

According to the official statistics just published, there were in the German empire in 1909, 494,127 marriages; this is 6,493 or 1.3 per cent. less than the previous year. Also the number of births has diminished. There were in 1909, 2,038,357 children born; in 1908, 2,076,660, so that the number of births has been reduced by 1.8 per cent. The number of deaths has fallen still more, as in 1909 there were 1,154,296 deaths as against 1,197,098 in the previous year, a reduction of 3.6 per cent. In spite of the considerable increase in the German population, the number of deaths is the smallest that has been recorded since the foundation of the empire. For every 1,000 inhabitants there were in 1909 15.48 marriages, 31.91 births and 18.07 deaths; in the previous year these figures were 15.88, 32.97 and 19.01. The natural increase of the German people or the excess of births over deaths, was 884,061, or 13.84 per thousand of the population. The age of those marrying was, among the men, under 25 in 30 per cent. of the cases and in 71.5 per cent. under 30 years, and among the women, in 58.2 per cent. under 25 years. Of the 2,038,357 births in the year 1909, 97.05 per cent. of the children were born living and 2.95 per cent. were still-born; 12.8 per 1,000 of the births were plural births;of these 25,893 were twins, 261 triplets and three quadruplets. In all 52,581 children were born in plural births. Of the 1,154,296 deaths in the year 1909, 60,079 were born dead and 335,436 were children under one year. For every 100 born there were seventeen deaths in the first year of life. This indicates a reduction of the infant mortality over that of the previous year, but it is still a very considerable figure in comparison with other civilized countries.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PROGRESS OF PHARMACOPEIA REVISION

I. THE PHYSICIAN AND THE PHARMACOPEIA; GENERAL PRINCIPLES

The Executive Committee of Revision, after fifteen months of labor, has made public its first report[1]; this deals with a subject of decided interest to physicians, the scope of the Pharmacopeia.

In order to discuss the Pharmacopeia from any standpoint it is essential to keep clearly in mind what the Pharmacopeia is or purports to be. It is sometimes stated that the Pharmacopeia is now a "law book," but it is this only incidentally. As pointed out in recent court decisions, it was simply adopted as a legal standard for the articles which its owners care to include in it; there is therefore no reason for the latter to consider this aspect of the question further than it suits their purposes to do so.

The Pharmacopeia of the United States originated by physicians is now the exclusive property of the medical and pharmaceutical professions—professions which are assumed to be working together for the good of the sick and the protection of the well, and supposed to discountenance any practices incompatible with these aims, and to warn their clientele against practices or drugs which will be either harmful or useless. The specious argument that the public "calls" for worthless things and that it is legitimate to supply this want was long ago repudiated by the medical profession, if indeed it was ever recognized, as it also is by most pharmacists.

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[1] American Druggist, Aug. 28, 1911, p. 23

These several considerations, if adopted, would naturally narrow the scope of the Pharmacopeia and find their logical expression in the "guiding principle" adopted by the present Committee of Revision, namely, that admission to, or retention in the Pharmacopeia should be determined by "therapeutic usefulness or pharmaceutical necessity."

It is by this guiding principle that the work of the Committee of Revision, as indicated by the present report on the scope, is to be judged. This brings us at once to the question as to how the committee has acquitted itself from the standpoint of the medical profession. We presume physicians have the right to ask this question, since the book was originated by physicians and because more than 60 per cent. of the organizations entitled to take part in the revision are medical organizations and by a further fact that slightly more than 50 per cent. of the organizations actually represented at the last Pharmacopeial Convention were medical organizations.

No committee of revision in recent years has had such excellent opportunities to learn the wishes of physicians as regards the scope of the Pharmacopeia as has the present one. The subject was under active discussion at medical meetings for several years before the Committee of Revision was selected. Various medical societies, including the American Medical Association and most of its sections, had special committees on the subject. Some of the societies arranged for a system of balloting by all their members. The Committee on the U. S. Pharmacopeia of the Association secured a vote on all the articles in the United States Pharmacopeia from the teachers of materia medica and therapeutics in the medical colleges of the United States. This material was carefully tabulated and printed and was freely accessible to the Committee of Revision. It may be said that there was an almost complete unanimity of opinion of the large number of physicians taking part in this work as to what the Pharmacopeia should be: it was that it should be a book which should reflect the best drug therapeutics of the United States and further that it should contain only remedies of recognized and established value so that the recognition of a drug by the Pharmacopeia would be, as it is generally taken to be, an assurance that the best medical thought at present holds it to be of established value. No other conclusion could possibly be drawn from this large amount of evidence; those who held any other view of the scope of the Pharmacopeia were in an extremely small minority.

Viewed from this standpoint the present report of the Committee of Revision is disappointing.

II. PROPOSED ADDITIONS AND DELETIONS

The proposed admissions[2] to the U. S. P. IX may be considered first, for it is by admissions that most physicians will judge the ability of the Pharmacopeia to adapt itself to the needs of modern medicine. To the extent that a pharmacopeia, for any reason whatever, is unable to include drugs which are in constant use by large numbers of well-informed practitioners, to that extent it can not expect to receive the cordial support of the profession. It is proposed to admit thirty-nine new drugs in the next revision. While it would be of interest to know by what process of inquiry the revision committee was led to think that there is a widespread, intelli-

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[2] The proposed omissions and additions are:

ARTICLES TO BE DROPPED

Acetum Opii
Acidum Camphoricum
Acidum Sulphurosum
Alumini Sulphas
Argenti Nitras Mitigatus
Bismuthi Citras
Bismuthi et Ammonii Citras
Calamus
Cassia Fistula
Cataplasma Kaolini
Ceratum Camphoræ
Ceratum Plumbi Subacetatis
Cerii Oxalas
Chimaphila
Chirata
Cinnaldehydum
Colchici Cormus
Collodium Stypticum
Confectio Sennæ
Conium
Cusso
Cypripedium
Emplastrum Hydrargyri
Emplastrum Opii
Emplastrum Saponis
Emulsum Chloroformi
Emulsum Olei Morrhuæ cum Hypophosphitibus
Extractum Colchici Cormi
Extractum Digitalis
Extractum Hæmatoxyli
Extractum Krameriæ
Extractum Leptandræ
Extractum Malti
Extractum Scopolæ
Extractum Sumbul
Ferri Citras
Ferri et Ammonii Sulphas
Ferri et Ammonii Tratras
Ferri et Potassi Tartras
Ferri et Strychninæ Citras
Ferri Hydroxidum
Ferri Hypophosphis
Ficus
Fluidextractum Calami
Fluidextractum Calumbæ
Fluidextractum Chimaphilæ
Fluidextractum Chiratæ
Fluidextractum Conii
Fluidextractum Cubebæ
Fluidextractum Cypripedii
Fluidextractum Digitalis
Fluidextractum Euonymi
Fluidextractum Eupatorii
Fluidextractum Geranii
Fluidextractum Lappæ
Fluidextractum Leptandræ
Fluidextractum Lupulini
Fluidextractum Matico
Fluidextractum Meserei
Fluidextractum Pareitæ
Fluidextractum Phytolaccæ
Fluidextractum Quassiæ
Fluidextractum Quercus
Fluidextractum Quillajæ
Fluidextractum Rosæ
Fluidextractum Rubi
Fluidextractum Sabinæ
Fluidextractum Sanguinariæ
Fluidextractum Scopolæ
Fluidextractum Scutellaria
Fluidextractum Stillingiæ
Fluidextractum Stramonii
Fluidextractum Veratri
Geranium
Glyceritum Ferri, Quininæ et Strychninæ Phosphatum
Hamamelidis Cortex
Hedeoma
Hyoscyaminæ Sulphas
Infusum Pruni Virginianæ
Iodolum
Lappa
Lithii Benzoas
Lithii Salicylas
Mangaui Sulphas
Mastiche
Matico
Mistura Ferri Composita
Mistura Rhei et Sodæ
Mucilago Ulmi
Naphthalenum
Oleatum Quininæ
Oleorsina Lupuliui
Oleum Adipis
Oleum Aethereum
Oleum Chenopodii
Oleum Copaibæ
Oleum Erigerontis
Oleum Sabinæ
Pilulæ Aloes et Mastiches
Pilulæ Aloes et Myrrhæ
Pilulæ Laxativæ Compositæ
Pilulæ Opii
Pilulæ Podophylli, Belladonnæ et Capsici
Piperina
Plumbi Iodidum
Plumbi Nitras
Potassii Sulphas
Prunum
Pulvis Morphinæ Compositus
Quercus
Quillaja
Rubus
Sabina
Santonica
Scammonium
Scoparius
Scutellaria
Sodii Bisulphis
Sodii Nitras
Sodii Pyrophosphas
Spiritus Aetheris Compositus
Sulphuris Iodidum
Syrupus Ferri, Quinine et Strychninæ Phosphatum
Syrupus Hypophospnitum Compositus
Syrupus Krameriæ
Syrupus Rubi
Tamarindus
Tinctura Aloes et Myrrhæ
Tinctura Cardamomi
Tinctura Gallæ
Tinctura Ipecacuanhæ et Opii
Tincturæ Herbarum Recentium
Trochisci Gambir
Trochisci Glycyrrhizæ et Opii
Trochisci Krameriæ
Trochisci Santonini
Unguentum Gallæ
Unguentum Hydrargyri Oxidi Rubri
Unguentum Potassii Iodidi
Unguentum Veratrinæ
Unguentum Zinci Stearatis
Viburnum Opulus
Vinum Album
Vinum Cocæ
Viuum Colchici Seminis
Vinum Ergotæ
Vinum Ferri
Vinum Ferri Amarum
Vinum Ipecacuanhæ
Vinum Opii
Vinum Rubrum
Zea
Zinci Bromidum
Zinci Iodidum

NEW ARTICLES TO BE ADMITTED

Ammonium Bifluorid
Antitetanic Serum
Apiol
Aspidospermin
Bismuth Beta-Naphtol
Buchu (Long)
Caffein Sodio-Benzoate
Calcium Chlorid (Hydrated Crystals)
Calcium Glycerophosphate
Calcium Lactate
Carbonic Acid (Compressed)
Condurango
Creosote Carbonate
Crocus
Diacetyl-Morphin
Diacetyl-Morphiu Hydrochlorid
Diastase
Emplastrum Cantharidis
Erythrol Tetranitrate
Fluorescein
Mercury Salicylate
Milk of Magnesia
Milk of Bismuth
Oxygeu (Compressed)
Picric Acid
Phenolphthalein
Pine Needle Oil
Potassa Sulphurata
Quinin and Urea Hydrochlorid
Saccharin Sodium Salt
Sodium Cacodylate
Sodium Glycerophosphate
Sodium Perborate
Solution of Hydrogen Dioxid (30 per cent.)
Theobromin Sodio-Salicylate
Trioxymethylene
Uranium Nitrate
Vaccine Virus

gent demand for some of the preparations it is proposed to admit (aspidospermin, apiol, calcium glycerophosphate, for example) the failure to admit or make any reference to a number of specific recommendations of large and important bodies of physicians must cause surprise.

As has been pointed out, several sections of the American Medical Association, after long and careful study, made recommendations as to a number of admissions; surely no one would question that the members of these sections are well qualified to state what is needed by the practitioners of this country.

These recommendations have thus far received favorable consideration to but a very limited extent. With the exception of the report of the Section on Practice of Medicine (five of the six recommendations of which were accepted) there is nothing to indicate that these valuable reports were considered. Thus none of the recommendations of the Section on Obstetrics and Gynecology was adopted, but one of those of the Section on Ophthalmology, and four of those of the Section on Stomatology. It is true that some of the recommendations were not very definite, but they represent pharmaceutical problems encountered by physicians, problems which it would be natural to expect the Committee of Revision to solve. No doubt the latter could solve them if it was given the necessary means and assistance to carry on research work, especially if the former Committee of Revision had been at work on them in the long interval since the last revision.

Thus while the Committee of Revision should not be blamed, especially since most of the members serve with practically no direct remuneration, yet the important fact remains that when physicians meet pharmaceutical problems they are, apparently, unable to secure help from the logical source, namely, the Pharmacopeia. It is to be hoped that some of these problems are not mentioned in the present report because they are receiving further consideration.

It is proposed to delete 154 articles. With the thirty-nine additions this will still leave approximately 850 articles in the U. S. Pharmacopeia, a number which seems out of all proportion to the needs of modern medicine, especially when it is noted that about 20 per cent. of these are peculiar to the Pharmacopeia of the United States.

It is not likely that well informed physicians will miss many of the 154 articles it is proposed to delete, and it is a question if there is not an almost equal number retained which might have been deleted with as much or more justification; this was the opinion of a majority of the teachers of materia medica and therapeutics of the medical colleges who voted on this subject (and their collective wisdom is perhaps equal to the wisdom of the fifteen members of the Executive Committee of Revision with its one practicing physician).

As a matter of fact it is proposed to retain a number of peculiarly objectionable drugs. These include several plant drugs long since recognized as devoid of value or as having but a very secondary value, the main use of which is to deceive the people in one way or another, either as ingredients of "patent medicines" or of equally undesirable "ethical proprietaries."

The list includes such little used (by physicians) drugs as cinchonin, eupatorium, matricaria, rhus glabra, sabal, salvia, etc. Some of these are undoubtedly much "called for" by the laity, i. e., by the "patent-medicine" people; others are prominent in the names of certain "ethical proprietary" mixtures, and serve to overshadow the really important constituents; there is probably a large "sale" for them—but these are not tests of "therapeutic value." The vigor with which some of these drugs are repudiated by the medical profession is shown by the fact that they were recommended for deletion by the Section on Practice of Medicine, and by the majority of the teachers of materia medica and therapeutics and by certain medical societies; moreover they are comparatively little used on prescription.

It is also interesting to note that the Section on Obstetrics and Gynecology, the members of which are preeminently the best qualified to judge, voted to delete gossypii cortex and glyceritum hydrastis, which the Committee of Revision propose to retain, and that they voted to retain cerii oxalas, which it is proposed to delete; that the Section on Dermatology stated that the only plasters of value to dermatologists are the emplastrum plumbi and emplastrum hydrargyri; the revision committee proposes to delete the latter and to retain some used chiefly by the laity.

Previous revision committees have excused the shortcomings of the Pharmacopeia on the ground that so few physicians, and those not always representative, took an interest in the work; the present committee cannot make this excuse, for thoroughly representative bodies of active practitioners have supplied much more information than the committee seems to have been able to assimilate. Interests other than those of modern progressive medicine seem still to preponderate in pharmacopeial management.

While the report is disappointing in many ways, yet the encouraging feature is that the tide seems to have turned, and that the degeneration which Dr. Jacobi said was noticeable in recent revisions seems to have been checked, for a Pharmacopeia constructed on the lines which are foreshadowed by the first report of the Executive Committee of Revision is certainly a decided improvement over its immediate predecessor, and should encourage physicians to renewed activity and interest.

THE CHARGE AGAINST DR. WILEY

Extracts from the Testimony Given Before the Congressional Committee

(Continued from page 916)

THE INDIANA CASE

[A brief statement of the facts regarding what is known as the Indiana case appears editorially in this issue. It is there shown how the power of the federal government was used to assist Curtice Bros. and Williams Bros., in their attempt to have the pure food law of the state of Indiana declared unconstitutional. The matter that follows is taken from part of the testimony given before the Congressional Committee regarding the case. We first quote that part of the testimony of President Remsen, chairman of the referee board, that refers to the Indiana case.]

[*President Remsen's Testimony*]

Mr. Floyd. I want to ask you some other questions in connection with the benzoate of soda inquiry, and will ask that if you cannot give the information about the matter now, you will supply it to us later. I will ask you to state, if you know, whether or not Curtice Bros., of New York, and Williams Bros., of Detroit, Mich., are among the leading manufacturers of benzoate of soda in the United States?

Dr. Remsen. I do not know that I have ever heard that they were manufacturers of benzoate of soda.

Mr. French. You do not mean manufacturers of benzoate of soda?

Mr. Floyd. No, sir; I mean of the products in which benzoate of soda is used.

Dr. Remsen. All that I know about it is from signs that I have seen along the railroads.

Mr. Floyd. They use it, do they not? Are they not the principal users?

Dr. Remsen. I do not know.

Mr. Floyd. But you know it is used in the commodities you saw advertised by them?

Dr. Remsen. Yes, sir.

Mr. Floyd. They were products in which benzoate of soda is used, were they not?

Dr. Remsen. Yes, sir; in some of them it is used.

Mr. Floyd. I will ask you to state whether or not you were called on to give testimony against the State of Indiana in a suit against that state brought by Curtice Bros., of New York, and Williams Bros., of Detroit, Mich., in which case the pure-food law of the State of Indiana was involved, or, rather, a violation of it was involved.

Dr. Remsen. I would like to raise one question. I am not sure that the products of Williams Bros. and Curtice Bros. were involved, but there is a suit still pending, and I was called to give testimony in that suit.

Mr. Floyd. I will ask if you were called on to give testimony in a suit, in the State of Indiana, in which the enforcement of the pure-food law of the State of Indiana was involved?

Dr. Remsen. I was.

Mr. Floyd. Did you appear as a witness for or against the State in that suit?

Dr. Remsen. So far as my state of mind was concerned, I appeared for neither side. I simply wanted to state the facts as I knew them.

Mr. Floyd. At whose instance were you called?

Dr. Remsen. The first person who called on me was someone representing, I think, Curtice Bros. I told him I would not appear in the suit; that I did not care to get involved in it. He said that our report was involved in the suit; that our work was involved, and that it was due to the work which we had done to make certain statements, or to answer certain questions in regard to it. I then saw the Secretary of Agriculture, and asked whether he thought it was proper for me to give such testimony. He said that he thought it proper, and advised me to give it.

Mr. Floyd. Was that in relation to benzoate of soda or saccharin?

Dr. Remsen. Benzoate of soda.

Mr. Floyd. And your testimony was in relation to benzoate of soda?

Dr. Remsen. Yes, sir.

Mr. Floyd. And before going to give your testimony, you consulted with the Secretary of Agriculture, and he advised you that it was entirely proper for you to go and give the testimony?

Dr. Remsen. Yes, sir; because the report which we had given to the Secretary of Agriculture was at stake. We were told that they were going to attack this report, and that that would be in one sense the point of attack. They put it to us this way: That those who were responsible for the report ought at least to make some statement in regard to the character of it; that they could not put our report in as evidence, I believe, and they wanted testimony concerning the report, because the report itself could not be put in the record. That is all I know about it.

THE ATTITUDE OF THE SECRETARY OF AGRICULTURE

[The attitude of the Secretary of Agriculture in this case was made evident. From his standpoint, the government was pro-benzoate and, as such, must champion the cause of those manufacturers who use this chemical preservative.]

The Chairman. When you referred the matter to the Secretary of Agriculture for his advice as to whether you should testify or not, if he had advised you not to testify would you have given your testimony?

Dr. Remsen. Well, of course, that is a hypothetical question. I don't think we should.

The Chairman. You don't think you should?

Dr. Remsen. No. We were anxious not to appear in the suit at all.

The Chairman. When Dr. Chittenden asked your advice and you advised him to go, if you had advised him not to go do you believe he would have gone?

Dr. Remsen. That would depend on the pressure brought to bear on him from better and higher sources. Possibly the Secretary of Agriculture might have advised him to go even if I had advised him not to go. I think he would have followed the advice of the Secretary.

The Chairman. You spoke about having an aversion to giving testimony, but that the aversion was overcome. Now I want to know what force it was that led you to overcome that aversion?

Dr. Remsen. The whole force was a feeling on our part that perhaps we could aid those who were engaged in trying the suit to get at the real facts in the case.

The Chairman. Did you consider the question as to whether it would be proper, being a member of the referee board, on that account, for you to give testimony?

. . . .

Dr. Remsen. The way it lies in my mind now is the way it lay in my mind at that time, I am sure. I could not see any objection to giving a deposition in regard to the character of our work and the general relation we held toward the work which had been done. We had no feeling, as I say, no desire whatever to support anyone or to undermine anyone.

The Chairman. But you understood, however, that the defendant in this case was the State of Indiana?

Dr. Remsen. Yes; I did get that into my head after awhile. It took some time to do so, I must say.

The Chairman. And that it was the contention of the authorities of the State of Indiana and of the state chemist that the use of benzoate acid as a preservative for food was harmful to the public health?

Dr. Remsen. Yes; I understood that.

The Chairman. And you understood also that the judicial department of the State of Indiana was attempting to exclude from sale in our state any foods that used benzoate of soda as a preservative?

Dr. Remsen. I do not know anything about the machinery and did not know exactly where the matter stood; but I knew the suit had been brought. Exactly how it was brought or why it was brought I did not know then and do not know now.

The Chairman. And you knew, too, that if you gave testimony, your testimony would be favorable to the use of benzoate of soda as a preservative of foods?

Dr. Remsen. I suppose I knew that, although that did not enter into my thoughts. I am perfectly sincere in saying that all I wanted to do was to help these gentlemen as far as I could in arriving at the facts.

The Chairman. And the result would naturally follow, that whatever prestige you had gained by the fact of being a member of the referee board would naturally be against the contention of the State of Indiana in their enforcement of what they considered to be the pure-food laws of our state.

Dr. Remsen. I suppose that passed through my mind, although I did not spend any time worrying about it, because that was not what I was asked to think about.

The Chairman. Now, then, did that particular phase of it bring to your mind this particular question of propriety that you had in mind which caused you to refer this matter to the Secretary of Agriculture for his advice?

Dr. Remsen. I don't think that phase of it did; no. It was a general question as to whether the members of the referee board who had been called on by the United States Government—I think I can say that—to pass on certain scientific questions and had handed a report to the Secretary of Agriculture—it did occur to me that there might be some impropriety in a member of that board appearing in any capacity as a witness if he could help it. We cannot always help it.

The Chairman. And the Secretary advised you that there would be no impropriety in so appearing?

Dr. Remsen. Yes, sir.

The Chairman. And did he say it was your duty to do it?

Dr. Remsen. I don't think he put it as strong as that; but I got about that impression from what he said. The point was, as I remember it in our conversation, he said: "Gentlemen, you have made a report which you have signed; that is your statement. Now, that is called in question and if you are asked to answer questions in regard to it, it seems to me entirely proper that you should answer those questions." That was the way the matter was presented to me and it seems now a reasonable way—

Mr. Higgins. Were you under summons from the court?

Dr. Remsen. No; I never was.

THE ATTEMPT TO DEPRIVE INDIANA OF DR. WILEY'S TESTIMONY

[Knowing that the Secretary of Agriculture was wedded to the pro-benzoate side of the question, Solicitor McCabe tried his best to prevent Dr. Wiley, whose views against the use of sodium benzoate are well known, from going to Indianapolis to testify.]

[*Solicitor McCabe's Testimony*]

Mr. Floyd. Now, I will ask you to state if you know anything about the case that was pending in the State of Indiana between Williams Bros., of Michigan, and Curtice Bros., of Rochester, N. Y., against the State of Indiana, wherein the pure-food law of Indiana was involved?

Mr. McCabe. Yes, sir.

Mr. Floyd. Now, I will ask you to state if any of the employees of the Agricultural Department attended that trial and gave testimony on either side.

Mr. McCabe. I do not know as to whether or not they attended the trial—that is, as to whether or not they went out before the master. But I know that employees of the Department of Agriculture gave testimony in the case.

Mr. Floyd. You do not know whether they attended or not, though?

Mr. McCabe. No, sir.

Mr. Floyd. And you do not know, if they did attend, how their expenses were paid?

Mr. McCabe. No, sir; I do not.

The Chairman. Were you requested to give an official opinion by the authorities of the State of Indiana as to whether Dr. Wiley might be permitted to give his testimony in that case?

Mr. McCabe. No, I don't think so, Mr. Moss. I was requested either by Dr. Wiley or Dr. Bigelow to give an opinion as to whether or not their testimony could be compelled—their testimony as experts could be compelled.

The Chairman. What advice did you give Dr. Wiley on that?

Mr. McCabe. I gave him the advice that he could not be compelled to testify as an expert in that case.

The Chairman. What effect did that have on securing or depriving the State of Indiana of Dr. Wiley's testimony?

Mr. McCabe. None.

The Chairman. Dr. Wiley gave testimony in that case, did he not?

Mr. McCabe. Yes, sir.

The Chairman. Will you state to the committee how it came about that Dr. Wiley testified?

Mr. McCabe. I was absent from Washington at the time. I was on my leave. My understanding of the matter is that Dr. Wiley refused to testify on the strength of my opinion and that application was made by the attorney general of the State of Indiana to Mr. Justice Barnard, of the local Supreme Court of the District, and that Justice Barnard signed an order requiring Dr. Wiley and the other men to testify on the facts.

The Chairman. The request, then, came to the Department of Agriculture from the attorney general of the State of Indiana that Dr. Wiley be permitted to testify, did it not?

Mr. McCabe. Yes.

The Chairman. And the effect of your decision was that he should not testify.

Mr. McCabe. No, sir.

The Chairman. What was the effect of your decision?

Mr. McCabe. The effect of my decision was that he could not be compelled to testify in that case as a witness. I will say, frankly, that I did not want Dr. Wiley to testify in that case.

The Chairman. Did you advise him not to testify?

Mr. McCabe. No, sir.

The Chairman. Did the Secretary of Agriculture advise him not to testify?

Mr. McCabe. Not to my knowledge.

The Chairman. But you did not want him to testify?

Mr. McCabe. No, sir.

The Chairman. Why did you not want him to testify?

Mr. McCabe. Because I did not want him to testify as an officer of the department in opposition to the ruling that had been made by the Secretary and by the three secretaries.

The Chairman. It appeared in the testimony of Dr. Remsen yesterday that the Secretary of Agriculture advised him to give his testimony.

Mr. McCabe. Yes, sir.

The Chairman. At the time that you gave this advice to Dr. Wiley, were you aware of the fact that Dr. Remsen had been requested by the Secretary of Agriculture to give his testimony?

Mr. McCabe. Yes, sir; I was.

[Solicitor McCabe, in advising Dr. Wiley as to whether he could be made to appear before the court at Indianapolis, submitted the following opinion:]

> "Under the circumstances, therefore, I have to advise you that it rests in your discretion as to whether or not you will appear and testify in answer to a subpena, since, as stated, failure to do so cannot be regarded as contempt of court, nor be punishable as such. The same is true, of course, of any other employee who may be subpenaed.
>
> Very respectfully,
> GEORGE P. MCCABE, *Solicitor.*

[Further questioning brought out the following:]

The Chairman. You stated that you were aware that the Secretary of Agriculture had requested Dr. Remsen to appear?

Mr. McCabe. Yes, sir.

The Chairman. Were you aware at that time that the request for Dr. Remsen to appear had come from Curtice Bros.?

Mr. McCabe. No, sir. I knew it came from their attorneys.

The Chairman. You knew that the request had come from Curtice Bros. to Dr. Remsen?

Mr. McCabe. From Curtice Bros.' and Williams Bros.' attorneys.

The Chairman. And that the Secretary of Agriculture, knowing the fact that Curtice Bros. had requested it, had requested him to give his testimony?

Mr. McCabe. No; I do not think that is a fair statement of it. What I said is this; that I knew the attorneys for Curtice Bros. and Williams Bros. in this proceeding had asked for this testimony.

The Chairman. And the Secretary of Agriculture had requested him to give the testimony.

Mr. McCabe. I knew the Secretary of Agriculture had requested Dr. Remsen to testify.

The Chairman. But you do not know whether the Secretary knew at that time that Curtice Bros. had requested him to give it?

Mr. McCabe. No; I don't know that Curtice Bros. had.

The Chairman. You knew also that the Attorney General had requested Dr. Wiley to give the testimony?

McCabe. The attorney general of the State of Indiana?

The Chairman. Yes.

McCabe. Yes, sir.

DR. BARNARD THROWS LIGHT ON THE PROCEEDINGS

[But by far the most interesting and enlightening testimony in this case was that given by the State Food and Drug Commissioner of Indiana, Dr. Harry E. Barnard, who is also chemist to the Indiana State Board of Health. So clear-cut and illuminating is Dr. Barnard's testimony that we reprint practically all of it, omitting only such parts as are repetitions.]

[*Dr. Barnard's Testimony*]

Mr. Moss: What is your present official position?

Dr. Barnard: Chemist to the State Board of Health of the State of Indiana and state food and drug commissioner.

Mr. Moss: What official positions have you held by appointment in the scientific world?

Dr. Barnard: For several years state chemist of New Hampshire; prior to that time, for a year, I was connected with the Navy Department here in Washington.

Mr. Moss: What were your duties in the Navy Department?

Dr. Barnard: Assistant chemist in the government smokeless-powder factory at Indianhead.

Mr. Moss: Do the statutes of Indiana contain what is generally known as a pure-food law?

Dr. Barnard: They do.

Mr. Moss: State briefly the provisions regulating the use of preservatives in canned food.

Dr. Barnard: Section 2 of provision 7 provides:

> If it [a food] contains any added antiseptic or preservative substances except common table salt, saltpeter, cane sugar, vinegar, spices, or, in smoked food, the natural products of the smoking process, or other harmless preservatives whose use is authorized by the State Board of Health, it shall be deemed adulterated.

Mr. Moss: Do you recall the date when that was placed on the statute book?

Dr. Barnard: March 4, 1907.

Mr. Moss: Has there been, so far as you know, any attempt made in the Indiana Legislature to repeal this pure-food law?

Dr. Barnard: There never has been any attempt made to change it; no.

Mr. Moss: Has this statute been attacked by the press, or has it been approved by the press generally of the state?

Dr. Barnard: The pure-food law and all of its provisions have always been approved by the press of Indiana.

Mr. Moss: How many canning factories are there in the state of Indiana in active operation at the present time?

Dr. Barnard: About 120 canning factories, and in addition I suppose there are about fifty other factories which manufacture food products from raw materials, such as apple butter and products of that kind.

Mr. Moss: Did any of these factories conduct an interstate business?

Dr. Barnard: Nearly all of them do an interstate business.

Mr. Moss: Are any of those large concerns?

Dr. Barnard: Several are among the largest in the country.

. . . .

Mr. Moss: Are goods canned in the State of Indiana conformable to the provisions of the state law as to preservatives permitted to be sold in other states of the Union?

Dr. Barnard: So far as I know, they are.

Mr. Moss: So far as you know, then, goods that pass the law of the State of Indiana as to purity will also pass the laws of any other state in the Union?

Dr. Barnard: So far as I know; yes.

Mr. Moss: What has been the effect of the state law in regard to pure food on the canning industry of the state, so far as stimulating or depressing the growth of that line of business?

Dr. Barnard: I believe the passing of our pure-food law has materially advanced the status of our canneries. They are in a much better position before the country to-day than they ever were before.

Mr. Moss: Is the output of those factories greater now than it was at the time of the passage of this law?

Dr. Barnard: Yes.

Mr. Moss: State the attitude of the packers in Indiana toward the pure-food law.

Dr. Barnard: All the canners of the state are in hearty sympathy with its provisions.

Mr. Moss: Do you state this fact within your own knowledge, having obtained it from conversations with leading packers of the state?

Dr. Barnard: Yes; I know that to be a fact.

Mr. Moss: Has any citizen of the State of Indiana filed suit to have this statute of the state declared invalid?

Dr. Barnard: No.

Mr. Moss: If such suit were to be filed, would the state or federal courts have jurisdiction?

Dr. Barnard: The state courts would have the jurisdiction.

Mr. Moss: As a matter of fact, has any suit been filed in any court to have the provisions of this law declared invalid?

Dr. Barnard: Yes. Such a suit has been filed.

Mr. Moss: By whom was it filed?

Dr. Barnard: Suit was filed on the 19th day of December, 1908, by two companies, the Williams Bros. Co., of Detroit, Mich., and the Curtice Bros. Co., of New York.

Mr. Moss: In what court was this suit filed?

Dr. Barnard: In the Circuit Court of the United States for the State of Indiana.

Mr. Moss: How came the Federal courts to have jurisdiction over a suit affecting a state law ?

Dr. Barnard: I think it was because the complainants were foreign corporations.

Mr. Moss: Are either Curtice Bros. or Williams Bros., who appear as complainants in the case, citizens of Indiana?

Dr. Barnard: No; they are not.

Mr. Moss: Does either of the complainants own a canning factory in the State of Indiana?

Dr. Barnard: No; neither owns any.

Mr. Moss: Have you, as state chemist under the operations of our state law, seized goods which have been packed by either one of the complaining firms?

Dr. Barnard: Yes; we have collected a great many samples of goods manufactured by these two firms.

Mr. Moss: How were these goods labeled as to the use of preservatives?

Dr. Barnard: They were always labeled to indicate in certain classes of goods the existence of benzoate of soda to the extent of one-tenth or one-twelfth of 1 per cent.

Mr. Moss: Did you analyze any of these seizures?

Dr. Barnard: Yes; many samples.

Mr. Moss: Upon analysis in the state laboratory what proportion of benzoate of soda was found in those samples?

Dr. Barnard: Various quantities, but in almost every case from two to three times the amount declared on the label.

Mr. Moss: Then, according to your understanding of the regulations promulgated by the three secretaries as to goods which could be sent in interstate commerce, providing they were correctly labeled as to the proportion of benzoate, the goods that you analyzed would have violated those provisions?

Dr. Barnard: I take it they were all illegal.

Mr. Moss: If these firms were to pack their goods, using only such preservatives as are prescribed by our state law, would they have free sale in our state?

Dr. Barnard: Certainly.

. . . .

Mr. Moss: In what form was the suit brought against the state by Curtice Bros. and Williams Bros.?

Dr. Barnard: The plaintiffs came before the judge of the United States court of Indianapolis, asking for an injunction restraining the state food commissioner and the individual members of the State Board of Health from enforcing the pure-food law, and alleging that the pure-food law of the State of Indiana was unconstitutional and void for many reasons.

Mr. Moss: The legal grounds we will place in the record. What I want to develop is that it was for a temporary injunction restraining the state from enforcing the state law.

Dr. Barnard: Yes; that is right.

Mr. Moss: What was the ruling of Judge Anderson on this matter?

Dr. Barnard: He refused to grant the temporary injunction called for.

Mr. Moss: Did he also refuse to dismiss the petition?

Dr. Barnard: He refused to dismiss the petition of the state.

Mr. Moss: What legal procedure followed this ruling?

Dr. Barnard: Later the judge appointed a master in chancery to take testimony as to the facts involved in the petition of the complainants.

Mr. Moss: After this master was appointed did Williams Bros. and Curtice Bros. proceed to take depositions of various witnesses all over the United States?

Dr. Barnard: They did.

. . . .

Mr. Moss: In the taking of those depositions did Curtice Bros. and Williams Bros. take any testimony from any employees in the National Department of Agriculture?

Dr. Barnard: They did; yes, sir.

Mr. Moss: State to the best of your recollection how many employees of the Department of Agriculture gave testimony in this case for the firms of Curtice Bros. and Williams Bros.

Dr. Barnard: With the exception of two or three young men, subjects and clerks, any person who did any work in connection with the benzoate of soda investigation employed by the Department of Agriculture was examined. This included all members of the referee board, chemists, physicians, medical experts, clerks, stenographers, janitors—everyone who had anything to do with the case.

Mr. Moss: About how many in total?

Dr. Barnard: I cannot say exactly, but more than seventy-five.

Mr. Moss: Were Curtice Bros. and Williams Bros. compelled in any instance to apply to a court of justice to secure process to compel these employees, or any one of them, to appear and testify in court?

Dr. Barnard: Not that I know of.

Mr. Moss: Did the State of Indiana secure testimony from any of the employees of the National Department of Agriculture?

Dr. Barnard: Yes.

Mr. Moss: You may state who they were that you desired particularly to testify.

Dr. Barnard: We wished to secure the testimony of Dr. Wiley, chief of the Bureau of Chemistry, and those of his assistants who helped him in his benzoate of soda investigation.

Mr. Moss: Did any of the employees appear voluntarily to give their testimony on the request of the State of Indiana?

Dr. Barnard: No; we found it impossible to get their testimony.

Mr. Moss: Have you any reason to believe that these employees were personally adverse to the giving of such testimony?

Dr. Barnard: No; I think not.

Mr. Moss: Did any of these employees appear finally and testify, or give their depositions?

Dr. Barnard: Yes; after we went to the Supreme Court of the District of Columbia to compel them to testify.

Mr. Moss: When the State of Indiana applied to the courts in the District of Columbia for compulsory process to compel the employees of the Department of Agriculture to appear and testify, did counsel representing the Department of Agriculture appear in opposition?

Dr. Barnard: Yes.

Mr. Moss: In actual test, then, did you find the Department of Agriculture cooperating with the State of Indiana in the enforcement of the pure-food law or operating in opposition to the enforcement of the state laws?

Dr. Barnard: We found the Department of Agriculture opposing the State of Indiana in every move which we made to defend the pure-food law of our state.

Mr. Moss: Now, as to the results of the suit, if the prayer of the Curtice Bros. and Williams Bros. had been granted, what would have been the effect upon the pure-food law of the State of Indiana?

Dr. Barnard: We would have had no pure-food law.

Mr. Moss: It involved the constitutionality, did it?

Dr. Barnard: It did.

Mr. Moss: And its validity?

Dr. Barnard: Yes.

Mr. Moss: And if this suit of theirs had been successful, or if it finally is successful, it will have the effect of striking from the statute books of the State of Indiana our pure-food law, will it?

Dr. Barnard: That is true.

Mr. Higgins: Well, only one section of it, doctor.

Dr. Barnard: No; they allege that the entire law should go out because when the sections to which they object are stricken out the rest of the law would have no force or effect, they claim.

Mr. Higgins: Of course, that is a legal proposition, and, as I understand it, it is still pending in court.

Dr. Barnard: Yes.

. . . . .

Mr. Floyd (acting chairman): Are there any other questions by any other members of the committee?

Mr. Moss: I have one or two more questions. Practically the whole case of the plaintiff in so far as the testimony is submitted was made by the United States employees of the Department of Agriculture, was it not?

Dr. Barnard: Very largely so.

Mr. Moss: Now in the whole course of this suit was there any contention on the part of Curtice Bros. or Williams Bros. that food containing benzoate of soda was superior to that which did not contain it?

Dr. Barnard: I think that one witness of the Curtice Bros. Co. made that claim.

Mr. Moss: Their main claim, is, however, that the addition of benzoate of soda is not deleterious.

Dr. Barnard: Yes; that is the contention.

Mr. Higgins: That was the real issue in the case, was it not, doctor?

Dr. Barnard: Not at all.

Mr. Higgins: That is, as to the use of benzoate of soda as a preservative?

Dr. Barnard: It finally developed that that was the reason for the bringing of the case. The real issue in the case was as to whether or not we should continue to enforce the pure food law of the State of Indiana.

Mr. Higgins: But it revolved around the use of benzoate of soda?

Dr. Barnard: Yes.

Mr. Floyd: In other words, the friends of benzoate of soda were willing to destroy the whole law in order to get their product in?

Dr. Barnard: That was it, exactly.

Mr. Moss: The law involved was purely a state law?

Dr. Barnard: Yes.

Mr. Moss: One that was satisfactory to the canning industry of the State of Indiana?

Dr. Barnard: Yes.

Mr. Moss: One under which the canning industry has been growing and developing?

Dr. Barnard: Yes.

Mr. Moss: What is the reputation of the canned goods of Indiana in the markets of the world?

Dr. Barnard: We believe they are superior to all others.

Mr. Higgins: We will concede that they are the best.

Mr. Moss: And this suit to break down this state law was brought by citizens outside the state?

Dr. Barnard: Yes.

Mr. Moss: And having no business investment in the state?

Dr. Barnard: That is correct.

Mr. Moss: And having no material interest in the law except to get the sale of their products, containing benzoate of soda, within the State of Indiana?

Dr. Barnard: That is correct, I think.

[Equally important and interesting was the testimony given by Attorney General Bingham of Indiana. The difficulties he encountered when he attempted to get information and help from the federal government that would aid him in his defense of the pure food law of his state are here plainly described:]

[*Judge Bingham's Testimony*]

Mr. Moss: Please state your full name.

Mr. Bingham: James Bingham.

Mr. Moss: What official position in your state have you held?

Mr. Bingham: Recently, attorney general of Indiana.

Mr. Moss: During what years were you attorney general?

Mr. Bingham: From January 1, 1906, to January 1, 1911.

Mr. Moss: As attorney general of the State of Indiana, you are familiar with the suit brought by Curtice Bros. and Williams Bros. against the State of Indiana in the case involving the pure-food law?

Mr. Bingham: Yes, sir.

Mr. Moss: You will state concisely to the committee just what is involved from a legal standpoint in that suit.

Mr. Bingham: The constitutionality of our pure-food law in Indiana as applied to the use of benzoate of soda as a preservative.

Mr. Moss: Did it involve the interpretation of any federal law?

Mr. Bingham: No.

. . . . .

Mr. Moss: What will be the effect on the operation of the pure-food law if the decision of Judge Anderson sustains the prayer of the complainant?

Mr. Bingham: It will practically destroy it.

Mr. Moss: It will practically destroy the law?

Mr. Bingham: Yes, sir.

Mr. Moss: You are of course familiar with the politics of our state. Do you know of any attempt having been made in the Legislature of the State of Indiana to repeal this law since it went upon the statute books?

Mr. Bingham: No. I have never known of any, although I have not been in touch with what has been going on in the committee rooms or anything of that kind, but, on the other hand, I think the policy has been to strengthen the law, not to destroy it.

Mr. Moss: So far as you are acquainted with the press of the state, has it supported or has it been opposed to this law in its present form?

Mr. Bingham: Oh, I think it has always given a cordial support to the law.

Mr. Moss: So far as you are acquainted with the public sentiment of the State of Indiana and the citizenship, is it favorable to or opposed to the pure-food law?

Mr. Bingham: I think it is decidedly favorable.

Mr. Moss: And so far as you have an acquaintance with the canning industries and other industries affected by the operations of the law, what is their attitude toward it in our state?

Mr. Bingham: I understand that it is most favorable and satisfactory. I have, of course, not had personal contact with anybody except a few of them, but I have talked with canners and preservative men, and also the dealers, and they are favorable to the law and exceedingly anxious that the question be decided, so they may know what—

Mr. Moss (interposing): During your term as attorney general, which was four years immediately following the passage of this law, were you called upon to defend any suit brought by any citizen of the State of Indiana to have this law declared invalid?

Mr. Bingham: None whatever.

Mr. Higgins: Your answer is "no"?

Mr. Bingham: None whatever. No suit of that kind.

Mr. Moss: You were called upon, however, to defend a suit brought by citizens without the state, were you not?

Mr. Bingham: Yes, sir.

Mr. Moss: Now, judge, what was the relief which Williams Bros. and Curtice Bros. asked of the federal court?

Mr. Bingham: They sought to have a restraining order issued.

Mr. Moss: Will you state to the committee how it came that the federal court had jurisdiction over this purely state law?

Mr. Bingham: Because it involved a constitutional question—that is, taking property without due process of law, and because of the diverse citizenship of the parties.

Mr. Moss: What answer did Judge Anderson make to this prayer for a temporary restraining order?

Mr. Bingham: He declined to grant the temporary restraining order in most positive terms.

. . . . .

Mr. Moss: Will you state again about how much territory you traveled in order to take the various depositions asked for by the plaintiff?

Mr. Bingham: Well, we began taking depositions at Seal Harbor, Me., on Mount Desert Island, and we wound up in San Francisco, Cal.

Mr. Moss: Who paid the expenses of yourself and those who went along in the matter of the taking of these depositions?

Mr. Bingham: The State of Indiana.

Mr. Moss: And it amounted to a considerable amount?

Mr. Bingham: Yes, sir. I don't know exactly how much it did amount to, but I think perhaps the money we spent in going to San Francisco to take Dr. Taylor's deposition may be recovered on proper motion, for the reason that when they took the deposition I was out there and cross-examined him, and they decided after that to bring Dr. Taylor to Indianapolis and not use his deposition taken out West, and I suggested then to the court that at the proper time we would ask to have that cost taxed to the complainants; and I think that should be recovered. Otherwise the money was all paid.

Mr. Moss: Were you aware at that time that the Department of Agriculture was paying the expenses of such members of the referee board and such other employees of the Department of Agriculture as came to Indianapolis and appeared there to testify?

Mr. Bingham: Well, at that time I think none of them had come to Indianapolis. We took depositions first. With perhaps one or two exceptions at least, we took these depositions, especially the far-away depositions, we took those first. I knew from the testimony of the witnesses, the members of the referee board, that they were being paid by the government.

Mr. Higgins: That appears in the testimony, does it not?

Mr. Bingham: It appears in the testimony, and it appears in a private conversation with Dr. Herter, of New York, in talking with him at his cottage at Mount Desert Island, Me. He told me that was true, and my recollection is that he afterwards so testified in the case.

Mr. Moss: When these members of the referee board appeared and gave their testimony, did they qualify as expert chemists or were they testifying in their capacity as members of the referee board?

Mr. Bingham: Oh, they testified as experts and testified as to the results of all their investigations as members of the referee board, and everything else that anybody asked them about.

Mr. Moss: You took quite a number of depositions in favor of the plaintiff in this case—that is, such depositions were taken?

Mr. Bingham: Yes; quite a number.

Mr. Moss: Were any of the depositions taken by Williams Bros. and Curtice Bros. taken from men who were employees of the Department of Agriculture or connected with the Department of Agriculture?

Mr. Bingham: If you say that the members of the referee board and their subjects and helpers, as I call them, were employees, I should say "yes." Now, as to whether or not any of the regular employees of the Department of Agriculture gave depositions, I am not quite sure about that.

Mr. Moss: But these were regular employees?

Mr. Bingham: They testified to having been paid for their services.

Mr. Moss: Within your knowledge, did the Curtice Bros. or Williams Bros. have to appeal to a court of law in order to secure compulsory process in order to have such person appear and testify?

Mr. Bingham: No; they did not have to. I do not know of any, and I am satisfied they did not have to do anything of that kind.

Mr. Moss: Do you know of their making any application for any employee of the Department of Agriculture to testify in behalf of the plaintiffs and that they were refused?

Mr. Bingham: I do not know.

Mr. Moss: You do not know of any such case?

Mr. Bingham: No.

Mr. Moss: On the part of the State of Indiana did you wish to secure the testimony of any employee in the Department of Agriculture?

Mr. Bingham: Yes, sir.

Mr. Moss: Will you state, judge, who it was, if you can recall that, whom you desired to secure the testimony of?

Mr. Bingham: We desired to secure the testimony of Dr. Harvey Wiley, the chief of the Bureau of Chemistry, and of the subjects that constituted the so-called poison squad that served when Dr. Wiley was making his benzoate of soda test, as I should call it, and also the helpers. That would be Dr. Bigelow and his chemist and several other chemists and clerks who helped to make up and tabulate the result of the investigation. I wanted to take all those depositions.

Mr. Moss: To whom did you make your first application for the testimony of those persons whom you wished to give evidence?

Mr. Bingham: Well, I really did not apply to the Agricultural Department first. I may say that I was under the impression that I would have some trouble about having Dr. Wiley come to Indianapolis. I was desirous, if I could, of having Dr. Wiley come in person to Indianapolis and testify before the master. I thought it would be better than to have his deposition. Well, I did apply first to Dr. Wiley. Dr. Wiley said to me that he would prefer that I confer with Secretary Wilson or the Department of Agriculture—I don't know which—with reference to procuring his attendance at Indianapolis, and Dr. Wiley was the first one; and I am not quite sure whether I personally did that or had Mr. Thompson, my assistant, do that. He came down to Washington and had a conference with Dr. Wiley in my absence and at my suggestion—I am not quite clear whether it was myself at first; I think perhaps I wrote Dr. Wiley first; I am not sure about it.

Mr. Moss: Then you did indicate a desire to have Dr. Wiley appear at Indianapolis to testify in the case?

Mr. Bingham: Yes.

Mr. Moss: And coupled with that request was there also a request that the Department of Agriculture should pay his expenses?

Mr. Bingham: Well, I do not think I made any request of that kind. I think I requested the attendance of Dr. Wiley and called attention to the fact that the members of the referee board had testified at the request of the Secretary of Agriculture.

Mr. Moss: What reply did you get from this request for Dr. Wiley's appearance at Indianapolis; was the request granted?

Mr. Bingham: No; the request was not granted.

Mr. Moss: Was it refused?

Mr. Bingham: It was put in this way: That the Agricultural Department had made a report which was contrary to that of Dr. Wiley, and that it might appear that the department would be put in the attitude of not sustaining the referee board or not being in sympathy with its decision—I do not remember the exact language—and suggested that we had better cause process to issue and take his deposition in the regular way.

Mr. Higgins: Do you think that was the suggestion of the Secretary?

Mr. Bingham: It was a letter signed by Secretary Wilson, I remember. That letter, however, was not addressed to me personally. I call attention to that.

. . . .

Mr. Moss: There were some papers, judge, that you desired to secure from the Bureau of Chemistry, were there not?

Mr. Bingham: Yes.

Mr. Moss: Please state whether or not you had any difficulty in securing those papers.

Mr. Bingham: In the matter of securing the papers I called at the department and everybody over there seemed to be kind enough and perfectly willing, providing it was satisfactory to the secretary and Solicitor McCabe, but were under the impression that it was not agreeable to give out the papers, and, as I remember, I prepared a written request as to what I wanted and what I did want was the report of Dr. Wiley on this test—the benzoate of soda test. I explained to those in charge of the department that the referee board's report had already been introduced, a certified copy given by complainants, and that what I wanted was the certified copy of the report by Dr. Wiley, and that I did not want any more than that, that the other was all in and would encumber the record. They took that under advisement, counseled somebody, some attorney was there, and after a considerable time I was given to understand that if the complainants consented that they would furnish the certified copy.

Mr. Moss: That is, if the Curtice Bros. and Williams Bros. were willing——

Mr. Bingham: They did not put it just that way.

Mr. Moss: That, in effect, was the meaning, was it not?

Mr. Bingham: Yes; that was. Then I wrote a rather impudent note—at least I tried to make it impudent; I do not know whether I succeeded or not—to the Agricultural Department, in which I said that the complainants had consented that the department might furnish this information; and then came along a very elaborate report, including—starting in with the beginning of all this benzoate of soda test of Dr. Wiley's, the old order that was to go into effect, and that was reversed, and then the report and the reversal of that order of Dr. Wiley, and then the referee board's report tacked onto it with gold seal and ribbons, and everything necessary to make it appear very formidable. There were about a thousand pages of that report of the referee board, and I objected very seriously to having that forced into the record when I was trying to get only the report of Dr. Wiley, and through the courtesy of counsel——

Mr. Higgins: You mean you objected to the master——

Mr. Bingham: Oh, I called up the department and telephoned to them and told them that what I wanted was a certified copy of this particular report, and they had my written request for it. They knew what I wanted. And then through the courtesy of the counsel for the complainants I finally introduced a copy of Dr. Wiley's report, not certified.

Mr. Moss: I will ask you if the State of Indiana was required to give consent before the report of the Remsen board or any official documents of that kind were introduced?

Mr. Bingham: None whatever.

Mr. Moss: But before you could get this report from the department the complainants had to join you in the request?

Mr. Bingham: Well, they sent over that sort of a statement to me. As I remember, it was on a card or something like that. I am not sure but what that memorandum is among the papers at Indianapolis. I don't remember exactly about it.

Mr. Moss: I will ask you if at any time during the taking of these depositions you received on behalf of the State of Indiana any encouragement or cooperation on behalf of any official of the Department of Agriculture?

Mr. Bingham: Voluntarily, no; but I may say this for Dr. Wiley: When I said to him that I wanted to take his deposition and question him about whether he would testify as an expert or not—I wanted his opinion of the result—he said that he would testify and that he would answer any questions that were put to him; that he would not hesitate to testify to anything that he was able to testify about.

Mr. Moss: He explained to you that he was not in a position to act voluntarily, did he not?

Mr. Bingham: He explained to me with reference to that particular thing that he did not propose to have any padlock put on his mouth. I do not know that I am giving his exact language, but that is practically what he said to me.

Mr. Moss: Now, judge, you did this hard work for the State of Indiana. Was your purpose the excluding of benzoate of soda from being sold in the State of Indiana, or was it to preserve the pure-food law of the State of Indiana?

Mr. Bingham: It was, of course, to preserve the pure-food law of the state.

Mr. Moss: You were making the fight to prevent the pure-food law of the State of Indiana from being stricken from the statute books?

Mr. Bingham: Yes; to keep it from being destroyed on account of its being declared unconstitutional.

Mr. Moss: And in making this fight to save the pure-food law of the State of Indiana did you receive any cordial cooperation on the part of the Department of Agriculture's officials, the heads of it?

Mr. Bingham: I received no cooperation. I have described that.

Mr. Moss: Yes; but I wanted to summarize it. Is there any other statement that you care to make in regard to this matter that you wish to go into the record? I will say to the committee that I did not have time to confer with the judge, and that is the reason I ask him to make any other statement that he wishes to make in order to make the record complete.

Mr. Bingham: Of course I do not know that I am in a position to volunteer anything. I would like to say this: That out in California Dr. Taylor testified fully and I cross-examined him fully, and they reported back that the stenographer had not been able to report the examination correctly; that counsel for complainant had been out there for thirty or sixty days, and much of the work Dr. Taylor testified about was conducted after the attorney got out to California and after the examination out there which they claimed the stenographer did not get an intelligent report of.

Dr. Taylor continued his investigations, and counsel for the complainant continued to remain in California, and when we came to the final hearing before the master at which Dr. Taylor testified in person, he testified to many of the things that he had developed after we had taken his deposition out there and several points which had been raised in my cross-examination when I was out there taking his deposition. Dr. Long, of Chicago, testified, as I remember, that he was not asked by the Secretary of Agriculture to appear and testify, but that he came at the instance of the complainant. I do not remember whether he said he paid his expenses or not. Dr. Remsen and Dr. Herter's depositions were taken at Dr. Herter's cottage at Mount Desert Island, Me.: Dr. Chittenden's deposition was taken at New Haven, and then he came on to Indianapolis afterwards and testified in person.

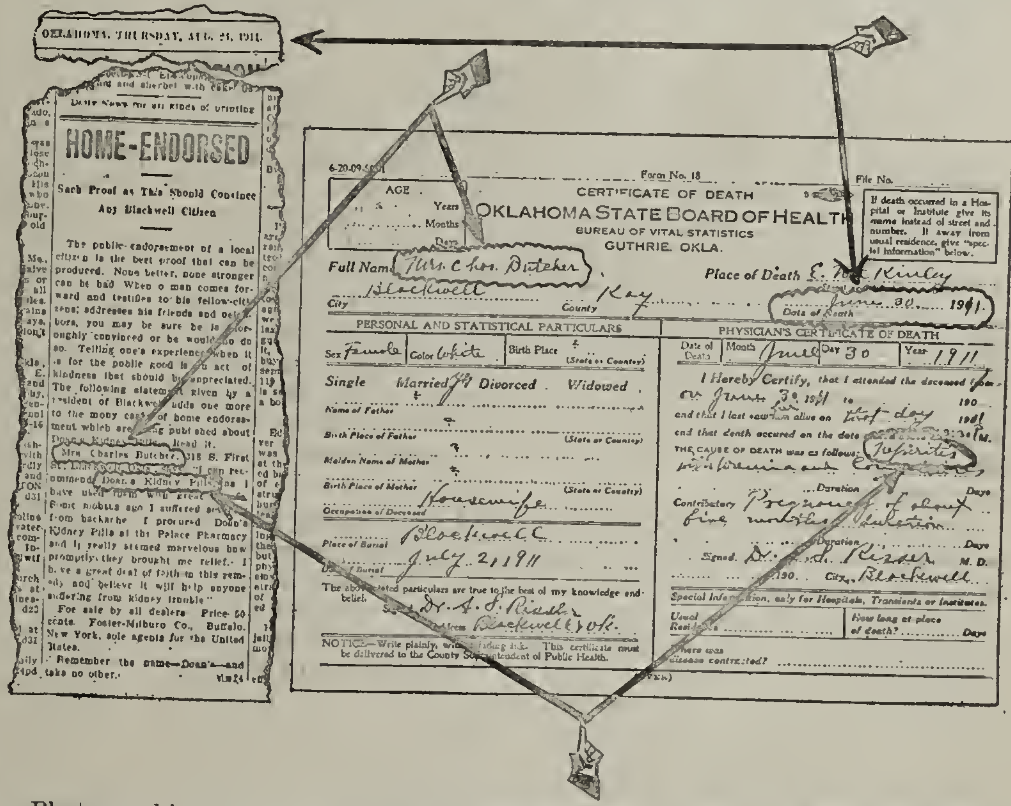
[Next week additional testimony will be published.]

DOAN'S KIDNEY PILLS

A Testimonial that Proved a Boomerang

From a scientific standpoint—which merely means from a standpoint of actual facts—all "patent-medicine" testimonials are valueless. As a business asset of the "patent-medicine" maker, however, they are indispensable. Many nostrum manufacturers attempt to stimulate a local demand for their wares by publishing local testimonials, that is, testimonials from persons in the same locality as that in which the advertisements appear. From an advertising standpoint, there is but one objection to this: the very element that makes a local testimonial of value may, if great care be not taken, prove a boomerang. We present a case of this kind.

The Blackwell (Okla.) *News* for August 24, 1911, contained an advertisement in which a Mrs. Charles Butcher of that city testified to the virtues of Doan's Kidney Pills. As a matter of fact, Mrs. Charles Butcher had been dead nearly two months before the advertisement appeared; and she died of kidney disease!



OKLAHOMA, THURSDAY, AUG. 24, 1911.

Daily News for all kinds of printing

HOME-ENDORSED

Such Proof as This Should Convince Any Blackwell Citizen

The public endorsement of a local citizen is the best proof that can be produced. None better, none stronger can be had. When a man comes forward and testifies to his fellow-citizens; addresses his friends and neighbors, you may be sure he is thoroughly convinced or he would not do so. Telling one's experience when it is for the public good is an act of kindness that should be appreciated. The following statement given by a resident of Blackwell adds one more to the many cases of home endorsement which are being published about Doan's Kidney Pills. Read it.

Mrs. Charles Butcher, 318 S. First St., Blackwell, Okla., says: "I can recommend Doan's Kidney Pills, as I have used them with great [illegible] Some months ago I suffered [illegible] from backache. I procured Doan's Kidney Pills at the Palace Pharmacy and it really seemed marvelous how promptly they brought me relief. I have a great deal of faith in this remedy and believe it will help anyone suffering from kidney trouble."

For sale by all dealers. Price 50 cents. Foster-Milburn Co., Buffalo, New York, sole agents for the United States.

Remember the name—Doan's—and take no other.

Form No. 18

File No.

CERTIFICATE OF DEATH

OKLAHOMA STATE BOARD OF HEALTH

BUREAU OF VITAL STATISTICS

GUTHRIE, OKLA.

AGE Years Months Days

If death occurred in a Hospital or Institute give its name instead of street and number. If away from usual residence, give "special information" below.

Full Name Mrs. Chas. Butcher

Place of Death E. McKinley

City Blackwell County Kay

Date of Death June 30 1911.

PERSONAL AND STATISTICAL PARTICULARS

Sex Female Color White Birth Place (State or Country)

Single Married ✓ Divorced Widowed

Name of Father

Birth Place of Father (State or Country)

Maiden Name of Mother

Birth Place of Mother (State or Country)

Occupation of Deceased Housewife

Place of Burial Blackwell C

Date of Burial July 2, 1911

The above stated particulars are true to the best of my knowledge and belief.

Signed Dr. A. S. Risser

Address Blackwell, Okl.

NOTICE—Write plainly, with unfading ink. This certificate must be delivered to the County Superintendent of Public Health.

PHYSICIAN'S CERTIFICATE OF DEATH

Date of Death Month June Day 30 Year 1911

I Hereby Certify, that I attended the deceased from on June 30 1911 to 190 and that I last saw her alive on that day 1911 and that death occurred on the date 3:30 P.M.

THE CAUSE OF DEATH was as follows: Nephritis [illegible]

Duration Days

Contributory Pregnancy of about five months' duration

Duration Days

Signed Dr. A. S. Risser M.D.

190 City Blackwell

Special Information, only for Hospitals, Transients or Institutes.

Usual Residence How long at place of death? Days

Where was disease contracted?

Photographic reproduction (greatly reduced) of a Doan's Kidney Pills advertisement that appeared in the Blackwell (Okla.) *News*, August 24, 1911, and a certified copy of the death certificate of Mrs. Charles Butcher, Blackwell, Okla. The advertisement contains a testimonial by Mrs. Charles Butcher, testifying to the value of Doan's Kidney Pills. The death certificate shows that Mrs. Butcher succumbed to kidney disease two months before her testimonial was published.

From the standpoint of the advertiser, this episode merely means poor business management. From the standpoint of the public it means more. Doan's Kidney Pills are a fraud and a dangerous fraud. While they are advertised to "cure all kidney ills" the assertion is a false one. While they are said to be "a simple vegetable remedy," the analysis contradicts this. Here it is:

Oil of juniper	1 drop
Hemlock pitch	10 gr.
Potassium nitrate	5 gr.
Powdered fenugreek	17 gr.
Wheat flour	4 gr.
Corn starch	2 gr

In twenty pills.

Aside from the positive dangers of self-drugging with so-called kidney cures there is an even greater negative danger that people afflicted with kidney disease will neglect proper treatment until they have reached the incurable stage. The viciousness of the "patent medicine" business lies not so much in its assault on the public purse as in its insidious dangers to the public health.

Marriages

LeRoy Calkins Porter, M.D., Bancroft, Ida., to Miss Maybelle Pearl Houtz of Salt Lake City, Utah, at Houtz Dell, Ida., August 30.

Arthur H. Mann, Jr., M.D., Baltimore, to Miss Mary E. Elgin of Poolesville, Md., at Baltimore, August 26.

Josie Helen Dobson, M.D., Washington, D. C., and Dr. Rollin Henry Denniston of Madison, Wis., August 30.

Harry A. Rutledge, M.D., Baltimore, to Miss Natalie W. Paynter at Alexandria, Va., August 29.

Andros Gulde, M.D., Chelsea, Mich., to Miss Eunice N. Jackson of Toronto, Ont., August 10.

Edith Grace Grant, M.D., Greenup, Ill., and Fritz William Graff of Marshall, Tex., August 23.

Ralph C. Hamill, M.D., Chicago, to Miss Margaret Hunt of Winnetka, Ill., September 2.

Leo Steiner, M.D., to Miss Lilian Lederer, both of Chicago, August 29.

Deaths

George Alexander DeSantos Saxe, M.D., prominent as a genito-urinary surgeon, died at his home in New York City, September 10, from heart disease, aged 35. He was born and received his preliminary education in St. Petersburg, and graduated from the College of Physicians and Surgeons, New York City, in 1898. He was assistant pathologist to Columbus Hospital from 1901 to 1904, and since 1901 has been assistant to the chair of genito-urinary surgery in the New York Post-Graduate Medical School. His society membership includes the American Medical Association; the American Urological Association; the National Association for the Prevention of Tuberculosis; the American Society of Social and Moral Prophylaxis; and the New York Academy of Medicine. Shortly after his graduation he became connected with the *New York Medical Journal*, of which he was assistant editor up to the time of his death. He was also assistant editor of the *American Journal of Urinology* and an editorial writer for several other medical journals, author of a standard work on "Examination of the Urine" and joint editor "Blackboard Headings on Surgery."

William C. Phelps, M.D. University of Buffalo, N. Y., 1866; a member of the American Medical Association; professor of surgical anatomy in his alma mater and familiarly known as "Uncle Billy" for many years to the students of the University of Buffalo; in the early seventies surgeon of the police department; and in 1882 and 1883 health physician of Buffalo; consulting surgeon and president of the staff of the Erie County Hospital and surgeon to the Buffalo General Hospital; at one time surgeon of the Seventy-Fourth Infantry, N. G., N. Y., died at his home in Buffalo August 27, after a long illness following a fracture of the patella, aged 66.

Ernest J. Barnes (license, Ohio, 1896), a practitioner since 1879; a member of, and several times a delegate to, the Ohio State Medical Association; president of the Licking County Medical Society in 1905; formerly surgeon of the Wabash and Columbus, Hocking Valley and Toledo railways; surgeon to the Ohio Electric Railway Company; mayor of Granville, O., and formerly a member of the board of education and a member of the village council of Hebron; died at his home in Granville, August 23, from pernicious anemia, aged 54.

Jesse H. Smith, M.D. Rush Medical College, 1860; for sixteen years a practitioner of Cedar Rapids, Iowa, and since 1869 president of the Farmers' Insurance Company, Cedar Rapids; vice-president of the Cedar Rapids and Iowa City Railway and Light Company; thrice mayor of Cedar Rapids; for four years state senator from Linn County; president of St. Lukes' Hospital since its organization in 1877; died at his home in Cedar Rapids, August 29, aged 74.

George Scott Foster, M.D. University of Vermont, Burlington, 1873; a member of the Vermont State Medical Society; senator from Windham County in 1896; for thirteen years a member of the board of supervisors of the state insane; for fifteen years a member of the local pension examining board and for twelve years superintendent of schools, died at his home in Putney, August 18, from diabetes, aged 63.

Ernest Sargent Pillsbury, M.D. Cooper Medical College, San Francisco, 1897; formerly editor of the *Los Angeles Medical Journal;* secretary of the board of trustees of the College of Physicians and Surgeons, Los Angeles, and secretary of the Los Angeles Academy of Medicine; aged 43; was instantly killed September 3, when his automobile rolled down an embankment near Los Angeles.

T. Artemas Borton, M.D. Starling Medical College, Columbus, O., 1867; a member of the Indiana State Medical Association; a consulting physician to the Orphan's Home of Northern Indiana, Plymouth; for more than fifty years a practitioner of Marshall County; founder of the Plymouth Sanitarium; died at his home in Plymouth, August 25, from senile debility, aged 79.

George B. McGoogan, M.D. Fort Wayne (Ind.) Medical College, 1886; for many years in the government service, first in the weather bureau, later deputy collector of internal revenue and since that time in the diplomatic service; United States consul at Progreso, Mexico; died in a hospital in Mobile, Ala., August 29, from fever, aged 48.

William Blythe Lane, M.D. Bellevue Hospital Medical College, 1864; a member of the Medical Society of the State of New York; acting assistant surgeon United States Army in 1864 and 1865; a director of the Manhattan Life Insurance Company since 1872, and vice-president of the company from 1901 to 1910; died at his home in Brooklyn, August 27, aged 73.

John R. Mauk, M.D. Starling Medical College, Columbus, Ohio, 1869; a member of the Indiana State Medical Association; for twelve years a member of the Wayne County pension board and in 1880 a member of the state legislature; died at his home in Cambridge City, August 29, from carcinoma of the stomach, aged 79.

Henry Arnold, M.D. University of Vermont, Burlington, 1880; a member of the Rhode Island Medical Society; chairman of the executive committee of the Foster Old Home Day, was stricken with cerebral hemorrhage during this celebration, at Foster Center, August 24, and died four hours later, aged 56.

George Faulkner, M.D. Harvard Medical School, 1847; one of the oldest practitioners of Jamaica Plains, Boston; founder of the Faulkner Hospital, Jamaica Plains, which was opened in 1901; a member of the Massachusetts Medical Society; died at his home August 27 from senile debility, aged 92.

Henry Kay Kerr, M.D. Trinity Medical College, Toronto, Ont., 1881; University of Toronto, 1881; a member of the Medical Society of the State of New York; for more than twenty years a practitioner of Hammond; died at his home in Watertown, August 22, from cardiac asthma, aged 54.

John Knox, M.D. Medical College of the State of South Carolina, Charleston, 1878; for many years a practitioner of Mecklenburg County, N. C., and a member of the county medical society; died at his home in Pineville, August 21, from septicemia following a carbuncle of the neck, aged 61.

William H. Scott, M.D. McGill University, Montreal, 1894; a member of the Michigan State Medical Society; for several years a surgeon on transatlantic steamers and thereafter a practitioner of Kalamazoo; died in Borgess Hospital in that city, August 27, from heart disease, aged 41.

Theophilus Steele, M.D. Kentucky School of Medicine, 1865; of New York City; a confederate veteran and lieutenant-colonel on the staff of General Morgan during the Civil War; died at the home of his daughter in Bellmore, Long Island, August 23, aged 77.

Franklin P. Scott, M.D. University of Louisville, Ky., 1871; of Monongahela; for several terms president of the Washington County (Pa.) Medical Society; died in Washington, Pa., August 28, from carcinoma, aged 72.

Cornelius W. De Baun, M.D. Albany (N. Y.) Medical College, 1887; for six terms coroner of Montgomery County, N. Y.; died at his home in Fonda, N. Y., August 18, from cerebral hemorrhage, aged 46.

Guy Clifford Powell, M.D. Louisville (Ky.) Medical College, 1898; of Peoria; a specialist on diseases of the ear; died in Presbyterian Hospital, Chicago, August 25, from rheumatic endocarditis, aged 42.

Fred R. Stoner, M.D. University of Nashville, Tenn., 1896; of Decatur, Ill., died in that city August 18, from the effects of an accidental gunshot wound of the chest, aged 38.

William B. Hooser, M.D. Barnes Medical College, St. Louis, 1902; afterward a clergyman; died at his home in Meriden, Wyo., August 11, from cerebral hemorrhage, aged 35.

William Henry Belknap, M.D. University of Michigan Homeopathic College, Ann Arbor, 1900; College of Physicians and Surgeons, Chicago, 1902; a member of the American Medical Association; died at his home in Greenville, Mich., August 26, from disease of the heart and kidneys, aged 39.

James Douglas Baker, M.D. University of Michigan Homeopathic Medical College, Ann Arbor, 1878; chairman of the executive board of McMinnville, Ore., since 1893; died at his home in that place, Nov. 25, 1910, aged 62.

Charles F. Remme, M.D. Missouri Medical College, St. Louis, 1878; a member of the St. Louis Medical Society; died in his apartments in St. Louis, August 25, from cerebral hemorrhage, aged 62.

Leslie McClain, M.D. Medical College of Ohio, Cincinnati, 1875; a member of the Indiana State Medical Association; died at his home in Terre Haute, August 19, aged 62.

Gaston Gladu, M.D. Tulane University, New Orleans, 1893; of Bremond, Texas; was shot and instantly killed in that place August 19, as a result of a family quarrel.

George W. Dollison (license, Ohio, years of practice, 1896), one of the oldest practitioners of Hocking County, Ohio, died at his home in Logan, August 16, aged 82.

Fred Willard Lester, M.D. Rush Medical College, 1879; for several years a practitioner of David City, Neb., died at his home in Aurora, Ill., August 24, aged 57.

Horace L. Ash, M.D., University of Heidelberg, Germany, 1874; died at the home of his son in Lansing, Mich., January 7, from cerebral hemorrhage, aged 68.

Robert Gordon, M.D. McGill University, Montreal, 1868; for thirty-five years a practitioner of Arlington, Ill., died in Seattle, Wash., August 8, aged 69.

John Kruse, M.D. Berlin, Germany, 1864; for many years a resident of Bozeman, Mont.; died in the Deaconess Hospital in that city, August 18, aged 76.

Warren Wallace Merrill, M.D. Bennett Medical College, Chicago, 1880; died at his home in Rensselaer, Ind., August 29, from acute gastritis, aged 54.

Joseph W. Brinkerhoff, M.D. University of Wooster, Cleveland, Ohio, 1873, of Burbank, Ohio, died in Cleveland, August 16, from heart disease, aged 69.

James M. Bridges, M.D. a member of the Missouri State Medical Association and once its president; died at his home in Joplin, Dec. 31, 1910, aged 74.

William H. Burgesser, M.D. Missouri Medical College, St. Louis, 1876; died at his home in Joplin, Mo., August 23, from cerebral hemorrhage, aged 59.

Anton Posch, M.D. University of Innsbruck, Austria, 1881; died at his home in Round Top, Texas, August 21, from cerebral hemorrhage.

John P. Youmans (license, Ark., years of practice, 1881); a veteran of the Civil War; died at his home in Lewisville, June 8, aged 79.

Joel W. Nixon, M.D. University of Baltimore, Md., 1878; died at his home in St. Louis, August 25, from heart disease, aged 62.

H. Jefferson Foster, M.D. Eclectic Medical Institute, Cincinnati, 1882; died recently at his home in Cucamonga, Cal.

W. E. Jennings (registration, Texas, years of practice, 1907); died at his home in Burnet, August 29, aged 67.

Thomas J. Jones, M.D. Drake University, Des Moines, 1887; died at his home in Des Moines, August 20, aged 57.

Correspondence

Iodin in Sterilization of the Skin

To the Editor:—In view of the fact that in numerous articles which have been recently published on the subject of iodin sterilization of the skin, mention is made of the paper of Grossich, published in the *Zentralblatt für Chirurgie* (October, 1908) [summarized in The Journal, Dec. 5, 1908, p. 2012], as being the first recorded use of iodin for that purpose, I wish to say that I used iodin for this purpose in 1905 and published a description of my method in The Journal, "Some of the Uses of Iodin in Surgical Practice," April 14, 1906, p. 1102. My method was described in a paper prepared for the February, 1906, meeting of the Tri-State Society of Virginia and the Carolinas, which was published in *American Medicine*, November, 1906. The method was again described in a paper prepared for the Hot Springs meeting of the Mississippi Valley Medical Association, Nov. 8, 1906, and published in the *Therapeutic Gazette*, May 15, 1907.

John E. Cannaday, Charleston-Kanawha, W. Va.

Anesthetization of Sleeping Persons

To the Editor:—In The Journal, July 29, page 428, is a report that chloroform was given to two sleeping children without awakening them. During the winter of 1910 I administered chloroform to a child of about two years of age, while she slept, without her making any show of awakening.

Erwin C. Cary, M.D., Welcome, Wis.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CARE OF THE HYPODERMIC NEEDLE

To the Editor:—I use to my entire satisfaction a simple and effective method of caring for the hypodermic outfit as follows: After the needle has been used, it is removed, the barrel is drawn full of 95 per cent. alcohol; the needle is replaced and the alcohol expelled. The plunger is then forced in and out half a dozen times or more and the instrument placed in its case. This procedure is repeated before using. It is a pleasure to find the needle in perfect condition when one wishes to use it. I might add that I have discarded the exasperating wires that are usually found in most hypodermic cases; I depend solely on thorough sterilization with alcohol and find the process satisfactory, saving both time and patience. The outside of the needle and barrel is cleansed with alcohol on absorbent cotton or gauze.

J. C. Jenkins, Lititz, Pa.

Answer.—It may be fair to question whether or not our correspondent will secure a clean needle by this method. We understand that this procedure is primarily aimed at perfect cleansing of the needle to avoid rust and clogging. For this purpose pure alcohol is the best, but for sterilization, a partly diluted alcohol may be better. This question was brought up in The Journal, June 10, 1911, page 1741, and June 24, page 1900. It was stated that full strength alcohol is not as effective a germicide as 70 per cent., and that even 70 per cent. requires ten minutes to kill the staphylococcus. It will be noted that Dr. Jenkins does not specify that he holds the alcohol in the needle for any certain length of time. Is it not better and safer to place the needle in a few tablespoonfuls of water and boil for three minutes to insure absolute asepsis, as well as to secure sterile water?

DIAGNOSIS OF INFLUENZA

To the Editor:—Your editorial on the frequency of mistakes in diagnosis of influenza leads me to ask for the full technic for finding the germ; also such description of the germ as will enable one to identify it when found. Does it have to be grown, or may it be demonstrated in the discharges from the patient? Would it help in its identification if you were to give a photograph of its appearance? Is it necessary before making a diagnosis of influenza to demonstrate the presence of the germ?

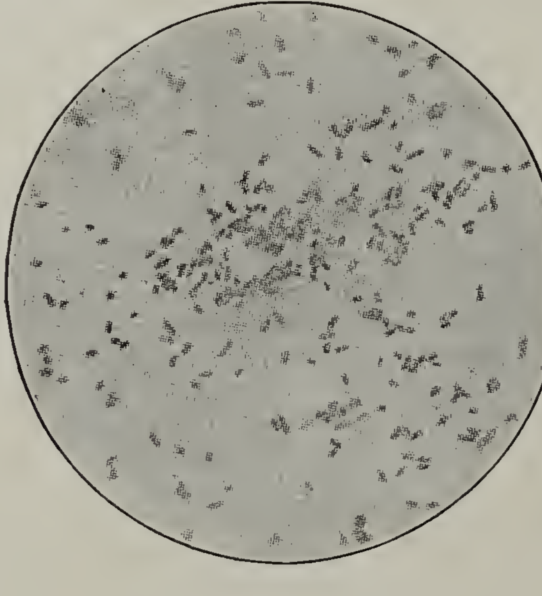
T., Toledo.

Answer.—The technic for finding influenza bacilli in various discharges consists in the direct examination of smear preparations and in the cultivation of the organism on suitable culture media. The smear preparations are made by spreading a loopful or a drop of the material to be examined (sputum, pus, cerebrospinal fluid, etc.) on a glass slide or a cover-glass, and allowing it to dry and become fixed in the flame. A very satisfactory and simple stain is fresh dilute carbol-fuchsin made by diluting ordinary carbol-fuchsin (such as is used for staining tubercle bacilli) twenty-five or thirty times with distilled water. This is applied for from two to three minutes, the slide is washed with water, dried and mounted in balsam. When other organisms are present in the material, as is almost always the case with sputum, it is desirable to stain first with Gram's stain and then use dilute carbol-fuchsin as a counter stain. By this method, the Gram-positive organisms such as pneumococci and streptococci are stained dark purple or nearly black and the influenza bacilli, which are Gram-negative, stain light red. The influenza bacillus is very minute, being one of the smallest organisms known. It is about three times as long as it is broad and the ends usually stain deeper than the center. It may be seen inside the polynuclear leukocytes, especially late in the course of the infection. There is no characteristic arrangement of the organisms outside the leukocytes though they are often observed in loose clusters.

The influenza bacillus requires for growth the presence of hemoglobin in the culture medium. A minute quantity is sufficient. As the bacillus usually occurs in sputum, in which practically always other organisms are present, the plate method is used for isolation. In this method, tubes of melted agar, to which a few drops of sterile defibrinated blood have been added, are inoculated with the material, and poured plates are made and incubated. The influenza colonies, should they be present, are visible in twenty-four hours as small, round, non-hemolytic, "dewdrop-like" colonies and are distinctly larger and more numerous around colonies of other organisms such as pneumococci, streptococci, etc. This latter phenomenon, known as symbiosis, is very striking and constant and is characteristic of this organism. The colonies may then be transferred to blood-agar slants and thus pure cultures obtained and further studied.

From the examination of smear preparations alone, one can only be suspicious of the presence of the germ. Cultivation and isolation of the organism should be made for positive identification.

The term "influenza" should be reserved for those conditions caused by infection with the influenza bacillus. There occur not infrequently diseases, especially of the upper respiratory tract, both in sporadic and epidemic forms, which clinically cannot be differentiated from influenza but which are caused by other germs, such as streptococci and pneumococci. For this reason the diagnosis of influenza should not be made without a bacteriologic examination.


The bacillus of influenza

The illustration herewith given is not very satisfactory, as this department is not printed on the calendered paper necessary to bring out the details; for better views the reader is referred to text-books which take up the subject.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Sept. 9, 1911.

Winn, Robert N., major, granted one month and twenty-one days' leave of absence.

Koyle, Fred T., M.R.C., ordered to duty as surgeon of the transport *Kilpatrick*.

Ford, Joseph H., major, ordered to San Antonio, Texas, for duty with the 10th Infantry.

Jones, George B., M.R.C., assigned to duty with the 10th Infantry, San Antonio, Texas.

McAlister, John A., Jr., dental surgeon, reported at Jefferson Barracks, Mo., for duty on examining board.

Ingalls, R. E., dental surgeon, returned to Ft. Douglas, Utah, from detached duty.

Stone, Frank P., dental surgeon, left Presidio of Monterey, Cal., for station at Fort Barrancas, Fla.

Lowe, Thomas S., M.R.C., left Presidio of Monterey, Cal., on three months' leave of absence.

Gunckel, George I., dental surgeon, returned to temporary duty at Fort McPherson, Ga., from leave of absence.

The following changes in the stations of officers of the medical corps and of the medical reserve corps are ordered:

The following named officers will proceed to San Francisco on the transport to sail from Manila, P. I., on or about Jan. 15, 1912, and on arrival report by telegraph to the Adjutant General of the Army for further orders: Major Albert E. Truby, Medical Corps; Capt. Philip W. Huntington, Medical Corps; First. Lieut. George H. McLellan, Medical Corps; First Lieut. Arnin Mueller, Medical Corps; First Lieut. Clarence E. Fronk, Medical Corps; First Lieut. Percy G. Drake, Medical Reserve Corps; First Lieut. Ziba L. Henry, Medical Reserve Corps; First Lieut. Herbert L. Freeland, Medical Reserve Corps; First Lieut. Maurice Buchsbaum, Medical Reserve Corps.

The following named officers will proceed to San Francisco on the transport to sail from Manila, P. I., on or about Feb. 15, 1912, and on arrival report by telegraph to the Adjutant General of the Army for further orders: First Lieut. William R. Dear, Medical Corps; First Lieut. Clarence A. Treuholt, Medical Corps; First Lieut. Frederick S. Wright, Medical Corps; First Lieut. Lee R. Dunbar, Medical Corps; First Lieut. Addison D. Davis, Medical Corps; First Lieut. Elsworth Wilson, Medical Reserve Corps; First Lieut. William M. Archer, Jr., Medical Reserve Corps; First Lieut. Henry F. Philips, Medical Reserve Corps; First Lieut. Robert Lemmon, Medical Reserve Corps, First Lieut. Oswald F. Henning, Medical Reserve Corps.

The following named officers will proceed to Manila, P. I., on the transport sailing from San Francisco on or about Jan. 5, 1912, and on arrival will report in person to the commanding general, Philippines Division, for assignment to duty: Capt. Paul L. Freeman, Medical Corps; First Lieut. Thomas J. Flynn, Medical Corps; First Lieut. Edward L. Napier, Medical Corps; First Lieut. Thomas H. Johnson, Medical Corps; First Lieut. Edward M. Welles, Jr., Medical Corps; First Lieut. William B. Borden, Medical Reserve Corps; First Lieut. Albion McD. Coffey, Medical Reserve Corps; First Lieut. Wilson Murray, Medical Reserve Corps; First Lieut. George R. Clayton, Medical Reserve Corps; First Lieut. Ralph W. Newton, Medical Reserve Corps.

The following named officers will proceed to Manila, P. I., on the transport sailing from San Francisco on or about Feb. 5, 1912, and on arrival will report in person to the commanding general, Philippines Division, for assignment to duty: Captain Frank W. Weed, Medical Corps; First Lieut. Alexander T. Cooper, Medical Corps; First Lieut. Condon C. McCormack, Medical Corps; First Lieut. Madison H. Bowman, Medical Reserve Corps.

McAfee, Larry B., first lieut., is relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., to take effect at such time as will enable him to comply with this order, and will proceed at the proper time to San Francisco, and take the transport to sail from that place on or about Feb. 5, 1912, for Hawaii Territory, and on arrival at Honolulu will report in person to the commanding officer, Fort Shafter, for duty and by letter to the commanding general, Western Division.

The following named officers of the Medical Reserve Corps, recently appointed, are ordered to active duty in the service of the United States, on account of an existing emergency, to take effect Sept. 20, 1911, and will repair to this city at the proper time and report in person on Oct. 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, president of the Army Medical School, to take a course of instruction at that school: First. Lieutenants Leo B. Allen, Morris H. Boerner, William G. Gill, Chester R. Haig, Robert M. Hardaway, Thomas E. Harwood, Jr., Howard L. Hull, George H. Hungerford, Charles P. Kennedy, Harry R. McKellar, Alvin C. Miller, Henry C. Osborn, Omar H. Quade, Charles M. Walson, William F. Wild, Neal N. Wood.

Each of the following named officers of the Medical Reserve Corps is relieved from duty at the station designated after his name, to take effect at such time as will enable him to comply with this order, and repair to this city at the proper time and report in person on Oct. 2, 1911, to Colonel Louis A. LaGarde, Medical Corps, President of the Army Medical School, to take a course of instruction at that school: First Lieutenants Harry H. Blodgett, Fort Riley, Kan.; Thomas W. Burnett, Fort Slocum, N. Y.; Philip B. Conuolly, Fort Monroe, Va.; John G. Ingold, Fort Wayne, Mich.; Frederick C. A. Kellam, Jr., Walter Reed General Hospital, District of Columbia; Kermin W. Kinard, Ft. Ethan Allen, Vt.; Douglas W. McEnery, San Antonio, Tex.; Shelley U. Marietta, Ft. Sheridan, Ill.; John W. Meehan, Ft. Howard, Md.; Leopold Mitchell, Washington Barracks, D. C.; Luther R. Poust, Ft. Du Pont, Del.; Guy L. Qualls, Jefferson Barracks, Me.; William P. J. Ruddy, Ft. Myer, Va.; Thomas E. Scott, Ft. Moultrie, S. C.; John W. Sherwood, Ft. Williams, Me.; Robert Skelton, Ft. Adams, R. I.; John H. Trinder, Ft. Jay, N. Y.; Samuel J. Turnbull, San Antonio, Tex.; Alfred P. Upshur, San Antonio, Tex.

Northington, N. G., lieut., relieved from duty at Fort Sam Houston, Tex., at such time as will enable him to comply with orders to the Philippines Division.

McMurdo, Hew B., M.R.C., recently appointed, is ordered to active duty Sept. 20, 1911, and ordered to Army Medical School, this city, October 9, for course of instruction.

Hess, Louis T., major, granted two months' sick leave of absence.

Hutton, Paul C., major, ordered to proceed to Fort Snelling, Minn., for temporary duty when his services are no longer required at San Antonio, Tex., and then to take station at Fort Howard, Md., as heretofore ordered.

McAfee, Larry B., lieut., relieved from duty at Army General Hospital, Hot Springs, Ark., and ordered to Fort Shafter, H. T., for duty.

Medical Corps, U. S. Navy

Changes during the week ended Sept. 9, 1911.

Rausdell, R. C., P. A. surgeon, detached from the *Baltimore* and ordered to the *Utah*.

Brown, H. L., P. A. surgeon, ordered to the *Baltimore*.

Cecil, A. B., asst.-surg., detached from the naval station, Guantanamo, Cuba, and ordered to the *Marietta*.

Irvine, W. L., asst.-surg., detached from the *Marietta* and ordered to the naval station, Guantanamo, Cuba.

Sanborn, C. F., A. A. surgeon, resignation accepted to take effect from Sept. 5, 1911.

Sutton, D. G., P. A. surgeon, detached from the *Indiana* and ordered to duty at the naval hospital, Annapolis, Md.

Wells, H., medical director, placed on the retired list from Sept 17, 1911.

McDonell, W. N., P. A. surgeon, detached from the *Massachusetts* and ordered to the *Kansas*.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—Second Weekly Meeting

CLASSIFICATION OF TUMORS: Work of Hamilton, Ribbert, Borst, Bland-Sutton, Lubarsch. Embryogenetic classification of Adami; Lepidic or "rind" tumors, and hylic or "pulp" tumors. Clinical classification.

FIBROMA: Gross and microscopic appearance, distribution.

LIPOMA: Size, number, distribution, varieties, gross and microscopic appearances.

CHONDROMA: Varieties, distribution, gross and microscopic appearances.

OSTEOMA: Varieties, number, gross and microscopic appearances. Odontomes.

MYOMA: Distribution, mixed tumors, gross and microscopic appearances.

MYXOMA: Gross and microscopic appearances. Secondary changes.

NEUROMA: Pathology, number, distribution.

Ganglionic neuroma. Neurofibromatosis. Molluscum fibrosum.

GLIOMA: Microscopic changes.

REFERENCE BOOKS FOR THE FIRST MONTH

Bland-Sutton: Tumors. Levings: Tumors.
Cathcart: Tumors. Adami: Pathology, vol. i.
Text-Books on Pathology and Surgery.

For a review of the literature on tumors consult the December numbers of *Progressive Medicine.*

Medical Education and State Boards of Registration

COMING EXAMINATIONS

COLORADO: The State Capitol, Denver, October 3. Sec., Dr. David A. Strickler, 612 Empire Building.

GEORGIA: Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

IDAHO: Wallace, October 3-4. Sec., Dr. O. J. Allen, Bellevue.

ILLINOIS: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

IOWA: Capitol Building, Des Moines, September 19-21. Sec., Dr. Guilford H. Sumner.

LOUISIANA: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

MICHIGAN: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University, Minneapolis, October 3. Sec., Dr W. S. Fullerton, St. Paul.

MISSOURI: Kansas City, September 25-27. Sec., Dr., Frank B. Hiller, Jefferson City.

MONTANA: The Capitol, Helena, October 3. Sec., Dr. W. C. Riddell.

NEW JERSEY: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

NEW MEXICO: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

NEW YORK: September 26-29. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

OKLAHOMA: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

RHODE ISLAND: Room 315 State House, Providence, October 5-6. Sec., Dr. Gardner T. Swarts.

UTAH: Salt Lake City, October 2-3. Sec., Dr. G. F. Harding, 310 Templeton Building.

WYOMING: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Alabama July Report

Dr. W. H. Sanders, chairman of the Alabama State Board of Medical Examiners, reports the written examination held at Montgomery, July 11-14, 1911. The number of subjects examined in was 10; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 127, of whom 89 passed and 38 failed, including 1 osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Alabama, (1910) 75, 75, 75, 76, 79, 79; (1911) 75, 76, 76, 76, 77, 77, 77, 78, 78, 80, 81, 81, 81, 82, 83, 83, 83, 83, 83, 84, 84, 84, 84, 85, 85, 85, 86, 87, 89.4, 90.		
Birmingham Medical College, (1909) 75; (1910) 75; (1911) 75, 76, 76, 76, 79, 79, 79, 79, 80, 81, 81, 82, 82, 82, 84, 87.		
Georgetown University	(1911)	87
Atlanta College of Physicians and Surgeons	(1911)	77
Atlanta School of Medicine	(1911)	79, 81
American Medical Missionary College	(1910)	82
University of Louisville	(1911)	76
Tulane University of Louisiana, (1893) 75; (1909) 77; (1911) 76, 78, 79, 81, 82, 82, 82, 83, 85, 86.		
Johns Hopkins University	(1909) 75; (1911)	78, 82
University of Tennessee	(1911)	75, 76, 78
University of Nashville	(1911)	75, 78
Meharry Medical College	(1911)	75
Vanderbilt University	(1908) 77; (1911)	75, 76, 79, 79, 82
University of Virginia	(1911)	81, 89

FAILED

College	Year Grad.	Per Cent.
University of Alabama, (1910) 69.2; (1911) 59.5, 69.6, 70.5, 73, 73.2.		
Birmingham Medical College, (1910) 57.5, 72.9; (1911) 66.4, 69.1, 69.2, 69.7, 73.		
Atlanta College of Physicians and Surgeons, (1910) 73;	(1911)	69.9
Atlanta School of Medicine	(1911)	56.2
Medical College of Georgia	(1911)	52.6
Tulane University of Louisiana, (1910) 59.3; (1911) 67.5, 67.5, 72,4, 73.8.		
Barnes Medical College	(1910)	71.7
Leonard Medical School	(1911)	66.3
Meharry Medical College	(1911)	72.6
Memphis Hospital Medical College, (1910) 57.3, 58.6; (1911) 50.6, 55.7, 57.5.		
University of Tennessee	(1908)	68.8
College of Physicians and Surgeons, Memphis	(1908)	62.9
University of the South	(1907)	59.8
University of Nashville	(1911)	66
Vanderbilt University	(1911)	66.6, 70.5
Chattanooga Medical College	(1908)	64.7

Iowa February and June Reports

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports the written examinations held at Des Moines, Feb. 14-16, and June 5-7, 1911, and at Iowa City, June 8-10, 1911. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75.

At the examination held February 14-16, the total number of candidates examined was 8, of whom 6 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1910)	93.1
State University of Iowa, College of Medicine	(1906)	85
Medical School of Maine	(1892)	83
Ensworth Medical College	(1910)	75.5
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	88
McGill University, Montreal, Quebec	(1901)	93.4

FAILED

College	Year Grad.	Per Cent.
Keokuk Medical College, Coll. of Phys. and Surgs.	(1904)	70.1
Victoria University, Toronto, Ontario	(1890)	65.7

At the examination held at Des Moines, June 5-7, the total number of candidates examined was thirty-four, of whom thirty-one passed and three failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1910)	90
Northwestern University Medical School, (1904) 90.4; (1911) 84.6, 89, 90.9, 93.		
Hahnemann Medical College and Hospital, Chicago	(1911)	83.9, 86.4
College of Medicine University of Illinois	(1911)	88, 88.1
Rush Medical College	(1911)	86.6
Drake University, (1911) 85.5, 86, 87.7, 87.9, 87.9, 88.7, 90, 90.7, 91.1, 91.6, 93.4, 93.9, 94, 94.4.		
Barnes Medical College	(1911)	84.4
Creighton Medical College	(1911)	79, 80, 81.4, 85.2
Albany Medical College	(1905)	90.6

FAILED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1911)	71.9
Baltimore Medical College	(1908)	77*
University of Pittsburg	(1907)	67.9

At the examination held at Iowa City, June 8-10, the total number of candidates examined was twenty-seven, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
State University of Iowa, College of Medicine, (1897) 85.2; (1911) 84, 84.7, 85, 85.4, 86.7, 87, 87.1, 87.7, 88.2, 88.5, 88.5, 89, 89, 89, 89.2, 89.6, 89.7, 91, 93.1, 93.5, 94.		
State University of Iowa, Homeopathic College, (1911) 83.1, 85, 86.9		
Jefferson Medical College	(1911)	91
University of Pennsylvania	(1909)	92

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* Fell below 60 in one subject.

Iowa Reciprocity Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports that at the meetings held by that board April 26 and July 19-21, 1911, 32 candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1907)	Maryland
Denver and Gross College of Medicine	(1907)	Colorado
Bennett Medical College	(1907)	Illinois
Coll. of Phys. and Surgs., Chicago	(1903) (1904) (1908)	Illinois
Hahnemann Med. Coll. and Hosp., Chicago	(1905) (1910)	Illinois
Northwestern University Med. Coll.	(3, 1909) (2, 1910)	Illinois
Chicago College of Medicine and Surgery	(1909)	Illinois
Rush Medical College	(1909)	Illinois
Keokuk Medical College, Coll. of Phys. and Surgs.	(1900)	Missouri
University of Louisville	(1909)	Illinois
Woman's Medical College of Baltimore	(1910)	Maryland
Hamline University	(1908)	Minnesota
Washington University, St. Louis	(1905)	Missouri
St. Louis College of Physicians and Surgeons	(1909)	Illinois
Ensworth Medical College	(1909)	Missouri
Marion-Sims College of Medicine	(1898)	Indiana
University Medical College, Kansas City	(1906)	Missouri
University of Nebraska	(1910)	Nebraska
Creighton Medical College	(1907) (1910)	Nebraska
Starling-Ohio Medical College	(1910)	Ohio
Jefferson Medical College	(1909) Nebraska; (1887)	Ohio
Marquette University, Milwaukee	(1908) (1909)	Wisconsin

Maine July Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Augusta, July 6-7, 1911. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 50, of whom 46 passed and 4 failed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale University	(1907)	88
University of Louisville	(1910)	76
Medical School of Maine	(1879) 77; (1889) 89; (1911)	82, 83, 85, 85, 86, 86, 88, 90.
Baltimore Medical College	(1911)	85
Maryland Medical College	(1910)	81, 84
College of Physicians and Surgeons, Baltimore	(1911)	81
University of Maryland	(1909)	84
Harvard Medical School	(1908) 93; (1911)	86
College of Physicians and Surgeons, Boston	(1911)	76, 81, 82, 84, 86, 88.
Tufts College Medical School	(1910) 90; (1911)	81, 83, 85, 87, 93
Boston University	(1908)	88
Columbia University, College of Phys. and Surgs.	(1911)	84
Hahnemann Medical Coll. and Hosp., Philadelphia	(1910)	77, 88
Temple University	(1911)	88, 91
University of Pennsylvania	(1900) 90; (1909) 92; (1910) 85, 86, 91; (1911)	88.
University of Vermont	(1899) 88; (1909)	76
McGill University, Quebec	(1910)	86

FAILED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	74
Medical School of Maine	(1911)	80*
College of Physicians and Surgeons, Boston	(1911)	70, 72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Baltimore Medical College	(1908)	Maryland

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* Fell below 60 in one or more subjects.

Michigan June Report

Dr. B. D. Harison, secretary of the Michigan State Board of Registration in Medicine, reports the written examination held at Ann Arbor, June 13-15, 1911. The number of subjects examined in was 14; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 65, all of whom passed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Cooper Medical College	(1904)	86.1
Chicago College of Medicine and Surgery	(1911)	84.7
Johns Hopkins University	(1910) 83.1; (1911)	85
University of Michigan, Dept. of Med. and Surg.	(1889) 85.7; (1898) 83.9; (1911)	79.9, 81.2, 81.3, 81.7, 82, 82.2, 83.3, 84.4, 84.6, 84.7, 84.8, 84.8, 85.2, 85.2, 85.2, 85.2, 85.3, 85.9, 86, 86.2, 86.2, 86.3, 86.4, 86.6, 86.6, 86.6, 86.7, 86.8, 87, 87.2, 87.2, 87.3, 87.3, 87.4, 87.6, 87.9, 88, 88.2, 88.4, 89.2, 89.3 89.5, 89.8, 90.3, 91.3, 91.4.
University of Michigan, Homeopathic Department	(1911)	82, 82.8, 83.2, 83.8, 86.6, 87.5, 87.5, 89.2, 89.2, 90.2.
Cleveland-Pulte Medical College	(1911)	83.5
Jefferson Medical College	(1911)	85.5
University of Pennsylvania	(1908)	88.8

New Mexico April Report

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, April 10-11, 1911. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 2, both of whom passed. Twenty-five candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Tennessee Medical College	(1891)	78.8
Gate City Medical College	(1907)	77.3

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.
Denver and Gross College of Medicine	(1904) (1906)
Georgetown University	(1910)
College of Physicians and Surgeons, Chicago	(1897) (1909)
Northwestern University Medical School	(1892) (1906)
Hahnemann Medical College and Hospital, Chicago	(1886)
Hospital College of Medicine, Louisville	(1903)
University of Louisville	(1892)
University of Maryland	(1909)
College of Physicians and Surgeons, Baltimore	(1892)
Barnes Medical College	(1898)
St. Louis College of Physicians and Surgs.	(1893) (1898) (2, 1910)
New York University Medical College	(1884)
Medical College of Ohio	(1903)
Western Reserve University	(1908)
University of Pennsylvania	(1909)
Medico-Chirurgical College, Philadelphia	(1901)
University of Nashville	(1903) (1904)
Queen's University, Kingston, Ontario	(1893)

North Dakota July Report

Dr. H. M. Wheeler, former secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, July 5-7, 1911. The number of subjects examined in was 14; percentage required to pass, 75. The total number of candidates examined was 18, all of whom passed. Twelve candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1911)	81, 84
Chicago Physio-Medical College	(1896)	75
University of Iowa, College of Medicine	(1902)	83
Keokuk Medical College, Coll. of Phys. and Surgs.	(1906)	80
University of Louisville	(1911)	91
Harvard Medical School	(1888)	86
University of Michigan, Dept. of Med. and Surg.	(1906)	81
University of Minnesota, Coll. of Med. and Surg.	(1910)	80
Minneapolis College of Physicians and Surgeons	(1903)	81
Barnes Medical College	(1899)	83
Creighton Medical College	(1911)	82
Jefferson Medical College	(1910)	89
Ohio Medical University	(1894)	85
Woman's Medical College of Pennsylvania	(1910)	85
University of Vermont	(1892)	78
Western University, London, Ontario	(1910)	84
University of Toronto, Ontario	(1911)	84

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Bennett Medical College	(1909)	Illinois
College of Physicians and Surgeons, Chicago	(1910)	Illinois
Hahnemann Medical Coll. and Hosp., Chicago	(1910)	Illinois
University of Maryland	(1909)	W. Virginia
University of Minnesota, Coll. of Med. and Surg.	(1904) (1905) (1906)	Minnesota
Hamline University	(1908)	Minnesota
Jefferson Medical College	(1905)	Minnesota
University of Vermont	(1908)	New Hamp.
Marquette University	(1910)	Wisconsin
Laval University, Quebec	(1904)	Maine

Oklahoma July Report

Dr. John W. Duke, secretary of the Oklahoma State Board of Medical Examiners, reports the written examination held at Guthrie, July 11-15, 1911. The number of subjects examined in was 14; total number of questions asked, 120; percentage required to pass, 70. The total number of candidates examined was 74, of whom 52 passed, including 3 osteopaths and 22 failed, including 2 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
University of Arkansas	(1911)	88
College of Physicians and Surgeons, Little Rock	(1911)	72, 80
Atlanta College of Physicians and Surgeons	(1910)	77
Denver and Gross College of Medicine	(1910)	84
Hering Medical College	(1909)	87
Chicago College of Medicine and Surgery	(1911)	87

Chicago Homeopathic Medical College	(1897)	81
Hahnemann Medical College and Hospital, Chicago	(1911)	85
Louisville Medical College	(1906)	77
Tulane University of Louisiana	(1911)	87
Flint Medical College	(1900)	79
Harvard Medical School	(1909)	75
Ensworth Medical College	(1911)	71
American Medical College, St. Louis	(1894)	88
University of Missouri	(1908)	85
St. Louis University	(1910) 80; (1911)	82
Univ. Medical College, Kansas City	(1897) 80; (1911)	75, 77, 82
Barnes Medical College	(1911)	76
St. Louis Coll. of P. and S.	(1909) 79; (1911)	71, 80
Columbia Univ., Coll. of P and S.	(1911)	79
University of Oklahoma	(1911)	74, 76, 78, 80, 82, 83, 84, 87
Medico-Chirurgical Coll., Philadelphia	(1903) 81; (1905)	76
Meharry Medical College	(1908) 70; (1909)	72, 73
Vanderbilt University	(1910) 91; (1911)	90
University of Nashville	(1893) 71; (1909) 84; (1911)	87
Fort Worth University	(1911)	84
University of Texas	(1910) 89; (1911)	85
Baylor University	(1911)	75

FAILED

University of Arkansas	(1911)	59, 72 *
Coll. of P and S., Little Rock	(1908) 59; (1911)	46
College of Physicians and Surgeons, Chicago	(1890)	70 *
Illinois Medical College	(1910)	46
Keokuk Med. College, Coll. of P. and S.	(1903)	59
Louisville Medical College	(1880)	70 *
Ensworth Medical College	(1911)	71 *
Missouri Medical College	(1886)	45
Leonard Medical School	(1911)	69
University of Oklahoma	(1911)	67, 76 *
Tennessee Medical College	(1905)	66
Meharry Medical College	(1907) 69; (1911)	67, 74 *
Memphis Hospital Medical College	(1911)	77 *
University of West Tennessee	(1910) 68; (1911)	70*

* Fell below 50 per cent. in one or more branches.

Oregon July Report

Dr. E. B. McDaniel, secretary of the Oregon State Board of Medical Examiners, reports the written examination held at Portland, July 5-7, 1911. The number of subjects examined in was 15; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 96, of whom 65 passed, including 13 osteopaths and 31 failed, including 5 osteopaths. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Gross Medical College	(1901)	82.9
Denver and Gross College of Medicine	(1908)	78.2
George Washington University	(1908)	76.4
Northwestern University Medical School,	(1892) 70.4;† (1893) 81.2; (1900) 71.6;† (1906) 79.6; (1908) 76.1, 86.8; (1909) 92.	
College of Physicians and Surgeons, Chicago,	(1891) 78.6; (1897) 76.2.	
Jenner Medical College	(1898) *	
Hahnemann Medical College and Hospital, Chicago,	(1895) 77.5; (1910) 80.5.	
Rush Medical College	(1909) 83.3; (1911)	85
University of Iowa, College of Medicine	(1910)	79.9
College of Physicians and Surgeons, Kansas City	(1904)	80.4
Johns Hopkins University	(1911)	89.2
Harvard Medical School	(1904)	90.8
Tufts College Medical School	(1901)	75.9
University of Michigan, Dept. of Med. and Surg.	(1909)	82.4
Barnes Medical College	(1911)	79.7
Creighton Medical College	(1896)	76
Columbia University, College of Physicians and Surgeons,	(1885) 73.5;† (1898) 86.2.	
Ohio Medical University	(1904) 75.2; (1906)	79.4, 83.3
Pulte Medical College	(1888)	68.7†
University of Oregon,	(1909) 84.2; (1910) 76.2; (1911) 75.3, 76.4, 77.9, 79.1, 80.8, 81.2, 83.4, 84.6, 85.6.	
Willamette University	(1911)	83.8
Hahnemann Medical Coll. and Hosp., Philadelphia	(1909)	78.1
University of Pennsylvania	(1906)	84.2
Jefferson Medical College	(1901) 83.3; (1910)	84.7
University of Vermont	(1907)	81.3
McGill University, Quebec	(1897)	77.4
University of Turin, Italy	(1899)	71.6†
Nongraduates		78.6, 80

FAILED

Hahnemann Medical College and Hospital, Chicago	(1904)	72.2
Rush Medical College	(1903)	69.3
Chicago College of Medicine and Surgery	(1909)	61.2
Western Eclectic College of Medicine and Surgery	(1908)	58.6
Kentucky School of Medicine	(1903) 72.8; (1907)	67.8
University of Louisville	(1907) 73.8; (1910)	71.5
Minneapolis College of Physicians and Surgeons	(1901)	67.3
St. Louis University	(1905)	59.5
Ensworth Medical College	(1908)	49.3
Barnes Medical College	(1904)	65.8
Kansas City Medical College	(1905)	70.9
Syracuse University	(1908)	73.5
Starling-Ohio Medical College	(1911)	73.5
Ohio Medical University	(1906)	69
Pulte Medical College	(1894)	67.2
Starling Medical College	(1891)	49.3
University of Oregon	(1910) 71.2; (1911)	69, 72
Queen's University, Kingston, Ontario	(1910)	62.2
Nongraduates		56,1, 68.5, 67.4, 71.2

* No grade given.
† Five points allowed 10 years of active practice.

Book Notices

An Attempt to Correct Some of the Misstatements Made by Sir Victor Horsley, F.R.S., F.R.C.S., and Mary D. Sturge, M.D., in Their Criticisms of the Galton Laboratory Memoir: A First Study of the Influence of Parental Alcoholism, Etc. By Karl Pearson, F.R.S. Questions of the Day and of the Fray. No. III. Department of Applied Mathematics, University College, London. Paper. Price, 1 shilling net. Pp. 42. London: Dulau & Co., 37 Soho Square, W., 1911.

Last year there appeared, issued from the Eugenics Laboratory, London University, a pamphlet by Professor Karl Pearson, entitled "The Influence of Parental Alcoholism on the Physique and Ability of the Offspring." The conclusion reached and specially emphasized by the author was that there was no such influence. Naturally this would be taken up and made the most of by the advocates of the liquor interests and it excited a rather sharp controversy in the medical journals and in the lay press. The present pamphlet is described as an attempt to reply to certain criticisms in an article in the *British Medical Journal* by Sir Victor Horsley, the well-known British surgeon, and Dr. Mary D. Sturge. Sir Victor Horsley and Dr. Sturge have, according to the showing of this pamphlet, misapprehended some of Professor Pearson's views and statements, as is natural in controversies of this nature. His reply to one or two of their criticisms, however, seems to us not altogether conclusive. At least there is a margin left for doubt as to the value of his methods and their results. His idea in the study was to ascertain whether the alcoholism of the parents had a marked influence on the mentality and physique of the offspring as children, as is stated in the pamphlet. By "offspring" he evidently meant only the children under the age of puberty, but did not specifically state that, probably assuming that it would be readily understood. The charge of Sir Victor Horsley of indefiniteness in the use of the term "offspring" is at least partly justifiable. Professor Pearson's distinction between sober and drinking parents also seems to us an indefinite one. By "sober" he says is not meant totally abstaining. It is applied here to cases in which the use of alcohol "is so moderate, if it exists, that it does not appear to interfere with the health of the individual or the welfare of the home." There are many men who use alcohol to what might properly be called excess and ultimately to their own disaster without showing it in their general appearance or even in the condition of their families. It is the observation of some medical men that their children are liable to suffer in the long run from such parental habits though they may not show it for a long time. Professor Pearson insists on a graded effect of alcohol which we may admit, but there is also a graded idiosyncrasy which is not always directly parallel with its apparent effects. A classification made by officials, or by lay observers generally, on the basis here indicated would not seem to us a very good basis for statistics. In fact one might take cases of parental insanity which, whatever one's theories or heredity may be, is practically hereditary in a very large proportion of cases, and get very similar results to those obtained by Professor Pearson. Comparatively few of the children of insane parents show their heredity before the age of puberty. There is no evidence in the pamphlet before us (we have not seen the original paper) that any attempt was made to estimate stigmata or other mental or physical evidences of degeneracy so far as they could be detected in the immature children of alcoholic parents. Professor Pearson himself admits the possibility of a direct heredity of alcoholism and presumably of other forms of degeneracy in the children of inebriates after the stress of puberty has passed. His line of investigation, it seems to us, was practically defective and the results therefore cannot be considered of great value. He admits a 20 per cent. higher death-rate in the children of alcoholic parents over those of sober parents. But this he accounts for largely by the accidents and unfavorable home environment to which they are subjected by the drinking habits of their parents, which deduction of course may be correct. It is something in the line of Dr. Archdall Reid's contention that alcoholism improves a population by weeding out its degenerates. A large part of the pamphlet is taken up with the discussion of the question of wages as showing that there is no very great difference between the wage-earning capacity of the drinking and the sober workman, but nothing is said about what seems to us one of the most important factors, the equalizing tendency of the trades unions. As to the temper of the attempt to reply to the criticisms, it certainly is open to the charge of being unjudicial, and the reference to authorities is not always happy. We do not know what sort of authority Stöcker is, but his ability to find epilepsy or insanity as an antecedent to nearly all his eighty-nine cases of extreme alcoholism seems a little remarkable. Demme, whom he also quotes, is not a very recent authority and his ideas at the time he wrote in regard to the effects of alcohol on the efficiency of workers as indicated in the quotation given are not in accordance with the best modern medical opinion on the subject. We doubt also whether Crothers, for that is what we take "Chroters" to mean, would entirely agree with Professor Pearson's views.

If the Eugenics Laboratory is to devote its studies to such questions it is to be regretted. Professor Pearson may, as he says, have been entirely without bias at the beginning of his study but that is evidently not his mental attitude at the present time. He is an expert in the handling of statistics, but he does not appear to us always successful in the estimation of the value of the data on which they are based.

JOINT TUBERCULOSIS. By Leonard W. Ely, M.D., Consulting Orthopedist to the County Hospital, Denver. Cloth. Price, $2.50 net. Pp. 243, with 72 illustrations. New York: William Wood & Co., 1911.

As the author correctly states in his preface, "The time seemed ripe for a review of more recent knowledge of the subject, inasmuch as the views held were so conflicting that further pathologic study was required." In order to accomplish this, he studied a large number of microscopic specimens from cases, and the results from various modes of treatment. The section on pathology has much to commend it, and is as thorough as one could wish it. His view "that the trend of modern opinion is away from heredity and toward infection from without in cases of tuberculosis" is one generally accepted. The pathologic studies represent much painstaking labor, and are greatly helped by a large number of excellent microphotographs. The only criticism to be offered is that the descriptions of the photographs are often insufficient. Some radiographs are so poorly reproduced that it would have been better to omit them. Especially is this true of Part 1, and, for example, Figure 34.

It is to be greatly regretted that so little reference has been made to the value of the fresh-air treatment and seacoast sojourns.

The second part is devoted to the discussion of tuberculosis of the individual joints. It would have been much more satisfactory to limit the subject of general discussion in Part I, and to elaborate the diagnosis and differential diagnosis of tuberculosis of individual joints, which latter is discussed in a rather incomplete manner.

About forty pages of the book are devoted to histories, which, although they represent much painstaking labor, are of comparatively little value in a book of this kind. The illustrations in general are clear. The volume may be regarded as one of the best in this field of surgery.

LEHRBUCH DER AUGENHEILKUNDE IN DER FORM KLINISCHER BESPRECHUNGEN. Von Dr. Paul Römer, o.ö. Professor der Augenheilkunde, Direktor der Universitäts-Augenklinik zu Greifswald. Paper. Price, 22 marks. Pp. 1,028, with 209 illustrations. Berlin: Urban & Schwarzenberg (New York: Rebman Company), 1911.

The student of ophthalmic science cannot complain nowadays of a paucity of either domestic or foreign text-books, compendiums, treatises and monographs on the eye and its diseases. While for Americans practicing in America the products of the domestic pen are far more likely to be of practical value than any foreign manual, however well written, the clearly expressed words of the professor of ophthalmology at Greiswald should not be forgotten when a German authority is to be consulted.

The familiar form which these teachings take—that of talks to a class—are at least pleasant reading and one soon feels that one is under the spell of a competent teacher, investigator and thinker. Römer is probably best known to us as an experimenter and investigator in the realms of applied therapeutics—easily the weakest side of German ophthalmology—and we are not disappointed, especially while reading the chapters on treatment, to find that Römer deals more extensively and intelligently with most eye diseases (as we see them) than does the average compiler or writer of German text-books. The various diseases of the eyelids, conjunctiva and cornea are considered at as great length as the limitations of a schoolbook permit, while the bacteriology of the eye has received even more attention than is commonly given to it in works of this sort. Quite naturally, the treatment of trachoma is completely considered by a man who was probably the first to show us how jequirity could be effectively and safely administered in this serious and intractable disease.

For some occult reason the methods employed in teaching refraction to students, both undergraduate and postgraduate, in German universities are such as cannot be regarded as adequate for American physicians; even our clinic patients demand and usually receive more careful attention to their refractive errors and muscular anomalies than is expended on the corresponding class in Germany. This defect, as we regard it, is reflected in most German treatises, which would, indeed, be false guides for American practice. Römer's lectures form no exception to the rule, the subject of "glass-fitting" being dismissed in the usual light and airy fashion through the reading of a few pages of print.

On the other hand, we are well pleased with the manner in which the neurology of the ocular apparatus is taught and by the discussion of migratory ophthalmia. These and many other subjects are fully and intelligently dwelt on.

The illustrations, colored as well as black and white, are not up to the average; most of the former are useless and many of the latter inadequate to furnish any practical idea to the reader. Some errors in proof-reading are noticed; for instance, Landolt and Weeks are transformed into "Landoll" and "Week."

DIE MASSENVERHÄLTNISSE DES HERZENS UNTER PATHOLOGISCHEN ZUSTÄNDEN. Pathologisch-Anatomische Untersuchungen. Von Sofus Widerøe. Paper. Pp. 143, with illustrations. Christiania: Jacob Dybwad, 1911.

Numerous studies have been made of the size of the heart under normal and pathologic conditions. The difficulties in the way of obtaining accurate results are great, and many of the methods are faulty. Failure to take into consideration the amount of surrounding fat, or the stumps of large vessels may be cited as instances of these inaccurate methods. Widerøe has tried to overcome the objections to these various methods and by following out his own, which is modeled on that of W. Mueller, he has reached results that he regards as fairly trustworthy. His tables show a careful study of the age of the patient, the height, weight, chest measure; with details as to the heart, such as weight as a whole, weight and measurements of the various parts such as ventricles, auricles, septum ventriculorum, etc. The diseases with which the patients were affected are known and there is a consideration of the size in relation to the pathologic conditions. The monograph is a real contribution to our knowledge of this subject and should be consulted by one interested in this topic. There is a good bibliographic index, with numerous references to the literature scattered throughout the text.

THE HEALTHFUL ART OF DANCING. By Luther H. Gulick, M.D., Author of "The Efficient Life," etc. Cloth. Price, $1.40 net. Pp. 273, with illustrations. New York: Doubleday, Page & Co., 1910

Dancing is such a popular recreation that there seems little need for a book advocating it, unless it be a plea for its rational use. This is what Dr. Gulick has made. He explains the inborn appreciation of rhythm, and his contribution ought to help to remove some of the evils which have been grafted on to this form of recreation. The folk dances which mean so much in European life and which are being revived throughout the United States with wholesome effect are explained and portrayed, adding greatly to the interest of the book.

Handbook of the Trees of the Northern States and Canada East of the Rocky Mountains. By Romeyn B. Hough, B.A., Author of "American Woods." Cloth. Price, $6. Pp. 470, with illustrations. Lowville, N. Y.: R. B. Hough, 1907.

This book will be of value to those who wish to identify the trees of this country, and all lovers of Nature will appreciate it. For each tree there is a full-page picture of the leaves, with either the flower or the fruit, or both, while the opposite page, which contains a general description of the tree, shows also the trunk, a cross-section of the wood and distribution of the species, indicated on a map of the United States. The pictures are excellent and give evidence of much painstaking work in their preparation. The preface gives a glimpse into this labor of the author when he speaks of the difficulty he had some years in finding the flowers of certain trees; it seemed that there were no blossoms that year and the author traveled far in his search. The book also contains a synopsis of the families and genera represented, with analytical keys to enable one to find the species. A glossary and a good index add to the value of the book.

Kurzgefasste chirurgische Operationslehre (Operationskurs). Für Studierende und Aertze. Von. Ad. Oberst, Assistent an der Chirurg. Klinik und Privatdozent für Chirurgie an der Universität Freiburg i. Br. Paper. Price, 7 marks. Pp. 198, with 232 illustrations. Berlin: S. Karger, 1911.

The only criticism which can be made on this, one of the newer German books on operative surgery, is that the subject has grown to be too large to be covered in as few pages as is attempted in this work. In its favor, however, are its illustrations, especially those which are intended to help elucidate the little details of technic, which are not ordinarily shown, are very clear and well reproduced. Throughout the book only the essentials of each operation are given. An excellent description of the osteoplastic method of amputation, according to Bier, is one rarely seen in the newer books on this subject. It can be recommended as a book for beginners.

Tuberculosis as a Disease of the Masses and How to Combat It. Seventh American Edition. Prize Essay by S. Adolphus Knopf, M.D., New York, Professor of Phthisio-Therapy at the New York Post-Graduate Medical School and Hospital. (International Prize Awarded by Committee of the International Congress to Combat Tuberculosis as a Disease of the Masses, at Berlin, July 31, 1900.) Paper. Price, 25 cents. Cloth. Price, 50 cents. Pp. 122, with 64 illustrations. New York: The Survey, 105 E. Twenty-Second Street (1911).

The new edition of this essay is considerably enlarged and improved, and will doubtless prove as useful in the future as the other editions have in the past. The changes are chiefly in the application of the outdoor methods to sleeping facilities and the expansion of the outdoor school. A new chapter on school hygiene is introduced.

Alcoholic Fermentation. By Arthur Harden, Ph.D., D.Sc., F.R.A., Head of the Biochemical Department, Lister Institute, Chelsea. Cloth. Price, $1.25 net. Pp. 128, with illustrations. New York: Longmans, Green & Co., 1911.

This is another one of the valuable monographs on biochemistry written by specialists in their respective lines and edited by R. H. Aders Plimmer and F. G. Hopkins. It gives one extreme pleasure to find this subject of such general interest and extreme importance covered in so concise and yet in so comprehensive a way. The work is made especially valuable in that it gives a very good bibliography, and in that it is a very complete review of the exhaustive work of Harden and Young on alcoholic fermentation.

Yellow Fever and Its Prevention. A Manual for Medical Students and Practitioners. By Sir Rubert W. Boyce, M.B., F.R.S., Holt Professor of Pathology, University of Liverpool. Cloth. Price, $3.50 net. Pp. 380, with 61 illustrations. New York: E. P. Dutton & Co., 1911.

This is a thorough work by an author who has had a wide experience in connection with the epidemics of yellow fever in the West Indies, in New Orleans and on the west coast of Africa. The history of the disease in these various regions is first considered, then follows a treatise on the symptomatology, diagnosis, pathology and prophylaxis of the disease. The book is well illustrated and will be welcome to sanitarians, especially those who are interested in tropical medicine.

Medicolegal

Revocation of License for Fraudulent Advertising as Unprofessional Conduct—Construction and Validity of Statute

(Aiton vs. Board of Medical Examiners of Arizona, 114 Pac. R. 962.)

The Supreme Court of Arizona affirms a judgment of the District Court sustaining a demurrer to a petition for a writ of certiorari to review the proceedings of the board which resulted in the license of the petitioner to practice medicine in that territory being revoked [i. e., the license remains revoked]. The revocation was after due notice and a hearing, based on an affidavit filed with the board, charging the petitioner with having been guilty, since the license was issued to him, of unprofessional conduct rendering him unfit to practice medicine in the territory, in that he wilfully and knowingly published in a newspaper an advertisement of remarkable cures claimed to have been accomplished by means of certain mineral waters and preparations used and controlled by him, and claiming that such waters and preparations would cure incipient tuberculosis, systemic catarrh, catarrh of the head, Bright's disease, diabetes, rheumatism and numerous other diseases. The advertisement was set forth in full in the affidavit, and it was charged that the publication was made for the purpose of soliciting and procuring wrongfully and fraudulently patients to submit themselves to medical treatment by him; that certain of the statements contained in the advertisement were false, and were known to the petitioner to be false when he made them, and were published with the intent to deceive the public and to impose on the credulous and ignorant.

The question presented by this appeal was the validity of the provision in the statute that: "Upon proper proof to the Board of Medical Examiners of Arizona that the holder of any license issued under the provisions of this act has been guilty, since the issuance thereof, of any grossly immoral or unprofessional conduct rendering him or her unfit to practice medicine in this territory, or has been convicted of any felony, said board shall, after due notice to such holder and full opportunity to him or her to defend against or refute such charges, revoke and cancel such license. . . ." It was contended that the statute, since it does not declare what shall be considered unprofessional conduct, is void for uncertainty. It was argued that "the term 'unprofessional conduct' is so vague and indefinite that no one can be certain just what it embraces. It might be declared to include a breach of professional ethics, irrespective of any moral turpitude, and might be declared to include acts of so trivial a nature and of so little importance as to wholly preclude any of the elements of a crime."

The petitioner attempted to distinguish certain cases which hold valid statutes conferring on boards power to revoke the licenses of those found guilty of immoral conduct from this on the ground that the term "immoral conduct," while in a measure indefinite, "contains an element of moral turpitude or disregard of the settled ideas or principles of morality, and are very easily recognized, by reason of their being a breach of what we all know to constitute moral conduct," but that "unprofessional conduct does not consist simply of breaches of moral conduct, does not necessarily include moral turpitude, and might consist of anything temporarily frowned on by any board of physicians temporarily in power." His position finds support in decisions by the Supreme Courts of Kentucky and California and the Court of Appeals of the District of Columbia.

But this court cannot agree that the meaning to be given the term "unprofessional conduct," as used in this statute, is that suggested. It thinks it should be held to mean that which is by general opinion considered to be grossly unprofessional because immoral or dishonorable. This court cannot perceive that the petitioner's interpretation is tenable or could have been contemplated by the legislature when the language employed and the purpose of the legislation is considered. "Grossly immoral and unprofessional conduct" excludes the idea that a license may be revoked for trivial reasons or for a violation of what might be regarded as mere professional ethics.

Giving the words the construction this court does, the question of the validity of the statute is foreclosed by the decision of the Supreme Court of the United States. In Meffert vs. State Board of Medical Registration & Examination et al., 66 Kan. 710, the action of a board in revoking a license of a physician was upheld under a statute giving it the power to revoke the license of one guilty of gross immorality. On an appeal to the Supreme Court of the United States, the judgment was affirmed without discussion. Meffert vs. Packer, 195 U. S. 625. In that case the statute does not define what shall be considered gross immorality. Its ascertainment if left to the common judgment as to what is grossly immoral, as the Arizona statute leaves grossly unprofessional conduct to be ascertained. See, also, State vs. Board, 34 Minn. 391.

It is too well settled to admit of discussion that the state, in its exercise of the police power, may prescribe the qualifications of those who are permitted to practice medicine. and may commit to a board created by it the authority to ascertain whether an applicant for permission to practice possesses the requisite qualifications, and also the power, after notice and opportunity to be heard, to revoke the license of any who become disqualified either morally or intellectually.

Communications to Physicians Sent to Make Reports Not Privileged

(Chicago, Indianapolis & Louisville Railway Co. vs. Gorman (Ind. App.), 94 N. E. R. 730.)

The Appellate Court of Indiana, Division No. 2, holds that in an action against a railway company for personal injuries communications made to a physician or surgeon who was sent merely to make an examination and report on it are not privileged. The court says that the evidence disclosed that the witness was a surgeon of the railway company at the time of the injury; that he told the injured man (plaintiff) that he was requested by the station agent to visit him, and make an examination so that he could make the ordinary report as surgeons are required to make to the company in cases of that kind; that he was there for the purpose of making an examination as the physician of the railway company to make his report to the railway company, and that he did make an examination as such physician of the said company, but that he did not prescribe for the plaintiff, and had nothing to do with the case as to treatment. In other words, it was evident that his visit was purely on a business matter, and not in a professional capacity, and that the plaintiff so understood the purpose of his call. Under such circumstances there were no privileges protecting a statement made to him by the plaintiff, such as that he heard the train coming, but thought he had time to get over.

Parents Not Liable for Medical Services Rendered to Emancipated Children

(Brosius vs. Barker (Mo. App.), 136 S. W. R. 18.)

The Springfield (Mo.) Court of Appeals affirms a judgment for the defendant in this suit of a physician to recover from a father for medical services rendered to his son, about 20 years of age, in a distant state. The son had left his father's home in Missouri and gone to Oregon, where he was taken sick with typhoid fever, and, because he claimed to be without money, the plaintiff, a physician, sent him to a hospital and assumed the charges due the institution for the care of the patient. The father, in answer to a letter notifying him that his boy was there sick, wrote to the superintendent of the hospital, saying. "I have a dear boy in your institution sick with fever. I have sent him some money and will send more soon. You will give him all the attention you can and greatly oblige a father so far away, and kindly let me know from time to time how he is getting along."

The father's defense to the plaintiff's suit for his own services and the balance of account due the hospital, which had been assigned to him, was that he had previously emancipated his son and was not liable for his care. The court thinks that the evidence was sufficient to require a submission to the jury of the defense of emancipation, and holds that, as they found for the father thereon, the further question of whether the father should pay the plaintiff for the services he and those associated with him rendered in caring for his son while he was sick and perhaps would have perished had such services not been rendered, must be left to the interior forum, as the tribunal of conscience has well been called.

The plaintiff, the court says, knew at the time the defendant's son applied to him for assistance that the boy was not living with his father. He was informed that the father lived in Missouri and therefore it seems to the court that the arrangement between the father and son under which the boy had left home was a matter that the plaintiff should have inquired into before rendering the services to the boy on the credit of the father. He must have known that sometimes children who have good homes and are supplied with all the necessaries and the luxuries of life become dissatisfied, and without any reason or excuse leave home, and that under such circumstances it would be unjust to hold the parent liable on any contracts made by the minor. It was not necessary that the plaintiff should have had actual knowledge that an arrangement existed between the father and son under which the father was released from liability.

Nor does the court consider that the defendant was rendered liable by his letter, as there was nothing in the letter agreeing to pay for the services rendered, and when it was written a contract existed between the plaintiff and the son relating to the services sued for in this case, and there was no evidence that the letter in any wise changed the relation of the parties or the terms of the contract under which the boy was then being treated, or that any additional attention was given the boy on account thereof. On the contrary, the statement is found to the effect that some money had been sent to the boy and more would be forwarded. If the father intended to legally bind himself for the payment of the plaintiff's bill, he did not so state.

Admissible Evidence of Illegally Prescribing Cocain

(Stanley vs. State (Ga.), 70 S. E. R. 894.)

The Court of Appeals of Georgia affirms a judgment convicting the appellant Stanley of illegally prescribing cocain. The court says that the act on which the indictment was framed makes it a penal offense for any practitioner of medicine to furnish to or prescribe for the use of any habitual user of the same any of the narcotic drugs therein mentioned, unless the person for whom the drug is furnished or prescribed is under his professional care and such drug is deemed necessary for his proper treatment. In other words, the statute makes the controlling question one of good faith on the part of the practitioner of medicine in furnishing or prescribing the drug; the issue being whether he does so in good faith to a patient, or whether the prescription is made for the purpose of evading the provisions of the act. The accused in this case contended in his defense that the habitual user of the narcotic drug in question was a patient of his and under his treatment, and that he prescribed cocain for her because he deemed it necessary for her proper treatment. The state contended that the act was not in good faith, but was done for the purpose of evading the provisions of the statute. Any testimony that would tend to illustrate this issue would be admissible in evidence, and testimony that the accused made other prescriptions of a similar character, for many different persons, was admissible in evidence for the purpose of establishing the criminal intent.

Admissibility in Evidence of Record Cards

(Douler vs. Prudential Insurance Co. (N. Y.), 128 N. Y. S. 396.)

The Second Appellate Division of the Supreme Court of New York says that this was an action on an insurance policy on the life of one Margaret Douler, who died of pulmonary tuberculosis in December, 1909. The application for the policy was made July 22, 1909, and the company undertook to prove that at that time, and for a considerable period before, the insured was suffering from pulmonary tuberculosis and knew it. In the attempt to prove that defense, the company called as a witness a physician who was in 1908 in attendance at a public dispensary, in which capacity he had made certain entries on a record card, which contained answers to questions put by him to a woman patient who had given the name of Margaret Douler. He had made certain entries on the card when the patient called at the clinic at various times in October, 1908, and he swore that these entries were true when made, although he no longer had any personal recollection of the matters so entered. The company offered the card in evidence, but the evidence was rejected on the ground that there was not sufficient proof of identity between the insured and the patient, and on the further ground that the record card was not competent evidence, even if identity be assumed. A similar question arose as to the introduction of another record card, kept by a witness who was a nurse in the employment of the board of health, relating to the case of a patient known as "Margaret Douler." That card was likewise excluded when offered in evidence. The court holds that the rejection of these cards was reversible error. As to the identity of the patient at the clinic with the person insured in the policy, similarity of name made a *prima facie* case of identity, according to long-established rules of law. And while these record cards were not competent evidence of their contents simply as records, yet where it was shown that the entries thereon were made by the witness at the time of the happenings described as taking place in his presence, and were honestly made by him, such entries might be admissible where the witness had ceased to have any personal recollection of the facts in question. There was also other testimony offered and received to show that the insured had pulmonary tuberculosis for some time prior to the application for the policy, and the exclusion of the record cards deprived that evidence of some corroboration, and was therefore not harmless.

Validity of Act Making Unlawful Possession of Opium, Etc.

(*Ex Parte Yun Quong (Cal.), 114 Pac. R. 835.*)

The Supreme Court of California in this case holds constitutional the statute of that state which makes it unlawful for any person to have in his possession any cocain, opium, morphin, etc., or any preparation thereof containing more than 2 grains to the fluid ounce, except on the written order or prescription of a physician, dentist or veterinary surgeon licensed to practice in the state, or unless such possession is that of a jobber, wholesaler, manufacturer to pharmacies, retail pharmacy, physician, dentist or surgeon licensed to practice in the state.

Yun Quong had been arrested for having in his possession a certain preparation of opium prohibited by the act, and attacked the validity of the law, insisting that opium is property and that the act making the mere possession of it a crime is an infringement on the rights of liberty and property. But the court declares that if the belief that the use of opium, once begun, almost inevitably leads to excess may be entertained by reasonable men—and the court does not doubt it may—such belief affords a sufficient justification for applying to opium restrictions which might be unduly burdensome in the case of other substances, as, for example, intoxicating liquors, the use of which may fairly be regarded as less dangerous to the users or to the public. Assuming, as the court must, that the legislature acted on some such view, the restrictions on the right to possess the drugs named in the act cannot be said to be clearly unreasonable or unnecessary for the protection of the public from the evils against which the legislation in question is aimed.

Provision for Physician on Jury in Lunacy Inquests not Unconstitutional

(*State vs. Linderholm (Kan.), 114 Pac. R. 857.*)

The Supreme Court of Kansas holds that the statute of that state providing for a jury, in lunacy inquests, of four persons, one of whom must be a physician, does not violate the right to a jury trial which is guaranteed by the Constitution. The court says that although the hearing of a case of this kind is ordinarily designated as a "trial," it is not so in the sense of the Constitution. The proceeding is merely an inquest, conducted primarily for the benefit of the person whose mental state is in question, and it bears no resemblance to an action, either civil or criminal.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Missouri State Medical Association, St. Louis

August

1 The Missouri Association for the Relief and Control of Tuberculosis. G. Homan, St. Louis.
2 *Diagnostic Significance of Abdominal Pain. R. M. Funkhouser, St. Louis.
3 *Death of the Fetus in Utero. R. S. Tilles, St. Louis.
4 *Recent Studies in Eclampsia. G. C. Mosher, Kansas City, Mo.
5 *Improved Gravity Apparatus for Intravenous Injection of Salvarsan. J. L. Boehm, St. Louis.
6 Case of Ruptured Ectopic Gestation, Followed by Acute Gastric Dilatation and Paralytic Ileus, Transfusion, Gastric Lavage, Recovery. W. R. Hewitt, St. Louis.
7 Eclampsia. M. Dillon, Fairfield, Mo.
8 Thyroid and Parathyroid Glands. C. Geiger, St. Joseph, Mo.

2. **Abdominal Pain.**—The conclusions deduced by Funkhouser from the study of abdominal pain are: To bear in mind that pain in itself does not tell the whole story, but merely puts the physician and patient on their guard. That there is grave danger following the administration of narcotics which have a great tendency to mask the true condition. That pain is not infallible as to the site of disease. That the initial pain is, in many cases more important than the subsequent diffuse pain that follows. That it is the duty of the physician to educate his clientele relative to abdominal pain, especially should it be the province of that type of medical man, the family physician, who is rapidly disappearing, *triste dictu*, to inform the laity of the significance and the danger of the neglect of abdominal pain.

3. **Death of Fetus in Utero.**—For the determination of fetal death there are, Tilles says, the signs first noticed by the mother, then those observed by the obstetrician both as concerns the mother and the state of the fetus. Observations and sensations on the part of the mother are an absence of fetal movements, heaviness and coldness in the lower abdomen, the feeling of a foreign body in the abdominal cavity, which changes positions with the maternal movements; also a general feeling of coldness or real chills may occur, the breasts are noticed to become smaller, the gradual abdominal enlargement ceases to be noted and becomes stationary or sinks, due to lack of tonicity of the uterus and lacking the resistance of the fetal parts; there is a vague feeling of malaise and languidness characterized by loss of appetite, feeling of lumbago or fatigue, with possibly, in women of delicate nature, a slight evening elevation of temperature. On the part of the obstetrician is noted the absence of fetal heart sounds established after repeated trials, an unusual flabbiness of the uterus instead of the normal resiliency and compressibility, absence of uterine contractions, a possible discharge of meconium, fetid discharges, or flatus from the uterus. Vaginal examination reveals little, as after maceration has occurred the small parts are difficult to feel. The uterus may be hard to differentiate from an abdominal cystic tumor. Knapp claims to have found acetone in the urine, but it has not been confirmed by later experiments. When the cervix admits a finger the relaxed and overlapping condition of the fetal skull bones may be palpated. The effect on the mother is practically *nil* with the exception of the few clinical symptoms mentioned above, unless the fetus undergoes putrefaction with absorption of small parts, the bones then by ulcerative processes attempting to be discharged through the bladder, vagina or rectum, or externally through the abdominal wall.

4. **Eclampsia.**—The treatment employed by Mosher looks to early evacuation of the uterus, as the ovum or fetus is the source of the toxins and statistics show lower mortality after labor. He says that preliminary to delivery, it is best to avoid the use of chloroform during the convulsions; puncture should be made of the membranes to hasten spontaneous dilation and also to lower blood-pressure. Inject veratrum, 15 to 20 drops of the fluid extract, hypodermically and give an enema of warm milk with 40 to 60 grains of chloral. On the base of the tongue place two drops of croton oil. Better,

if it can be done, wash out the stomach and inject through the tube 2 ounces of castor oil with 2 drops of croton oil. Sweating should be induced by hot packs or sweat cabinet for thirty minutes, using ice to the head while heat is applied to the body. A pint of normal salt solution should be injected subcutaneously, or several quarts may, in the emergency, be thrown into the bowel. This sweat and salt injection is to be alternated every hour, provided there is an equilibrium kept between solution injected and sweating. Nitroglycerin if convulsions recur. If patient can swallow she should be given concentrated salts, a dessertspoonful dose every fifteen minutes until catharsis follows. Cups, venesection or leeches may be used if congestion of chest, cyanosed face or sterterous breathing occurs. If medical means fail, manual dilation by Harris' method, followed by forceps or version, are to be considered in each individual case.

5. Abstracted in The Journal, March 11, 1911, p. 732.

Boston Medical and Surgical Journal

August 24

9 Importance of Determining the Causes of Inebriety. B. T. Burley, Worcester, Mass.
10 Wertheim's Method for Removal of Cancer Originating in the Uterine Cervix. H. T. Hutchins, Boston.
11 Suggestion in Medical Practice. G. G. Fernald, Concord, Mass.
12 Sixty Cases of Syphilis Treated with Salvarsan. J. H. Cunningham, Boston.

Chicago Medical Recorder

August 15

13 Vesico-Vaginal Fistula. C. J. Drueck, Chicago.
14 Action of Moderate Continued Force on Cicatricial Tissue. C. S. Case, Chicago.

Denver Medical Times and Utah Medical Journal

August

15 *Gastrectasia. J. K. Miller, Greeley, Colo.
16 Mercury vs. Salvarsan. J. Cunco, Denver.
17 Electrotherapeutics. F. E. Clark, Logan, Utah.

15. **Gastrectasia.**—The most satisfactory treatment of gastrectasia in Miller's opinion is massage. He has used machine massage for nearly six years. It has proven efficient in more than forty cases. Miller has not had a complete failure, and in two cases only was the result but partial. Both the partial cures were tuberculosis patients. Few cases need more than a three-month period to be cured, and so far as Miller has been able to follow his cases the results are permanent. One patient was treated five months before all subjective symptoms disappeared. Miller had occasion to examine the patient a few weeks ago and found him remaining well. Twenty months have passed since his treatment. When treatment began, the lower curvature was almost two finger-widths below the navel, when discharged the curvature was three finger-widths above. The course given consists of daily treatments of five to seven minutes each for the first month, three treatments per week for the second month, and one or two treatments per week for the remaining four weeks. Miller requires all patients to remain the ninety days under treatment, and few less responsive cases a longer time. A rigid dietary is carried out and is regarded a part of the treatment. When the stomach is ptosed, the vibratory treatment will not restore it, though in some cases decided improvement has been noted. The displaced stomach must be otherwise cared for. Miller uses either the Spivak bandage or the moleskin adhesive apron belt.

Bulletin of Johns Hopkins Hospital, Baltimore

September

18 Zabdiel Boylston, Inoculator, and the Epidemic of Small-Pox in Boston in 1721. R. H. Fitz, Boston.
19 Henry Newell Martin. H. Sewall, Denver.
20 Medical Notes on the Divine Comedy of Dante Alighieri. P. H. Dernehl, Milwaukee, Wis.
21 Molière and the Physician. M. Kahn, New York.
22 Art as Applied to Medicine. M. Brödel.

Journal of Arkansas Medical Society, Little Rock

July

23 State Medicine and Public Hygiene. S. Cooper, Fort Smith.
24 Sanatoria and Hospitals for Tuberculosis. J. S. Shibley, Booneville, Ark.
25 Benjamin Rush and Others on Consumption. J. T. Clegg, Siloam Springs.
26 Needs of the Hour in Controlling Tuberculosis. J. D. Southard, Fort Smith

New York State Journal of Medicine, New York

August

27 *Exophthalmos, a Common Symptom of Chronic Bright's Disease. H. C. Gordinier, Troy, N. Y.
28 Deaths of Athletes and Fatalities in Athletic Games During the Year 1910. R. E. Coughlin, Brooklyn.
29 *Paralysis of the Upper Extremity Due to Nerve Injuries. N. Jacobson, Syracuse, N. Y.
30 Acute Unilateral Hematogenous Septic Infection of Kidney. A. T. Bristow, Brooklyn, N. Y.
31 Extragenital Chancre. F. J. Resseguie, Saratoga Springs, N. Y.
32 *Hydrotherapeutic Treatment of Chronic Disease of the Heart. J. M. Swan, Watkins, N. Y.
33 Taking Cure at Carlsbad. H. G. Watson, New York.
34 Common Sense in Rearing of Children. C. A. Frost, Utica, N. Y.
35 Recording Blood-Pressure in General Narcosis; Observations on Grams of Agent to Kilos of Body Weight. W. C. Woolsey, Brooklyn.
36 *Two Cases of Heroin Habituation. H. Brooks and H. R. Mixell, New York.
37 Secret Division of Fees. R. T. Morris, New York.
38 Mutual Helpfulness in Conservation of Public Health. W. A. Howe, Phelps, N. Y.
39 Gangrenous Appendicitis Secondary to Puerperal Septicemia. C. C. Zacharie, White Plains, N. Y.

27 and 32. Abstracted in The Journal, May 20, 1911, pp. 1505 and 1506.

29. **Paralysis of Upper Extremity.**—Jacobson illustrates some usual and unusual conditions encountered by presenting the histories of a few cases. I. Fracture of humerus with angulation; nerve not apparently damaged, but adherent to callus for distance of 2 inches; separation of nerve; prompt and complete recovery from paralysis. II. Lacerated wound implicating the musculo-spiral nerve associated with scalp wound and injuries to the shoulder-joint. III. Fracture of the neck of the scapula; displacement of the head of the bone; pressure on and adhesions to the brachial plexus of nerves; compete paralysis of sensation and motion; operation; immediate improvement. IV. Complete division of the fifth cervical nerve; its secondary suture; slow restoration of motion and sensation.

Jacobson contends that when a nerve has been simply stretched over or caught between fragments of bone or entangled in a callus or bound down by adhesions and when no visible damage to the nerve substance has occurred the return of functional activity is prompt and satisfactory without the energetic and long-continued use of such therapeutic measures as electricity, massage, hydrotherapy or the like. But when a nerve has been evidently damaged and most certainly when it has been completely severed the after-treatment is quite as important to the restoration of its functions as is the surgical operation which seeks to remedy the local damage done. It must also be thoroughly understood that whether primary or secondary suture has been undertaken the long-continued application of these measures will be found necessary. Many months may elapse without apparent improvement. The treatment must not be abandoned. The end-result will well reward the effort. Secondary suture has been performed as late as nine, eleven and fourteen years after the receipt of the injury and marked benefit has attended the surgical treatment.

36. **Heroin Habituation.**—The authors believe that the prevalence of the habit is steadily growing, especially since there is now a greater difficulty in obtaining, without prescription, preparations containing the more active opium compounds. From the statements of their two patients there is a certain sense of stimulation and well being induced by heroin which surpasses in its delight that experienced from morphin and they assert that the habit is quite common among their associates. Apparently, judging from these two instances only, the immediate habit is broken with much less suffering and greater ease than morphinism or cocainism and the pathologic and physiologic effects are much less serious than in the more frequent habits.

Pennsylvania Medical Journal, Athens

August

40 *Subacromial Bursitis; Its Etiology, Anatomy and Pathology. A. R. Allen, Carlisle.
41 *Treatment of Subacromial Bursitis. J. T. Rugh, Philadelphia.
42 *Total Paralysis of the Brachial Plexus Due to Traumatism Causing Evulsion of the Component Roots of the Plexus. C. K. Mills, Philadelphia.

43 *How Shall We Recognize and Treat Carcinoma of the Uterus? E. E. Montgomery, Philadelphia.
44 Infection, Immunity, and Serotherapy. W. R. Davies, Scranton.
45 *Physician and Public Health. J. M. Anders, Philadelphia.
46 *Medical Profession To-Day and Business End of It. G. D. Nutt, Williamsport.
47 Looking Backward. W. T. Davison, Canton.

40, 41 and 42. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1672.

43. **Carcinoma of Uterus.**—Montgomery emphasizes that cancer is an insidious disease, the advent of which is not discovered sufficiently early by the symptoms which are usually considered as indicating it, and that the practitioner should be on the alert for signs which will denote its appearance much earlier than those on which the profession is accustomed to depend.

45. **Physician and Public Health.**—The physician in his professional life is frequently called on to render services without full and sometimes without any compensation. Anders says he should give his best under all circumstances, for by so doing he is constantly growing in power, capacity and efficiency. Such a one, in comparison with a selfish spirit, will also in the end attract larger compensation. It has been wisely said that the man who refuses to do more than he is paid for soon becomes as small as his earning capacity. On the other hand, he who earns more than his compensation thereby makes himself greater than his salary. By rendering much service to both patients and the public, physicians in turn receive much.

46. **Medical Profession To-Day and Business End of It.**—The profession as a whole does not, in Nutt's opinion, wield the influence it should in a community, for the betterment of humanity and the eradication of superstition and quackery. If all the licensed medical men were united in one body, like other organizations that associate themselves together for mutual advantage and protection, there would not be any question of unpaid accounts or indignant feelings when bills are presented. One of the greatest means or influences that would place physicians on a firm financial basis with other learned professions in regard to their income, as well as enable them to command the respect and esteem of the public, is being more liberal and human in the treatment of each other, banding themselves together in a well-organized society, showing mutual respect for one another's interests and being willing to sacrifice self rather than a fellow practitioner. Physicians have been fighting among themselves too long; the public is too cognizant of their selfishness and petty jealousies, and in the past has used this trait or attitude of jealousy to belittle or discredit the profession.

New York Medical Journal

August 26

48 Forty-Six Years of Medicine in New York. F. P. Foster, New York.
49 Value of Meat Broths. T. Darlington, New York.
50 Recent Corrective Tenement Legislation. H. A. Smith, New York.
51 Modern Vitalism. C. E. Woodruff, Cebu, P. I.
52 Scab Formation in the Nose. W. P. Porcher, Charleston.
53 Case of Malposition of the Liver. F. L. Hupp, Wheeling, W. Va.
54 Diagnosis of Benign Stenosis of the Pylorus and Duodenum N. Gross, New York.
55 Case of Mixed Astigmatism Presenting Symptoms of Brain Tumor. A. Brav and M. Staller, Philadelphia.

Texas State Journal of Medicine, Fort Worth

July

56 Surgical Solution of the Problem of Race Culture. M. Duggan, San Antonio, Texas.
57 *What Shall We Do For Our Tuberculous Patients? B. Cornick, San Angelo, Texas.
58 Temptations of the Local Medical Examiner in Making Life Insurance Examinations. J. E. Dildy, Lampasas, Texas.

57. **Treatment of Tuberculosis.**—Inasmuch as Nature, unassisted, slowly and gradually but surely, cures 80 per cent. of all the cases of tuberculous infections among those races in which the disease is and for ages has been most prevalent, and inasmuch as this wonderful achievement, which until recently was incredible, is the result of Nature's methods and processes of inducing immunity, the treatment of tuberculosis in Cornick's opinion should be based on these same principles. He endeavors to secure by well-proved sanatorium methods the speediest arrest of the active progress of the disease. This result he believes can be more quickly and certainly, and, in the long run, more economically accomplished at a sanatorium than at home; but for financial reasons, or for lack of adequate provision, even a three-months' sojourn at a sanatorium is as yet out of reach of many thousands of patients who must be treated at home. Then he would educate each patient along the lines of personal hygiene, sanitation and right living, so that he will not infect others, will not reinfect himself, and will know the simple program of right living best calculated to prevent a relapse, so that, with an arrest of his tuberculous process, he may reasonably hope to live out the allotted span of three score years and ten. This ideal education in right living may be taught outside of a sanatorium, but the patient will acquire it better and more quickly if he goes to school for a time in a well-conducted institution, where he may learn almost as much by association with his fellow pupils, his classmates, as from his instructor; and where his education is the more lasting, because, for a term, he himself lives the ideal life.

Medical Fortnightly, St. Louis

August 25

59 Reasons for Disinfection in Tuberculosis. T. Y. Hull, San Antonio, Texas.
60 The Supervention of Carcinoma on Site of Chronic Ulcer of the Leg. D. W. Basham, Wichita, Kan.
61 Chloroform Habit. W. F. Waugh, Chicago.
62 Specialism. D. L. Field, Jeffersonville, Ind.
63 Artificially Cooled Hospitals. C. E. Woodruff, Manila, P. I.

Archives of Pediatrics, New York

August

64 *Dietetic Management of Disorders of Gastric Digestion in Infants. A. Hand, Jr., Philadelphia.
65 *Diagnostic Value of Gastric Analysis in the Digestive Disturbances of Infancy. T. W. Clarke, Utica, N. Y.
66 Surgery of the Infant Stomach. E. B. Hodge, Philadelphia.
67 Pyloric Stenosis in Infancy. J. C. Gittings, Philadelphia.
68 Nursing Statistics Derived from the Study of the Infancy of 1,500 Children and a Contribution to the Cause of the Summer Infant Mortality. H. Schwarz, New York.
69 *Grippe on the Pacific Coast. S. Blum, San Francisco.
70 *Case of Congenital Stenosis of the Ileum Apparently of Syphilitic Origin. F. Van Der Bogert, Schenectady, N. Y.

64. **Management of Gastric Digestion in Infants.**—The percentage method checked off from time to time by the calorimetric method, is endorsed by Hand in the management of gastric digestion in infants. He gets better results with mixtures of milk, 16 per cent. cream, barley water, granulated sugar and lime water than with any other plan, so modifying the milk that the fat never exceeds 4 per cent., usually 3.5 to 3.8 per cent., rarely giving as low a protein percentage as 1 (usually starting at 1.5 or 1.8, according to age) and increasing it as rapidly as possible, using for the carbohydrates cane sugar and barley water, made from pearl barley, to total 6 per cent. He is sometimes compelled to use peptonization, which he says he likes to do for more than one or two months, classing this with low proteins and the measures mentioned earlier, which interfere with gastric digestion (great alkalinity, sodium citrate, whey, buttermilk) as having the great fault of not developing the digestive powers of the stomach. However, at times these other measures are valuable, and he has sometimes found it necessary to give whey for a time, or buttermilk (and of the two, he prefers the latter made of skimmed milk and fermented with the compressed tablets of the Bulgarian bacillus). These give the digestive organs considerable rest, and at the same time introduce enough nourishment to sustain life for a little while. They may be immediately or gradually supplanted by other mixtures; by adding cream to the whey, or fermenting the whole milk, or the feedings may be alternated.

65. **Diagnostic Value of Gastric Analysis.**—Clarke believes that a suitable test meal properly used may prove in time to be an aid of very considerable value in the treatment of certain of the digestive disturbances of infancy. Before its actual worth is proved, however, a large amount of investigation and practical application of the results on ill children will be necessary. The individual variations in the infant are far greater than in the adult and the correct interpretation of

the results is therefore proportionately more difficult. The most important features in the investigation which are to come must be uniformity, uniformity in method, uniformity in the test meal, uniformity in time and uniformity in the method of analysis.

69. **Influenza on the Pacific Coast.**—Endemic influenza on the Pacific coast, Blum says, resembles the usual type of influenza in that it is an infectious disease caused by Pfeiffer's influenza bacillus, and characterized by inflammation localized especially in the respiratory tract, and by pronounced systemic disturbances. It differs from the recognized type of influenza in two respects, (1) its mildness; (2) its more wide-spread occurrence. Clearly defined, influenza is in general a severe disease, and is accordingly regarded as serious and treated with respect and caution. On the Pacific coast endemic influenza, because of its low fever, freedom from prostration and from immediate danger, appears to be so trivial an affection that it is generally unrecognized as influenza, and, when recognized, is esteemed lightly and treated carelessly. As a result numerous cases are constantly present and widely disseminated. It is particularly common among children. Its spread is unhindered by appropriate prophylaxis. At present it is an insidious, slow-working and seemingly mild affection which, however, keeps alive and active the germ of virulent influenza.

70. **Congenital Stenosis of Ileum.**—The baby in this case was born Nov. 6, 1910, at full term. The baby's bowels moved for the first three weeks two or three times daily. At three weeks constipation was first noticed, a day or two elapsing between movements. At Christmas time the baby went three days and two nights without a movement. After three weeks there was vomiting of "brown" milk, but there was no vomiting of medicines (the medicines were probably all laxatives). Before this period there was some regurgitation of the milk in its natural state. Abdominal enlargement was noted at four weeks; the child was nursed only, and the intervals between nursing were said to be regular. In January, 1911, constipation was the symptom which alarmed the family. The abdomen was markedly distended, the abdominal wall thin, and the coils of intestine were visible on the surface. Reverse peristalsis was noted once during the examination, but never again while the child was under observation. Vomiting occurred just previous to the visit and a cloth on which the child had vomited showed a small streak of matter of a somewhat golden yellow color, resembling that of an infant stool and giving a faint but characteristic odor. This was undoubtedly fecal vomitus. The bowels were constipated, but a small plain water enema gave a fairly good result. There was marked emaciation.

The baby was put in the children's ward of the Ellis Hospital where several good evacuations of the bowel were obtained through high enemata. The abdominal distention, however, continued, and the coils of the intestine were still prominently displayed on the surface. Death occurred on Jan. 14, 1911.

At autopsy a narrowing of the small intestine nearly, but not completely, closing the lumen of the bowel was found in the ileum 23 inches above the ileocecal valve. This partial obstruction was apparently congenital. The bowel above was markedly dilated, with a decided increase of the muscle tissue extending more than 2 inches above the point of obstruction. The portion of ileum below was narrow. Water poured into the bowel would slowly work its way through to the portion below. The interesting point in the case, aside from its apparent etiology, was the occurrence of fecal vomiting with apparent ability to freely evacuate the bowels, due, of course, to the fact that the liquid bowel contents could readily, but slowly, pass through the obstruction. At times, however, compensation, so to speak, was lost and a reverse action followed.

Journal of South Carolina Medical Association, Charleston

August

71 Preventive Medicine: What It Has Done and What It Can Do If State Will But Recognize Its Obligations to the Public. J. A. White, Richmond, Va.
72 Significance of Bacillus Coli in Water. F. L. Parker, Jr., Charleston.
73 Functions of the Ductless Glands. M. J. D. Dantzler, Elloree, S. C.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

August

74 *Epithelial Obstructors and Conductors. R. T. Morris, New York.
75 *Diabetes Mellitus from a Surgical Standpoint. A. King, Portland, Me.
76 Manual Therapy in Some Minor Disorders. E. P. Corson-White, Philadelphia.
77 Surgical Diseases of the Stomach. L. J. Hammond, Philadelphia.

74 and 75. Abstracted in The Journal, June 3, 1911, p. 1677.

New Mexico Medical Journal, Las Cruces

August

78 Pellagra and Transfusion. J. B. Thomas, Midland, Texas.
79 Gangrene of Gall-Bladder: Report of Three Cases. H. Crouse, El Paso, Texas.
80 Significance and Management of Hemorrhage from the Nose. M. Friedman, Carlsbad, N. M.
81 Infections of the Kidneys, Pyelitis, Pyonephrosis, Pyelonephritis, Renal Abscess. C. M. Yater, Roswell, N. M.
82 *Some Experience with Guaiacol and Ichthyol as a Local Antiseptic. J. R. Gilbert, Alamogordo, N. M.
83 *Some Practical Points Relative to Rabies. F. S. Cary, El Paso, Texas.
84 Abscess of the Ear, Its Importance, Dangers, etc. W. G. Shadrach, Albuquerque, N. M.

82. **Guaiacol and Ichythol as Local Antiseptic.**—For some time Gilbert has been using a mixture containing 1 dram each of guaiacol and ichthyol to the ounce of glycerin as a local antiseptic in the treatment of infected wounds. He says his results have been excellent.

83. **Practical Points Relative to Rabies.**—The method followed at the El Paso Pasteur Institute for the cauterization of wounds is as follows: Apply hot bichlorid, 1-1,000, or boric acid solution to the bitten part, or having soaked it in the same, dry the part; then apply with a cotton wool mop so shaped as to fit the crevices of the wounds, strong carbolic acid solution; immediately take another mop and apply nitric acid, whereupon a slight explosive puff takes place; after this neutralize the nitric acid with a saturated solution of bicarbonate of soda, and wash off with alcohol, which arrests the action of the carbolic acid. Dress the wounds dry, retaining the compress in place by a bandage or adhesive plaster; in some cases collodion application may be used. If the slough or scab is sterile, as is often the case, further application to the wound should be avoided. The compress and bandages may be removed when cleanliness necessitates. The wounds should be allowed to heal under aseptic scab unless complications, i. e., infection, suppuration, etc., prevent.

Journal of Indiana State Medical Association, Fort Wayne

July

85 Cases Treated by Salvarsan. F. B. Wynn, Indianapolis.
86 Importance of Early Recognition of Internal Ear Involvement in Acute Infectious Diseases. W. H. Field, Evansville.
87 Vaccine Therapy: Principles and Practice of Immuno-Therapy. B. W. Rhamy, Fort Wayne, Ind.

Medical Record, New York

August 26

88 Triumph of American Medicine in Construction of Panama Canal. J. E. Mears, Philadelphia.
89 *Fractures of the Femur. J. A. Gilbert, Portland, Ore.
90 *Adenosarcoma of the Left Kidney in a Child; Nephrectomy; Recovery. V. C. Pedersen, New York.
91 Giant Cell Sarcoma Treated Successfully by Radium. W. B. Snow, New York.
92 True Congenital Unilateral Hypertrophy. A. J. Davidson, Philadelphia.
93 Operative Treatment of Acute Appendicitis. J. B. Bissell, New York.
94 *Three Cases of Brill's Disease. L. Louria, Brooklyn, N. Y.
95 *Case of Tuberculous Meningitis. H. D. King, New Orleans, La.
96 *Case of Missed Abortion. J. Ohlbaum, New York.

89. **Fractures of Femur.**—Gilbert describes a method of treatment of fracture of the femur for which he claims originality of method and apparatus. Extension is continuous, regardless of the position of the patient; elevation of the foot of the bed is unnecessary, and the patient can be turned on the side; adhesive strips applied to the body are more comfortable than counterpressure in the groin and perineum; pain during the application of the apparatus or while wearing

it is almost *nil*, and one attendant can manage the patient. This method is well adapted to any cast for hip, body or femur.

90. **Adenosarcoma of Left Kidney in a Child.**—Pedersen presents the history of a case of adenosarcoma of the left kidney occurring in a child of three years, previously healthy. The important points in this history were the appearance of copious hemorrhages from the bladder and of pain in the left side. It was found that the urine escaped from only one ureter. Operation for removal of the kidney showed that it was an adenosarcoma. The child recovered.

94. **Brill's Disease.**—Louria is inclined to believe that this is not a new disease but a mild form of typhus fever.

95. **Tuberculous Meningitis.**—The patient whose history is given by King suffered from nervous diseases of functional character for some years before she was taken with coma, followed by an irregular temperature which rose to 107.8 F. Lumbar puncture gave marked lymphocytosis, a positive Noguchi reaction and no tubercle bacilli. The patient suffered from cough for some time before her illness, with loss of weight and general weakness. Rigidity and Kernig's sign were present. No autopsy was allowed.

96. **Missed Abortion.**—The interesting point in this case is that the woman had been carrying a dead fetus *in utero* for probably six and a half months, without it causing her to have any physical disturbance whatsoever. Last menstrual flow occurred in May, 1910. In June, 1910, the woman began to show her usual symptoms of pregnancy, i. e., cessation of menses, which had been punctual outside of her puerperal periods, morning sickness, and the enlargement of the breasts. She consulted several physicians when her menses ceased and was told she had a pregnancy of three months or thereabouts. At about the fifth month from the time her menses ceased she commenced to look for signs of "life," which did not appear. She diagnosed her case as one of early menopause and ceased to give herself a thought about her condition. She was gaining in weight and felt comfortable. On March 12, 1911, at about 3 a. m., she commenced to have cramp-like pains and thought they were her bowels, having eaten some food the night previous which might have caused her to have a "spoiled stomach," as she called it. The pains became more severe and she decided to send for a physician. Ohlbaum was called in and reached her home at 7:30 a. m., March 12. When he got there he was shown a sac which the woman had expelled. On examination he found it contained a fetus of about three and a half months. The fetus, cord and placenta were all connected. Microscopically the placenta showed a fatty degeneration of the entire mass. The fetus was of a dirty, dark, brownish-black appearance.

Lancet-Clinic, Cincinnati

August 26

97 Certain Newer Theories on Etiology of Diabetes Mellitus and Its Treatment. L. G. Heyn, Cincinnati.
98 Chronic Pancreatitis, with Reference to the Present Status of the Cammidge Reaction. J. H. Schroeder, Cincinnati.
99 Some Considerations of the Risk in Life Insurance Examinations, with Special Reference to Tuberculosis. C. L. Wheaton, Chicago.

Vermont Medical Monthly, Burlington

August 15

100 Diagnosis and Prognosis of Valvular Lesions of the Heart. C. H. Beecher, Burlington, Vt.
101 Diabetes. W. C. Abbott, Chicago.
102 Cosmetic Surgery. C. M. Cobb, Boston.
103 Extrauterine Pregnancy. R. H. Seelye, Springfield, Mass.

Canadian Medical Association Journal, Toronto

August

104 A Chronic Cholera Carrier. J. G. Adami, Montreal, A. Vallee, Quebec, and G. E. Martineau, Grosse Isle.
105 *Typhoid Bacillus Carriers. J. C. Meakins, Quebec.
106 *Infant Mortality in Canada. C. A. Hodgetts, Ottawa.
107 *Typhoid at Ottawa. L. Drum, Ottawa.
108 *Fort William Epidemic of Typhoid in 1906. F. C. Douglas, London.
109 Local Typhoid Epidemic at Murray Bay, P. Q. C. K. P. Henry, Murray Bay.

105. **Typhoid Bacillus Carriers.**—In view of the frequency of typhoid carriers, the difficulty of cure, and the great danger they are to the public health, Meakins urges that every means should be employed for their recognition, prevention and isolation. The task of recognition of transitory carriers falls to the general hospitals, where over 50 per cent. of the cases of typhoid are treated. Every case, before discharge, should be examined thoroughly bacteriologically, and should be kept in the hospital or under strict observation and be treated by homologous vaccines until the excreta are free of typhoid bacilli beyond peradventure. If they could be reexamined six to twelve months afterwards, especially the adult women patients, much would be gained. Search for the source of infection in every case of typhoid, and the district physician should be informed when a known carrier is in his jurisdiction, so that he can keep him under supervision. Those patients who are not treated in the hospitals should be strictly watched and frequently examined by a special department of the board of health.

Germany has dealt with this question in a masterful way. In the southwestern part of the empire typhoid fever is largely endemic. On the recommendation of Koch, stations were established in this district under the municipal government. Each laboratory was well supplied with skilled bacteriologists, who worked in conjunction with the local authorities. Their duties were fourfold—to diagnose typhoid, to ascertain the source of infection in each case and to examine for infected persons, to supervise and regulate the general hygiene of the district, and to make bacteriologic examinations of stools and urine, in order to determine when convalescents cease eliminating typhoid bacilli. By their work they have made great strides in the prevention of typhoid, more especially as regards the typhoid carrier. As there is no other source for malarial infection than mankind, so it is with typhoid, which practically means that if we can prevent, cure or render innocuous the typhoid carrier, we can get rid of typhoid, but not until this has been accomplished.

106. **Infantile Mortality in Canada.**—From the figures given by Hodgetts and the comparisons made, it is quite evident that the infant mortality rate (12 in 100) is not what it should be. It is much too high for a country so sparsely populated, where poverty in its severe forms is non-existent, and the figures quoted carry the conviction that there is a wanton destruction of this item of national resources. Why should the general, infant death-rate be so high, asks Hodgett, when there are not the many social and sanitary problems staring people in the face as have the nations of Europe, and even the United States? Poverty is there, but not to the same alarming extent: unsanitary housing conditions are to be met with, but are not so apparent. The cities are, on the whole, healthy: drainage is good, although in regard to water-supplies and sewage disposal, Hodgetts says, they have yet much to do. Milk-supplies are only fair: that there is room for improvement is shown by the movement being made for improvement is shown by the movement being made for "pure milk." The people, as a race, are fairly healthy; and the climate is looked on as that best suited for an active, vigorous manhood and womanhood.

Hodgetts suggests that the trouble begins in the antenatal period of infant life; that the slaughter of the innocents continues from birth onward, is in evidence; and that much of this wanton destruction could be prevented, is more than certain. In civil law, ignorance is no excuse; how much greater then is the sin of the parents when it must be pleaded that they were ignorant of their duties and responsibilities to their offspring, with the result that the little ones died prematurely. Ignorance of parental duties is a great and growing evil, one which must be met by a better and broader education in all that relates to the child and child life. Young women must be taught the duties of motherhood; young men, the responsibilities of fatherhood; the municipality, the duties it owes to the child in providing for clean housing as well as for proper housing accommodation, pure milk-supplies, and, by civil enactment, seeing that the environment of the mother and child shall be of the best. The state, too, must move along lines which it has already done to improve livestock, to foster our agricultural wealth, spending money for the purpose.

107. **Typhoid at Ottawa.**—Drum concludes that this epidemic was due solely to the infected water-supply. Of course, there were some cases due to contact, and secondary infection through food, but the original and continuing factor was the water-supply.

108. **Fort William Epidemic of Typhoid in 1906.**—The causes of this epidemic are summed up by Douglas as remote and immediate. The remote included: 1. Presence of numerous endemic cases without report of same to the authorities. 2. Systematic pollution of soil and general unsanitary condition of the whole place. 3. Contamination of the water-supply with sewage. The immediate cause was a specific contamination from three main sources: 1. Forde Street sewer, 1,400 feet above the intake, two cases of typhoid. 2. Town pumping-house, four cases of typhoid. 3. Foreign section, 1½ miles above the intake, six cases.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

August 15

110 *Cerebrospinal Syphilis. W. C. Nichols, Fargo, N. D.
111 *Syphilis, With Reference to Recent Advances in Diagnosis and Treatment. J. M. Armstrong, St. Paul.
112 Present Status of Serum-Therapy. P. R. Burkland, Vermilion, S. D.

110 and 111. Abstracted in The Journal, July 8, 1911, p. 58.

Woman's Medical Journal, Cincinnati

August

113 Dementia Præcox. M. K. Isham, Columbus, O.
114 Points for Consideration in Determining a Fit Public Water-Supply. M. Macmillan, New York.
115 Streets and Sewers and the Disposal of City Wastes. H D. Parsons, New York.
116 Hygiene of Streets. J. J. Cronin, Chicago.

Buffalo Medical Journal

August

117 Latent Sinusitis. G. F. Cott, Buffalo.
118 *Colds, Their Causes and Treatment. S. F. Snow, Syracuse, N. Y.
119 Treatment of Syphilis. W. W. Quinton, Buffalo.
120 Three Years with the Army of the Potomac. W. W. Potter, Buffalo.

118. **Causes and Treatment of Colds.**—It is Snow's practice to give a medium dose of castor oil or salines between the doses of calomel, if the auto-intoxication is persistent or active and calomel has been used, the aim being of course to prevent cumulative effects from the mercurial. He has used a pill composed of blue mass, colocynth compound, strychnin sulphate and belladonna for ten years, with not one instance of mercurial poisoning, nor one instance tending to show that a constipated habit has been induced. Such a drug combination does not, he says, require an after-flushing with salines, and is sufficiently effective, except in extreme or obstinate cases in which nothing acts so well as calomel.

Maryland Medical Journal, Baltimore

August

121 Pregnancy Complicated by Heart and Kidney Disease, with Special Reference to the Treatment of Severe Cases. E. H. Kloman.
122 Stereopticon Lesson in Sex Hygiene. M. Fairchild, Baltimore.
123 Sewage and Sewage Disposal. C. W. G. Rohrer, Baltimore.

Louisville Monthly Journal of Medicine and Surgery, Louisville

August

124 Sacro-Iliac Strain, With Report of a Case of Sciatica. J. J. Moren, Louisville.
125 Ruptured Duodenal Ulcer. J. G. Sherrill, Louisville.
126 Tubal Pregnancy Twice Within a Year in Same Patient. L. S. McMurtry, Louisville.
127 Dietary Idiosyncrasy. J. M. Ray, Louisville.
128 Birdshot Wound of Chin. A. M. Vance, Louisville.
129 Dorsal Myelitis. A. M. Vance.
130 Cervical Ribs. A. M. Vance.
131 Permanent Hemianopsia in Patient Long Subject to Migraine With Temporary Hemianopsia. S. G. Dabney, Louisville.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

August

132 What Every Physician Should Know of Ophthalmology H D. Bruns, New Orleans, La.
133 Use of Antiformin in Examining Serous Pleural Effusions for B. Tuberculosis. W. Allan, Charlotte, N. C.
134 Pyloric Stenosis. A. M. Willis and J. M. Hutcheson, Richmond.
135 Surgery of Gall-Bladder. H. Norris, Rutherfordton, N. C.
136 Acute Pancreatitis. P. L. Gibbon, Charlotte, N. C.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 19

1 The Surgeon and Industrial Worker. W. D. Spanton.
2 *Afferent Fibers in Ventral Spinal Roots. L. J. Kidd.
3 Pancreatic Cyst: Rupture: Recovery. H. Walker.
4 An Intracellular Stage in Development of Trypanosoma Lewisi in the Rat-Flea. E. A. Minchin and J. D. Thomson.

2. **Afferent Fibers in Ventral Spinal Roots.**—Kidd has collected a large amount of evidence, surgical, experimental, histologic and embryologic, which leads him to the inevitable conclusion that afferent fibers, in some cases algetic, in others reflex, exist in the spinal ventral roots of man and many other vertebrates. In his opinion, we ought to divide ventral as well as dorsal roots in cases of intractable pain, except in the case of the third and fourth cervical ventral roots; here division would cause motor palsy of the diaphragm on the side of section; but, unilateral phrenic palsy in man and laboratory animals does not usually cause danger to life. It is, of course, true that ventral root division for pain would always cause some motor palsy, but the patient would probably almost always prefer this disability to a continuance of his pain. The fact that in some cases dorsal root division does abolish all pain suggests that it may be only in some regions of the spinal cord that any afferent fibers pass up ventral roots to their endoneural ganglionic groups of cells.

Certain experiments suggest to Kidd in the clearest manner that the ventral cervical roots of the pigeon, and the ventral roots of the cauda equina of the dog, contain afferent fibers which supply the reflex component of the muscle tonus of the wing muscles and the tail muscles, respectively. The origin of these ventral root afferents in the spinal cord region, whether cervical (pigeon), thoracic and lumbosacral (man), or sacrococcygeal (dog), is entirely from endoneural afferent ganglionic cells, situated, Kidd believes, in (1) the smaller cells of Clarke's column, (2) the solitary cells of the dorsal horn, (3) some of the "middle cells" of the cord, and possibly also (4) some of the cells of the nucleus cuneatus of the bulb. Kidd denies that any motor cells exist in (1) tectum mesencephali, (2) locus coeruleus, (3) Deiter's nucleus, (4) dorsal vago-glosso-pharyngeal nucleus (ganglion), or (5) in any of the four spinal dorsal-zone cell groups mentioned. Since all these parts are developed in the dorsal zone of the embryonic brain or cord (the alar lamina of His), and since, further, there is no instance known in any vertebrate of motor fibers rising in cells derived from the alar lamina, Kidd holds that it is nothing less than a morphologic outrage to teach that any of these cell-groups give origin to motor fibers.

Lancet, London

August 19

5 Housing and Town Planning. F. E. Fremantle.
6 *Hereditary Tendency Toward Twin-Bearing, and the Influences Aiding in the Determination of Sex. J. Oliver.
7 Discrimination of Color. F. W. Edridge-Green.
8 Pathologic Relationship Between the Appendix and the Uterine Adnexa. J. Birt.
9 *Meningitis Following Measles. C. A. Basker.
10 Convenient Method to Test the Visual Fields for Color Without Use of a Perimeter. T. A. Williams.

6. **Hereditary Tendency Toward Twin-Bearing.**—Twenty-four patients out of every 2,500 that Oliver has seen have once or oftener given birth to twins, a proportion, that is, of about 1 in 104; therefore he is convinced of the existence of an hereditary tendency toward twin-bearing. In three only of these patients was there no history of twins either on the female or the male side, and in one or more of those it is quite possible that the default may have been due to ignorance. In this group there are twenty-eight sets of twins, as one patient has borne twins three times and two others had each had twins twice. The twins in thirteen instances are boy and girl, in twelve they are two girls, and only in three are they two boys. The aforesaid twenty-eight confinements produced altogether thirty-seven females and nineteen males, a proportion, that is, of practically two females to one male; and this, Oliver says, is fairly constantly the relationship of female to male births as a result of twin conceptions. This is a noteworthy phenomenon, since in all European countries,

whether the legitimate and illegitimate births be computed separately or together, the total annual number of male births always exceeds that of females, and this has been a constant revelation year after year in northern and southern countries alike. In England and Wales the total male and female births during the year 1907 were, respectively, 467,728 and 450,314, or proportionally 103 or 104 males to every 100 females. In countries, however, where polygamy prevails this relationship of male to female births is reversed, for polygamy produces about two female births to every one male. This relationship corresponds closely with that noted as a result of twin conceptions.

Judging from his own clinical facts and experience Oliver is convinced that the production of twins in the human female is not a chance affair, and has nothing to do with the deficiency of lime or potash or soda salts in the blood or generative tissues of the mother, for it is well known that deficiency of these salts so alters the sensitivity and irritability of the Fallopian tubes and uterus that well-marked symptoms make their appearance therefrom and abortion is apt to ensue. If, therefore, twin productions were in any way associated with deficiency in the amount of calcium, or potassium, or sodium in the maternal blood, twin productions would more commonly result in abortions than they do.

9. **Meningitis Following Measles.**—During the first half of this year, when an epidemic of an unusually severe form of measles was prevalent, six children suffering from meningitis were admitted into Addenbrooke's Hospital. In one of the patients the disease was primarily pneumococcic. The other five had symptoms of post-basic meningitis. In three of these the cerebral symptoms followed measles, one a week, one six weeks, and one eight weeks after the rash had been seen. In all five the onset of the disease was sudden; most of the patients vomited and rapidly lost consciousness, and retraction of the head and Kernig's sign were well marked. The temperature was usually not above 101 F., and the pulse and respirations were irregular. In three cases improvement followed and seemed to be due to lumbar puncture. One patient recovered completely, and though meningitis was diagnosed it was not proved, as an examination of the cerebrospinal fluid was sterile and showed no excess of cells. The other four patients died and their brains were examined, and all showed a meningitis alike in appearance. There was a greenish-yellow exudation of lymph into the pia-arachnoid membrane at the base of the brain with more fluid than usual in the ventricles. In the cerebrospinal fluid of one patient (who had not had measles recently) the meningococcus of Weichselbaum was found, and in another diplococci were seen in the exuded lymph at the base of the brain. On account of the similarity of the clinical course of the disease and of the appearance of the brains after death, Birt suggests that it is not improbable that the meningococcus was responsible for the meningitis in all the cases. Whether the measles disposed to, or whether it was accidentally followed by, the meningitis is uncertain, but in either case the occurrence of nervous symptoms after measles is interesting on account of its rarity.

Australian Medical Journal, Melbourne

July 21

11 Diagnosis of Nephrolithiasis. J. Smith.
12 Id. F. D. Bird.
13 Modern Midwifery. A. A. Lendon.

Australasian Medical Gazette, Sydney

July 20

14 South Australian Branch of the British Medical Association. W. T. Hayward.
15 *Sprue and Ankylostomiasis, Treatment. W. C. C. Macdonald.
16 The Methodical Surgical Exploration of the Abdomen. T. Fiaschi.
17 *New Method in Operation for Hemorrhoids. W. T. Chenhall.
18 Case of Acute Yellow Atrophy of the Liver. T. H. May.
19 Obstetrics in the Lady Bowen Hospital. A. Marks.
20 Ten Years' Experience of Morphin-Scopolamin. B. Korff.
21 Smith's Operation for Extraction of Cataract in Capsule; Report of 253 Cases. J. C. Halliday.
22 Case of Pyonephrosis Complicating Puerperium. Operation. Specimen. R. Worrall.
23 *Appendix Open at Two Ends. A. L. McLean.

15. **Sprue and Ankylostomiasis.**—The treatment practiced by Macdonald in cases of sprue for many years with marked success consists in the administration of fairly large doses of chlorate of potash at frequent intervals and continued for a considerable period, and treating the diarrhea and dyspepsia by carbonate of bismuth and sulphate of morphin or oxybromid of bismuth. He recommends the following: Chlorate of potash, 1 oz.; water to 12 oz., 1 tablespoonful every four hours after shaking the bottle. The potash does not dissolve in this proportion, but Macdonald thinks there is an advantage in giving some of the undissolved salt in each dose. For the dyspepsia and diarrhea he recommends the following:

℞	Gm. or c.c.		
Bismuthi carbonatis	16		ʒiv
Liquoris morphinæ sulphatis	12	or	ʒiij
Glycerini	16		ʒiv
Aquæ ....q.s. ad	120		℥iv

M. et Sig.—One dessertspoonful three times daily in water.

This mixture seems to speedily check the diarrhea, and should be then given twice daily, and later at night only until the stools become formed. If the bowels become constipated some aperient pill with blue pill is most suitable. In Macdonald's opinion castor oil and the salines are contra-indicated, as they sometimes cause serious relapses and seem to irritate. The whole treatment can be stopped for a week or so if the case progresses well. Slight relapses are sure to occur, but with continued treatment the relapses get less and less, until complete convalescence is established. Experience has taught Macdonald that a fairly liberal diet can safely be ordered in conjunction with the above treatment. Milk puddings, eggs, soup, bread and butter, underdone meat and white meat, etc., can be given.

17. **New Operation for Hemorrhoids.**—In Chenhall's method each pile is grasped in a pair of long, light, slightly-curved forceps, care being exercised to close the blades just within the mucocutaneous margin and their points on the main vessel in the pedicle above. By drawing the forceps handles toward the lumen of the bowel, the mucocutaneous junction is rendered tense and is divided by a clean-cut knife incision immediately behind the forceps blades to the depth of half an inch. A fine, round, curved needle, threaded with No. 1 plain catgut, is now passed through both sides nearly the full depth of the incision, which is then closed in a direction parallel to the length of the bowel. This suture, when tied, serves as a tractor. Separating the tractor and forceps, the mucous membrane, now rendered tense, is divided by the knife on each side behind the forceps blades. The submucous tissues are carefully raised or divided. The next suture is now inserted. Transfixion of even small veins is easily avoided in passing the sutures, since the floor of the small wound is exposed. This cannot be claimed when sutures are passed through tissues gripped by forceps. Ligature may be, but is rarely, necessary for any vessels. Using, in succession, each suture as a gentle tractor the same procedure is repeated until the upper part of the pedicle is reached. This, which contains the main vessel, is ligatured with No. 2 catgut, divided, tucked down and buried in the end of the incision by a small catgut suture, which closes the upper end of the wound, passing in transit through the end of the incision and the pedicle ligature is rendered additionally secure. This is most important. A long line carrying tied sutures marks the site of the original pile. There is practically no bleeding, and postoperative pain is so slight that sedatives are rarely necessary after the first hypodermic of morphia. Chenhall emphasizes that it is important that sutures be not tied unduly tight. Suppositories should never be used, a dry, sterile dressing pad being the only dressing required. The bowels, carefully prepared before operation, should be allowed to rest until the fourth or fifth day.

23. **Appendix Open at Two Ends.**—The patient, female, aged 28 years, had acute pain and tenderness in the right side. There was no vomiting, but constipation was marked. Since then similar attacks, slighter in character but never with vomiting, have occurred. She noticed at the first attack that she limped with her right leg when walking, and this action relieved the pain. Since her marriage, two years ago, she had had a good deal of pain in both iliac fossæ. On abdominal section there was a condition of double salpingitis. The appendix was near the brim of the pelvis, bound down by adhesions to the cecum and adjoining portion of the small

intestine (lower end of the ileum. On separation of the superficial adhesions there was found a hard cord-like adhesion joining the appendix at a point ½ inch from its tip with the ileum. This was inseparable by digital manipulation, and on being cut through was found to enclose the lumen of a short canal which gave access from the appendix to the ileum. The proximal end of the appendix was patent into the cecum, and within the former was a small, hard fecal concretion. The condition evidently pointed to a preexisting appendiceal abscess which had burst into the small intestine, though the previous history scarcely conformed to such an occurrence in severity of symptoms.

Medical Press and Circular, London

August 9

24 Diabetic Polyneuritis. Claude.
25 The Ritual and Growth of Surgery. J. Lloyd.
26 Merits of a Relatively Low Protein Diet. C. Watson.
27 Results of Prostatectomy. H. H. Young.

August 16

28 Action of Placental Serum on Cancer. Kraus and Graff.
29 Case of Pruritus Vulva. J. G. Tomkinson.
30 *Are Pellagra and Sprue One and the Same Disease? J. Burnet.
31 Mental Symptoms in Choreiform Disorders. E. Mapother.
32 Present Status of Radium Therapy. W. H. B. Aikins and F. C. Harrison.

30. **Pellagra and Sprue.**—Both pellagra and sprue are afebrile diseases. In both there are emaciation, loss of weight and general malnutrition as later symptoms. The most striking fact, however, is that cases of pellagra may not show any skin manifestations for a very long time, the only evidence present being a persistent and chronic diarrhea, which so closely resembles sprue that one cannot overlook this similarity. Burnet is convinced that the two diseases are one and the same.

Clinical Journal, London

August 9

33 Insomnia. R. Hutchison.
34 Racial Evolution of the British People; Its Importance in Pathology and Therapeutics. J. S. Mackintosh.

August 16

35 Intestinal Fistula. H. M. Rigby.
36 Limitations to the Successful Employment of Salicylates in Rheumatic Affections. A. F. Voelcker.

Bulletin de l'Académie de Médecine, Paris

July 4, LXXV, No. 27, pp. 1-44

37 Experiences with Spinal Anesthesia. (Contribution à l'étude de la rachinovocainisation lombaire.) E. Forgue and V. Riche.

Berliner klinische Wochenschrift

August 7, XLVIII, No. 32, pp. 1453-1496

38 *Surgery of Hypophysis Cerebri. E. Melchior.
39 Action of Pituitrin on Uterine Contractions. R. Stern.
40 Pituitrin in Obstetrics. O. Bondy.
41 *Wassermann Reaction and Experimental Syphilis. (Experimentelle Kaninchensyphilis.) F. Blnmenthal.
42 Effect of Atophan on Excretion of Uric Acid. (Angriffspunkt des Atophans bei seiner Einwirkung auf die Harnsäureausscheidung.) E. Frank and B. Bauch.
43 Action of Hydrogen Peroxid on Enzyme Production. (Einwirkung von Wasserstoffsuperoxyd auf das enzymproduzierende Vermögen der Schleimhaut und auf die ausgeschiedenen Enzyme.) A. Marcuse.
44 New Method of Examining the Pupil of the Eye. (Nebst Beitrag zur Frage der Konvergenzreaktion und Mitteilung einiger wenig bekannter Phänomene am Auge.) S. Goldflam.
45 *Collateral Circulation of the Kidney. E. G. Lick.

August 14, No. 33, pp. 1497-1540

46 *Pyonephritis and Prostatitis Actinomycotica. T. Cohn.
47 *End Results of Prostatectomy. L. Casper.
48 Diverticula of Appendix. (Entzündliche Divertikel des Wurmfortsatzes.) W. V. Simon.
49 Sugar Metabolism in Addison's Disease. H. Schirokauer.
50 Feeding with Artificial Mother's Milk. H. Fricdenthal.
51 Vaccinotherapy. G. Wolfsohn.
52 Uzara; a New Antidiarrheic. C. Bachem.
53 Overcorrection in Spastic Contraction. S. Peltesohn.
54 Roentgen-Rays and Sterility. H. E. Schmidt.

38. **Surgery of Hypophysis Cerebri.**—What is known of the surgery of the hypophysis as well as of the functions of this gland is presented in review by Melchior. He emphasizes the excellent clinical results that are obtained from operation, but insists that an early operation in suitable cases offers the only hope of giving the patient relief or of effecting a cure. The headache and the visual disturbances are regarded as a sufficient indication for the immediate performance of the operation

41. **Wassermann Reaction and Experimental Syphilis.**—The Wassermann reaction was sought for 107 times in fifty-five rabbits. The results were always negative. Fifty-four rabbits were infected with syphilis, fourteen through the anterior chamber of the eye and forty-two scrotally. Irrespective of the clinical history of these cases the test was negative. Twenty-five animals were infected by intravenous or intracardial injections; ten presented symptoms of general syphilis. The reaction was positive five times. In two of the animals the reaction was not accompanied by evidence of clinical symptoms. The reaction was obtained as early as the sixth week, but on the average not until the eighth week. The author concludes that his experiments show that a positive Wassermann may be obtained in cases of general infection.

45. **Collateral Circulation of Kidney.**—Liek is convinced that it is impossible to establish a collateral circulation in the kidney by means of decapsulation or otherwise which will equal the normal circulation through the renal artery. He warns against the use of this procedure in the treatment of cases of chronic nephritis.

46. **Actinomycosis of Genito-Urinary Tract.**—Cohn presents the case of a man who, fifteen years previously, was suddenly beset with vesical tenesmus and during this time voided urine containing both pus and blood. The symptoms slowly diminished in severity and after a few years disappeared almost entirely, although the pyuria and hematuria continued. For the past four years there have been present painful urination and dribbling of urine. The patient was pale and very much emaciated. The prostate was enlarged and was believed to be the seat of a purulent inflammation. Cystoscopy did not throw any light on the clinical history of the case. The interior of the bladder was negative. It was concluded, therefore, that while some of the pus might have come from the prostate, the large amount of pus in the urine pointed to a renal involvement to which the bladder inflammation was secondary. Tubercle bacilli were not found in the prostatic fluid nor in the urine but the actinomyces was present in large numbers and was successfully cultivated. It was impossible to ascertain the source and method of infection, although the patient had worked with cereals and had often slept on straw and hay; he could not recall any injury which might have served as an infection atrium.

47. **End Results of Prostatectomy.**—Casper reports the end results of fifty-four cases of prostatectomy done by him. Reports were received from twenty-six patients as to the condition of the bladder. These patients were operated on two to five years previously and none of them has any difficulty in urination, neither is there any pain. In 95 per cent. of his cases there was cystitis; 75 per cent. of these patients have been freed from this trouble entirely. In all cases in which the renal function was unimpaired before the operation, it remained unchanged after the operation and inasmuch as Casper does not operate unless the function of the kidneys is normal, no kidney disturbances occurred after these prostatectomies. In three cases the patients complained of severe lancinating pains in one or both legs. They resembled the pain of sciatica but disappeared about five months after the operation. Casper suggests that the pain was probably the result of the unavoidable injury done to the nerves of the hypogastric plexus during the operation. In those cases in which the prostatectomy was done because of severe hemorrhages from the prostate, further bleeding was not noted after the operation. In none of the cases was there a recurrence of the original trouble. Naturally, Casper favors operation when it is indicated.

Deutsche medizinische Wochenschrift, Berlin

July 27, XXXVII, No. 30, pp. 1377-1424

55 Senile Processes in Central Nervous System. (Alterserkrankungen.) W. Spielmeyer.
56 Physiologic Pathology of Beehterew-Strümpel's Disease, (Chronic Ankylosis of Spine). J. Plesch.
57 Local Anesthesia in Trigeminal Region. H. Braun.
58 Cause and Prevention of Apical Pulmonary Tuberculosis. (Entstehung und Verhütung der Lungenspitzentuberkulose.) Bacmcister.
59 Tuberculosis of Genital and Uropoëtic System of Female. A. Sippel.
60 *Therapy of Gastric Hyperacidity. H. Winternitz.

61 *Roentgenologic Determination of Gastric Hyperacidity. (Eine Azidität sbestimmung des Mageninhalts mittels des Röntgenverfahrens.) E. Schlesinger.
62 Operative Treatment of Hay Fever. (Doppelseitige Resektion des N. ethmoidalis anterior.) T. Albrecht.

August 3, No. 31, pp. 1425-1464

63 Peristalsis of Colon. (Röntgenbeobachtungen.) G. v. Bergmann and E. Lenz.
64 Apparatus for Registering Heart Tones Photographically. R. Ohm.
65 Senile Processes in Central Nervous System. W. Spielmeyer.
66 Case of Rupture of Longitudinal Sinus. Wieting.
67 Errors in Serodiagnosis of Echinococcosis. A. Brauer.
68 Case of Reinfection with Syphilis after Salvarsan Treatment. R. Krefting.
69 Angina Ulcerosa in Tanger Fever. M. Steiner.

August 10, No. 32, pp. 1465-1504

70 Heredity of Disease. F. Pick.
71 Chronic Poisoning, Especially with Lead. W. Straub.
72 *Cholera Vibrios and Hemolysis. R. Kraus, D. A. L. Graham and Z. Zia.
73 Treatment of Acute Suppurative Nephritis. (Ueber Bakteriensteine im Nierenbecken, zugleich zur Behandlung der akuten, eitrigen Nephritis.) A. Neumann.
74 *Acetylsalicylic Acid for Cough. W. Ebstein.
75 Serodiagnosis of Tuberculosis and Syphilis by Means of Viscosimeter. K. Csépai and A. v. Torday.
76 *Treatment of Carcinoma of Uterus with Radium Rays. E. Arendt.
77 *Phenolphthalein Blood Test. P. A. Kober.
78 Wassermann Reaction in Examination of Prostitutes. W. H. Dreuw.

60. **Hydrogen Peroxid in Hyperacidity.**—According to Winternitz, solutions of hydrogen peroxid, even in very slight concentration, reduce gastric acidity but not for any great length of time. He has therefore abandoned this method of treatment and has returned to the use of alkalies.

61. **Determining Gastric Acidity by Means of Roentgen Rays.**—In the procedure adopted by Schlesinger, the patient is fed bismuth mush in any desired form and there is then noted the size of the so-called magenblase or stomach bubble and the rapidity with which the bismuth mush is digested. A roentogram is taken as soon as the bismuth mush enters the stomach. Another picture is taken one hour later. The patient is then urged to drink several ounces of water, containing 10 per cent. of sodium. Two minutes afterward another roentogram is made. This second picture shows a distinct enlargement of the magenblase which is the important part of the procedure. The difference in the size of the magenblase in the first and second pictures shows the amount of CO_2 liberated from the sodium and furnishes the means of estimating the acidity of the gastric contents. The greater the amount of CO_2 the greater is the acidity.

72. **Toxicity of Cholera Vibros.**—The authors ascertained that all of the strains of cholera vibrios obtained during various epidemics occurring in the past three years did not produce any hemotoxins. If, however, organisms grown on blood-serum are used, hemolytic vibrios are produced; therefore methods of culture are recommended for differential purposes; that is, organisms grown in ordinary bouillon media are not hemolytic, whereas blood-serum cultures are hemolytic.

74. **Acetylsalicylic Acid for Cough.**—To allay distressing cough Ebstein gives acetylsalicylic acid. He reports several cases in which only good effects were obtained from this medication. One patient failed to get any relief from the use of codein. Acetylsalicylic acid gave immediate relief. Ebstein says that it not only gives relief but it effects a cure, besides materially shortening the duration of the illness.

76. **Radium Therapy in Carcinoma.**—Arendt recommends radium therapy in those cases in which a radical operation is, beyond question, hopeless, and to prevent recurrence. In the so-called inoperable cases, however, he would remove as much of the carcinoma as possible before resorting to radium therapy. He emphasizes the necessity for circumspection and caution in the use of the radium. Of eighteen cases, ten patients died, eight are living and are now being treated by Arendt. Six of these are in good condition, two are nearing death, three of the patients are following their occupations, the remaining three having the appearance of well persons. In eight cases a complete hysterectomy was performed, four patients had a recurrence. Only one patient of four subjected to radium treatment has had a recurrence. Therefore, Arendt is a firm believer in the use of radium to prevent recurrence after radical operations undertaken to remove a carcinomatous uterus.

77. **Phenolphthalein Blood Test.**—Kober is of the opinion that this test should not be accepted as a positive one, because both positive and negative results are open to question of doubt. He would not use either Meyer's or Fleig's reagent to test for blood.

Zeitschrift für Kinderheilkunde, Berlin

II, No. 6, pp. 437-548. Last indexed July 29, p. 435

79 Methods for Systematic Research on Metabolism of Salt in Infants. (Einige Bemerkungen zur Methodik der Erforschung des Salzstoffwechsels des Säuglings.) B. Salge.
80 Experiences with "Albumin Milk." (Erfahrungen mit Eiweissmilch.) P. Grosser.
81 Analysis of "Albumin Milk." H. Pelka.
82 *Urobilinuria with Measles. (Urobilinurie bei Masern.) E Rach and A. von Reuss.
83 Infant Feeding with Little Sugar and Much Fat. (Zur Frage der zuckerarmen und fettreichen Ernährung.) I. Rosenstern.
84 Non-Gonorrheal Ophthalmia Neonatorum. (Ueber nichtgonorrhoische Säuglingsblennorrhoe.) L. Halberstaedter.
85 *Mumps in Connection with Disease of the Auditory Nerve and Labyrinth. (Beziehungen von Acusticus- und Labyrintherkrankungen zur Parotitis epidemica.) H. Haike.
86 Elimination of Sugar in Infants. (Beitrag zur Zuckerausscheidung im Säuglingsalter.) H. Nothmann.
87 *The Cutaneous Tuberculin Reaction. A. Radziejewski.
88 *The Parathyroids, Especially in Relation to Tetany in Infants. (Eine Untersuchung über die Epithelkörperchen mit bes. Berücksichtigung ihrer Beziehungen zur Säuglingstetanie.) R. W. Bliss.

82. **Urobilinuria in Measles.**—Rach and Reuss found urobilinuria in the course of measles in all but four of fifty-one cases, that is, in 92 per cent., but frequently it was slight and transient. It rarely lasted more than a few days and was usually mild, never reaching the intensity of the urobilinuria in scarlet fever. When the urobilinuria was protracted there was always some complication justifying the assumption of insufficiency of the liver. The direct complications of measles did not seem to affect the urobilinuria. It was never observed until toward the end of the eruption phase.

85. **Mumps and the Ear.**—Haike reports the case of a young man of 19 who became suddenly deaf after a few days of malaise and slight fever but no local pain or vertigo. The other features of the case suggested mischief in the labyrinth, and three days later bilateral orchitis developed with high fever and much depression, the young man losing 20 pounds in the course of a month. The mumps seemed to have affected the internal ear first, and permanent deafness has resulted. There was no involvement of the parotid at any time. Gradenigo has reported a somewhat similar case in a boy under 5 years old whose smaller brother had mumps. The older had pains and swelling in the testicles but these subsided under cold applications. The next day sudden deafness developed and was permanent. There were no symptoms on the part of the parotid at any time. In Haike's case there was no known chance for contagion with mumps in the town, but he thinks it should be classed as "epidemic parotitis without parotitis," and believes that this assumption will explain other cases of sudden, bilateral deafness in children, usually accompanied by some mental disturbance at first such as may accompany mumps.

87. **The Cutaneous Tuberculin Reaction.** — Radziejewski writes from the children's clinic at Breslau in charge of von Pirquet to relate the findings at necropsy as compared with the cutaneous tuberculin reaction during life in thirty-nine cases reported in detail and in 327 others. All the data confirm the specific importance of the reaction, and that a negative reaction—in the absence of cachexia, miliary tuberculosis and meningitis—excludes tuberculosis with almost certainty. A positive reaction in infants is almost inevitably of evil prognosis as the active process generally proves fatal and the tuberculous process is never inactive in infants.

88. **The Parathyroids and Tetany.**—Bliss was not able to detect any special connection between hemorrhagic changes in the parathyroids and tetany in children. He examined with the microscope the parathyroids in thirty-five child cadavers from a few months to nine years old, finding them normal in a number of cases and with hemorrhagic changes in others, but with no parallel connection with the convulsions observed in some of the children during life.

Zeitschrift für Urologie, Berlin

July, V, No. 7, pp. 497-584

89 *Litholapaxy. (145 Litholapaxien.) M. Kreps.
90 *Syphilis of the Bladder. (Die syphilitischen Erkrankungen der Harnblase.) P. Asch.
91 *Tardy Hemorrhage after Nephrotomy. H. G. Pleschner.

89. **Litholapaxy.**—Kreps reviews 145 cases in which he crushed and removed by suction one or more stones in the bladder. Only eight of the patients were females; the ages ranged from 8 to 82 years. He calls attention to the efficacy of long-continued pressure in breaking up even very hard stones. The long pressure changes the molecular structure of the stone, so that it crumbles when at first it seemed impossible to produce any impression on it. Even a few minutes' longer pressure may accomplish the desired result. One of his patients was an unmarried woman of 26 who ceased menstruating and the abdomen increased remarkably in size. A pregnancy was assumed but the trouble proved to be a soft phosphate stone entirely filling the bladder and distending it to simulate the pregnant uterus. After the litholapaxy menstruation returned, the patient married and a normal pregnancy followed.

90. **Syphilitic Lesions in the Bladder.**—Asch has encountered three cases of true bladder syphilis and a large number of parasyphilitic bladder affections in the last twelve years, and he compares these experiences with the literature on the subject. The bladder is usually affected, if at all, during the third phase of syphilis. These syphilitic affections of the bladder seldom have a specific aspect and their true nature may be unsuspected. Gummas often simulate papillomas and he suggests that it is wise to examine for syphilis in every case of papilloma of the bladder. Gummatous growths cause manifestations like those from any neoplasm, except that they are liable to induce considerable hemorrhage; the hematuria is distinguished by its continuance from beginning to end of the urination, while with ulcer, even the syphilitic, the hemorrhage is more terminal. Treatment should be the general specific treatment without local measures. General treatment is liable to induce pronounced benefit in tabetic bladder disturbances. Asch cites forty-three recent publications on the subject of syphilis of the bladder.

91. **Hemorrhage After Nephrotomy.**—In the three cases reported by Pleschner the hemorrhage came on suddenly with no premonitory symptoms, the fourth, sixth, twenty-fifth and thirty-third days after the nephrotomy for removal of stones. All bleeding vessels had been ligated, the kidney sutured and tamponed firmly from without and the hemorrhage occurred when all was supposed to be progressing ideally. The hemorrhage was arrested in one of the cases under expectant measures but returned again eight days later and more severe. An important aid in diagnosing was the discovery with the cystoscope of the blood spurting from one ureter mouth.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 13, XXXII, No. 84, pp. 883-890

92 Marked Benefit from Roentotherapy in Myelogenous Leukemia; Two Cases. A. Anstoni.

July 15, No. 85, pp. 891-906

93 Pathologic Urine. F. Bottazzi.
94 Case of Lymphosarcomatosis with Chylothorax. L. Zagari.

Policlinico, Rome

July, XVIII, Medical Section No. 7, pp. 285-332

95 *Percussion of the Spine in Differentiation of Compression of the Trachea. (Di un nuovo segno fisico di compressione tracheale ricavata dalla percussione delle vertebre.) G Stradiotti.
96 Pseudochylous Ascites. M. Barberio.

95. **Percussion of the Spine in Differentiation of Compression of the Trachea.**—Stradiotti calls attention to the difference in the findings on percussion of the vertebræ when the mouth and nostrils are open or closed. In a case described in detail certain modifications in the percussion findings were explained by discovery of a tumor in the anterior mediastinum compressing the trachea and causing resonance when the corresponding vertebræ were percussed. Experiments on the cadaver confirmed the importance of this physical sign of compression of the trachea.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. A New and Complete Dictionary of the Terms Used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, Nursing, Veterinary Science, Biology, Medical Biography, Etc., With the Pronunciation, Derivation, and Definition. Including Much Collateral Information of an Encyclopedic Character. Together with New and Elaborate Tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Diplococci, Micrococci Streptococci, Ptomains and Leukomains, Weights and Measures, Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc. By W. A. Newman Dorland, A.M., M.D., Member of Committee on Nomenclature and Classification of Diseases of the American Medical Association. Sixth Edition. Leather. Pp. 986, with illustrations. Philadelphia: W. B. Saunders Co., 1911.

MALARIA: ITS PREVENTION AND CONTROL. By Graham E. Henson, M.D., E. Van Hood, M.D., and E. W. Warren, M.D., Special Committee of the Florida Medical Association for the Control and Prevention of Malaria. State Board of Health of Florida, Jacksonville. Publication 84. Paper. Pp. 43, with 9 illustrations. June, 1911.

NATURE SKETCHES IN TEMPERATE AMERICA. A Series of Sketches and a Popular Account of Insects, Birds, and Plants, Treated from Some Aspects of Their Evolution and Ecological Relations. By Joseph Lane Hancock, M.D., F.E.S. Cloth. Price, $2.75 net. Pp. 451, with 227 illustrations. Chicago: A. C. McClurg & Co., 1911.

FOURTEENTH ANNUAL REPORT OF THE GERMAN METHODIST DEACONESS HOME AND BETHESDA HOSPITAL, CINCINNATI. From January, 1909, to January, 1910. Paper. Pp. 72, with illustrations.

AFTER SUNRISE, OR SECOND ATTEMPTS AT POETRY. By Philip Matthew Wagner, Author of "At the Dawn," etc. Cloth. Price, $1. Pp. 155. P. M. Wagner, Canal Dover, Ohio, 1909.

HEARINGS BEFORE THE COMMITTEE ON EXPENDITURES IN THE DEPARTMENT OF AGRICULTURE. Aug. 21, 1911. Paper. Pp. 841-914. Washington: Government Printing Office, 1911.

FORTY-FOURTH ANNUAL REPORT OF THE HOME FOR INCURABLES. Third Avenue and One Hundred and Eighty-First Street, New York. Paper. Pp. 70, with illustrations.

THE TWENTY-EIGHTH ANNUAL REPORT OF THE BISHOP CLARKSON MEMORIAL HOSPITAL FOR CHILDREN, OMAHA, May 1, 1911. Paper. Pp. 45.

ANNUAL REPORT OF THE MT. SINAI HOSPITAL FOR THE EIGHTH YEAR, Jan. 1 to Dec. 31, 1909. 17 Staniford Street, Boston. Paper. Pp. 29.

ANNOUNCEMENT OF SCARLET OAKS SANITARIUM, LAFAYETTE AVENUE, CLIFTON, CINCINNATI. Paper. Pp. 34, with illustrations.

New Patents

New Patents of Interest to Physicians

990415 Individual thermometer holder. Eustace T. Baker, Spokane, Wash.
990525 Stretcher for fractures. Thomas A. Christy, Hot Springs, S. Dak.
990325 Receptacle or case for thermometers and the like. Herbert J. Winn, Rochester, N. Y.
991261 Pharmaceutical preparation, Ferdinand von Arlt, Vienna, Austria-Hungary.
991130 Druggist's label cabinet. Henry W. Broemmelsiek, St. Louis.
991348 Prescription file. John D. Mulloy, Portland, Ore.
991015 Protector for hypodermic needles. Joseph Payne, Belmont, Mass.
991022 Pocket syringe. David W. Rees and H. E. Carmichael, Needles, Cal.
991104 Crutch. Samuel J. Trask, Utica, N. Y.
991767 Apparatus for producing ozone. Charles G. Armstrong, Orange, N. J.
91820 Device for preventing seasickness and also applicable to lifts on board ship. Henry Baumgartner, Bradford, England.
991825 Disinfectant holder or container. James R. C. Bogie, Urmston, England.
991831 Ankle support and protector. Henry J. Collis, Taunton, Mass.
991844 Therapeutic bottle. Louis F. Gillette, Concord, N. Y.
992013 Surgical appliance. Sackville G. Leyson, Syracuse, N. Y.
991560 Enzyme. Jokichi Takamine, New York.
991561 Amylolytic enzyme. Jokichi Takamine, New York.
991808 Pasteurizing apparatus. August Tiesse, Chicago.
992639 Disinfecting cabinet. William C. Burrichter, Panora, Iowa.
992348 Atomizer or volatilizer. George H. Goldsmith, Saylesville, and J. C. Rankine, Pawtucket, R. I.
992205 Tunnel and plate holder slide for *x*-ray picture. John R. Kelley, Cincinnati.
992671 Bed for invalids. Clarence R. Kester, Laton, Cal.
992254 Producing a medicinal composition. Hubert Rieck, Irvington, N. J.
992265 Preserving hydrogen peroxid solution. Max Schlaugk, Hanover, Germany.
992282 Dispensing device for soda water fountains. George W. Speyer, Philadelphia.
992302 Electric machine for therapeutic purposes. Reinhold H. Wappler, New York.
41335 Soda fountain design. Fisher H. Lippincott, Philadelphia.

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THE EXPERIMENTAL METHOD: ITS INFLUENCE ON THE TEACHING OF MEDICINE *

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The phase of experimental medicine which I am about to discuss is "Experimental Medicine: its methods, what it has accomplished; the problems before it; and what it may hope to do in the future." I intend to point out, at the risk of being misunderstood, the importance of the experimental method in the everyday work of the student and the teacher of medicine; and how, if conscientiously applied, it may thus exert a powerful influence in the development of the science of clinical medicine.

It is my profound conviction that the greatest fault in our medical teaching is the failure of the majority of teachers to practice, when in actual contact with the students, those scientific methods which they recommend in theory, and which some of them vigorously apply in their own investigations. I would not have entered into this discussion if it were not that our product, our graduate in medicine, has been found wanting by the German finishing school. Prof. Graham Lusk, than whom there is no more fearless champion of scientific idealism, stated in a recent address that a friend was told by a prominent professor of medicine in a German university that the greater number of young Americans who came there to study were "no good." Twenty-five years ago such a statement would not have been surprising, but now, with our much-vaunted laboratory methods and our improved clinical teaching, the statement is, to say the least, discomfiting. The "greater number" of American students going abroad may be from the poorer schools, and if so, which hardly seems probable, the criticism is unjust to our schools of the better type. If, however, it represents the true condition, from the German point of view, then, as Lusk puts it, "our educational system is at fault. It cannot be that American intellect is inferior. The trouble lies in our system."

It is these statements which have crystallized my own misgivings as to the shortcomings of our methods of instruction. These shortcomings may occur in the laboratory work of the first two years or in the clinical work of the third and fourth years, but the teachers in the laboratory years are responsible for the point of view with which the student approaches the material of the clinician, and they should consider it not only a duty but a privilege and an opportunity of the greatest moment to train the student in method and in accuracy of observation.

Is this opportunity grasped by the man who sees his class only as it is seated in the amphitheater, who lectures four or five times a week and never or hardly ever goes into the laboratory where his students are at work? And what shall we say about the man who reads his lectures, the students acting the part of efficient stenographers, fearful of missing a word, because, without emphasis of important points, they must get every word for the necessary and inevitable cram? And then, most ludicrous of all, the man who lectures from his own text-book, his auditors not taking notes but underlining the text of the same book?

Complete, voluminous, detailed lectures may have been necessary in the days of poorly prepared students, but with our present requirements in physics, chemistry, biology and the languages they are unnecessary. The department head who inaugurates his week's work with a general summary of the character of the laboratory exercises of that period, emphasizes the important phases of the subject and suggests the matter to be read, can leave the details which take the time of the second, third, fourth and fifth lectures to the student himself and to amplification in the laboratory. Or, if this does not suffice in his mind to present the subject-matter properly, a second hour with the lantern is worth half a dozen formal lectures. At the end of the week, after the laboratory work is completed, a third hour, for a conference recitation, which he conducts personally, should clear up all doubtful points. In this recitation the men should not be marked; it should be an informal affair, with the sole object of determining the efficiency of the week's instruction and of the progress in the power of observation and deduction.

Complete presentation of a subject in a lecture, even though the facts be retained, stifles curiosity and inquiry, turns the interest of the student backward instead of forward, and retards the development of that scientific method of thought so satisfying as a part of one's mental equipment. Complete and voluminous lectures which discourage collateral reading and minimize individual laboratory work, force the student to consider the final examination to be the ultimate object of the course. In some schools the student is encouraged in this point of view by the establishment, often with the consent and approval of the head of the department, of extramural quizzes, which, given by assistants of the department, increase the income of the latter at the expense of the student's mental development.

Another fault of the lecture system is the not infrequent arrangement which allows the head of the department to consider lecturing his only duty and permits him to turn over the laboratory work to assistants. If

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* An address delivered at the Harvard Medical School, May 18, 1911, under the auspices of the Alpha Omega Alpha Honorary Medical Fraternity.

* Owing to the lack of space this paper has been reduced nearly half. The unabridged article is printed in pamphlet form and will be sent by the author, or by THE JOURNAL, on receipt of a stamped directed envelope.

the laboratory instruction is to be not merely a matter of perfunctory routine, but is to be used for training in the experimental method with the object of developing power in method and in observation, it becomes one of the most difficult forms of teaching, and no matter how adequately trained the assistants may be, the daily presence of the head of the department, if he have the proper point of view, is essential to the success of the laboratory instruction.

Let us now turn to the instruction in the laboratory itself, where we should certainly expect to find experimental methods conscientiously practiced. We have every reason to be proud of the equipment and facilities of most of the laboratories in our better medical schools.

The guiding principle of laboratory instruction should be the practice of the "do it yourself" idea. Lectures, amphitheater demonstrations and recitations should, if time cannot otherwise be obtained, give way to actual individual work in the laboratory. Furthermore, the department head, without sacrificing the presentation of his subject as a training in method, should prominently place before the student its relation to other courses in the medical curriculum, and especially to the clinical work which is to follow.

Nearly all our laboratory courses offer opportunity for criticism from these two points of view. Anatomy, aside from the fault of overlecturing, is perhaps least at fault, for abundant material for dissection makes this course, if the material is properly utilized, an ideal one for the practice of the "do it yourself" method. The related subjects, histology and embryology, may, however, be criticized in that they are seldom taught in relation to one another or to gross anatomy, and practically never with a regard to the work in physiology and pathology which follows. Of the few exceptions, Huber's course at Michigan best illustrates how these subjects should be presented. Embryology forms the basis of the work in histology; the student studies cell division and the development of the germ layers, and as the tissues and organs are differentiated the histology of each is studied in adult tissues. Thus the structure of each adult tissue and organ is brought into relation on the one hand with its origin and its order of development, and on the other, by judicious correlative teaching, with important basic principles of pathology; as, for example, the general laws concerning the origin of tumors, or the similarity of the repair or regeneration of an adult tissue to the embryonic development of the same tissue, or the developmental explanation of the anatomy of hernia. These and other important fundamental principles can be taught better by the embryologist than by the pathologist.

Another neglected field is that on the border-line between histology and gross anatomy, which for the want of a better name may be called "semi-gross" anatomy. The well-trained student can from memory give a fairly accurate description of the relations and gross external appearance of an organ and also of its histologic structure, but he is at sea when asked to point out on the freshly cut surface of an organ its normal markings. The appearance of the Malpighian bodies of the spleen, of the glomeruli of the kidney, the differentiation of arteries or veins from the bronchi in the lung or from the bile-ducts in the liver are matters of which he knows nothing. His theoretical knowledge fails when put to the practical test.

It is, however, of the work in physiology, pathology, bacteriology and pharmacology that I wish especially to speak. The first and second of these sciences are concerned essentially with normal and abnormal functions, the third with one phase of the etiology of altered function and the fourth with the treatment of abnormal function. They therefore lend themselves to teaching from the dynamic rather than from the static or descriptive point of view, and are peculiarly adapted to the procedures of the experimental method. These are subjects which offer the possibility of bringing the student closer to an understanding of the manifestations of disease, and the factors which cause and influence these manifestations, than any other group of subjects in the medical curriculum. Physiology and pathology should be so taught as to force the student and physician to think physiologically and not morphologically, as is usually the case. The close adherence of both of these sciences to the descriptive method may be explained historically in the case of physiology by the development of physiology by anatomists, physicists and chemists rather than by biologists in the broad sense. The influence of the descriptive anatomist is seen in the early association of histology with physiology; of the physicist in the early electrophysiology, and of the chemist in the early analytical trend of physiologic chemistry. Likewise, pathology, adopting the methods of anatomy, became a purely descriptive science, seeking the seat of disease and concerned with the appearance of diseased tissues.

In investigation, the descriptive point of view is now subordinate, but in teaching it still persists. The student in physiology, in many schools with well-equipped laboratories, never works with an animal higher than the frog. Such a course in electro-physiology, essentially a course in physics, with a few exercises devoted to the use of mechanical models and perhaps a few amphitheater demonstrations, is considered sufficient training for the work which soon follows, in the instruction, for example, in physical diagnosis. The student enters on the latter work, which many consider the most difficult part of their course, with no first-hand knowledge of the important phenomena of circulation and respiration, which might readily have been presented by the use of mammals. One of the most useful instruments of the physician, the stethoscope, of great value also in the teaching of physiology, is seldom utilized. In many courses the physiology of respiration and circulation is completed without the student having heard the respiratory murmur or the heart sounds. The physiology of the kidney, the pancreas and the ductless glands is taught by lecture only, or by an occasional amphitheater demonstration.

Bacteriology, one of the most modern of the medical sciences, suffers likewise from the descriptive method. It is, in the majority of schools, a course in the descriptive botany of the fungi. It is true that the student actually handles the bacteria, studies their morphology and observes their behavior in artificial media, but their behavior in the animal body is left to lectures. The all-important lessons of bacteriology—the problems of infection and immunity—the student has no opportunity to study at first hand. What a live subject bacteriology may be for the student is seen in those few courses in which he reproduces in animals the lesions caused by the micro-organisms which he studies, and carries out those experiments which illustrate the fundamental principles of immunity. He can have no better training in the experimental method than that which comes from following half a dozen different bacteria from pure culture through the lesions which each produces in an animal and back again to pure culture. Likewise, the experimental study of active and passive immunity, even if the latter be only the simple testing of the protective power of diphtheria antitoxin, is invaluable. If to these are added the practical study of hemolysins, agglutinins, precipitins and of the phenomena of hypersusceptibility, bacteriology as applied to medicine is actually taught. From the practical point of view, the training offered by animal inoculations is of the greatest importance for the proper appreciation of the principles of asepsis in surgery, while the work in immunity aids the student to grasp intelligently the pathology and therapy of the transmissible diseases.

It is a matter of great doubt if in the better schools to which students come with a general training in biology it is necessary to give as much time to the purely morphologic study which consumes so much time in the average course in bacteriology. Certainly this phase of the subject, with the abundance of excellent text-books which we possess, does not demand the number of lectures usually devoted to it. The present methods do not give the student an adequate general conception of the rôle bacteria play in disease, and of specific effects they have no knowledge which they can readily apply to their work in pathology.

And what is to be said of pathology? I consider pathology, as it is usually taught, the most forlorn course in the medical curriculum. Lectures in great abundance, illustrated by museum specimens enclosed in fluid and glass and sections of diseased tissues sandwiched between glass is the story in nine out of ten cases. Even when fresh material is supplied in satisfactory amount, a gap still remains—that great gap representing altered physiology. I do not wish to decry any means by which a knowledge of pathology may be presented to the student, but an adequate collection of specimens representing the gross and microscopic appearance of diseased tissues should, I believe, be considered as only the essential minimum of equipment. Neither do I wish to minimize the importance of morphologic study, for it is the cornerstone of that modern pathology on which sound diagnosis and rational therapy rest; but the teachers of men who are to spend their lives in the study of the manifestations of altered physiology should not magnify the morphologic aspect of pathology at the expense of the dynamic. This phase of my subject in so far as it refers to investigation has been very ably discussed from the point of view of the chemist by Prof. A. E. Taylor; and the possibilities of physiologic methods in teaching pathology to small groups of students have been clearly demonstrated by Prof. W. G. MacCallum. So ably have they presented their claims that I can add but little that is original. My personal experience may, however, be of some value as an illustration of the evolution of a point of view. Trained as a morphologist of the most uncompromising type, I became interested, after several years, in the methods of an experimental pathologist and gradually awakened to the importance of the investigation of altered function. A desire for a greater knowledge of the methods of physiology and chemistry followed. At first this new knowledge was utilized only in investigation but a troubled conscience soon led to its use in the teaching of pathology. At first, experimental demonstrations before the entire class were introduced here and there in my courses, but in such a fragmentary way that they were of no more value to the student than the usual set demonstration of the chemist. This year, for the first time, I found myself with sufficient space, equipment, time and assistants to inaugurate a systematic course in experimental pathology and pathologic physiology in such a manner that each student would get something out of it. Without going into the details I may say that by giving two hours a week to the course and dividing the class in two sections, each student of a class of ninety men had fourteen exercises of an hour each, and by presenting in each hour five different demonstrations simultaneously, no one demonstration group numbered more than nine men. That is, about seventy experimental procedures, phenomena or lesions, were shown each man, for each of which he had twelve minutes and was only one of a group of nine.

These demonstrations included the presentation of necrosis and the degenerations, inflammation and repair, blood-destruction and jaundice, thrombosis, embolism and infarction, certain lesions of the heart, lung, stomach and intestines, liver, pancreas and kidney, the problems of infection and immunity, of shock and hemorrhage, and the physiology of the ductless glands. Physiologic methods of graphic registration were used whenever possible, changes in the urine and other secretions demonstrated, and the methods of clinical diagnosis emphasized. A few details of some of the exercises may illustrate the advantages of this course. The pathology of blood-destruction and jaundice, the circulatory changes in heart disease, and the pathology of the pancreas are subjects always difficult for the student to grasp; and, moreover almost impossible of demonstration by morphologic methods. The exercises on these subjects may therefore serve as examples. Blood-destruction and jaundice were illustrated by five demonstrations: (1) the production of hemoglobinemia and hemoglobinuria by the administration of crotalus venom, and (2), the injection of hemolytic immune serum. The associated changes in the spleen and other organs were demonstrated, as was also the laking of the blood in centrifuged serum. The naked eye appearance of the urine was contrasted with that of (3) hematuria due to cantharidin, as were also the albumin content and sediment of the two types of urine, and the use of the spectroscope was demonstrated. By test-tube experiments the phenomena of (4) hemolysis and hemagglutination were explained, and thus the theory graphically brought into relation with the changes in the animal body; (5) obstructive jaundice due to ligation of the common bile-duct was shown, the urine of this animal contrasted with that of the hemoglobinuric animals as to the presence of bile and albumin, and by comparing these animals the clinical signs of obstructive and hemolytic jaundice were clearly shown by examination of the skin and conjunctiva.

In the exercise on cardiovascular disturbances the changes in heart action, blood-pressure, pulse-rate and volume, and in respiration as a result of experimental (1) aortic insufficiency, (2) mitral stenosis, (3) hydropericardium, (4) injury to myocardium and (5) edema of the lungs, were graphically demonstrated by the use of a kymograph.

Acute diseases of the pancreas were illustrated by (1) experimental acute hemorrhagic and (2) gangrenous pancreatitis due to the injection of bile, with (3) the correlated fat necrosis. The relation of the pancreas to diabetes and the theory of internal secretion were demonstrated by contrasting the results of (4) extirpation of the pancreas with (5) ligation of the pancreatic ducts. The fermentation and Fehling's tests applied to the urine of all these animals offered a vivid picture of the relative influence of different types of injury of the pancreas.

These three exercises are examples of the opportunities offered by this method of teaching. The advantages of its application to the problems of nephritis, the disturbances of the ductless glands and the principles of infection and immunity are evident. No other part of my teaching experience has ever given me so much satisfaction with the attitude of the student, and in no other course have I felt so certain that I was giving him what he wanted and needed. Such a course is, after all, as near an approach to clinical methods as one can attempt in the laboratory. The physician studies the altered functions of his patient by direct observation and by all the methods which biology, physics and chemistry have brought to bear on diagnosis; he summarizes the results, correlates them, ponders over them and arrives at a conclusion which is based largely on the fundamental experience of pathologic anatomy. His work really represents the first, the oldest, and the most important application of pathologic physiology.

Another phase of the teaching of pathology which may be criticized is the presentation of pathologic anatomy. Diseased organs are studied from the point of view of changes in morphology, color and consistence, without attempt to associate physiologic disturbances. In many schools no systematic work in gross pathology is offered after the second year, and even in the second year it is usually a museum course with no systematic drill in fresh appearances. Some schools have improved the situation by obligatory autopsy work and clinicopathologic conferences in the third and fourth years. Also the museum material has had some life instilled into it by adopting the "case" system of presenting organs illustrating the associated lesions of any one disease with, at the same time, the clinical history and microscopic preparations. But all these improvements leave the work a demonstration course. The student can obtain an adequate knowledge of morbid anatomy only by following the example of the young pathologist; that is, by studying at first hand the naked-eye appearance of fresh organs, arriving at some conclusion, and immediately verifying it, or otherwise, by the use of the freezing microtome. This is the true experimental method—observation, hypothesis, experiment, deduction. It is perhaps, best combined with the work of the third and fourth year of medicine after the student has had a year of fundamental pathology, though if time allows it can also be used in the second year. During the past four months I have used it with my third-year class and have had the most gratifying results. Placed in a room with the fresh material before them, with scales, measures, the necessary dissecting instruments, a bacteriologic outfit, stains and reagents for microchemical reactions, an abundance of text-books on all branches of medicine, and a laboratory attendant at the freezing microtome, the men have worked out their own diagnoses at first hand. No demonstrations were given and no aid, except in guiding methods of procedure and by occasional pertinent questions. At the end, diagnoses were checked, and each student's general knowledge of the lesions he had studied was determined by a few leading questions as to etiology, associated conditions, complications, sequelæ, and important clinical symptoms. The eager attitude of the class toward this course has been sufficient evidence of its value.

We have not the wealth of fresh autopsy material offered by the pathologic institutes of Germany, but that which we have is too frequently used for perfunctory demonstration or for second-hand study as beautifully mounted and labeled museum preparations and not sufficiently utilized for first-hand observation and manipulation by the student. The use of fresh material and the freezing microtome go far to wean the student from his "reverence for authority" and his faith in the lecture and to force him to observe and think for himself.

Physiologic chemistry and experimental pharmacology, as given in our best schools, are, I believe, the most satisfactory of our laboratory courses. Presented, in most instances, in a vigorously scientific manner, with the student carrying on exact quantitative estimations and using graphic methods of registering results, and himself frequently the object of experiment, these courses fulfil all the rules of the experimental method and force on the student, as no other course does, the practical importance of this method. To one who was taught by the methods of the old "medical chemistry," it is most stimulating to see an entire class in modern physiologic chemistry study the influence of a protein, a fat or a green diet, of a nuclein diet on purin output, of a heavy protein diet on urea output, and of starvation on total nitrogen and acetone elimination. In these, as well as in other procedures, as individual calorimetry with the respiration apparatus, the student is the investigator as well as the experimental animal. Such experiments are now extensively carried out in a few courses, and when supplemented by the study of phloridzin glycosuria, pancreatic diabetes and other experimental conditions in animals, give a knowledge of the fundamental principles of metabolism and of practical physiologic chemistry which was not dreamed of by the student of ten years ago. Such courses lead one to believe that the rapidly approaching closer union of hospital and school will lead to the next step, the opportunity for small classes to study the metabolism of patients in the hospital ward.

The modern course in experimental pharmacology, unfortunately at present not given in all our better schools, is I believe, the most valuable part of the first two years of laboratory work. Coming as it usually does in the latter part of the second year, when the student is completing or has completed his physiology and pathology, it offers him the last opportunity, before he approaches the clinic, to review normal functions and to study the manner in which various agents may alter them. And in those courses which are not merely exercises in testing the action of drugs, but in which abnormal conditions are produced and measures for their treatment or care are applied, pathology as well as physiology is reviewed and the fundamental principles of therapeutics thoroughly impressed on the student's mind. Not only medicine, but surgery, benefits by such a course, for the study of the influence of anesthetics and of the production and treatment of shock, collapse and hemorrhage carries the student well into the realms of clinical surgery. I refer, naturally, not to demonstration courses, but to those in which the procedures are actually carried out by the class.

In presenting this criticism I am not unmindful of the recent great advance in the utilization of laboratory teaching, and I realize fully that suitable equipment for teaching must precede the elaboration of methods of teaching. This equipment we now have in all good schools and I feel very strongly that the time has arrived for the heads of the laboratory departments to justify its great expense by so conducting their courses as to satisfy, on the one hand, the students receiving the instruction, and on the other, the trustees or others providing the equipment. But, above all, they must themselves be satisfied that their courses, collectively, leave no gaps which might, with a little thought and a little cooperation, be filled. Some of these gaps, as, for example, those I have mentioned in connection with bacteriology and pathology, could be filled by new departments of immunology and pathologic physiology, but the already overburdened medical curriculum cannot yield more time. Correlation between various departments and a rearrangement of old courses on a modern basis, with the object of training for power rather than knowledge, must be one of the remedies. The present evil is the result of a lack of general supervision. One remedy, therefore, is open criticism backed with authority, and that authority should reside in a committee of the governing body of the university. This is the most direct way to bring about a proper correlation but not, perhaps, the best way.

Another method is by voluntary cooperation on the part of the heads of the laboratory departments. Our medical sciences are not, for the most part, so widely separated that members of one department are totally ignorant of methods of another. Their interrelation is best illustrated by the development of embryology in the departments of anatomy, physiology and zoology simultaneously; by the influence of pathology on physiology and on the development of certain phases of normal histology; by the position which bacteriology and protozöology occupy in the departments of pathology and hygiene; by the development of a new science, modern pharmacology, based on the application of the methods of chemistry and physiology to empirical therapeutics; and by immunology, as its followers now term it, which demands the methods of practically all the medical sciences.

Despite this history of development and mutual relation there is a tendency, not only in teaching, but in investigation, to separate sharply each of these into an independent science of medicine to the great detriment of that which should be the scientific aim of all, the development of the science of clinical medicine. Even though this last science is to reach its perfection only through the efforts of men actually engaged in clinical research, as is the opinion of Dr. S. J. Meltzer, such men must receive every advantage of training in the fundamental medical sciences, and not only this, but from the teachers of such branches they must receive so much of the scientific spirit that they will carry some of it with them into their clinical work. I do not mean by this that clinical surgery and medicine have not men of scientific methods and investigators of prominence; I mean rather that they would have more if the teachers of the first two years so correlated their work as to force on the student the practical use of their methods in the investigation of clinical problems, or, what is simpler still, demonstrated the relation which the methods of one course bear to those of another course in the explanation of the phenomena of abnormal function. This latter is particularly the opportunity of the courses in physiology, pathology and pharmacology. The benefit of such cooperation cannot be denied and illustrates a second of the possible remedies for the present isolation of our laboratory courses.

Another important phase of this subject is that of the relation of investigation to teaching. If one examines courses in the same subject in a number of schools, it is found that those which are best presented from the point of view of the experimental method are under the control of men actively engaged in research work Such men are alive to the advantages of new methods in their own subject and of new ways of applying old methods. On the other hand, one finds that the perfunctory routine laboratory courses, with a profusion of lectures, are by the men who never or only occasionally contribute to the literature of their science.

I have often thought that our departments of biologic chemistry and experimental pharmacology forcibly illustrate the importance of the investigator as a teacher. With few exceptions, they are manned by active investigators and from the point of view of medical pedagogy are most satisfactory. They represent, as now organized, the most recently developed of the medical sciences, and have emerged directly from the fields of most active investigation in physiology and chemistry. They have no vast theoretical literature back of them, no traditions as to methods of teaching, but they have established their own methods on the basis of observation and experiment. "Medical chemistry" and "therapeutics" were once taught by "good teachers," but the investigator in physiology and chemistry has transformed them into sciences of university rank to which the former narrow terminology no longer applies.

These three factors—authoritative control to arrange correlation, cooperation by department heads, and the appointment of teachers who are also investigators—are fundamental in the application of the methods of experimental medicine to proper teaching. Two other factors, however, are concerned. These are closely related. One is the question of electives and the other the question of actual research by the student. The first, necessary for any proper attempt at correlation, is obligatory if the student is to work independently, even in a small way, as an investigator. As the advisability of giving the student the latter opportunity is still a disputed point, however, it may be discussed first. As every teacher knows, each class contains a considerable number of men who desire to pursue, to a greater extent than the conventional course allows, work on certain subjects or by special methods, or less frequently, perhaps, they desire, and are usually well qualified to undertake, minor investigative work. To the former, as well as to the latter, any effort spent in work beyond that given the entire class becomes, necessarily for them, the acquirement of the methods of research, and as this means a knowledge of the exact, painstaking methods by which the realms of the unknown are explored, it is an exercise which prepares the student for the daily routine research work of the physician who truly practices his profession. As a training for future work, its value is definitely known and the increased zest and enthusiasm exhibited towards their medical work by men who have had this opportunity are always evident. Pedagogically, therefore, it would seem advisable that every student should have the opportunity for minor research, in order that he may become acquainted at first hand with the careful methods of experimental medicine. The bearing of the tangible results of his work on the subject investigated is a matter of little or no importance; the vital thing is the increased power which he himself acquires. If the student is to have such opportunity the elective system is necessary.

So much for the use of the experimental method in the two laboratory years. This method, if it has any special significance, should bear fruit in the third and fourth years, the periods devoted to clinical teaching. Are our clinical departments so organized that they are prepared to aid the student in his development along scientific lines? A few are, but for the most part the clinician returns the student to the methods of the lecture-room and the demonstration and gives him little opportunity to develop his powers of personal observation. The discussion of this phase of teaching may be limited to the department of medicine, as contrasted with surgery and the specialties, though what is said of medicine applies equally to other clinical branches. The department of medicine should be the great glory of the medical school, and the method of instruction in all preceding courses should be considered as contributing to the proper study and appreciation of the material and problems of clinical medicine. Pedagogically considered, the methods of study in the earlier years should give the student the proper point of view for approaching any diseased condition, and practically, they should train him as far as may be possible in the actual methods of precision used in the clinic. The methods of the diagnostician are those used in procuring all scientific data; that is, accurate observation and experiment with logical deduction. His observations are of two kinds, direct, by the exercise of his unaided senses, and indirect, by the use of instruments of precision and various laboratory procedures. These demand methods which from the pedagogic point of view are in no way different from the methods used by the student in his laboratory years.

The data obtained, either directly or indirectly, when correlated according to the rules of the experimental method, lead to a conclusion (diagnosis) as scientific as the conclusions of the investigator in the laboratory of physiology or pharmacology. If it should eventuate that the conclusion is erroneous, it is not the fault of the experimental method but of inadequate methods, insufficient data or improper deduction. Clinicians of long practice will not always admit that the data on which they base a diagnosis are always obtained by the careful, painstaking methods of scientific observation. They imply that experience gives an added sense, forgetting that it is the continuous training in accurate observation and deduction which gives them the power to make and correlate their observations rapidly and to reach their conclusion by a "short cut" not possible to the beginner. That knowledge of medicine which is of lasting value the student can get only from direct study of the patient. By direct study, I do not mean the study of the patient by a class, no matter how small, but the study of one patient by one student, under a supervision which tells him, to some extent, what to do and how to do it, but not what he is to find; in other words, a continuance of instruction in methods, leaving the matter of deduction in large part to the student himself.

The conduct of such a course brings up several of the problems now attracting the attention of all who are interested in medical education. It cannot, it is evident, be successfully given in a hospital not an integral part of the university. This is the experience of all schools which have attempted it in hospitals with which they are affiliated but in which they have no authority. Questions of authority over patients, of equipment for teaching, of laboratory space for clinical study, all indicate that the first essential is the possession or control by the school of its own hospital. This allows an easy solution of all problems: Continuous service and freedom in the appointment of clinical teachers come as a matter of course. Teaching and investigation can be carried on without interruption. The student becomes a part of the hospital routine and is not an onlooker with limited privileges. The laboratory departments of the first and second years unite to aid the work of the clinicians in the hospital. Clinical teachers may be promoted, if deserving, or may be called from any part of the country, or from abroad; the choice no longer depends on local hospital appointments or on the selfish interests and friendships of local consultants, but on fitness, eminence and skill.

Whatever has been said about the instruction in internal medicine applies with equal force to surgery, pediatrics and obstetrics. These four subjects constitute the backbone of medical knowledge, and the last three deserve a word of comment. Pediatrics, frequently served by special hospitals, is amenable to the same individual teaching as internal medicine, and because of its peculiar importance should have a more prominent place in the medical curriculum than is usually assigned it. Obstetrics presents special difficulties because of the infrequence of maternity wards and also on account of the wide scattering of the out-patient service, but these difficulties are not insurmountable.

Surgery, from the point of view of diagnosis and the care and treatment of the minor common lesions and injuries, may be taught by the same methods as those outlined for internal medicine, and, most important of all, the frequent lectures and large operative clinics from which the students gain little or nothing, should be replaced by courses in experimental and veterinary surgery, offering an opportunity for detailed training in the administration of anesthetics, in asepsis and antisepsis, in the preparation before and the care after operation, and above all for the study of repair of wounds and their treatment.

Much of surgery and of the various specialties should be given as elective courses, in the manner adopted by this school, or as postgraduate work. No physician needs to know, or can know, all the specialties in detail, and only a relatively small number become operating surgeons. Those that do specialize, do so only after a thorough postgraduate training. The great bulk of men who practice medicine should have as thorough a training in internal medicine and closely allied branches, such as pediatrics and neurology, as it is possible to give. With this, in the obligatory course should go a general knowledge of the principles of surgical diagnosis and a certain minimum knowledge of the specialties.

One or two other matters of importance in the teaching of clinical medicine may be briefly mentioned here. One of these is the advisability of offering small groups of students the opportunity of studying, as an elective, the diseases of one organ, or of related organs, from every point of view. I have been much interested in such a course given last year by Dr. W. T. Longcope at the University of Pennsylvania and known as a course in "medical correlation." During one year a group of six students studied the diseases of the heart from the clinical, the pathologic, the experimental and the therapeutic point of view. All the methods of clinical observation were brought to bear on the cases in the wards of the hospital; gross and microscopic preparations illustrating the pathology were examined; the normal physiology of the heart was studied in animals by the methods of physical diagnosis and of graphic registration, and finally these were used also in the observation of lesions produced experimentally. The relation of various diseases of the heart to diseases of the lungs, liver, kidney and other organs and tissues was thoroughly covered and the effect of treatment on patients in the wards and experimentally produced lesions in animals observed.

Another matter concerns departments in the medical school known as research departments and variously described as departments of experimental pathology, experimental medicine, or research medicine. The title matters little, but the plan of the department should be broad enough to care for the problems of clinical medicine, and for this reason the word "medicine" should appear in the title rather than the word "pathology." Such a department should keep in close touch with the department of clinical medicine, and should supplement the facilities of the various hospital laboratories, but, nevertheless, should also work in cooperation with the fundamental laboratory sciences in order to insure a realization of the greatest good to the school. The head of the department should be a man familiar with the problems of clinical medicine trained preferably as a pathologist, and with sufficient knowledge of the possibilities of physiology and chemistry to apply the methods of these subjects to clinical problems. I say preferably a pathologist because the pathologist is more apt to combine clinical training with a knowledge of pathology, bacteriology and the principles of immunity than is the physiologist, chemist or pharmacologist, though any one of the latter might well head such a department.

The work of this department should be the investigation of clinical problems, and not of academic problems of pathology, chemistry, physiology, etc. The latter can still be carried on in the departmental laboratories which have always followed academic lines, and, in truth, are forcing, through their neglect of clinical problems, the establishment of the type of department described. General practitioners, clinical assistants in the school, and even those at the head of clinical departments are constantly meeting problems which demand solution but find no adequate opportunity to investigate them in departments as now constituted.

Another function of this department should be undergraduate instruction to fourth-year men taking research work in clinical medicine as an elective, and also postgraduate instruction for those desiring training in the methods of experimental medicine as the basis for a career as teacher or investigator.

The practice of medicine has developed out of empiricism by the application of the methods of its tributary sciences and whatever is definitely known and understood in medicine can be traced to the application of the experimental method.

In recommending to you that, as practitioners, you keep always the point of view of the investigator, I realize fully that as you go out among so-called "practical" doctors you will find many who sneer at what they term the "scientific" doctor. This view, of which we hear less and less each year, is a survival of the opinion commonly held prior to the development of the sciences of bacteriology and physiologic chemistry, which sciences, by their practical applications to every-day medicine, have perhaps done more to dispel it than is usually realized.

I have read recently an address by President MacLaurin in which he discusses some of the factors which in the course of fifty years have placed the Massachusetts Institute of Technology in its present commanding position. Two of these factors are worthy of the earnest consideration of the trustees and teachers of our medical schools. The first President MacLaurin presents as follows: "There has never been any uncertainty or indefiniteness as to what the institute is aiming at in its scheme of education;" the second, embodies the idea that the success of the educational policy of the institute has been due to the fact that the emphasis has been laid on the *"method"* and *spirit* of science rather than on *subject,* and that the *"learning by doing"* or *"do it yourself"* idea has been systematically applied. We need, in medicine, a greater appreciation of both these factors by our trustees as well as by our teachers; of educational policy by the former, of educational method by the latter.

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THE RELATION OF THE INTOXICATING DOSE OF HORSE-SERUM TO THE PROTECTIVE DOSE OF ATROPIN IN ANAPHYLAXIS IN THE GUINEA-PIG *

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Within the past two years Auer and Lewis[1] and Auer[2] have shown that atropin sulphate has a distinct protective action against the asphyxia of immediate or acute anaphylaxis in the guinea-pig, and their observations have been repeatedly confirmed.[3] Inasmuch as most of these studies have had for their purpose the determination of the physiology of anaphylaxis, no attempt has been made to determine the quantitative relation, if such exists, between the intoxicating dose of the serum and the dose of atropin sufficient to protect the animal from death. The study presented in this paper had for its object the determination of this point.

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* From the McManes Laboratory of Pathology, University of Pennsylvania, aided by a grant from the Committee on Scientific Investigation of the American Medical Association.

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The problem was attacked from two sides. First, with a minimum fatal dose of horse-serum as a standard, the minimum protective dose of atropin was determined; the toxic dose of serum was then increased and the minimum protective dose of atropin again determined, this procedure being repeated until the dose of atropin became so large as to be markedly toxic for the animal. Second, a maximum dose of atropin, just short of the lethal dose for the animal, was administered and a determination made of the largest amount of horse-serum against which the dose of atropin protected the animal; the dose of atropin was then diminished and the maximum nonfatal dose of serum again determined. This procedure was continued until a point was reached where further reduction in the size of the dose of serum would in itself have failed constantly to produce death. Throughout the study a constant sensitizing dose of 0.05 c.c. of horse-serum was used. After a lapse of sufficient time for the animals to become actively hypersusceptible the dose of atropin was given into the exposed right jugular vein and the intoxicating dose of horse-serum three to ten minutes later into the same or opposite vein.

TABLE 1.—RELATION OF MINIMUM FATAL DOSE OF SERUM TO MINIMUM PROTECTION DOSE OF ATROPIN

Number of Animal	Dose Atropin Sulphate in Gm.	Time in Minutes Between Injections	Intoxicating Dose, Horse-Serum, in C.c.	Symptoms	Result
555	0.001	10	0.2	Increased respiratory rate with dyspnea.	Recovery.
556	0.001	10	0.4	Severe	Death (5 minutes).
561	0.002	5	0.4	Marked respiratory difficulty	Recovery.
563	0.001	6	0.6	Severe	Death (5 minutes).
564	0.002	7	0.6	Marked respiratory difficulty, convulsions	Recovery.
565	0.003	6	0.8	Severe	Death (5 minutes).
569	0.007	6	0.8	Moderate respiratory difficulty	Recovery.
570	0.008	6	1.0	Severe	Death (1 minute).
571	0.010	6	1.0	Severe	Death (8 minutes).
573	0.015	6	1.0	Severe	Death (5 minutes).
577	0.020	3	1.0	Severe	Death (30 minutes).
579	0.025	3	1.0	Moderate respiratory difficulty	Recovery.
580	0.030	3	1.5	Severe	Death (5 minutes).
585	0.040	5	1.5	Severe	Death (5 minutes).
...	0.040	..	...	Moderate increase of respiratory rate	Rapid recovery.
...	0.050	..	...	Rapid cessation of respiration	Death (5 minutes).

TABLE 2.—RELATION OF MAXIMUM NON-FATAL DOSE OF ATROPIN AND MAXIMUM DOSE OF SERUM AGAINST WHICH ATROPIN IS PROTECTIVE

Dose Atropin Sulphate in Gm.	Time in Minutes Between Injections	Intoxicating Dose of Horse-Serum in C.c.	Symptoms	Result
0.015	5	1.5	Severe	Death (5 minutes).
0.015	5	1.0	Marked respiratory difficulty; convulsions; coma	Recovery. (Death, 18 hours).
0.012	5	1.0	Severe	Death (5 minutes).
0.012	5	0.8	Severe	Death (5 minutes).
0.012	5	0.7	Marked respiratory difficulty, but without complete cutting off of air supply	Death (6 minutes).*
0.012	5	0.6	Moderate respiratory difficulty; slight general convulsions	Recovery.
0.010	5	0.6	Severe	Death (17 minutes).
0.010	5	0.5	Severe	Death (8 minutes).
0.010	5	0.4	Severe	Death (5 minutes).
0.010	8	0.3	Marked respiratory difficulty; convulsions	Recovery. (Death, 18 hours).
0.008	5	0.3	Marked respiratory difficulty; frothing at nose; convulsions	Death (18 minutes).
0.008	5	0.2	Same symptoms as preceding	Recovery.
0.006	5	0.2	Slight respiratory difficulty	Recovery.
0.004	5	0.2	Marked respiratory difficulty; convulsions	Recovery.
.....	.	0.2	Severe	Death (3 minutes).
0.018	.	...	General convulsions; respiratory failure	Death (5 minutes).
0.015	.	...	General twitching; increased respiratory rate	Recovery.

* Apparently result of exhaustion rather than anaphylaxis.

All animals were closely observed in their cages and autopsies performed on those that died. It was found in the latter that the lungs were somewhat more congested than is the rule with typical anaphylaxis;[4] the myocardium often showed punctate hemorrhages, and the abdominal viscera were much congested but free from macroscopic hemorrhage.

The first phase of the study occupied about a month. For this reason the second injection of serum with its corresponding dose of atropin was given from twenty-five to fifty-five days after sensitization, the larger doses being given in the later periods. In the second series, however, the work progressed more rapidly, the time of sensitization being from seventeen to eighteen days; furthermore, the order of experiment was reversed in the second series, the larger doses being administered first. Any objection that might be raised on account of the varying time of sensitization in the first series is certainly overcome by the method of the second.

Table 1 presents the essential results of the first series of experiments. It is seen that the minimum fatal dose of horse-serum (0.2 c.c.) was insufficient to produce death when preceded by the administration of 0.001 gm. of atropin. In order to protect against 0.4 c.c. and 0.6 c.c. of horse-serum, it was necessary to increase the dose of atropin to 0.002 gm. To protect against 0.8 c.c. serum, 0.007 gm. atropin was necessary and against 1 c.c. serum, 0.25 gm. was needed. No dose sufficiently large to protect against 1.5 c.c. serum was possible, for before such a point was reached the animals succumbed to the dose of atropin. The presence of distinct symptoms of anaphylaxis in all those animals which were saved, is sufficient evidence of the fact that they were highly sensitive. It is clear then that there is a quantitative relation between the protective dose of atropin and the intoxicating dose of horse-serum.

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[4] Karsner, H. T.: Die Lungen in Anaphylaxie und in Anaphylaxie gleichenden Zuständen, Ztschr. f. Immunitätsforsch., in press.

The second series is presented briefly in Table 2. Whereas the atropin used in the first series was from Smith, Kline, French & Co., that used in the second series was from Merck & Co. This fact probably accounts for the variance in absolute dosage of atropin seen in the two tables, for the animals of the two series were from the same general stock. Eighteen milligrams of atropin killed a guinea-pig within five minutes. It is seen that 0.015 gm. protects against 1 c.c. serum, 0.012 gm. against 0.3 c.c. serum, and 0.004 gm. against 0.2 c.c. serum. The minimum protective dose of atropin was not determined. The conclusion that there is a general relationship between the doses of atropin and serum is obvious. From the first series, it appeared that the curve of the dose of atropin rises much more rapidly than that of the dose of horse-serum, but this is not borne out by the results of the second series. That any such exact relationship could be demonstrated, was doubtful from the first because of slight variance in the individual susceptibility to the horse-serum. The same slight individual difference of response is seen in connection with the administration of atropin.

A STUDY OF FEVER IN TUBERCULOSIS WITH REFERENCE TO ITS CAUSATION AND TREATMENT *

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The fever which accompanies tuberculosis is a symptom poorly understood and unsatisfactorily treated. In recent years the opinion of the profession as to the chief factors in its causation has undergone several changes; and yet the most generally accepted theory at the present time is still unsatisfactory and leaves much to be explained. Since there can be no exactness in its therapy until we have formed some definite idea of its cause or causes, the importance of more study along this line is self-evident.

It must be obvious to anyone who has an opportunity to study patients suffering from advanced tuberculosis and who uses his powers of observation, that the cause of the chronic fever in tuberculosis and the factors which produce the irregularities in its course are numerous and complex. There has been an endeavor to make this subject entirely too simple and the result has been increased confusion.

The finding of bacteria of various kinds in the sputum of tuberculous patients, especially the pus-producers, has given grounds for the belief that tuberculosis, when it reaches the open stage, is a different process from that of early tuberculosis; and that the principal factors in the production of the symptoms in the later stages are the associated bacteria.

Koch[1] made the declaration that a daily temperature curve above 100.4 in a case of pulmonary tuberculosis is due to septic microorganisms and consequently unsuited to treatment with TR. This mixed infection theory was accepted by the profession generally. It called forth many such statements as these: "The tuberculous process is a dry process. If the tubercle breaks down it is because of mixed infection." "Cure the mixed infection and the tuberculosis will cure itself." "Any temperature above 100.4 is due to mixed infection." Such statements as these were believed in spite of the fact that the débris formed in cold abscesses is moist and yet free from pus microorganisms; and in spite of the fact that patients with acute miliary tuberculosis have high temperature curves before the tubercles have reached the age of softening. See Chart 7.

In order to understand the cause of these fevers, we must take a broader view and look at the question from many standpoints. I believe that the primary causes are at least three in number: the tubercle bacillus and its toxins; associated bacteria and their toxins; and enzymes and the products resulting from their action upon the body cells. This last cause is generally disregarded in discussions on this subject; and, yet, I believe it is a factor of great importance in all cases of advanced tuberculosis of the ulcerative type. I cannot help thinking that one of the greatest dangers to the tuberculous patient arises from the absorption of the products resulting from enzyme action.

Our knowledge of the action of enzymes is as yet comparatively meagre. The writings of Hahn,[2] Ascoli and Bezzola,[3] F. Müller,[4] K. Meyer[5] and Opie[6] are very suggestive and show the value of careful study along this line.

Two factors, the tubercle bacillus and the products of autolysis, are present in all cases of advanced tuberculosis. These factors are present in varying degrees which depend somewhat on the activity of the process. I do not believe that associated bacteria are an important etiological factor in the production of all fevers which rise beyond moderate elevations in advanced tuberculosis, although they are unquestionably so in some.

We are wont to look on tuberculosis of the fibroid form as being due to a type of bacillus of low virulence, believing that the greater the amount of toxins or the more virulent the bacilli, the greater the tendency to tissue destruction. This is a favorable form from the standpoint of cure. I doubt not that the comparatively small amount of autolysis present is also a very important factor in rendering this a favorable form of the disease.

The ulcerative processes, on the other hand, are more serious. We assume that the tubercle toxins are a greater factor in them than they are in the fibroid form. We also must recognize that these forms present a greater amount of autolysis. Where the tubercle bacilli are supplemented by associated bacteria, we have the severest form of the disease; for here we have both the effects of the various bacteria and their toxins and an increased autolysis.

We have attempted with a degree of success to classify these fevers and associate certain types of temperature with certain pathologic conditions. The continuously subnormal temperature we associate with both chronic fibroid tuberculosis and chronic tuberculosis of the ulcerative type during the stage of quiescence. (See Charts 1 and 2.) Doubtless in patients suffering from these types there is a minimum amount of tubercle toxins and products of autolysis entering the blood-stream; consequently there is little or no rise in temperature. Now, if the disease becomes active, however, and the tissues begin to soften, the entire range of temperature assumes a higher level as shown in Chart 3. The morn-

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Koch: Deutsch. med. Wchnschr., April 1, 1897, p. 201.

[2] Hahn: Berl. klin. Wchnschr., 1897, p. 499.

[3] Ascoli and Bezzola: Berl. klin. Wchnschr., 1903, p. 391.

[4] Müller, F.: Verhandl. d. 20 Cong. f. Inn. Med., 1902, p. 192

[5] Meyer, K.: Berl. klin. Wchnschr., 1909, p. 1890.

[6] Opie: Report of Sixth Int. Congress on Tuberculosis, Washington, 1908, p. 255; Jour. Exper. Med., 1911, xiii, No. 1, p. 162

ing temperature rises as well as that of the afternoon. I do not doubt that the tubercle toxins are a factor in producing this increase of temperature, but I am inclined to believe that the action of enzymes may be even a more important factor; for as Opie[6] says: "Injury to tissue is due primarily to the action of the tubercle bacillus, but the occurrence of caseation is perhaps distinctly referable to autolysis." The same conditions are present in what is termed caseous tuberculosis, as shown in Chart 4. Here we must consider that practically the same phenomena are occurring as in the process which is slightly active, shown in Chart 3, but that the area of involvement is much greater; consequently the temperature is higher and the symptoms on the part of the patient are more pronounced. In temperatures which are supposed to show the effect of associated bacteria, the so-called "mixed infections," we note particularly the wide daily range, starting very low in the morning and rising to a very high point in the afternoon, as in Chart 5. Here, also, autolysis must be an important factor. That we can have a continuously high fever in tuberculosis without caseation is well known. Chart 6 is the chart of a patient suffering from an acute miliary tuberculosis which was engrafted on a chronic process, and Chart 7 an acute miliary process of sudden onset, the patient dying in three weeks' time.

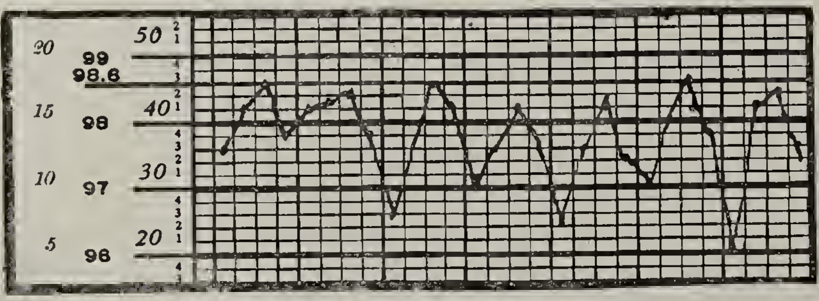

Chart 1

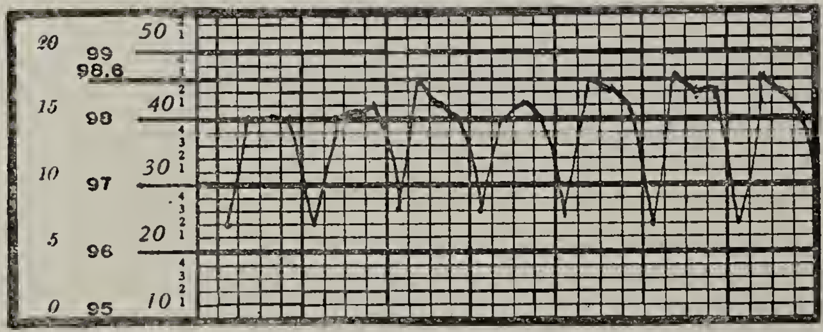

Chart 2

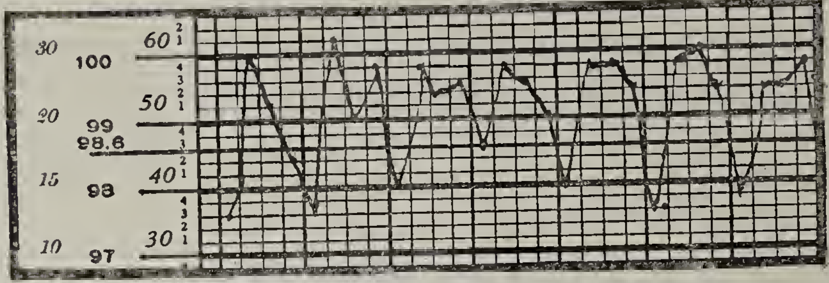

Chart 3

Chart 1.—Fever curve of chronic fibroid tuberculosis.
Chart 2.—Fever curve of quiescent tuberculosis, ulcerative type.
Chart 3.—Fever curve showing activity in tuberculosis of chronic ulcerative type.

A glance at the accompanying charts, bearing in mind the associated pathology, shows clearly that the greater the necrosis, that is, the greater the enzyme action, the higher the fever. Study of the clinical aspects of tuberculosis associates not only the rise of temperature, but also many of the most distressing symptoms and complications with the necrosis. How much these are due to bacterial toxins and how much to enzymes and the products of their action remains to be determined.

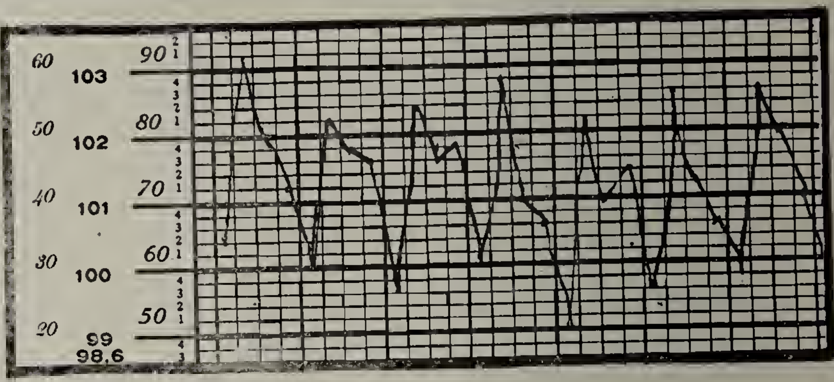

Chart 4

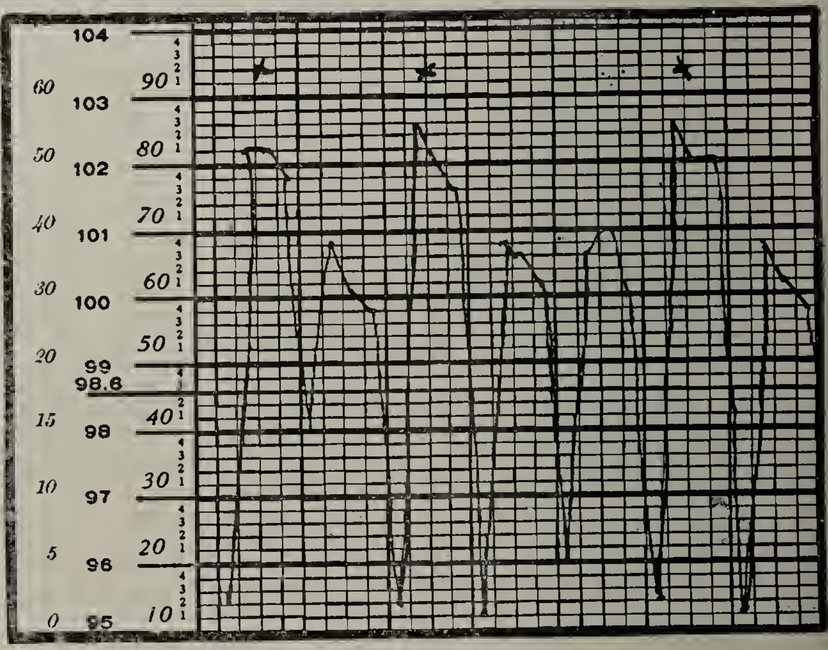

Chart 5

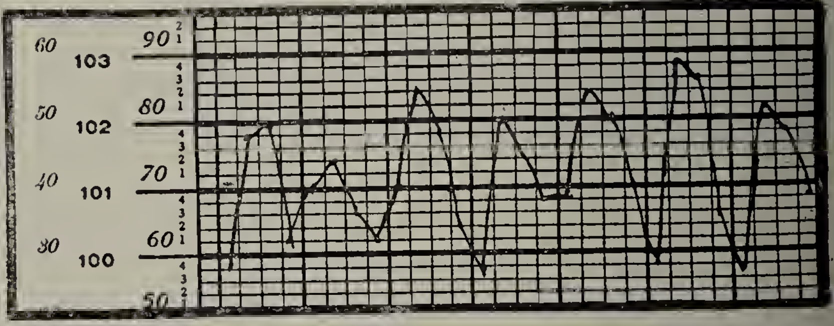

Chart 6

Chart 4.—Fever curve of caseating pneumonic type.
Chart 5.—Fever curve of mixed infection, also showing the effect of baths in raising temperature. Crosses indicate days baths were given.
Chart 6.—Fever curve of acute miliary tuberculosis engrafted on a chronic process.

In our discussion of the cause of fever we are forced to acknowledge that we are unable to explain exactly how bacteria and their toxins and the enzymes and the products resulting from their action produce fever; but there are such wide gaps in our understanding of its pathology which remain to be filled in by further study that we are lost in a maze of uncertainty. Krehl[7] considers that the cause of fever "lies in the mechanism which regulates heat loss," and expresses the belief that

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[7] Krehl: Pathologische Physiologie, 1906, p. 392.

"the heat in fever is produced in such a manner that it does not furnish the normal stimulus to the mechanism that increases heat loss." Roger[8] expresses the opinion that "fever is a morbid state resulting from the exaggeration of the chemical processes concerned in the production of animal heat." He looks on the rise in temperature as being due to the reaction of the organism against bacteria, their products, and other substances among which we would place enzymes and the products of their action; and, contrary to Krehl, he says:

> Thus fever is due to increased chemical activity, whether or not there be a comitant departure from the normal evolution of matter. Dissipation of heat in fever is more marked than under normal conditions, but excess in the production of heat is still more marked, hence the relative retention of heat and rise of temperature.

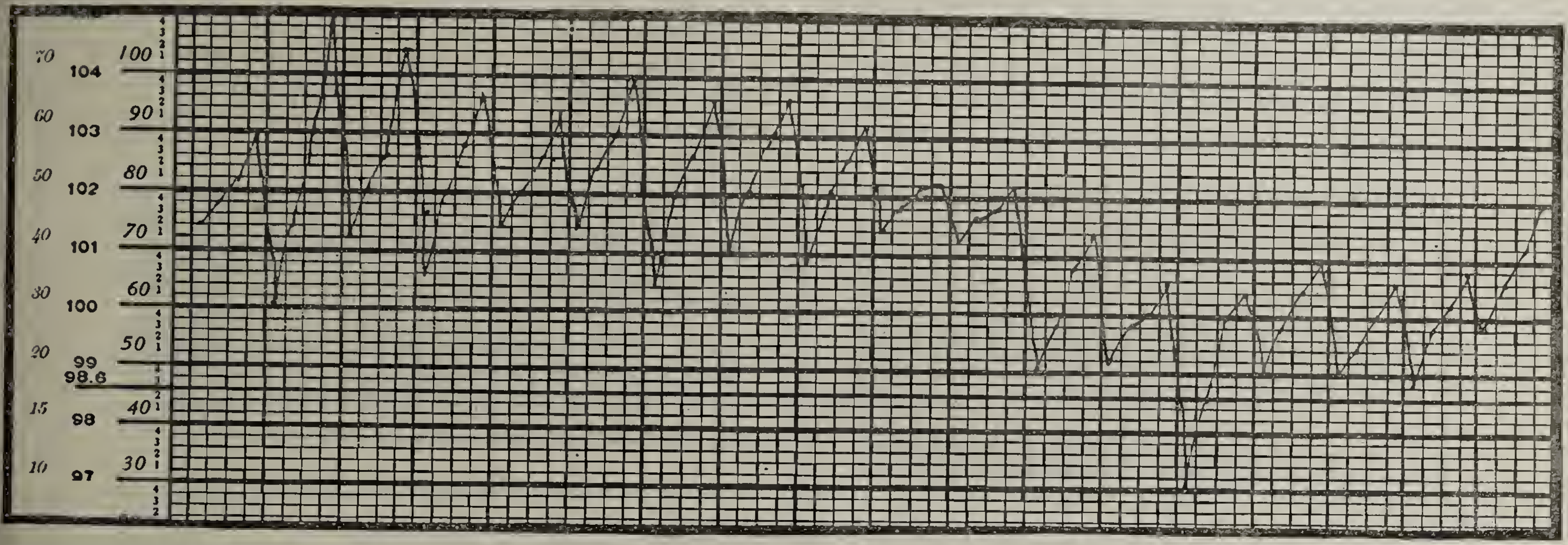

Chart 7.—Acute miliary tuberculosis, with fatal issue in about three weeks.

If we assume that the normal rectal variation of daily temperature for the healthy adult is about 1.4 F., as shown in the accompanying Chart 8, after Jürgensen, and compare this with the various charts of tuberculous patients shown above, we note that when inflammation is present, the temperature as a whole rises, the variation remaining about the same for the most part except in a certain type of cases, notably those which we have been wont to designate as "mixed infection." The height of the curve seems to depend on the amount of chemical changes present and the powers of the organism to react. In the so-called "mixed infection" curves, there are two tendencies present. Careful study of toxins shows that their tendency is to lower temperature in large doses, while the tendency of the body cells is to react with an increase of temperature. In those cases which we are wont to designate as "mixed infection," the amount of toxic products set free seems to be very large; consequently if the patient's powers of reaction are still good, the daily range of temperature is much increased. We note the same wide range of temperature during the last days of life in cases in which we find post mortem, evidence of a recent wide-spread destruction of lung tissue. I believe we are justified in attributing it largely to absorption of the products resulting from enzyme action. While under ordinary circumstances in quiescent and slightly active tuberculosis the normal daily variation of 1.4 F. is fairly well maintained, in these conditions there is a wide departure. From the excessively large dose of toxins the temperature is markedly depressed, reaching at times several degrees below normal. If the patient's powers of reaction are good this depression is followed by a high curve. In Chart 9 it will be noted that this range in one day amounted to more than nine degrees. As the patient's

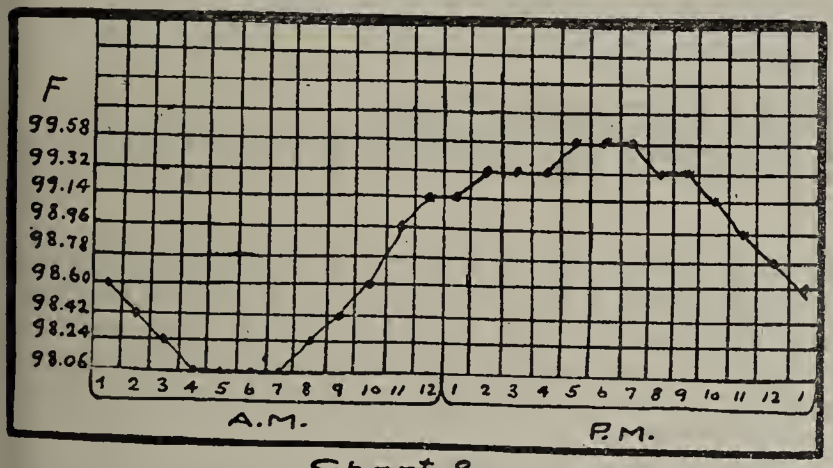

Chart 8

Chart 8.—Showing daily course of rectal temperature under normal conditions (after Jürgensen).

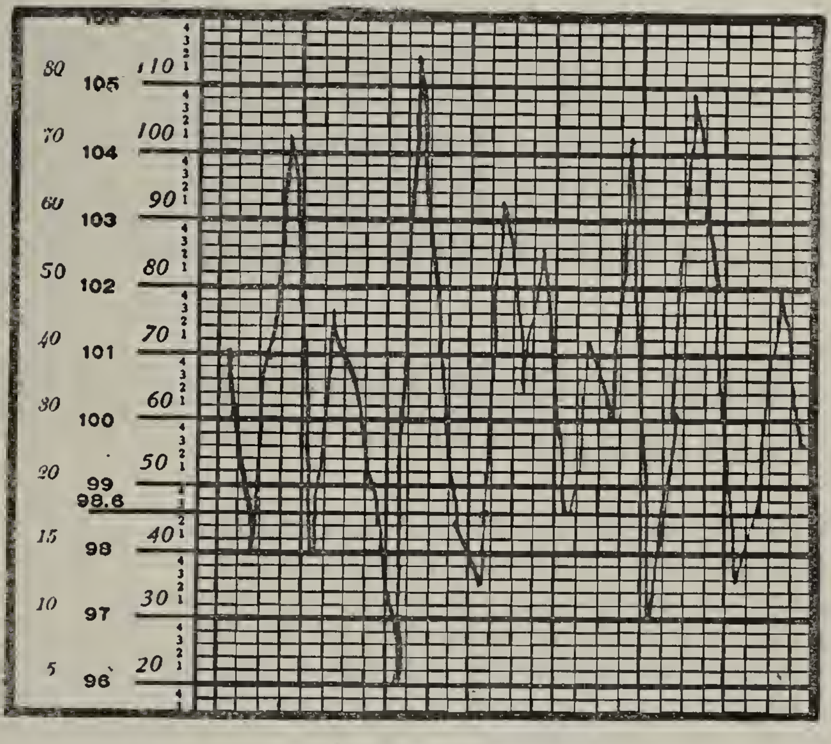

Chart 9.

Chart 9.—Fever curve showing rapid disintegration of lung tissue, absorption of large quantities of toxins, body cells still able to react.

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[8] Roger: Infectious Diseases, trans. by Gabriel, Lea & Co., 1903, p. 333.

power of reaction wanes, the temperature fails to reach the high points. It falls because of the toxic action and the inability of the body cells to react.

While we look on the three factors discussed above as being the primary causes of the elevations in the general temperature curves in tuberculosis, there are many factors which contribute to the variations found in these curves, some of which are subjective and others objective. Physical exertion is one of the most common causes of elevation in the temperature curve, Chart 10. In Chart 11 the effect of an overexertion may be seen in a patient who was recovering from a chronic temperature. The effect of this overexertion was never overcome. Mental perturbation is also frequently followed by variations in the temperature curve. Thought, reading, excitement, worry, joy, disappointment and fear all have their effect. The effect of worry is well shown in Chart 12. This patient was disturbed over the illness of her mother and her temperature assumed a higher plane until the mother was better. The effect of a large meal is often seen. Intercurrent complications, such as constipation, indigestion, colds, pleurisy, toothache, as well as the more serious ones, such as pneumonia, pneumothorax, and emphysema, all affect the regular curve. The effect of indigestion and constipation are often shown in a rise of temperature. Chart 13 shows an acute inflammation in a tuberculous process in the lung with probable expulsion of the contents of a softened tuberculous mass. The rise was accompanied by increased cough and expectoration.

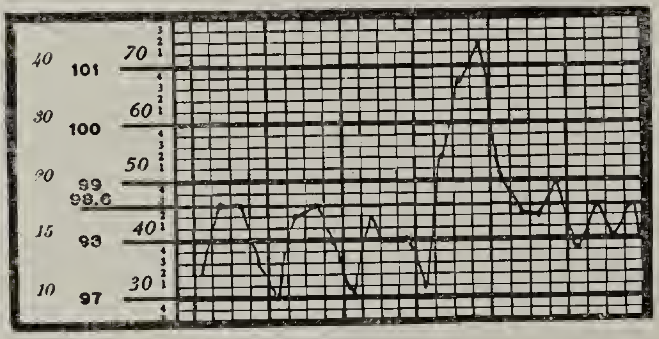

Chart 10

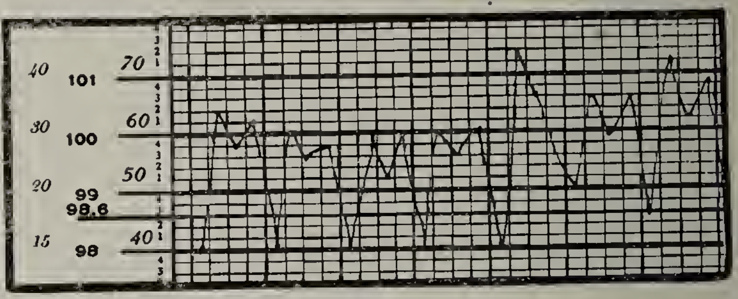

Chart 11

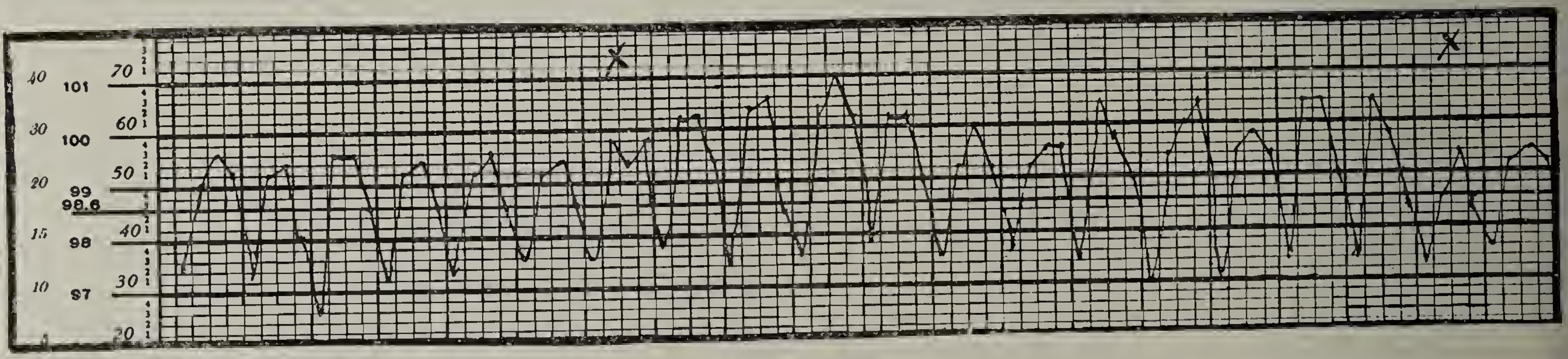

Chart 12

Chart 10.—Fever curve showing effect of overexertion in a chronic inactive case. Prompt return to normal.
Chart 11.—Fever curve showing effect of overexertion in a chronic active case. Failure to return to normal.
Chart 12.—Fever curve showing the effect of worry in patient suffering from chronic active tuberculosis. On the day marked by first star patient received word that her mother had cancer; the second star shows results of news that the diagnosis was incorrect —prompt drop in fever.

Aside from these influences within the patient, there are some without which affect the curve materially. It must be remembered that one cause of fever is lack of dissipation of heat. Therefore, it can readily be seen how thermometric and barometric changes affect the loss of body heat and consequently the temperature curve. From Chart 14 the effect of thermometric change is very plain. The low temperature on cold mornings has long been recognized. Another fact observed is that often a very annoying variation in temperature is produced by baths, the regular cleansing bath being followed in some patients regularly by a rise in temperature no matter how carefully the bath is given, as shown in Chart 5.

It will now be readily understood that there are so many influences which affect the temperature in the tuberculous patient that we are at times completely lost in our attempt to assign the proper cause for variations which occur. As a result of this confusion, the physician is at a loss to know the correct interpretation and the proper treatment to employ.

There has been too much of a tendency to deal in generalities in discussing the fever in tuberculosis, and the factors which produce it. It is commonly believed that every temperature above 100.4 is due to mixed infection. It is likewise believed that every patient who is having a high temperature is saturated with tuberculin which is circulating through his tissues. Nearly every rise in temperature which causes a temporary rise in the general curve is interpreted by many observers to mean an auto-inoculation of tuberculin. A moment's consideration of the underlying pathology and the conditions and influences surrounding the individual patient, however, will readily demonstrate that such general statements have no place in dealing with this disease. It is important to grasp these facts, for they have their bearing on the treatment of tuberculous fevers. At best, it will be seen that treatment of these conditions is a very complex proposition. It is especially necessary to interpret carefully the temperature curve when tuberculin is employed therapeutically.

Many of the contributing causes of fever discussed above can be avoided, while some, such as those depending on thermometric and barometric conditions, must be endured. Overexertion can be avoided by a little care. The effect of mental activity can, as a rule, be overcome. Reading, thinking and excitement are largely within the power of the patient to control, while worry and disappointment can usually be avoided to a large extent if the patient and physician are in thorough sympathy with each other and are cooperating as they should. Most of the complications which arise cannot be relieved at once. Some cannot be relieved at all. Some must run a regular course; but close personal medical supervision favors accuracy of diagnosis and affords rapid relief from many of them.

The relief of the fundamental causes of fever as described above is a very difficult matter and one which will often tax the patience of the physician and patient unless both are blessed with an unusual amount of optimism.

There are certain established therapeutic principles which may be followed no matter what the cause of the fever may be; nevertheless, there are certain fundamental facts which have been continuously overlooked that must be understood if we are going to attack this condition with any degree of intelligence.

Carefully regulated hygienic living in the open air with rest for both the body and mind, food, selected according to the patient's digestive capacity, and various hydrotherapeutic measures may be advantageously employed in all cases. These measures act by improving the general nutrition of the patient so that he may withstand the effects of fever better, also by lessening some factors which increase heat production, and by bringing about conditions which favor heat loss. None of these measures has any direct effect on the bacteria and their toxins and the enzymes and the products resulting from their action which we have mentioned above as the primary causes of the fever. The primary causes must be combated by specific measures. We know that specific antibodies are formed within the body, which bring about the natural healing of specific infections. This has led to the specific treatment of many of the infectious diseases whose causative germ has been discovered.

Tuberculin has partly won for itself, through probably the most severe trial to which a remedy has ever been subjected, the right to be considered as a specific against tuberculosis. Vaccines made from dead culture of various bacteria which we find associated with tuberculosis have proved to have specific action against pathologic conditions which are produced by their own strain. In spite of these specifics against the bacteria there are many foci which we cannot heal, many temperatures which we cannot lower in advanced tuberculosis. One reason for this is inexact diagnosis; another, that we have no specific against the enzymes and the products resulting from their action. Would it not be profitable to attempt the production of specific remedies against the body enzymes and the products of their action? This would not seem impossible, for Jochmann and Kantorowicz[9] and others have demonstrated antienzyme in the blood. Our conception of the machinery of immunity is such that we are led to believe that the cells of the body must produce substances which protect the body from these enzymes and the broken-down tissues, which are the products of their action. Our conception is that in these advanced cases, the body cells are constantly producing substances which protect the body against the tubercle bacillus and its toxins and the enzymes and the products of their action; and, where other bacteria are associated in the process, against these. Our rational therapy will be effective only as it aids and supplements these natural processes.

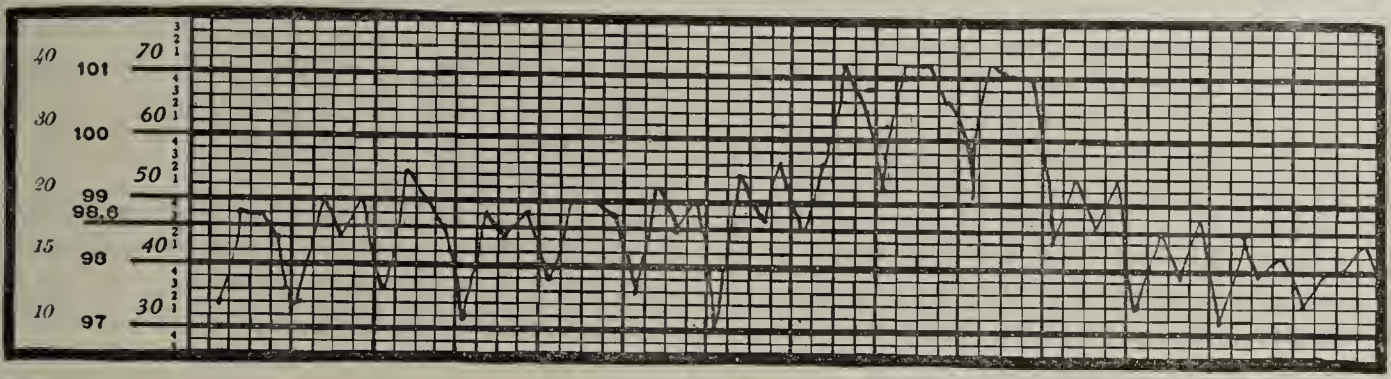

Chart 13

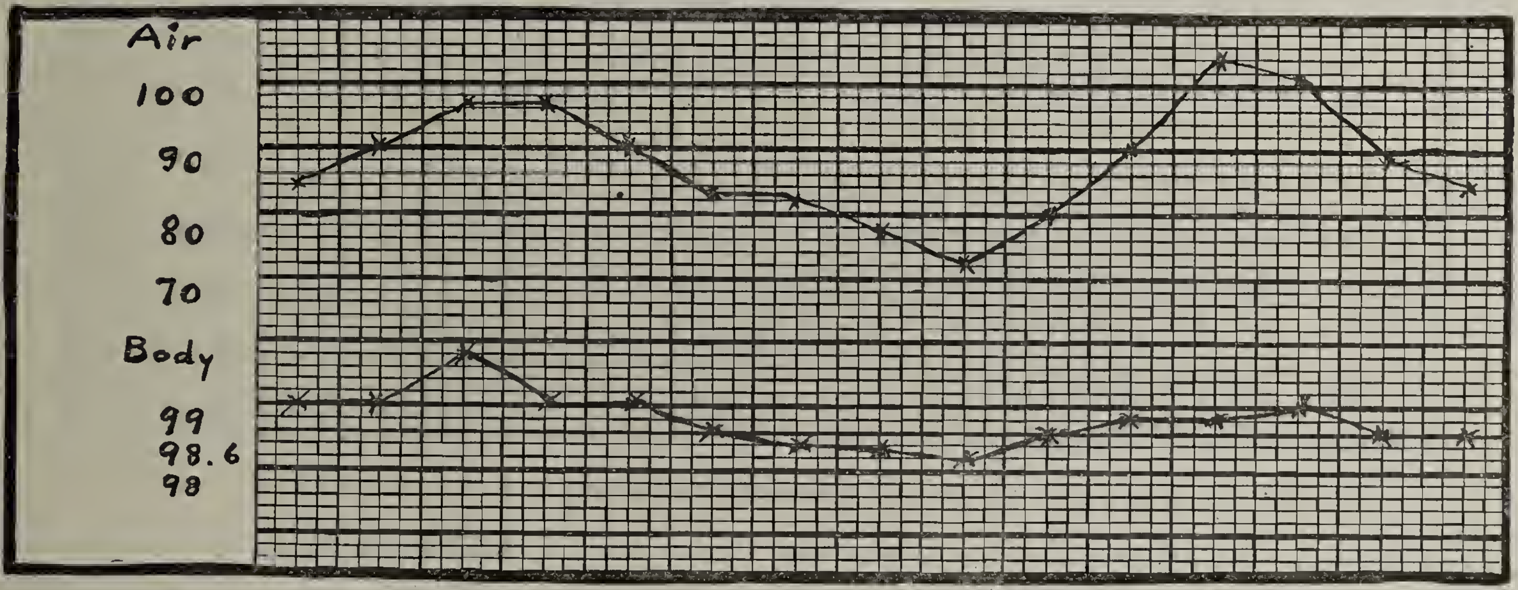

Chart 14

Chart 13.—Fever curve showing acute inflammation with expulsion of tuberculous material in a chronic inactive process.

Chart 14.—Fever curve showing the influence of the atmospheric temperature on the body temperature. Lower curve, body temperature; upper curve, air temperature.

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[9] Jochmann and Kantorowicz: Ztschr. f. klin. Med., 1908, lxvi, 153.

This brings us to the discussion of whether or not tuberculin is applicable in the treatment of fever patients. From a long clinical experience including several hundred fever patients, I am convinced that tuberculin when properly administered is of great value in these cases. The requirements that I would make are a thorough acquaintance with the use of tuberculin, close personal observation, such as is available in an institution, and the exercise of care and judgment in the administration of the remedy. I have frequently seen temperatures of 101 and even higher, which were reduced by tuberculin, the fall being coincident with each dose, so as to leave no room for mistake as to the cause. In such instances I have been wont to consider the bacillus and its toxins the chief cause of the rise. On the other hand, I have seen temperatures of less than 100 as well as high ones which seemed entirely uninfluenced by tuberculin. Such, I believe, are those in which absorption of the toxins of other micro-organisms or of the disintegrated tissue are the main cause.

The reason usually assigned for the non-employment of tuberculin in fever is that the patients are already saturated with tuberculin. That this is not necessarily true can easily be established. In the first place, it is probable, as mentioned above, that tubercle toxins are not the chief factor in the production of fever. Again, as noted in a previous paper,[10] if the system of the fever patient were completely saturated with tuberculin, all foci would be the seats of focal reactions which could be easily detected in all visible tuberculous processes such as ulcerations of the larynx and pharynx. But this is not true. Such processes show the focal reactions, however, after injections of therapeutic doses of tuberculin, which, in amount, are short of a fever reaction. Still again, if this were true, all tuberculous foci would break down as a result of the constant focal reactions. Furthermore, if the patient were saturated with tuberculin, the temperature would fall; for excessive doses of toxins would overcome the patient's reactive powers and cause a drop in temperature.

The reason that tuberculin should be employed in the treatment of patients suffering with fever is the same as that for employing it in non-febrile cases; that is, for its effect on the healing of the purely tuberculous processes. There are these in all cases. It must not be supposed that when a patient has an elevation of temperature the entire portion of the lung that is involved is producing the fever. On the contrary, the area which is the seat of activity is often quite small. I have seen temperatures of from 101 to 105 associated with the formation of small ulcers in the larynx and pharynx where I could feel reasonably sure that these small foci were the cause of the temperature (see Chart 15). The probability of this is strengthened by the elevation of temperature which often follows small abscesses. If the correct administration of tuberculin will not cause an intense and dangerous focal reaction, and when intelligently administered, it will not, then we can see that it can be employed in fever cases with the same advantage to the patient as in non-febrile cases. Of course this statement implies that the patient's reactive powers are still good, and capable of responding in the production of antibodies. Personally I have seen many lungs and portions of lungs which were the seat of recent infection clear out under tuberculin, while the patient ran fever and formed cavities in other portions of the lung. Whoever undertakes the treatment of such patients, however, must not expect tuberculin to do the impossible. He must be satisfied with what it is able to do and not look for miracles. It might do all that it can do and the temperature still persist.

My purpose in this paper is to show the actual as well as contributing causes of fever in tuberculosis and to show what measures may be employed against them and at the same time indicate why we so often fail.

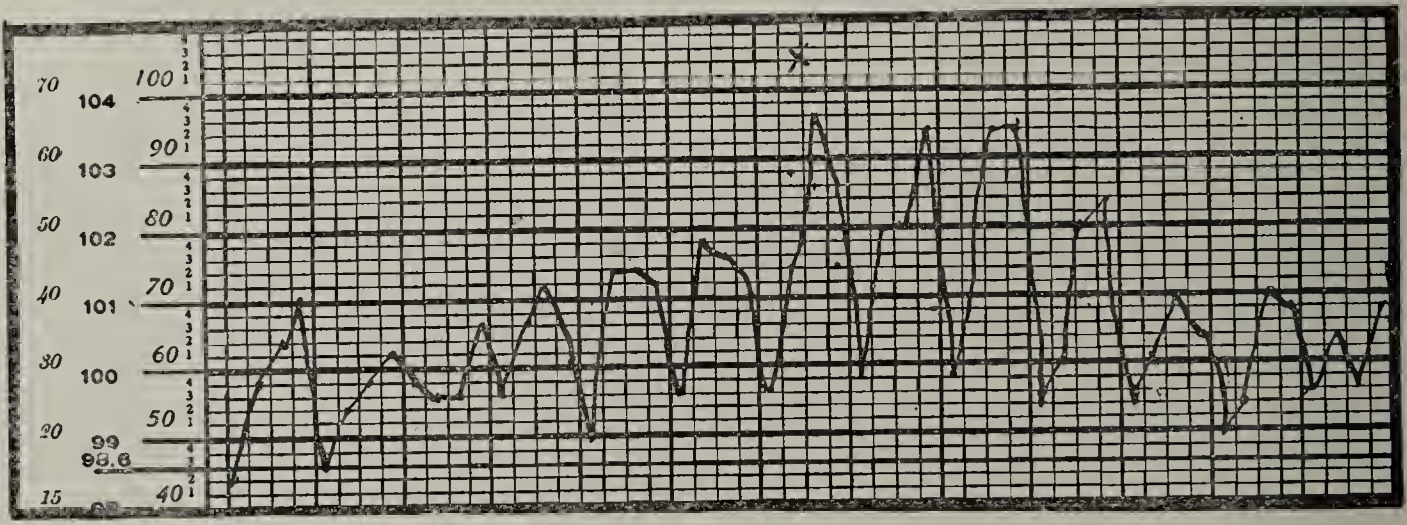

Chart 15.—Fever curve showing elevation in temperature produced by a small ulceration of the pharynx.

ABSTRACT OF DISCUSSION

Dr. Edward F. Wells, Chicago: The temperature curve in tuberculosis is a matter of great importance from many points of view. Several years ago I had occasion to observe closely a number of cases of early tuberculosis, in which it was clearly shown that a slight or moderate rise of temperature, continuing for about a week, with some local and general symptoms, would be followed by a normal temperature and subsidence of symptoms for about a month. These cycles, each somewhat more pronounced than the one preceding, were repeated with considerable regularity. These observations were published at the time, and my only object in again calling attention to them is in relation to the practical bearing which they may have on diagnosis by the tuberculin reaction, when the agent is given hypodermically. It is clear that should the administration be made at the inception of one of the febrile periods the height to which the temperature might rise is not a correct measure of the reaction.

Dr. Norman Bridge, Los Angeles: I should like to compliment Dr. Pottenger on the ingenious explanation made regarding the origin of fever in tuberculous patients. I think that he is probably correct. I should like to enter a protest, however, against some of his declarations in regard to the use of tuberculin. He says: "Tuberculin, when properly used, does a great deal of good." I sincerely hope that is true. But I d not believe there is anybody living who can state positivel that it is true. I certainly wish that it might be true. T my mind there is no sufficient evidence of the great value of tuberculin. Many have claimed that there is positive evidence of the value of tuberculin; in times past there has been no doubt a great deal of injury done by the use of excessive doses of this agent. Those who are now using this agent should be cautioned. I am positive that it does but a small amount of good compared with the good that results from general hygienic treatment.

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[10] Pottenger: Tuberculin as a Therapeutic and Diagnostic Agent, in Hare's Modern Treatment, 1910, i.

With regard to Dr. Pottenger's other statement about the person who knows how to use tuberculin, I should like to enter a gentle and friendly protest, because no man living knows absolutely how to use tuberculin. In my judgment the only real and safe way is to use it in doses so small that it can do no harm; it should be given at intervals so long that no harm can come from the frequency of its administration. Time should be allowed between doses to learn if any harm results from the tuberculin. One should endeavor to learn exactly just the amount of tuberculin to give and the intervals between doses. One cannot generalize from the results obtained in a few cases; one can only generalize from the observation made of a large number—hundreds—of cases of those who have been treated side by side with and without tuberculin. And there are but few men who have had experience enough and have carried their parallel observations far enough and carefully enough to enable them to speak with authority. However, I hope the profession will continue to use tuberculin. I am in the habit of giving 1/500 mg. once a week only. I think that no harm can result from such small doses, but that some benefit will result in some cases. But that the giving of this agent in any case will be productive of great good, I do not believe.

Dr. Frank Billings, Chicago: I supposed that the question of the fever in tuberculosis had been pretty well settled and that it was due to toxins. Last year while in England I enjoyed a visit with Dr. Paterson, who explained his method of treating tuberculosis by auto-inoculation. Of course I knew something of it before my visit and had seen some of the results of its employment here. If I understand Dr. Pottenger correctly he does not believe that tuberculin in any dose produces or reduces temperature. I simply rise to ask his opinion regarding this point. Were these patients afflicted with the miliary type or the acute ulcerative type?

Dr. Philip King Brown, San Francisco: I also rise to ask a question. I do not understand what Dr. Pottenger means by autolysis in fever in tuberculous patients. This is rather a technical term and difficult to follow in connection with what he says regarding fever in tuberculosis. I have labored under the impression that there was a toxic agent at work which produces fever in this disease. As a matter of fact Dr. Vaughan made some interesting experiments, reported before the Association of American Physicians last summer, on the protein reaction as a cause of fever in bacterial diseases. The animal experimented on could be caused to have temperature of any type by the introduction of some protein substance subcutaneously. Most of the work was done with egg albumin. Dr. Vaughan explained the resulting fever as depending on some anaphylactic action. The extent of this reaction depended on the frequency and the amount of the protein introduced. I should like Dr. Pottenger to state whether he had gone into this carefully and what he means by stating that toxins do not cause or increase the fever.

Dr. C. F. Tenney, Toledo, O.: I have given tuberculin with beneficial results when the temperature has not been above 99.4 F. If the temperature is higher than 99.4 F. I believe that rest is indicated. I should like to ask Dr. Pottenger why he gave tuberculin when there was a high temperature.

Dr. F. M. Pottenger, Monrovia, Cal.: If I had been permitted to read my paper in full the various questions asked me would most probably have been satisfactorily answered. Dr. Bridge has certainly been unfortunate in his experience with tuberculin. I wish to state emphatically that I do not agree with what Dr. Bridge has stated regarding the use of tuberculin. The intelligent use of tuberculin, like all other remedies, consists in individualization, suiting the dosage to the individual patient under treatment. When one uses tuberculin after the manner described by Dr. Bridge, unsatisfactory results are sure to follow. One does not operate in any two cases of appendicitis alike, or treat any two patients with typhoid fever the same, neither does one administer digitalis nor strychnin alike in all cases, and yet Dr. Bridge would have us give 1/500 mg. of tuberculin once a week to all patients who are treated with tuberculin. I would not want to have it go out from this meeting that this is the proper use of tuberculin. Such a method is erroneous and incapable of producing the best results.

For fifteen years I have preached the importance of individualization in the use of tuberculin. To give so many drops of this or that dilution at certain intervals cannot be expected to be productive of much good. One must bear in mind what tuberculin is and what it is supposed to do. Unless great care is used in its administration much harm may result, but when used intelligently good must just as necessarily follow.

When tuberculin is being used all other measures which are recognized for building up the patient should be employed.

Tuberculin can be employed as intelligently as any other remerdy that we have. We cannot give a satisfactory explanation of the action of many of our remedies, but this must not deter us from using them according to our clinical observations. Small doses of tuberculin are not necessarily conservative. The proper method of using tuberculin is to give the right dose at the right time. If one starts in with small doses and increases them gradually, the patient will soon bear the doses without danger of reaction. In my private work I always have more than 100 patients under treatment with tuberculin and yet I rarely have a rise of temperature of more than ½ degree as a result of its administration. I agree with Dr. Bridge that no one knows exactly how this remedy acts. Who knows all about digitalis or strychnin? Our lack of knowledge, however, does not deter us from producing good results.

Dr. Billings speaks of the work of Paterson. I am familiar with Paterson's observations and think he is doing an admirable work, but it must not be forgotten that he is dealing exclusively with early inactive cases. The patients of whom I am speaking are almost all advanced and suffering from active tuberculosis. Rest is an absolute essential in the treatment of all cases of active tuberculosis. I always enforce it if the temperature is above 100, and in many cases in which it is under, if other conditions would indicate it.

Regarding Paterson's interpretation of every rise of temperature following exertion, as an auto-inoculation, I think there is some room for question. I do not believe that all these can be ascribed to an auto-inoculation of tuberculin. There are other factors which come in.

Regarding the effect of large doses of toxins in reducing temperature, many experiments have been performed in which staphylococci and streptococci as well as tuberculin have been employed, showing that following the injection the temperature was markedly decreased, and if the dose is fatal the animal dies with subnormal temperature.

In reply to Dr. Brown regarding enzymes and autolysis, I would refer him to the excellent work done by Frederick Muller, Ascoli and Bezzola, and Opie. From my clinical experiments I believe that enzymes and the products of autolysis are very important factors in the production of fever and that they deserve very careful study.

Significance of the Death-Rate.—The general death-rate is the most important single piece of evidence of the health of a place, says W. S. Rankin in *Bulletin of the North Carolina Board of Health.* Just as general vitality in an individual is counted in the rise and fall of the pulse wave, so the general vitality of the body politic is counted in the rise and fall of its death-rate. At first glance this symptom might appear as misleading. In certain cases attention might be called to the fact that diseases like hookworm and malaria rarely terminate fatally. This seeming inaccuracy disappears when we recall that diseases, not of themselves terminating in fatal issue, tend to that end by lowering the general resistance of the body to death-dealing germs, and so indirectly and ultimately register their existence in increasing death-rates.

EXPERIMENTS ON THE RELATION OF THE THYROID TO DIET *

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From the results of some recently published experiments[1] I suggested the hypothesis that certain diets have specific effects on the activity of the thyroid gland; the results of these physiologic experiments were, in part, in accord with histologic studies made some time ago by Watson. This hypothesis was based largely on the fact that certain diets have an effect on the resistance of animals to certain poisons similar to that caused by the administration of thyroid, and, further, on the observation that the effect of the administration of iodin to animals is, in part, determined by the character of the diet; it was held that the latter determined the ability of the thyroid to combine with the iodin.

I have recently endeavored to put this hypothesis to further experimental test. The results are in entire harmony with the above views, although I do not consider the experiments sufficiently numerous or varied to be entirely conclusive.

METHOD

The method was the same as that used in the preceding experiments, and is based on the increased resistance which mice show to acetonitril after the feeding of thyroid.

It had been found in earlier work that the resistance to this poison was much greater in the case of mice which had had a diet of oatmeal, or of oatmeal and liver, than in the case of those which had had a diet of eggs, crackers, and milk.

The effect of these diets on the resistance to the poison was now determined in mice from which the thyroid glands had been removed.

In the first series the thyroids were removed from a large number of young mice. In many cases the operation was not satisfactory, portions of the thyroid undoubtedly being left. A considerable number of the animals died, many of them in tetany. The survivors were placed on the exclusive diets of eggs or of oatmeal for thirty days, when their resistance to acetonitril was determined. Table 1 shows the results:

TABLE 1.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Thyroidectomized.
Egg-fed	0.40-0.43	0.44
Oatmeal-fed	0.85	0.63

The normal mice fed on oatmeal were, as usual, more resistant to the poison than the normal mice fed on eggs. Thyroidectomy had had no effect in the case of the egg-fed mice, but had distinctly lowered the resistance of the oatmeal-fed mice. This result is in harmony with the hypothesis that the high resistance of the oatmeal-fed mice is due in part, but only in part, to an effect of this diet on the thyroid.

In the second series, young mice were kept for a few weeks on diets of oatmeal and liver, and on crackers, milk, and eggs. The thyroids were then removed from a number of each group and the same diets continued for twelve days. The thyroids of the oatmeal and liver-fed group were invariably very large and vascular, bleeding readily; those of the other group were exceedingly small and pale. About 80 per cent. of the oatmeal-fed mice died, most of them in tetany; 33 per cent. of the other group died. Twelve days after the operation the fatal dose of acetonitril was determined with the results shown in Table 2.

TABLE 2.—FATAL DOSE OF ACETONITRIL IN MG. PER GM. OF MOUSE

	Controls.	Thyroidectomized.
Crackers, milk and eggs...	0.15	0.17
Oatmeal and liver.........	4.3	2.2

Thus the controls which had been kept for several weeks on the oatmeal-liver diet were far more (almost thirty times as) resistant to the poison as those which had been on the diet of crackers, milk, and eggs. Thyroidectomy had little effect on the resistance of the latter; it lowered that of the former by about one-half.

The next series is of interest from another point of view. A large number of young mice were fed for thirty days on oatmeal, crackers and eggs, before the removal of the thyroids. This diet was selected on the belief that the mice receiving it would have neither the large and excessively vascular thyroids of those fed on oatmeal and liver, nor the extremely small glands of those fed on crackers, milk, and eggs. As a matter of fact the thyroids were of medium size and easily removed. The fatal dose of acetonitril for the controls of this series was 1.8 mg. per gram (as compared with 4.3 for the oatmeal-liver-fed mice, and 0.15 for those of the preceding series fed on crackers, milk, and eggs).

The thyroidectomized mice and a number of the controls were then given crackers containing 0.1 per cent. potassium iodid for ten days, when their resistance to acetonitril was determined; the results shown in Table 3 were obtained.

TABLE 3.—FATAL DOSE OF ACETONITRIL IN MG. PER GM OF MOUSE

	Controls.	Potassium Iodid
Normal	1.8	1.8
Thyroidectomized	...	0.7

As a rule the administration of potassium iodid (and many other iodin compounds[2]) to mice increases thei resistance to acetonitril (increased activity of the thyroid); that it did not do so in this case was probably due to the inability of the thyroid, for some reason, to combine with the iodin. The thyroidectomized mice withstood less than half as much acetonitril as did the controls. This I believe to be due to the absence o thyroid secretion.

The above experiments shows that the high degree o resistance of mice to acetonitril caused by certain diet is due in part to the activity of the thyroid gland. In cases in which the thyroid was apparently not very active (as judged by its small size and the low resistance to acetonitril), its removal had no effect on the resistance to the poison; this was the case with the mice fed on eggs, and crackers, milk and eggs.

I had found in earlier experiments that removal o the thyroid did not have a constant effect on the resistance of guinea-pigs to acetonitril; Carlson and Woelfe state that they obtained similarly negative results with rats and mice. The above considerations seem to sufficiently explain such negative results; the latter do no at all invalidate the conclusion that the acetonitril tes is a test for thyroid activity, at least when the latter i exaggerated.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Bull. 69, Hyg. Lab., P. H. and M.-H. S.

[2] Hunt and Seidell: Jour. Pharmacol. and Exper. Therap ii, 15.

In other experiments the thyroids of the mice (or of other animals) which had received special diets were removed and fed to other mice; the resistance of the latter to acetonitril was then determined. There is obviously more than one possibility here: a thyroid might be very active but, owing to conditions favorable to secretion, contain at one time little of the secretion itself; this seems to be the case, for example, with the thyroid in exophthalmic goiter. Or the thyroid might be very active and also contain a considerable amount of the secretion. Both of these possibilities seemed to be realized in my experiments; with some diets the greater the resistance of the animal to the poison the less was the protective action of its thyroid when fed to other animals. With other diets the reverse occurred; the greater the resistance of the animal the greater the activity of its thyroid. The following is an example of the latter class of experiments:

One group of mice was kept for several weeks on a diet of crackers, milk, and eggs; the fatal dose of acetonitril was 0.1 mg. per gram of mouse. Another group was kept on a diet of oatmeal and liver; the fatal dose of acetonitril was 0.33 mg. per gram. The average weight of the mice of the former group was 19.81 gram; that of the latter 19.52 gram. The thyroids were removed from the two groups, dried, and fed to other mice so that each of the latter received one-half of the thyroid of a mouse per day. After ten days the resistance of these mice was determined: The normal (control) animals died from 0.7 mg. acetonitril per gram; those receiving the thyroids of the group fed with crackers, milk, and egg died from 1.6 mg., those receiving the thyroid of the oatmeal-liver-fed group died from 2.3 mg. Thus there was a parallelism between the resistance of the mice and the activity of their thyroids.

Similar results were obtained with rats. In these animals the administration of thyroid causes a lowered resistance to acetonitril; hence a low degree of resistance suggests an active thyroid and vice versa. In one series of experiments rats on a certain diet died from 1.2 mg. acetonitril per gram; rats on another diet recovered from 3.3 mg. per gram. It was suspected that the thyroids of the former would be found more active than those of the latter when fed to mice; this supposition was confirmed: Mice receiving the thyroids of the former group of rats recovered from 3.5 mg. acetonitril per gram; mice receiving the thyroid of the rats of the second group died from 2.5 mg. per gram. Thus here again there are two distinct lines of evidence for the view that the diet has an effect on the activity of the thyroid.

TABLE 4.—RESISTANCE TO ACETONITRIL OF MICE ON SPECIAL DIETS WITH FEW AND MANY OFFSPRING

First Four Months' Diet.	Oatmeal and Liver.	Crackers, Milk and Eggs.	Corn-Meal and Milk.
No. of young born..............	0	97	69
Fatal dose of acetonitril in mg. per gm. of mouse............	....	About 0.23	About 0.55

Second Four Months' Diet.	Crackers, Milk and Eggs.	Oatmeal and Liver.	Corn-Meal and Liver.
No. of young born..............	59	28	41
Fatal dose of acetonitril in mg. per gm. of mouse............	0.27 to 0.45	2.3 to 4.4	2.5 to 4.5

Finally, attention may be drawn to an interesting parallelism between the effect of certain diets on the resistance of mice to acetonitril, and their effect on the reproductive activity of the mice. Four groups of mice, each consisting of three females and one male, were fed on the diets named below for four months; at the end of each month the young were removed and their resistance to acetonitril determined. After four months the diets were changed. Table 4 shows the results.

Thus with these special diets the young of the mice producing the most offspring were the least resistant to the poison; the young of those producing the fewest offspring were the most resistant. Whether this is true with other diets has not been determined. In an earlier paper I showed that in many cases there is a parallelism between the rate of growth and the sensitiveness to acetonitril; a similar parallelism is seen here between the sensitiveness to this poison and the reproductive activity. We are now conducting experiments to determine if there is any relation between the reproductive activity and the rate of growth (as determined by special diets) and the inoculability of carcinoma.

An interesting fact shown in the above table is that the diet seemed to have a long-continued effect on the reproductive activities: mice taken from a mixed diet (of bread and oats) and placed on one of oatmeal and liver produced no young in four months, whereas mice which had received for four months a diet of crackers, milk, and eggs, continued fairly productive when placed on a diet of oatmeal and liver.

SUMMARY

These experiments afford additional experimental support for the view that certain diets have specific effects on the thyroid glands of some of the lower animals. It is probable that analogous relations hold for human beings. Although it is possible that the effects differ in different classes of animals it would be interesting to determine if, in cases of hypothyroidism, the administration of oatmeal and liver, for example, would have a favorable influence, and if the withholding of them from patients with hyperthyroidism would be found advantageous. The most promising class of cases for such observations would be the mild degrees of thyroid derangement, such as those recently described by Kocher in his Nobel lecture.[3]

ABSTRACT OF DISCUSSION

Dr. Theodore G. Davis, Los Angeles, Cal.: This would suggest a practical point; that is, the fact of the thyroid gland antidoting the drugs having benzoyl and anilin bases, as acetanilid and many others derived from that group; as the trinitril is the test for acetanilid and similar compounds.

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[3] The results of the experiments described above are in harmony with the interpretation I have hitherto placed on the acetonitril reaction, viz., that it is a test for the internal secretion of the thyroid; the results obtained by feeding the thyroid gland itself I have interpreted as being due to its containing some of the internal secretion.

Trendelenburg (Biochem. Ztschr., 1910, xxix, 396) has interpreted the results in a different manner. He fully confirmed my results that the administration of thyroid increases the resistance of mice to acetonitril; but he also found that the blood of thyroidectomized cats protected mice against this poison. He believes that in the absence of the thyroid, toxic substances accumulate in the blood, and that these cause the reaction; he also believes that these substances, when absorbed by the thyroid, cause the latter to give the test. Trendelenburg did not test the resistance of the thyroidectomized cats to acetonitril.

These results show how complicated the problem is. It would be useless to indulge in much speculation without further experiments, but it may be suggested that, assuming the processes to be the same in mice and cats, there is a formation of protective substances in the absence of the thyroid, but that these are unable to protect the animal producing them without the interaction of the thyroid gland itself. Or, possibly, in Trendelenburg's experiments thyroidectomy had caused changes in the composition of the blood so that this contained protective substances analogous to those contained in oatmeal, liver, the prostate, etc., or substances which stimulated the thyroids of the mice to increased activity; for while my experiments show that the effect of oatmeal and liver is in part due to an effect on the thyroid they show equally plainly that other factors are involved.

There are no contradictions in the experimental results of Trendelenburg and myself, and there may also be no real contradiction in our interpretation of them.

A PLEA FOR MORE DIRECT METHODS IN DEALING WITH GASTRIC ULCERS AND CANCER *

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The strides in gastric surgery during the last ten years have been very remarkable. Originally the first aim of the surgeon was to diminish the mortality of disease with the least mortality resulting from the means of relief, but as Dr. Charles Mayo says, the modern requirement is the relief of morbidity. In other words, the patient not only demands relief from the immediate conditions with a low mortality, but he has a right to expect symptomatic relief and immunity from sequelæ. I dare say that the first thought of most, if not all operators in the early development of the surgical treatment of callous gastric ulcer was the excision of the ulcer. The first stomach operation of any kind that I ever attempted was ten years ago, when an ulcer in the posterior wall and lesser curvature, such as shown in Figure 4, was excised. The patient died from faulty technic and I did no more gastric surgery until I learned more of Mayo's work in gastro-enterostomy. It is possible that other surgeons have had similar experiences which have not been reported.

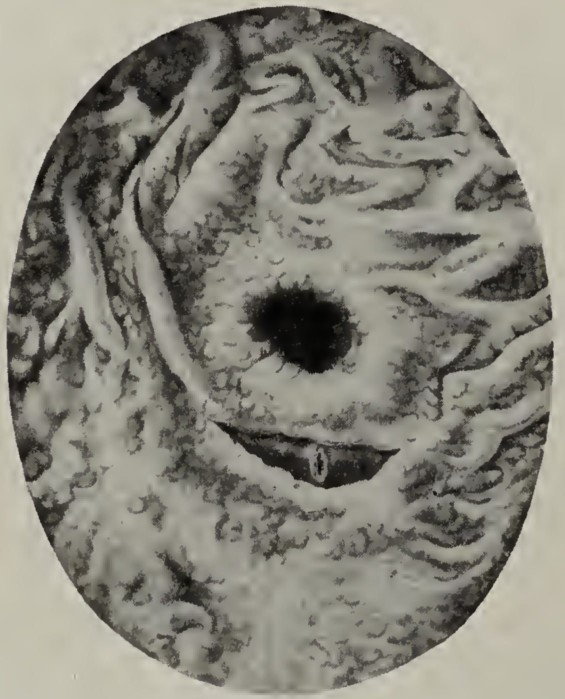

Fig. 1.—Post-mortem specimen of stomach mucous membrane in which is shown a stoma forty-eight hours after a gastro-enterostomy; also a slit in the mucous membrane produced by clamps. Crossing the slit is a vessel which was devitalized by the clamp and which gave way thirty hours after the operation, producing a fatal hemorrhage.

The brilliant work of Mayo Robson, the Mayo brothers, Mickulicz, Moynihan, and others, brought gastro-enterostomy so prominently before the profession and so rapidly reduced the mortality that it became almost the universal operation for gastric ulcer. Soon afterward, however, Rodman ventured to put forth his bold procedure for excising the ulcer-bearing area in the pylorus. The mortality has deterred the majority of surgeons from adopting it, but, as technic has been improving, more and more work is being done along this line. The mortality has been greatly diminished, and, as the reports come in year by year, we learn that many of the ulcers supposedly cured by gastro-enterostomy have been only temporarily relieved, and, in the case of ulcers located at other points than near the pylorus, there has not been even temporary relief in a large percentage of cases; furthermore, the danger of the development of cancer in a callous ulcer is much greater than has been supposed. Gerster[1] makes the following summary on callous ulcer of the stomach:

> During the past year attention has been called by authors, both here and abroad, to the great tendency of callous gastric ulcer to carcinomatous change. Wilson and McCarthy[1] have shown that in 71 per cent. of resections for carcinoma, a pre-existing callous ulcer could be demonstrated. This was in a series of 153 cases. At the meeting of the Deutsche Gesellschaft für Chirurgie, in the spring of 1910, Ewald stated, in discussing Payr's report that 26 per cent. of gastric ulcers underwent malignant change, that he considered this estimate far too low. In Germany, the trend of opinion seems to be developing in this direction. In France an experience of Tuffier bears out this point. He found an induration of the greater curvature, the size of a nut, with two slightly enlarged lymph-nodes in the great omentum near by. The impression gained was that of a chronic ulcer. It was resected and the nodes extirpated. Microscopic examination revealed a typical callous ulcer, at the base of which a carcinoma was beginning to develop. From this experience he concludes that every gastric ulcer which is solitary, and which is easily accessible, should be extirpated. Many other surgeons have emphasized the impossibility of distinguishing malignant from inflammatory tumors of the stomach by gross examination.
>
> The general trend of opinion seems to be leading to this: that gastric ulcers, situated in the body of the stomach but not yet causing stenosis, are not cured by gastro-enterostomy. Resection, when possible, should be done, not only because the ulcer is not cured by gastro-enterostomy, but mainly because its continued existence is a constant menace as regards the probability of a change to carcinoma.

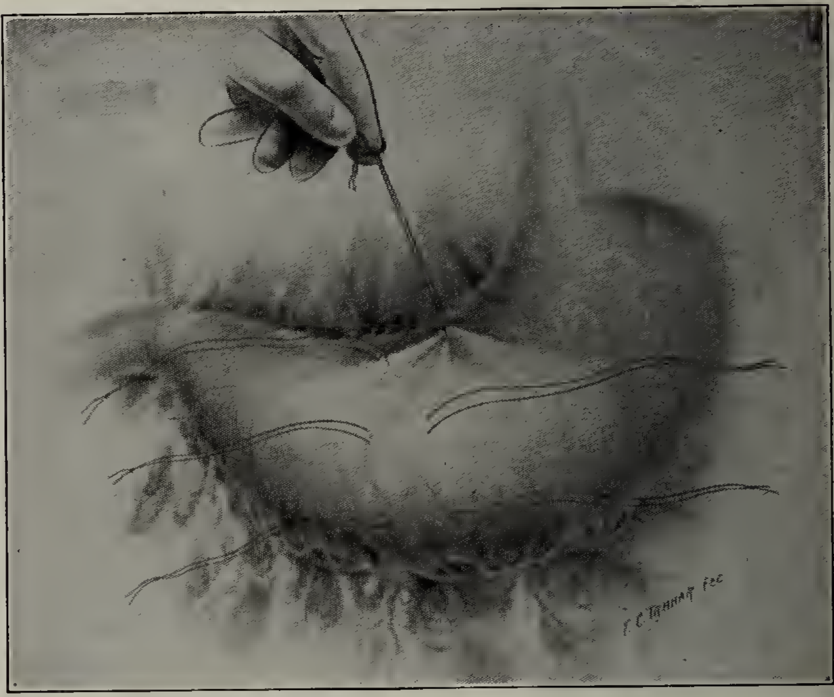

Fig. 2.—Placing traction loops preparatory to opening the stomach for exploration.

Eiselsberg advocates unilateral pyloric exclusion in addition to gastro-enterostomy for ulcers in the pylorus in cases in which the condition of the patient makes resection dangerous or impracticable because of the presence of adhesions; also in those cases in which there

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* For reasons of space, a large number of illustrations are here omitted, but the complete article appears in the Transactions of the Section, and also in the author's reprints, a copy of which will be sent on request by the author or by The Journal on receipt of a stamped and self-addressed envelope.

[1] Progressive Medicine, June, 1911, p. 110.

is doubt regarding the nature of the tumor existing, and when for apparent reasons one cannot resect. For, as he states, "even a cancer, where it is not subject to the passage of fluid over it, has its growth very much retarded." Eiselsberg further suggests this procedure as a preliminary step to a resection to be carried out on some later occasion.

Mayo, in 1908, made the statement that all callous ulcers not located at or near the pylorus should be excised by direct attack. In 1910, he described[2] a method of transgastric excision of ulcers of the posterior wall which he stated had been previously used by Dr. Pilcher. In the same month I published an article[3] in which another method of excising ulcers of the posterior wall was described, and a number of cases were reported. In this work, clamps were used to protect the field. In the very next case of the kind, after the publication of this paper, it became evident that the ulcerating process had extended beyond the clamps, making it necessary to release the clamps and extend the excision. This allowed a good deal of spilling of stomach contents and among other things revealed the fact that the mucous membrane had been injured by pressure of the clamps. The operation was finally completed and the patient recovered. By this case, however, I learned that the use of clamps is by no means ideal for this excision and further that it is not without danger. Curiously enough, my very next stomach operation—although the simplest kind of a gastro-enterostomy for obstructive ulcer and an ideal case—resulted in the death of the patient from secondary hemorrhage from pressure of the stomach clamps, which case I shall relate in detail:

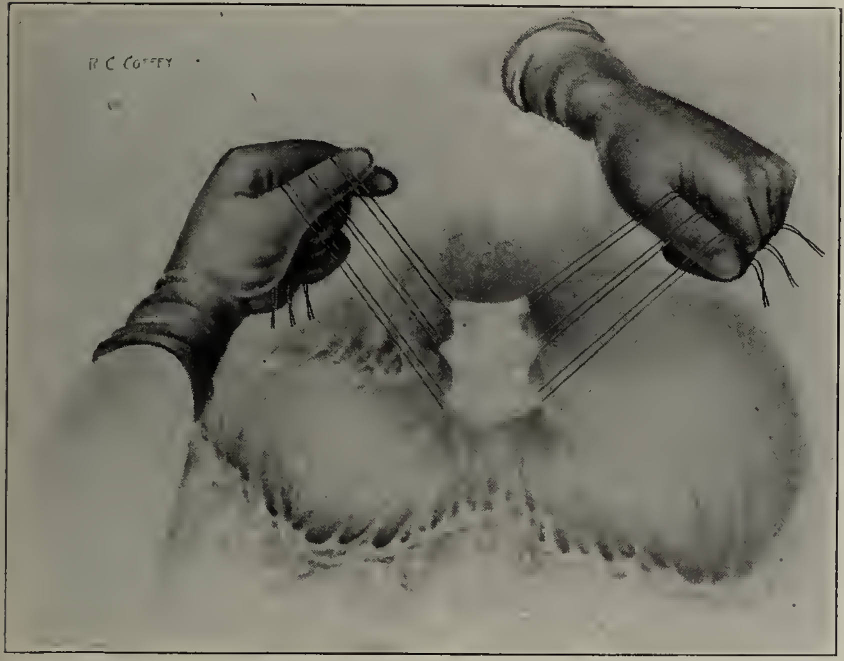

Fig. 3.—Lifting a section of anterior stomach wall by traction loops to permit the air in the stomach to rise to point of proposed incision.

The patient, a male, 50 years of age, had suffered with stomach trouble five years or more. Recently he had rapidly lost flesh and was unable to retain food to any extent. He was referred to me by Dr. Noble Wylie Jones, October 28, with a diagnosis of an obstructive ulcer at the pylorus. The chemical examination of gastric juice showed a slight excess of free hydrochloric acid. October 29, the patient was operated on, a callous ulcer obstructing the pylorus just on the duodenal side was found, and a gastroenterostomy was performed by the posterior no-loop method. The case was an ideal one. The operation was completed in 30 minutes in a very satisfactory manner. The patient was in no way shocked or depressed by the operation and 24 hours after the operation felt well and had a normal pulse and normal temperature. Thirty hours after the operation the nurse noticed an increase in the patient's pulse rate but she was unable to reach me until 36 hours after the operation, or 10 p. m., October 30. At this time the patient's pulse was about 160. I immediately called Dr. Jones and we were unable to make a diagnosis of anything serious. As the patient's wife stated that he had frequently had spells of palpitation of the heart, we tried to persuade ourselves that it was a nervous condition. The patient did not vomit nor was he nauseated. Gas passed from the bowels, but no blood. The temperature was about 100. Therefore we could not believe bleeding was taking place. The patient died at 6 p. m., October 31, 56 hours after the operation. A necropsy was held shortly after death. When the abdomen was opened the intestines were seen to be filled with dark blood. On opening the stomach and examining the ulcer we found that no hemorrhage had taken place from the ulcer. Examination of the stoma, which shows in the center of Figure 1, showed union perfect and no possibility of a hemorrhage. The stomach was practically empty, while the intestines were filled with blood. We realized that death had been caused by hemorrhage but we had not found the point from which the hemorrhage had come, and did not find it until the stomach was entirely removed and washed, when we discovered a slit in the mucous membrane about an inch from the stoma which marked the place where one blade of the clamps had held the stomach. Running directly across this slit in the mucous membrane was a blood-vessel the wall of which had sloughed. The clamp had devitalized the vessel and the gastric juice, being excessive, had undoubtedly digested the devitalized coat of the vessel and the hemorrhage began.

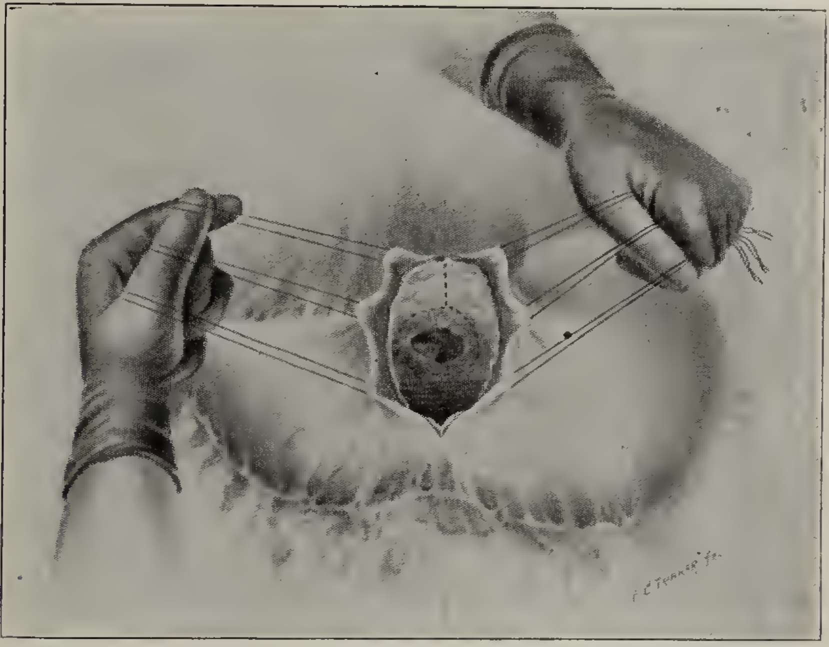

Fig. 4.—The stomach has been incised, exposing the mucous surface. A callous ulcer is seen in the background, while the fluid contained in the stomach may be seen gravitating to the back. Dotted line indicates extent of incision by which this ulcer was removed from the posterior wall and the lesser curvature.

I had previously noted in animal experimentation that the mucous membrane is frequently broken by the clamp in gastro-intestinal anastomosis, but as I had not seen cases of death reported from this cause I inferred that there was practically no danger. The clinical experience just mentioned coupled with what I have seen in animal experimentation has led me to the belief that there have unquestionably been other deaths from the same cause, in which cases the cause has been either undetected or unreported. The function of clamps in gastro-intestinal surgery is three-fold: to hold the viscus for convenient suturing; second, to prevent the escape of large quantities of gastro-intestinal contents; third, to control hemorrhage while the operation is going on. After these experiences I sought to devise a plan by which these ends could be accomplished without the use of clamps and made extensive experimental studies in devising a technic. First, as to the manner of holding the viscus, I soon found that traction loops passed through all the coats, as shown in Figure 2, held it just as well as clamps; second, if traction loops were placed on tension, thus lifting high a part of the front wall of the viscus (Fig. 3), the air in the viscus rose to the top so that when the lifted part was incised, the air escaped, the intravisceral pressure was destroyed, the fluid gravitated to the posterior and lower portions (Fig. 4) from which it could be dipped out with a ladle or dipper, and the viscus could be dried and made clean with gauze without spilling a drop of the fluid (Figs. 5 and 6); third, the hemorrhage could be controlled by temporary use of artery forceps or ligation of the vessels.

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[2] Ann. Surg., December, 1910.

[3] Coffey, R. C., Surgical Treatment of Ulcers Along the Lesser Curvature, Surg., Gynec. and Obstet., December, 1910.

An exploratory incision in the stomach should usually be made transversely, thereby parallelling the vessels and avoiding hemorrhage almost entirely. Through such an incision, after the fluid has been removed by the technic just described, an accurate inspection of the stomach mucous membrane can be made with no danger of spilling the stomach contents or soiling the peritoneal cavity. If an ulcer exists, the remainder of the stomach may be explored for other possible ulcers and the general condition of the mucous membrane inspected. When an ulcer is found, as shown in Figure 4, it is then well to open the gastro-colic omentum and the gastro-hepatic omentum and pack the lesser peritoneal cavity with gauze, after which the ulcer may be excised by any technic which may be suitable for the case at hand, for, after the stomach is well cleaned and inspected as I have described, no matter where the ulcer is, it may be trimmed out with a pair of scissors exactly in the same way in which a bad spot in a garment may be trimmed out, preparatory to mending. The ulcer shown in Figure 4 for excision was located on the posterior wall near the attachment of the gastro-hepatic omentum. It was trimmed out by extending the exploratory incision down nearly to the ulcer, as shown by the dotted line, and then by the cutting out of the callous portion around the ulcer. The wound was then closed just as we would close the original exploratory incision, which process is as follows:

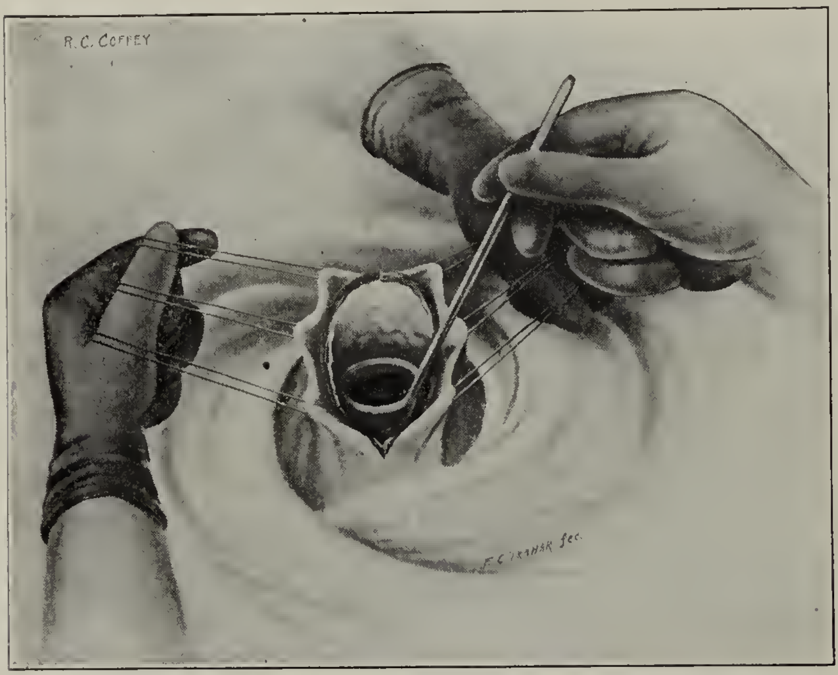

Fig. 5.—Dipping fluid from the open stomach with a ladle.

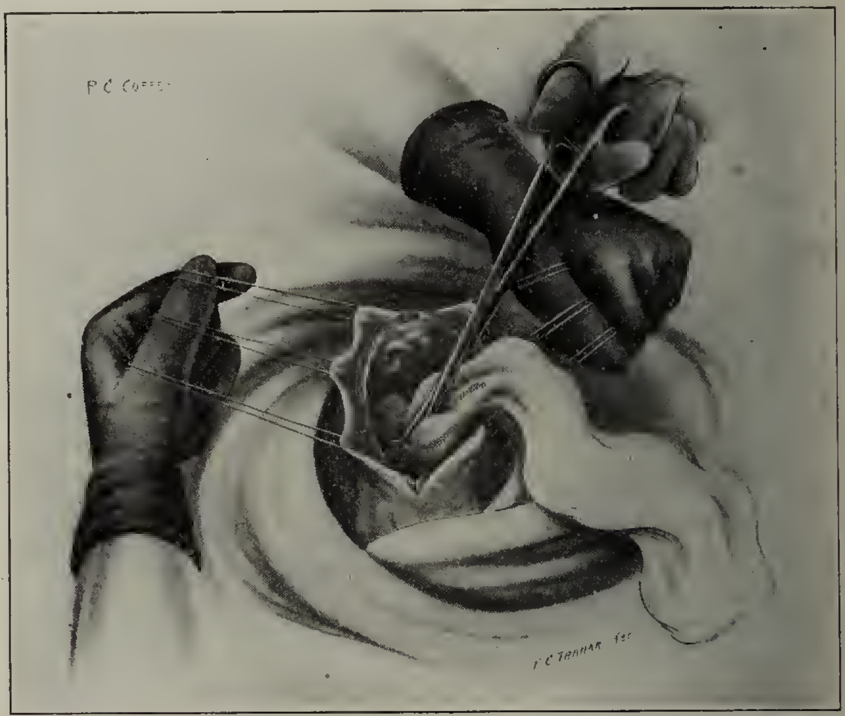

Fig. 6.—Sponging the mucous membrane dry with gauze.

The line of sutures begins from within. The needle passes from within out and from without in and the suture is knotted inside as shown in Figure 7. The loose end is cut off and the suture continued by a right-angle, through-and-through suture the length of the incision. The traction loops are tied together over the line of union, as shown in Figures 8 and 9. These traction loops make inversion of the edges very simple. After this is done a peritoneal suture may be used to cover up all the knots (Fig. 10). This makes an ideal technic. In case the exploration reveals extensive ulceration at the pylorus or reveals a malignancy (Fig. 11) requiring a pylorectomy, the greater omentum below and and the lesser omentum above are ligated in sections and the vessels running along the curvatures of the stomach are doubly ligated at each end. The gauze is also packed into that part of the stomach which is to be retained as well as that part which is to be removed. The lesser peritoneal cavity having already been packed with gauze, the field of operation is practically extraperitoneal. The gauze within the ends of the stomach takes up every particle of the fluid. The exploratory incision is now extended to the point of cutting the stomach in two. Tenaculum forceps grasp the two walls of the stomach and the gauze in each of the divided ends. Two traction sutures are placed in the anterior and two in the posterior wall of the duodenum just below the place at which the section is to be made (Fig. 12).

The section of the duodenum is now made and the pylorectomy is completed. The distal cut end of the duodenum is held up by the four traction sutures, which arrangement causes the fluid to gravitate down the intestine while the end is being sutured after the manner shown in Figures 7 to 10. The cardiac pouch of the stomach is now inspected. If there is any portion of the remaining stomach which looks suspicious, it may be removed with perfect ease. If not, three additional traction loops are placed on the posterior wall of the stomach, as indicated, and the end closed in the manner shown in Figures 7 to 10. The cardiac pouch is now connected to the duodenum by a posterior gastro-enterostomy without clamps, as follows:

An opening in the mesocolon is made with the finger or forceps just to the left of the ligament of Treitz. Four traction loops are passed through all the coats of the stomach and are so arranged that there will be one traction loop on either side of the end of the line of proposed incision, which line is about 2 inches in length. Four corresponding sutures are placed in the jejunum, the upper one being about 1 inch from where the jejunum emerges. The traction loops in the stomach nearest the intestine and the traction loops in the intestine nearest the stomach are designated inner traction loops (I. T. L.) as they are located inside the proposed line of incision into the stomach and intestine. The other traction loops are located outside the proposed line of incision and are designated outer traction loops (O. T. L.). Gauze sponges are now laid between the stomach and the intestine (Fig. 13). The next step in the operation consists in placing a continuous peritoneal suture (C. S. 1) as shown in Figure 14 which is begun at the end of the incision farthest from the operator. After two or three stitches have been taken the two inner traction sutures at this end are tied over the line of suture. The continuous peritoneal suture (C. S. 1) is then continued to the other end of the proposed incision just beyond the inner traction sutures. This continuous peritoneal suture (C. S. 1) is then knotted on itself and laid aside until all other steps of the operation are completed, when it is continued around the anastomosis as a finishing suture. The other inner traction loops are now tied together, and are from now on used to hold up the intestine (Fig. 15). In order to be sure that this peritoneal suture is not disarranged by the further steps of the operation, a continuous through-and-through suture of catgut is run from one pair of traction sutures to the other (on the posterior side only) before any incision is made in the stomach or intestine (Fig. 16). This suture has been designated the posterior reinforcement suture (P. R. S.).

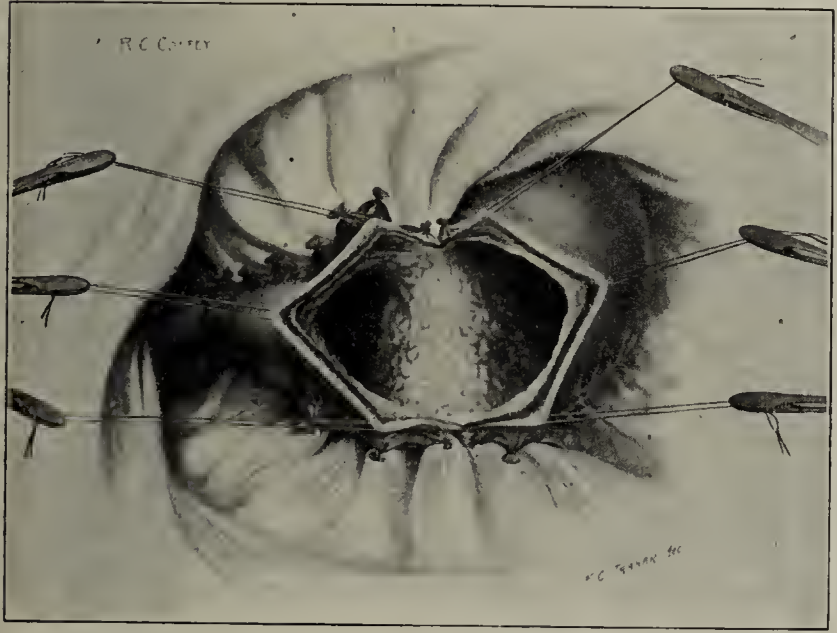

Fig. 11.—A transverse exploratory incision to determine the extent of a cancer of the pylorus developing on an ulcer. Gastrocolic and lesser omenta have been cut and the lesser puritoneal cavity is filled with gauze. The stomach has been emptied and dried, as in Figures 5 and 6. Vessels at the upper and lower borders of the stomach have been ligated preparatory to doing pylorectomy.

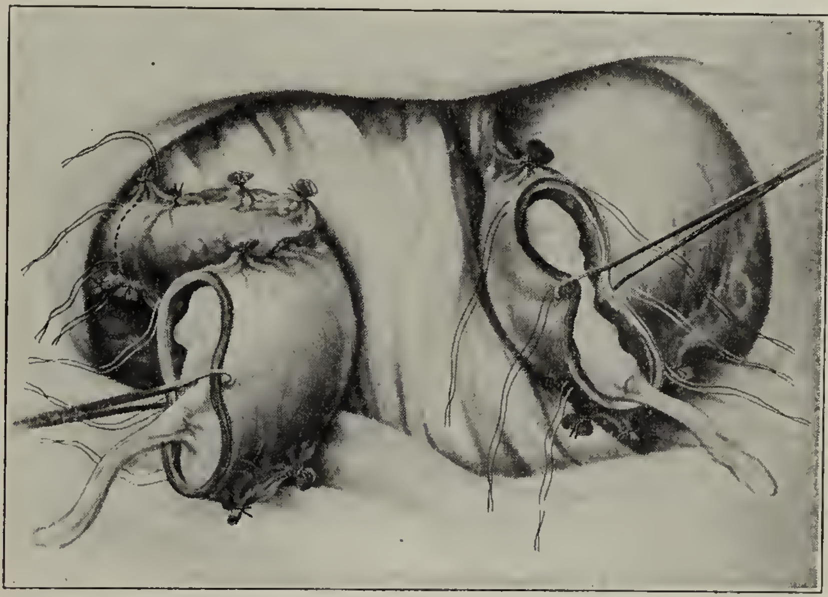

Fig. 12.—Stomach has been cut near the middle and each end is packed with gauze to prevent soiling. Three additional traction loops have been placed in back wall of the cardiac pouch preparatory to closing this remaining portion by technic, shown in Figures 7 to 10, inclusive. The pyloric portion has been freed and is ready to be removed by cutting the duodenum at the dotted line. Traction loops have been placed on each side of the duodenum to facilitate the technic of its closing.

An assistant now picks up the outer traction loops (O. T. L.) and lifts up the stomach and intestine while the surgeon makes an incision with the knife down to the mucosa and then opens the mucosa with a pair of scissors (Fig. 17). There will usually be two or three bleeding vessels on the stomach side which should be caught with mosquito forceps and ligated with small thread. It will be found on opening the stomach and intestine that the fluid has gravitated away from the field, leaving it perfectly clean and doing away with the necessity of any clamps or constriction. The second continuous suture (C. S. 2) then begins at the end of the anastomosis nearest the operator and proceeds as an over-and-over stitch to the opposite end (Fig. 18), when the corner is turned and this suture (C. S. 2) returns to the operator with a right-angle, continuous through-and-through suture indicated in Figure 19, where it is tied to its other end. The outer traction sutures are now tied over the line of union. The second continuous suture (C. S. 2) may be chromicized catgut or linen. For the final step of the operation the continuous peritoneal suture (C. S. 1) is now picked up and made to cover in the through-and-through suture and the knots of the traction loops, and it is finally tied to its originally free end (C. S. 1, Fig. 20) In more than fifty experimental operations by this method our average time has been about fifteen minutes. Under exactly the same circumstances we are able to do this operation just as quickly as when we have used the clamps. The line of suture is made much stronger at the ends by the inner traction sutures posteriorly and the outer traction sutures anteriorly than can possibly be done without the traction loops. The reader will readily observe the immense holding power of these traction loops after they are tied together, by looking at Figure 21, which represents a sectional view across the ends of the anastomosis. Figure 22 shows a sectional view across the middle of the anastomosis, which differs in results from the ordinary clamp method in use when clamps are employed only by having the posterior reinforcement suture.

We have recently removed the cecum for carcinoma and have then made an anastomosis between the ileum and the transverse colon by this method. To our delight we found that the fluid within the closed intestine, both large and small, had gravitated away from the field of operation, leaving the field perfectly clean (Fig. 23). The necessity for leaving an inch or two of dead end of the ileum and cecum into which part of the fluid at the site of operation may gravitate will readily be appreciated.

The gastro-enterostomy without clamps here described was primarily intended only for those cases in which the stomach had previously been emptied through an exploratory incision and it was thought that it would be necessary to constrict the intestine above and below with gauze to protect from intestinal contents, but we soon found that the field was much cleaner without constriction, for no matter how much we tried, the inclosed field could not be stripped perfectly clean when clamps were used. The gastro-enterostomy can be done without clamps on an unopened stomach provided the site of operation can be lifted to a higher level than the other portion of the stomach, and the fluid can be removed by the method shown in Figures 5 and 6. If, as a result of adhesions, or a short mesocolon, it is impossible thus to lift the stomach, it is necessary to empty it by the method shown in Figures 2 to 6, as a preliminary step, which process it is probably wise to follow in most cases of ulcer of the stomach for purposes of exploration. In simple uncomplicated obstructive ulcer at the pylorus not requiring exploration there is still a field for clamps.

CONCLUSIONS

In summing up I find:

First.—It is generally the opinion of progressive gastric surgeons that callous ulcers of the stomach not located near the pylorus should be excised, and there is a rapidly growing belief that the Rodman operation should be performed more frequently, (a) because the drainage operation does not always cure; (b) because of the large percentage of callous ulcers (26 per cent.) which become cancerous.

Second.—In order to do good ulcer surgery it is necessary to determine the extent and location of the ulceration. This can only be done properly as a rule through an incision in the stomach wall and when clamps are not used.

Third.—The incision should be ample and should usually be made transversely to avoid the vessels, after which step the inside of the stomach should be seen. By the use of deeply placed traction loops the anterior wall of the stomach is lifted, the gas in the stomach comes to the top and escapes when the incision is made, thus relieving the intragastric pressure. The fluid now immediately gravitates to the lower levels of the stomach cavity, from which it may be dipped and sponged with deliberation. After the stomach is thus emptied and the cavity dried, the inspection of the mucous membrane is easy and the mystery and difficulties of stomach surgery vanish; for the surgeon, after opening the omentum above and below the stomach and packing the lesser peritoneal cavity with gauze, proceeds to trim out the diseased portion with the same precision and completeness with which he would amputate a leg for gangrene or remove a breast for cancer.

Fourth.—By the use of traction loops, gastro-enterostomy may be done by the "no-clamp" method just as quickly as with the clamp method, much more directly and accurately, and with less soiling and less danger. Pylorectomy for ulcer or cancer is also done in a more correct surgical manner by using the traction loops than by the use of clamps. Another advantage is that the remaining portion of the stomach may be carefully inspected again after the gauze is removed from its cavity with the view of detecting any disease which may exist.

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ABSTRACT OF DISCUSSION

Dr. J. W. Draper Maury, Rochester, Minn.: Many methods have been suggested for the excision of gastric ulcers and the last word remains to be said. This is because the problem is wrapt up in a cancer equation yet to be solved. Sufficient is known, however, to justify the positive statement that any technic which does not insure the freest possible removal beyond the ulcer margin is worthless, because in over 70 per cent. of ulcers the margin is carcinomatous. At St. Mary's hospital we have worked out on animals a method of ulcer excision by a strangulation stitch which under certain conditions has certain advantages over ordinary excision. In the majority of cases it cannot be used to advantage. It is much more rapid than excision; has been free from fatality in experimental work and does away with all hemorrhage and annoying gaping of the wound. It seems to me probable, however, that even the limited use to which we thought it might occasionally be put will probably be still further restricted by the method that Dr. Coffey has just presented.

A stitch consisting of two pentagons, one lying on the mucous surface of the stomach, the other on the serous surface, may easily be applied by a continuous suture. The tissue within the pentagons will be deprived of blood-supply when inversion and tight tying of the stitch occurs. It is obvious that an odd-sided figure must be used in order completely to surround and "scissor" the included tissue. Dr. Selby, by the clever employment of litharge and wire, has prepared a radiograph of a hypothetical ulcer. In this, double strands of the stitch can readily be seen and its constricting action understood.

In from fifty to one hundred hours the gangrenous tissue, including the ulcer, sloughs. Dr. MacCarty has made some studies on the residual tissue which suggest encouraging results.

The essentials in the use of this method are as follows: (1) The use of heavy linen twine which the bare hand cannot break; (2) the placing of the pentagon well beyond the ulcer in normal tissue; (3) the careful suturing of the serosa by Lembert stitches after the pentagon is tied. Without these it will certainly perforate.

Dr. W. W. Skinner, Geneva, N. Y.: Possibly some present heard me describe very briefly at Atlantic City two years ago the operation which has been described so ably to-day. Dr. Zimmer of Rochester, N. Y., and I made use of this method in 1896. The case was one of bullet wound perforating both walls of the stomach. At my suggestion the bullet wound in the anterior wall of the stomach was enlarged and the stomach contents, which consisted of a large supper eaten just before the accident, were removed. The posterior wall of the stomach was pulled through the anterior stomach incision, the bruised posterior area cut out, and the incision enlarged sufficiently to inspect the region behind the stomach, so that we were able to trace the bullet wound through the tail of the pancreas and into the muscular tissues behind. This patient made an admirable recovery. The posterior cut was sewed from the inside of the stomach with three layers of stitches. We used the buttonhole stitch. Since then I have used this operation a number of times in cases of posterior ulcer of the stomach, which I referred to in the discussion two years ago.

The advantages of this operation are very great. In the first place, if you make a vertical incision through the lesser omentum, the exposure of the posterior wall of the stomach is very inadequate; if you make an incision transversely to the line of the body, you cut off important blood and lymphatic supply and nerves. An incision through the anterior wall of the stomach, selecting a place where the blood-vessels are very few, is comparatively free from danger.

A method which I use in some cases is the following: During the first stages of anesthesia a small-sized nasal feeding tube is passed through the nose into the stomach; the stomach is washed out while the anesthesia is going on and the tube is left *in situ;* and then just before opening the stomach this washing is repeated.

During the anesthesia there will be jets of green fluid from the tube, which otherwise would be spilled into the peritoneal cavity. This procedure causes no strangling and no trouble.

I agree with Dr. Coffey that no clamps are needed. It is sufficient to pull the posterior wall of the stomach through the anterior. That makes a sufficient clamp, and the preliminary washing prevents infection.

When I use clamps, I am accustomed to make use of very small and simple ones. I refer to the ordinary little pine tongue-depressors that are sold by the thousand. They make a most admirable clamp, if thoroughly steamed, boiled or otherwise sterilized. The trouble with the steel clamp is that it exerts a constant and increasing pressure, whereas the little pine pieces (of which I use four tied with catgut) exert a uniform flat pressure throughout the operation.

Dr. E. Wyllys Andrews, Chicago: If we are about to return to the direct surgical treatment of gastric ulcer, which was so nearly supplanted in routine practice by the general adoption of gastro-enterostomy, it would be well for us to remember certain advantages and certain disadvantages of this direct method of operating. As to the advantages, those who have not tried direct opening of the stomach are not aware of the great ease and safety with which that organ can be laid widely open and its whole interior exposed. No clamps are necessary, the field can be amply protected by sponges, and the stomach can be drawn entirely out and lie on the anterior abdominal wall. The incision can be made vertically between two of the large superficial branches of the vessels running on the greater curvature, and made bloodless and as long as we wish it; that is, the length of the incision may be made the whole width of the stomach. With such an opening one can explore nearly the whole interior of the stomach and can close it again quickly and safely.

Long-continued experimentation on animals, as well as many successive operations on the human stomach, have led me to lose all fear of this procedure as one step in necessary technic.

If the pendulum is going to swing in the direction of this kind of work again, one must mention among the disadvantages that certain parts of the stomach cannot easily be inspected. At least 6 per cent. of the peptic ulcers lie near the cardia and that portion of the stomach cannot be drawn out or seen except by means of a glow lamp or reflected light. Ulcers near the pylorus cannot be drawn out or treated surgically, unless by a Rodman excision, or as Kocher and some others did, by pyloroplasty directly through the pylorus. In bleeding ulcer, or a peptic ulcer not bleeding, one perhaps causing obstruction, Finney's operation is more radical and effective than pyloroplasty. A further problem and drawback to this kind of work is the puzzle of what to do after finding the ulcer. The ulcer may be excised and the wound sutured; the vessel if bleeding may be ligated inside or outside the stomach wall, or at the bottom of the ulcer; the ulcer may be treated by the hot cautery point and some bleeding vessels thus checked; or the ulcer may be ligated by lifting a cone of stomach tissue from the inner aspect. But this is somewhat unsatisfactory and dangerous, unless protected by an outside row of stitches. After having solved the problem of opening and finding the ulcer, which of itself is not always easy, with all the proposed and tried methods of dealing directly with ulcer, none of them as yet has seemed to be ideal.

Dr. Charles H. Mayo, Rochester, Minn.: In something over 1,100 gastro-enterostomies performed at our clinic, we have encountered about every kind of complication. We have had nothing serious in the line of operative injury that Dr. Coffey speaks of, and yet we have had to reopen wounds on account of hemorrhage in the line of union, or the suture line, from the stomach to the intestine. We have also had to reopen because of hemorrhage from the ulcer, and we have had deaths occur following hemorrhage from the ulcer, and from perforation, although in the old days we were taught to believe that ulcer was cured and all hemorrhage would cease the moment gastro-enterostomy was performed. But we all know that gastro-enterostomy is merely a drainage operation and does not have a healing action on the ulcer. With drainage unobstructed, the ulcer may get well, but merely because a patient stops bleeding from an ulcer, or the pain ceases, is no sign that the ulcer has healed.

An excavating ulcer does not become cured unless excised or unless Nature cures it by a perforation. When Nature perforates an ulcer, all the coats are brought together and up to that point it is not a recurring ulcer but the same ulcer. The point is merely that it dips in a little deeper or spreads wider. Maury has devised a stitch which can be used on deep ulcers and to control hemorrhage, which has been used experimentally on animals, and we have used it on the human subject in a few instances, apparently with great benefit.

The question of whether or not we should use clamps is a point of technic. We much prefer to use steel clamps occasionally. One cannot otherwise always get a stomach up as it is necessary to do to carry out the technic presented by Dr. Coffey in his excellent paper.

In the treatment of ulcers we should recognize and overcome the danger of hemorrhage and recognize the possibility of the subsequent development of cancer, since ulcers of the stomach are liable to precede carcinomatous conditions.

Ulcers in the duodenum, embracing nearly two-thirds of all the ulcers in this region, are fortunately not prone to become carcinomatous. Very few operators, in a lifetime of surgery, will ever see a primary cancer of the duodenum, except at the ampulla, where the intestine is opened in excising the carcinoma; but it really does not belong primarily to the duodenum; therefore circular sutures may be used on an ulcer in that location to depress it, if the tissue resistance is such that it can be depressed, and protecting sutures can be placed over the point of inversion.

This operation is a serious one if there is but little acid in the stomach. Often the stomach acid content is very low, and patients succumb to sepsis.

Dr. A. J. Ochsner, Chicago: Severe, dangerous hemorrhage has occurred so seldom after the application of ordinary pressure clamps in the operation of gastro-enterostomy that I believe when it does occur it is because of the softened condition of the tissues in the vicinity of the ulcer. If the clamp is applied within a relatively short distance from the ulcer, I believe that the accident which happened in this case is not only possible but likely to occur. Ordinarily that is not necessary. The anastomosis should always be made at the lowest point of the stomach, as shown us many years ago by W. J. Mayo; and when that is done, I believe that one can safely apply the pressure-clamp without the danger of hemorrhage. I have seen two or three cases of hemorrhage in instances in which the sutures were not as perfectly applied as they should have been, at the junction of the gastro-epiploic vessels with the wound. But the danger of which Dr. Coffey speaks I believe is one which occurs only rarely and which should be avoided. In cases in which one cannot make the anastomosis at a considerable distance from the ulcer, one should perform the operation which Dr. Coffey has shown us. All of the facts which Dr. Coffey has illustrated here I have personally experienced. The fear of soiling and of hemorrhage during the operation really amount to very little, if the operation is performed as described by Dr. Coffey.

Many years ago, while I was Professor Senn's assistant, he made this identical operation. Since that time I have performed this operation by applying very delicately toothed forceps to the blood-vessels at the margin, grasping all of the layers of the intestinal wall, that is, the mucous layer, the muscular layer and the serous layer, and placing these clamps at regular intervals.

As regards the pentagonal stitch that Dr. Maury has shown us, the difficulty about that stitch in practical application is this: It works beautifully in the stomach of the dog, and undoubtedly would work beautifully in the normal human stomach. Since Dr. Maury has introduced this stitch I have not had a case in the human being in which it seemed as though it would work. Where the ulcer is small it is not necessary, and where the ulcer is large you would have to fold in so large a portion of the stomach wall that the covering would be very much more difficult and much more prone to cause a troublesome deformity which might ultimately result in obstruction, than would simply excising the ulcer and making the suture as done in Dr. Coffey's cases.

Regarding the operation that Dr. Skinner has described, I wish to state that in 1891 Dr. Charles T. Parks described this very operation and performed it in a case of gunshot wound through both the anterior and posterior walls of the stomach. Speaking of approaching the posterior wall of the stomach, the best way, if the anterior wall is punctured by a small perforation, which is very commonly the case in gunshot wounds, is to lift up the transverse colon and split the transverse mesocolon precisely as one does in posterior gastro-enterostomy, which is a much more simple operation than the one that has been described. Then drain through the lesser omentum, and you still have perfect drainage.

Dr. Robert T. Coffey, Portland, Ore.: The technic of sewing is the same as that used when we use clamps. The principle that I wished to bring out was the method of lifting up the front wall of the stomach with traction loops, thereby making an air bubble which escapes when the stomach wall is incised and relieves intragastric tension; the fluid then gravitates to the lower levels and may be dipped or sponged out without spilling, and much more perfectly than when clamps are used or by the freehand methods which previously have been described. Danger from the spilling of fluid contents is not great, but it is annoying to an esthetic operator, and it can be avoided providing you lift the parts up as shown. That is the principal point. As to describing the technic of removing the ulcer, that is not intended to be a major part of the paper at all. It is simply a matter of so cleansing the stomach that we can go ahead and do any operation which seems advisable on the stomach with just as much ease and care and just as much nicety as we can amputate a leg. Besides using the traction loops for holding the stomach while cleansing, I have used them to strengthen greatly the line of suture and facilitate the turning of peritoneal surfaces.

Dr. Andrews stated that it was impossible to see ulcers of the cardia. It is not impossible, if you will make an incision at right angles to the median incision following the rib arch on the left side. You will find that you can very easily inspect the entire stomach from the inside, and I have done so in two cases in which the ulcer was located very close to the esophagus. It also is possible to inspect the pyloric section after the stomach is wide open. I hoped to learn from the discussion how frequently hemorrhage resulting from pressure of clamps had occurred, and I am surprised but glad to learn that it does not occur in the experience of anyone else. In the case described the vessel was open where it crossed the slit which had been made by the clamp; furthermore, there had been no hemorrhage either from the original ulcer or the site of operation. The anastomosis was made at the lowest point of the stomach and was more than 4 inches from the ulcer, thus avoiding the criticism of Dr. Oschner. The fact remains, however, that if anyone desires to investigate the result of clamps on the mucous membrane he will be surprised to note that it is broken or slit in a very large percentage of cases. It would be surprising if there have not been more serious hemorrhages resulting from clamp pressure than is indicated by the discussion to-day. I have done many hundreds of experimental anastomoses in addition to my clinical work. Most of my experimental anastomoses have been done by the various free-hand and traction-loop methods with a view to learning to sew skilfully, but, like Dr. Mayo, I have not heretofore done any clinical work without clamps. By the technic here described, however, I have been able to do even more satisfactory work in excisions of ulcers and in doing pylorectomy for carcinoma than I have been able to do with the clamps, leaving out the possible danger from clamp pressure. It is unquestionably cleaner, more thorough and more surgical. The gastro-enterostomy described is, as will be noted, a sequel or part of the gastrectomy and is used after the stomach has been emptied of its contents. The traction loops when tied unquestionably add material strength to the union. I am not prepared to advise the discarding of clamps in cases of simple gastro-enterostomy for simple unquestionable pyloric or duodenal obstructive ulcers when there is no call for exploration. This, however, is the only field, it seems to me, in which clamps can be used to advantage.

SMOOTH ATROPHY OF THE TONGUE *

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For many years the occurrence of smooth atrophy of the base of the tongue in cases of syphilis was handed down as a tradition in Virchow's laboratory in Berlin and from this source chiefly the first knowledge of the condition was disseminated.

Since the publication of Lewin and Heller,[1] however, in 1894, comparatively little has been written about smooth atrophy of the base of the tongue in reference to its diagnostic value in syphilis. In their series of 6,583 cases which came to autopsy in the Charité Hospital in Berlin, 200 presented a history of syphilis, 156 acquired and forty-four congenital. Of these, eighty-five cases of acquired syphilis showed no smooth atrophy. One hundred and three cases presented smooth atrophy of the base of the tongue and of these, seventy-one (69 per cent.) have a definite syphilitic history. Thus, in 45 per cent. of cases of acquired syphilis smooth atrophy was found to occur.

Symmers (1910),[2] in 623 cases, found seventy-five in which there had been a distinct history of syphilis, and in sixty-four (84 per cent.) of these, smooth atrophy of the base of the tongue was noted, fifty-five complete and nine partial. In three of his syphilitic cases the lymphoid follicles at the base of the tongue were hyperplastic.

In this institute, smooth atrophy of the base of the tongue has been looked for as a routine and its occurrence noted fairly frequently. In 1909, out of 505 autopsies, it was found in thirty-nine cases (twenty-five male and fourteen female). In all of these the condition was quite definite, all doubtful cases in which atrophy was only slight or moderate being excluded. In three, however, it was only partial, but in the affected portions was quite distinctive.

The accompanying tables indicate the class of case in which this condition of smooth atrophy was found, and its relationship to syphilis.

TABLE 1.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE, BUT NO HISTORY OR SIGNS OF SYPHILIS AND WITH A GOOD FAMILY RECORD

Case.	Sex.	Age.	Cause of Death.
1	M.	66	Acute yellow atrophy of the liver.
2	M.	65	Cancer of rectum.
3	M.	29	Phthisis.
4	M.	60	Pneumonia, pericarditis, advanced general arteriosclerosis.
5	M.	51	Phthisis and acute suppurative peritonitis.
6	M.	74	Pneumonia.
7	M.	50	Cirrhosis of the liver with primary cancer.
8	M.	59	Cerebral softening and senile atrophy.
9	F.	62	Gangrene of lung following operation on hemorrhoids.
10	F.	28	Disseminated sclerosis.
11	F.	54	Senile atrophy general.
12	F.	65	Nephritis.
13	F.	40	Carcinoma of uterus.
14	F.	62	Pemphigus.

TABLE 2.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE WITH NO SIGNS OF SYPHILIS. HISTORY OF SYPHILIS DENIED, BUT POSSIBLY MAY HAVE OCCURRED

Case.	Sex.	Age.	Cause of Death.
1	M.	47	Pneumococcal pericarditis (gonorrhea several times).
2	M.	55	Cirrhosis of the liver (chronic laryngitis, not tuberculous, possibly syphilitic).
3	F.	77	Cancer of the cecum (5 children, all died young; had 1 miscarriage).

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* From the Russell Sage Institute of Pathology.

[1] Lewin and Heller: Die glatte Atrophie der Zungenwurzel und ihr Verhältniss zur Syphilis, Virchow's Arch. f. path. Anat., 1894, cxxxviii, 1.

[2] Symmers: Smooth Atrophy of Base of the Tongue, Am. Jour. of Med. Sc., 1910, cxl, 859.

TABLE 3.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE NO SIGNS OF SYPHILIS. HISTORY OF SYPHILIS NOT KNOWN

Case.	Sex.	Age.	Cause of Death.
1	M.	77	Senile atrophy and general arteriosclerosis.
2	M.	60	Senile atrophy and general arteriosclerosis with terminal acute cystitis.
3	M.	78	Nephritis.
4	M.	47	Appendicitis (also had mitral stenosis).
5	M.	63	Phthisis, intestinal tuberculosis (no laryngitis).
6	M.	64	Phthisis; intestinal tuberculosis, chronic tuberculous laryngitis; tabes mesenterica.
7	M.	80	Infarction of heart; general arteriosclerosis.
8	F.	65	Tuberculous peritonitis and acute miliary tuberculosis (few small ulcers in the upper part of esophagus, but no laryngitis).

TABLE 4.—SMOOTH ATROPHY OF THE BASE OF THE TONGUE WITH A DEFINITE HISTORY AND SIGNS OF SYPHILIS

Case.	Sex.	Age.	Pathology.
1	M.	36	Sacculated aneurysm, arch of the aorta (rupture into right pleura).
2	M.	40	Syphilitic ulcer of face (death from general septicemia).
3	M.	65	Syphilitic scarring of liver (death from empyema).
4	M.	60	Syphilitic scarring of liver and skin (death from nephritis).
5	M.	43	Tabes dorsalis.
6	M.	63	Tabes dorsalis.
7	M.	58	Tabes dorsalis; also syphilitic scarring of the liver.
8	M.	45	General paresis.
9	F.	27	Syphilitic ulcer of perineum, chronic syphilitic laryngitis and pharyngitis; also scars in liver (died of purulent cystitis and pyonephrosis).
10	F.	46	Old syphilitic skin lesions (nephritis case).
11	F.	53	Old syphilitic skin lesions (cerebral softening, nephritis case).
12	F.	36	Syphilitic scarring of the liver and skin (death from nephritis).
13	F.	54	Saber tibiæ and syphilitic scarring of the liver (gumma of brain).
14	F.	45	Syphilitic ulceration of the nasal cartilages, syphilitic laryngitis (death from liver cirrhosis).

TABLE 5.—CASES PRESENTING MANIFESTATIONS OF SYPHILIS, BUT NO SMOOTH ATROPHY OF THE BASE OF THE TONGUE

1. Old syphilitic skin lesions:

Case.	Sex.	Age.	Cause of Death.
1	M.	40	Acute endocarditis.
2	M.	59	Cerebral thrombosis and softening.
3	M.	49	Chronic cardiac dilatation and chronic arthritis.
4	M.	65	Pneumonia and pericarditis.
5	F.	53	Cerebral thrombosis and softening and nephritis.
6	F.	92	Pneumonia.
2. (a) Aneurysm of aorta—sacculated:			
1	M.	53	Cardiac failure.
2	M.	59	Rupture into pericardium.
3	M.	45	Rupture into superior vena cava.
4	F.	57	Abdominal, dissecting, rupture into right pleura.
(b) Aneurysm of aortic arch fusiform. Three cases (no aortic incompetence): One denied syphilis but presented numerous syphilitic scars on the legs and abdomen. The other two admitted syphilis but showed no other signs than very extensive arteriosclerosis.			
3. Tabes dorsalis and old syphilitic skin lesions:			
1	M.	59	
2	M.	42	Tabes dorsalis.
3	F.	44	Tabes dorsalis; syphilitic scarring of the liver; syphilitic pulmonary fibrosis.
4. Syphilitic pulmonary fibrosis:			
1	M.	77	
5. Syphilitic scars in the liver (pneumonia case):			
1	F.	56	
6. Syphilitic scars in liver and skin, syphilitic laryngitis and ulceration of the pharynx with disappearance of the uvula (died of liver cirrhosis):			
1	F.	47	
7. Saber tibiæ—(old chronic cardiac dilatation case):			
1	M.	60	
8. Syphilitic aortitis, rupture of aortic cusps:			
1	M.	37	
Total			21

As a summary of these thirty-nine cases it may be seen that they occurred at all ages between 27 and 80. Age alone does not produce this condition, as subjects of 90 years or over do not show it. In fourteen there was typical smooth atrophy with a negative history and no signs of syphilis. In fourteen it existed in cases presenting definite evidences of syphilis. In twenty-one syphilitic cases, however, there was no apparent abnormality of the base of the tongue. These numbers are of course too small to form any statistics, yet they correspond practically to the experience of past years in this laboratory.

In cases of active syphilis there seems commonly to be a hyperplasia of the lymphoid tissue at the base of the tongue, as in the following three cases:

CASE 1.—Male, aged 42; syphilis at age of 25; syphilitic ulcers of the skin and scars in the liver, and syphilitic ulcer of the aortic arch which had eroded into the trachea and through which a fatal hemorrhage had occurred. The heart weighed 360 gm.; spleen 150 gm.; no chronic nephritis; slight general lymphatic glandular enlargement had occurred. The lymphoid tissue at the base of the tongue was considerably hyperplastic.

CASE 2.—Male, aged 27; syphilis eighteen months previous to date of death. Patient died very suddenly, apparently from asphyxia; larynx almost completely stenosed by syphilitic granulations; epiglottis and uvula destroyed by ulceration; extensive chronic skin lesions of syphilis and several gummata in the liver; syphilitic aortitis; heart weighed 250 gm.; spleen 215 gm.; no chronic nephritis. There was slight general lymphatic gland enlargement and considerable hyperplasia of the lymphoid tissue at the base of the tongue.

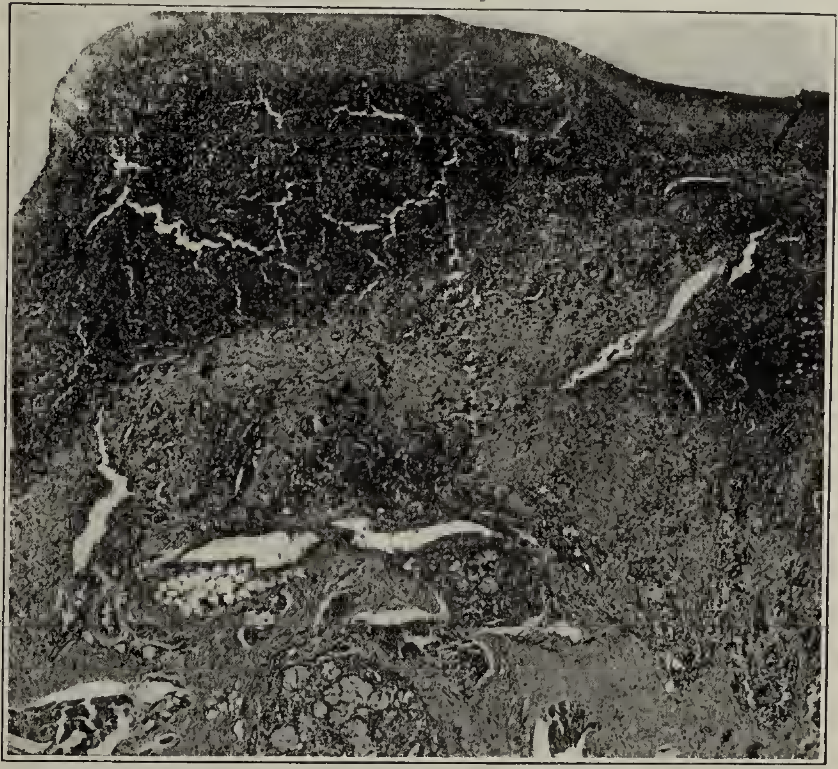

Fig. 1.—Section of the base of the tongue, showing extensive lymphoid hyperplasia of the lymph structures under the epithelium.

CASE 3.—Male, aged 39; syphilis twelve months previous to date of death. Patient died of chronic cardiac dilatation. He had also for several months previous to death a swinging temperature. There were some syphilitic scars on the legs and a persistent sore on the side of the tongue. His blood gave a positive Wassermann reaction before antisyphilitic treatment was commenced. His kidneys showed a marked chronic nephritis and the heart was enormously hypertrophied and dilated (770 gm.). The spleen was somewhat enlarged (525 gm.) and the lymphatic glands all through the body were very considerably swollen. The histologic picture of the blood showed no important change. The lymphoid tissue at the base of the tongue was very markedly hyperplastic, both grossly and microscopically.

In only one of the thirty-nine cases did the appearance warrant an absolutely certain diagnosis of syphilis. In this there was a specially indurative cicatricial character to the lesion and it was associated with a syphilitic laryngitis. All the other cases simply presented a smooth atrophic appearance of the surface structures of the tongue with disappearance of the papillæ. On microscopic examination the condition seemed to be an atrophy of the lymphoid and other subepithelial elements, so that a thin layer of squamous epithelium extended over an underlying fibrovascular structure, which, unlike the normal surface structures of the base of the tongue, contained no glands or lymphoid follicles.

There seemed to be no cicatrizing process and the subjacent muscle structures were undisturbed. In none was there any perivascular lymphocytosis, endarteritis, or other suggestively syphilitic process to be observed. In the relatively early stages of tertiary syphilis, as already noted, it is common to find a marked general glandular enlargement with also a hyperplastic condition of the lymphoid elements at the base of the tongue. Is this, then, a stage in the process whose final condition is smooth atrophy? No definite transition types were observed, but very probably it may be so, just as the lymph-follicles in the intestine may atrophy after typhoid fever.

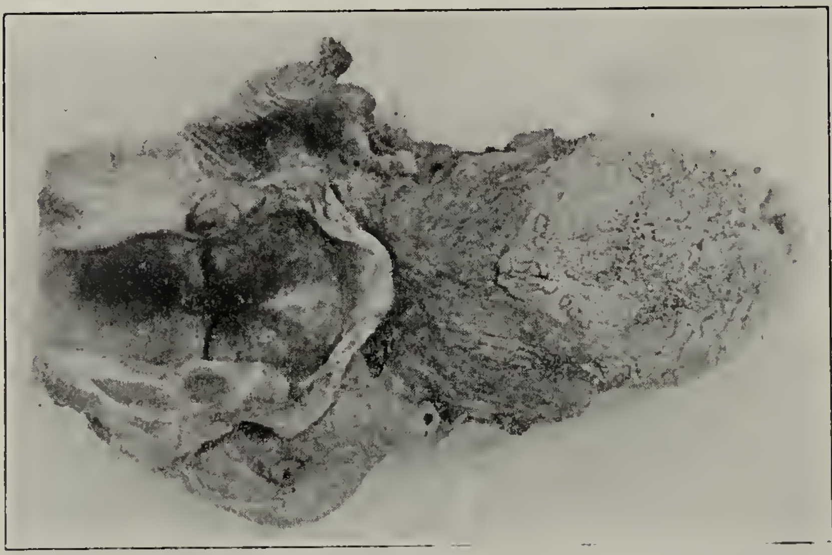

Fig. 2.—Smooth atrophy of the base of the tongue.

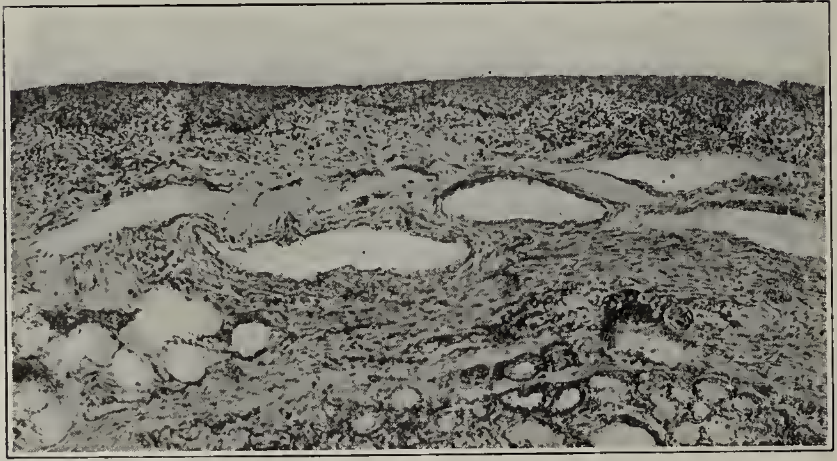

Fig. 3.—Section of the base of the tongue showing atrophy. The lymphoid tissue has entirely disappeared. (This section was taken from a position similar to Figure 1.)

In conclusion, then, these cases would seem to show that smooth atrophy of the base of the tongue may occur occasionally in other conditions besides syphilis, as, for instance, in certain tuberculous cases and in association with general wasting states. In tuberculosis, for instance, out of twenty-five cases of smooth atrophy of the base of the tongue in which syphilis could not be definitely determined, seven were tuberculous. Only these seven, however, out of 196 tuberculous cases in the same series of 505 autopsies showed the condition.

Of all the disease processes which lead up to the production of smooth atrophy of the base of the tongue syphilis is much the most frequent. In such proportions as in the present series, in which it existed in fourteen out of thirty-six syphilitic cases, the association is significant and at least a guide in clinical diagnosis.

Sixty-Sixth Street and East River.

A CASE OF BRAIN TUMOR

O. T. MANLEY, M.D.

CLEVELAND, OHIO

Patient.—The patient, Leonard H., aged 19, was referred by Dr. R. M. Manley, who made the ocular examination given later in this paper.

History.—The family history was negative. As a nursing baby, he had two convulsions, finished sixth grade in school with good grades, passing regularly. When 14, he was pushed from a moving street car, striking on head, was unconscious 30 minutes; vomited and developed conjunctivitis of right eye, which subsided in two weeks. His health was good for one year, at the end of which time convulsions occurred, and recurred for three years at intervals of from two to four months. During the year following the last convulsion, which occurred April, 1910, his headaches had gradually increased in severity, were almost continuous, and were accompanied by impairment of vision when I first saw him, April 1, 1911. Syphilis was denied. Potassium iodid had been administered but was not tolerated.

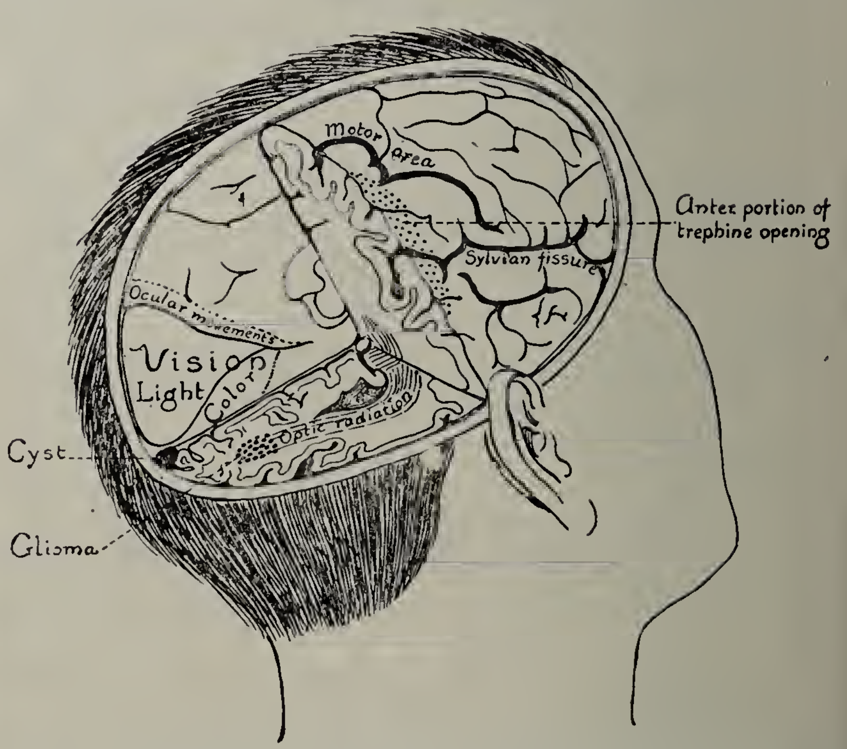

Fig. 1.—Perpendicular and horizontal dissection of right cerebral hemisphere, also showing mesal surface of posterior portion of left hemisphere.

Symptoms.—Headaches, tender area about 3 cm. diameter, on right side of scalp, 5 cm. perpendicular from the median line toward external auditory meatus, and a less tender area 4 cm. posterior to a corresponding point on the opposite side, muscular power of left hand diminished. Homonymous hemianopia (right halves of both retinæ blind). Unilateral hemichromatopsia (temporal half of left retina color blind) with variable vision for color and natural objects, and diminished acuity for light. Left pupil slightly larger than right. Pupillary reaction to light diminished on blind side with left pupil less active than right. He carried his head rotated to the left or his eyes to the left. Double choked disks and hemorrhagic retinitis. R. B. C. 4,900,000, W. B. C. 18,000, hemaglobin 90 per cent. Pulse 104, temperature and respiration normal. Motor, sensory, deep reflexes, coordination and urinary examination and other physical examination negative.

Diagnosis.—1. Increased intracranial pressure. 2. Central lesion, involving right optic radiation or visual center, probably extending toward thalmus, and possibly originating in parietal lobe toward the tender area on the right side.

Prognosis.—Unless the course was interrupted, prognosis was continuous and increasing headaches with total loss of vision and mental activity resulting in death.

Operation.—To relieve the pressure by a decompression trephining or to discover that its cause might permit of a successful removal, I opened the cranial cavity by a two stage osteoplastic flap operation, including the tender area on the right side in the upper anterior angle. At St. Alexis Hospital, April 3, I resected the bone and replaced the flap; April 10 I turned back the flap and opened the dura which was bulging, with no pulsation. The brain presented through the incision and required pressure to prevent its escape, as the dural opening was enlarged. There were irregular areas of dusky red and darker areas apparently degenerative covering the lower two-thirds of the exposed surface and infiltrating into the normal brain tissue toward the median line. The bone was removed and the opening in the skull enlarged downward and backward to allow protrusion of the brain without injury, and closure of the skin flap with less pressure. A needle was carefully introduced toward the posterior horn of the lateral ventricle to a depth of 3.5 cm. but no fluid was found. A section was removed for microscopic examination and scalp incision closed. Dr. Schumacher reported this section to consist of normal brain tissue with areas of pressure necrosis.

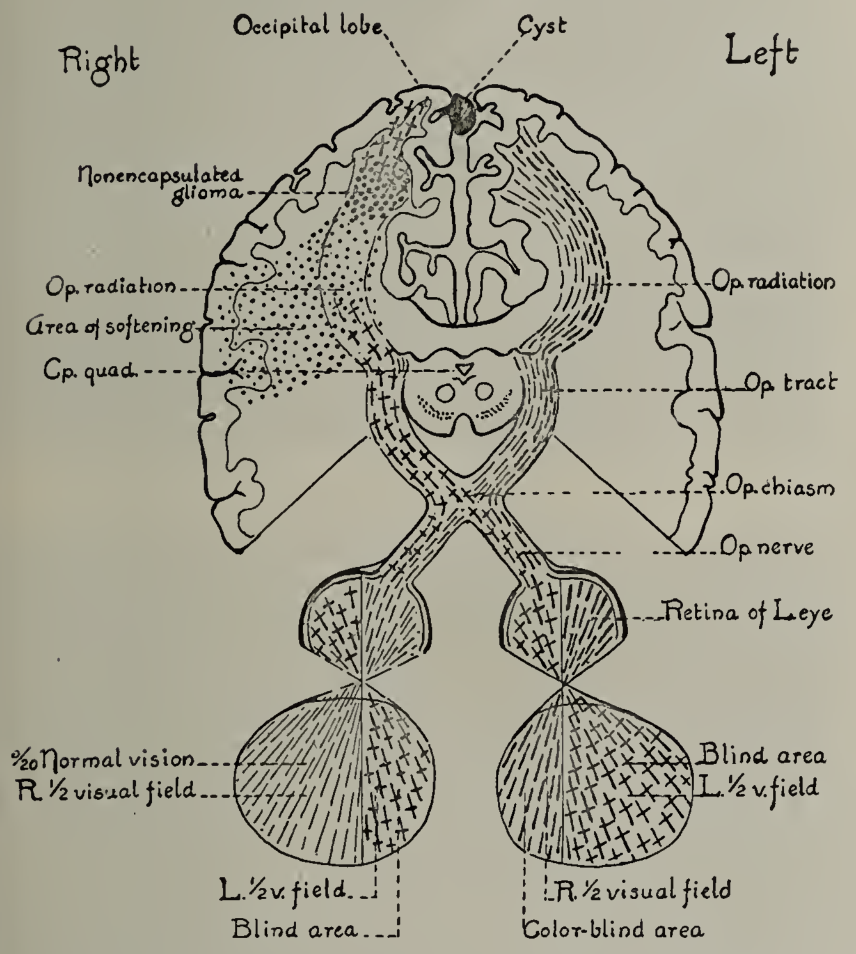

Fig. 2.—Horizontal cross-section of cerebral hemispheres.

Postoperative Condition.—First twenty-four hours: General condition good, conscious in thirty minutes, no shock, paralysis, headache or vomiting.

Second day: Partial paralysis of left hand and wrist, nystagmus (eyes rotate to left slowly and jerk to right). Pupillary reaction to light improved in both eyes.

Third day: Vision in the right half visual fields improved. General condition improved, excepting paralysis of left hand, which was more pronounced. No nystagmus.

Fourth day: General condition improved, walked to chair with assistance, slight discharge of cerebrospinal fluid.

Fifth day: Free discharge of cerebrospinal fluid.

Sixth day: Removed from hospital to home; condition good; no vomiting or headaches.

Second and third weeks: Free discharge of fluid but gradual enlargement of cerebral hernia, with progressive paralysis of left leg. No change of vision; was in chair; appetite good; temperature had been practically normal, pulse ranging from 72 to 90 and respiration 18 to 20, since the operation and continued so until the evening of the 17th day, or April 26, when vomiting occurred and pulse became rapid (120). Both subsided the next day but recurred April 29, after which time the discharging fluid was bloody. Death occurred May 2 in coma.

Ocular Examinations by Dr. R. M. Manley.—March 16, 1911, complains of poor vision, diplopia, and pain in the head. Lids and conjunctivæ normal; tension normal; no pain. Right pupil reacts to light and accommodation; left reacts feebly if at all. Left pupil contracts when cone to light is thrown into right eye; media clear; optic neuritis both sides with hemorrhages into retinæ; veins dark and enlarged both sides; right eye vision equals three-sixths, left eye vision equals two-sixths; esophoria varying from 12 degrees to 20 degrees.

March 30, 1911, homonymous hemianopia; right eye vision equals two-sixths, left eye vision equals one-sixth; both optic neuritis and hemorrhage increasing; urinary examination negative.

April 24, 1911, postoperative examination shows optic neuritis diminished; hemianopia remaining; right retina pale, veins small, very little hemorrhage remaining; left retina veins dark and larger than right, some hemorrhage; right, vision much improved; left, vision very much improved.

Fig. 3

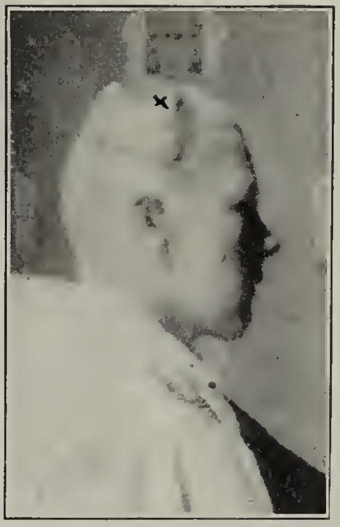

Fig. 4

Fig. 3.—Patient with brain tumor from photograph taken April 21, 1911.

Fig. 4.—Photograph in which x indicates tender area. Taken April 21, 1911, before operation.

Autopsy.—Autopsy was permitted only through the trephine opening which was 6½ by 8 cm. All the parietal portion beneath and posterior to the opening was softened and degenerated to a pulpy consistency, and offered little resistance to pressure. This was carefully removed and consisted of particles of apparently degenerated brain tissue mixed with bloody débris. A firm substance about the size of a goose egg was palpated in the posterior portion of the right side of the cranial cavity which was partly adherent to the falx cerebri; on removal, this proved to be the right occipital lobe with a cyst attached to the posterior portion of the calcarine fissure. The center and the anterior portion consisted of a non-encapsulated cheesy-looking substance which filled the space belonging to the optic radiation fibers; this was quite firm and in it could be detected small hard particles feeling like small spicules or minute calcified areas. On microscopic examination, this mass proved to be a glioma.

Pathologic Examination by Dr. Josephine Danforth.—Diagnosis: Infiltrating glioma of brain with calcareous deposits and cystic and degenerative changes.

Macroscopic: Specimen received for examination consists of:

1. A portion of the occipital lobe of the cerebrum which contains on its dissected surface an infiltrating growth about the size of a walnut with a cyst of the arachnoid on the external surface which corresponds to the mesal surface of the occipital lobe. This growth is soft in consistency, central portion disintegrating, greyish in color, and contains a few small spicules of bony substance.

2. A considerable amount of soft degenerated tissues.

3. Two small pieces of brain tissue removed with the degenerated tissue.

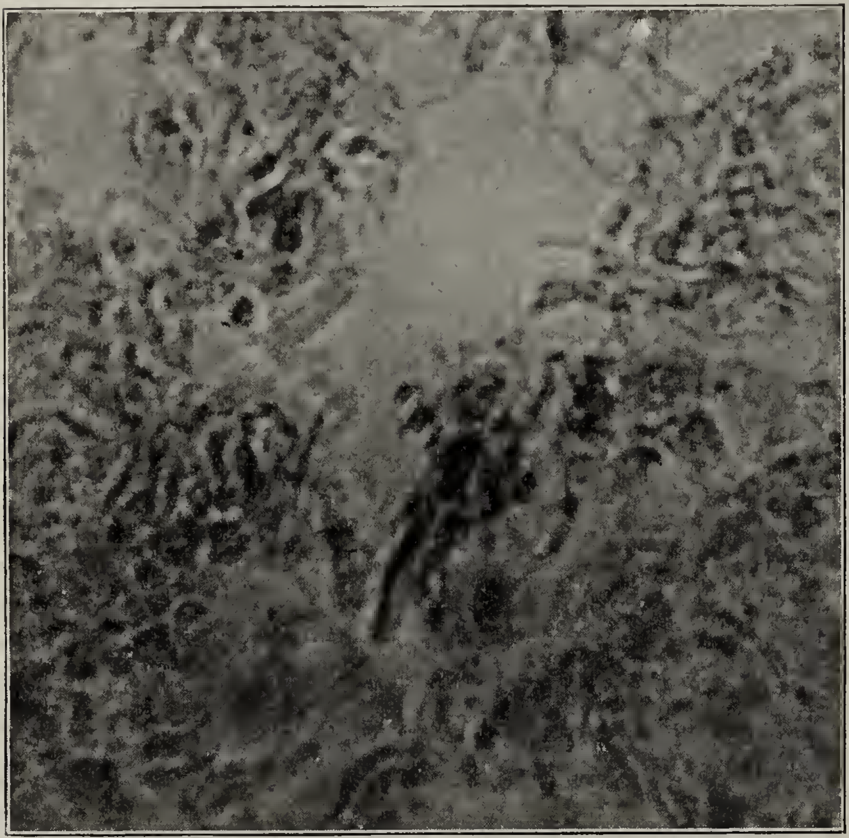

Fig. 5.—Glia cells.

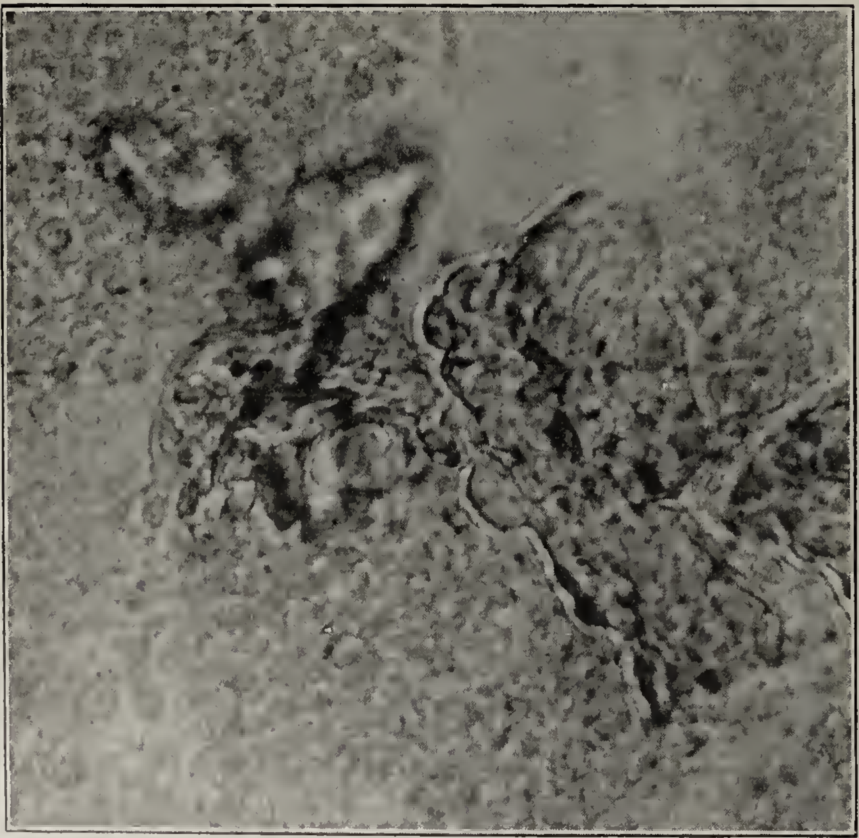

Fig. 6.—Calcareous concretions.

Microscopic: 1. (*a*) Tumor: Slides show masses of small cells having a distinct round or oval nucleus which fills most of the cell body. Many of these cells show distinct processes drawn out in fibrils which, interlacing, form a felt-like stroma. These are the glia cells (Fig. 5). Other portions of the slides show:

I. Areas of marked degeneration of all cellular structures, infiltrated with polynuclear leukocytes.

II. Areas composed of capillary blood-vessels filled with red blood-cells and leukocytes and having extremely thin walls.

III. Areas containing small blood-vessels, with considerably thickened walls.

IV. Portions of the tissue containing whorls and plates of calcareous concretions (Fig. 6).

(*b*) Cyst: Contents of cyst 2 c.c. of serous fluid tinged with blood, containing a few polynuclear leukocytes, a number of mononuclear cells and cocci in pairs. No tubercle bacilli were found.

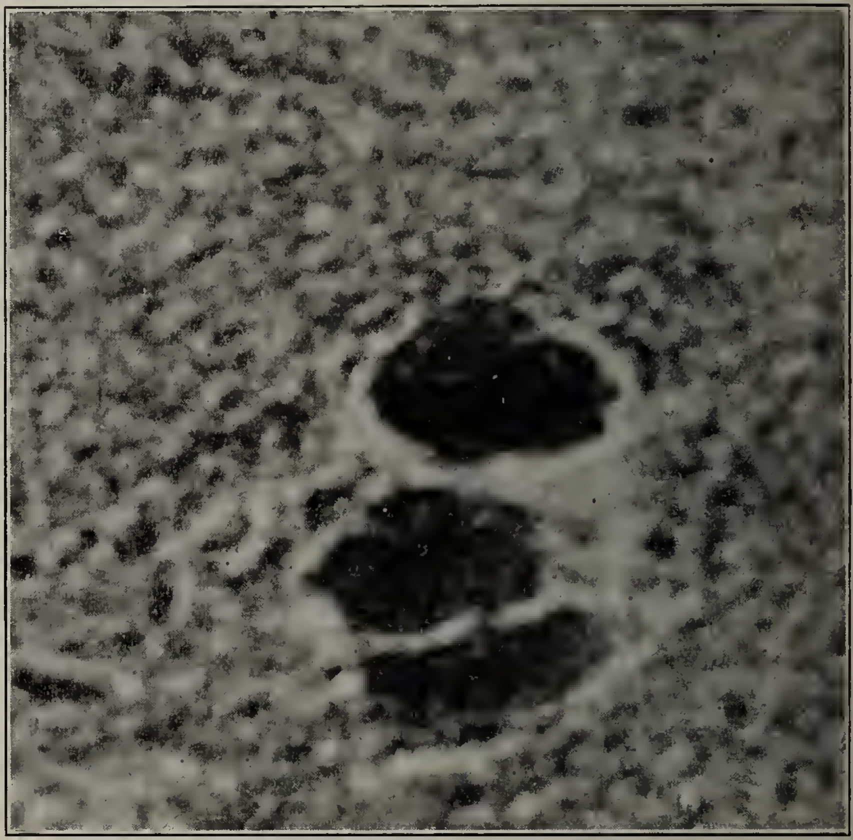

Fig. 7.—Calcareous deposits.

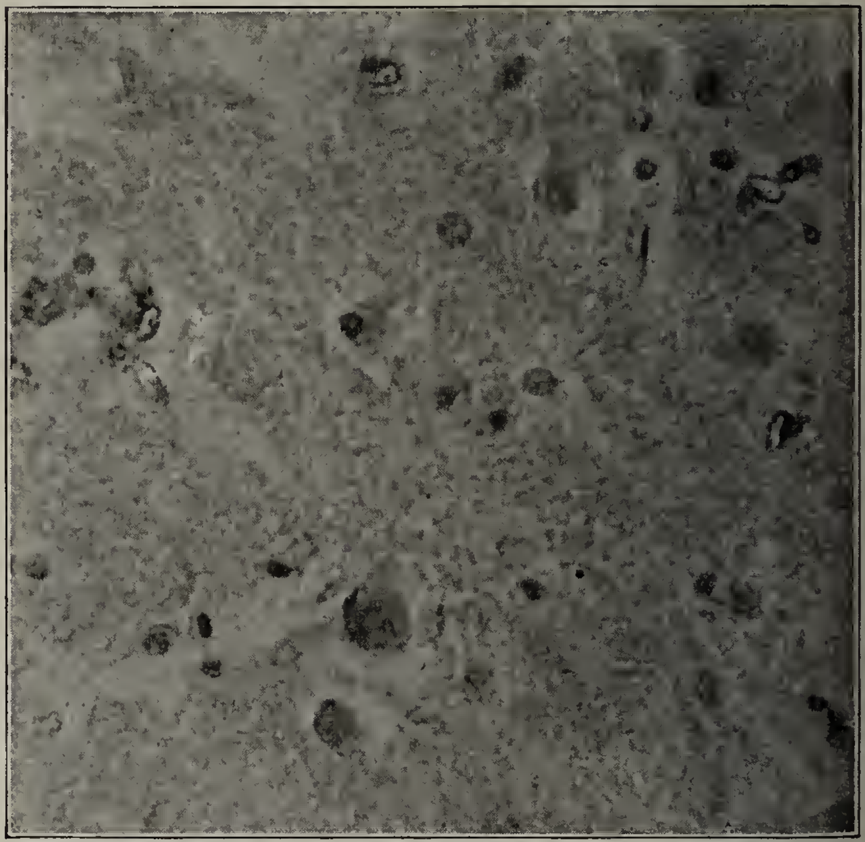

Fig. 8.—Normal brain tissue.

2. Degenerated material: (*a*) Smears show many polynuclear leukocytes, many large and small mononuclear cells, large cells having large round or oval nuclei and distinct protoplasmic processes, i. e., nerve cells, and many cocci in pairs and in short chains. No tubercle bacilli were found.

(*b*) Slides show cellular destruction, infiltration with polynuclear leukocytes and red blood-cells, deposits of calcareous material (Fig. 7).

3. Loosened brain tissue: Slides show nerve cells and neuroglia of the cerebrum (Fig. 8).

Summary.—1. The glioma involving the optic radiation on the right side explains the homonymous hemianopsia.

2. The extensive softening and gliomatous infiltration in the region of the right thalamus explain diminished pupillary reflexes on the blind side, inequality and varied reactions of pupils.

3. The cyst was in a position to make direct pressure on the color center of the left occipital lobe and, since the symptoms developed in the order in which color, natural objects, and light centers are arranged, this pressure (since it affected the visual centers of the temporal half of the left retina more than those of the nasal half of the right retina) could explain the unilateral hemichromatopia, providing the falx cerebri would allow transmission of such pressure.

4. The increased intracranial pressure explains the choked disks, hemorrhagic retinitis and headaches.

5. The calcareous deposits suggest slow development.

6. The postoperative paralysis of the left side was caused by pressure of motor area on edge of trephine opening.

7. Post-mortem changes, or contamination at time of autopsy, could explain the presence of micro-organisms in pathologic specimens, since there had been no indication of infection.

8. Death was undoubtedly due to the extension of degenerative changes to the larger blood-vessels in the brain.

ENDEMIC MALTA (MEDITERRANEAN) FEVER IN TEXAS

FURTHER NOTES ON ITS DISTRIBUTION AND PROBABLE SOURCE WITH REPORT OF ADDITIONAL CASES

THIRD PAPER

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AND
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At the time of our previous communication[1] on Malta (Mediterranean) fever in Texas, in which we reported the isolation of the *Micrococcus melitensis* from two patients ill of continued fever, it was known to us that other cases existed in the vicinity of Langtry, Texas, and it seemed highly probable that the disease had a much wider distribution.

The recent work of the British Mediterranean Fever Commission[2] has conclusively shown that in the Island of Malta Mediterranean fever is almost entirely contracted through drinking the milk of infected goats. All the cases observed by us had given a history of drinking goat's milk or of being actively engaged in the goat-raising industry. In view of these facts, it was decided to make some study of continued fevers in the principal goat-raising sections of the state, to ascertain, if possible, whether some of the cases diagnosed as atypical typhoid fever might not be cases of infection with the *Micrococcus melitensis.*

From Langtry, where the field laboratory was located, visits were made east and west, through the principal goat-raising sections of the state, embracing an area approximately 300 miles along the Rio Grande and extending 90 miles to the north, including the Nueces and lower Pecos River countries. This section of the border is covered with ranges of low undulating hills, traversed by many rocky cañons, arid and barren for the most part and covered with a desert vegetation. For the past thirty-five years the raising of goats has been the most important, and indeed, in some places, the only industry of the inhabitants.

Careful inquiries through this section elicited the information that for many years there has existed, principally in the Nueces and lower Pecos River countries, a continued fever characterized by frequent relapses, pains in the joints and a very low mortality. This fever has been known to exist in Edwards county, at the head of the Nueces River, for a period of at least twenty-five years. It has been known there as slow fever, continued fever and, occasionally, by the significant term of goat fever.

During the summer of 1894 there occurred in the practice or under the observation of Dr. Robertson of Rock Springs about twenty-five cases of continued fever in the Nueces River cañon. The disease ran through whole families and occurred almost entirely in families that had goat pens immediately surrounding the houses. In many of the cases the fever ran for several months, with frequent relapses. Joint symptoms occurred in many instances and often the patients were not able to walk for several weeks. Dr. Robertson was unable definitely to determine the nature of the fever, but believed that he was dealing with a fever different in many respects from typhoid. Since that time he has each year treated a few patients with an affection which he recognized as a fever of similar type.

More recently Drs. Eads and Rogers of Barksdale have treated patients each year with cases of continued fever, in which the symptoms did not correspond clinically to those of typhoid fever. This report includes two cases which occurred in their practice during the present summer.

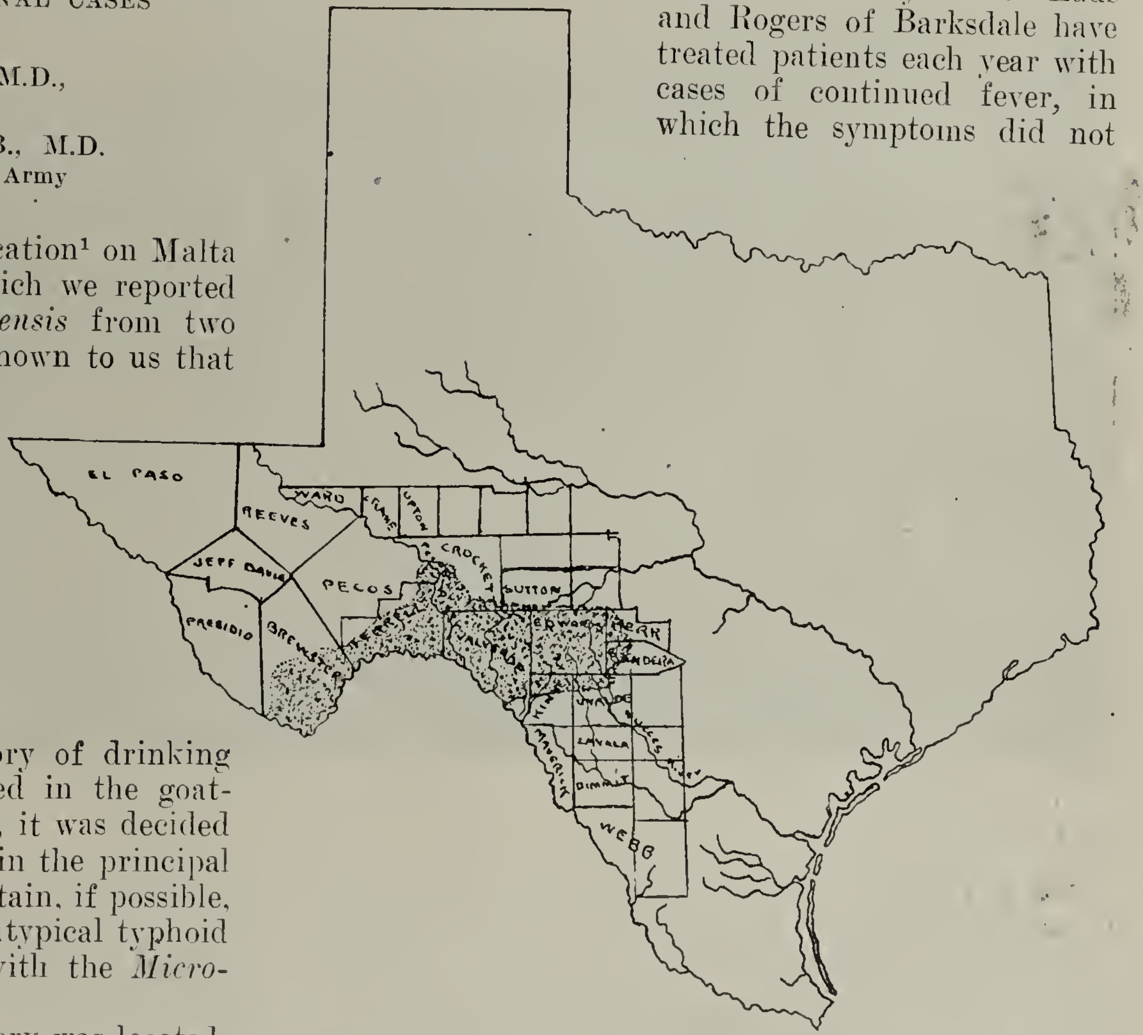

Fig. 1.—Shaded portion of map outlines the principal goat-raising section of Texas, and also represents the area of endemic Malta (Mediterranean) fever.

Many people have believed that the disease was in some manner contracted from goats and occasionally have applied to it the term "goat fever." It has also been called "dust fever," on the theory that it came from working in dusty goat pens. Since the disease is more prevalent during the months of May, June and July, when the prevailing wind is from the south, some of the goat-herders have located their goat pens on the north side of their houses to avoid the dust. The Mexican goat-herders have long believed that slow fever was due to drinking unboiled goat's milk and for this reason, and also because it improves the taste, practically all Mexicans drink only milk which has been boiled.

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[1] The Journal A. M. A., Sept. 9, 1911, p. 889.

[2] Reports of British Mediterranean Fever Commission, 1905-7.

It is thought that the disease appeared in the Pecos River country about ten years ago, and it has been known there as slow fever or Rio Grande fever. Owing to the fact that the country is very sparsely settled in that locality the disease has failed to attract much attention, but it is certain that a few cases have occurred there each year for several years past.

The following cases of infection with the *Micrococcus melitensis* were found at Langtry, Barksdale and Rock Springs:

Blood-examination, July 25:

White blood-cells, 6,400.

Hemoglobin, 75 per cent.

Differential count, per cent. (500 cells):

Polymorphonuclear neutrophils	45.
Small mononuclears	47.6
Large mononuclears	4.4
Transitionals	2.2
Eosinophils	.8
Mastzellen	.0
Nucleated reds	.0
Parasites	.0

Centrifugalized specimens of urine were plated out several times on glucose-nutrose-litmus-agar, but no colonies of *M. melitensis* were found.

Case 3 (Also previously reported[3]).—The patient, K. E., has had no subsequent relapse and is feeling well.

CASE 4.—On July 20 a second agglutination test on Patient 4, R. E.,[3] with *M. melitensis* gave positive agglutination at dilution of 1/160 in thirty minutes. Normal control 1/40, and *B. typhosus* 1/40, negative in one hour.

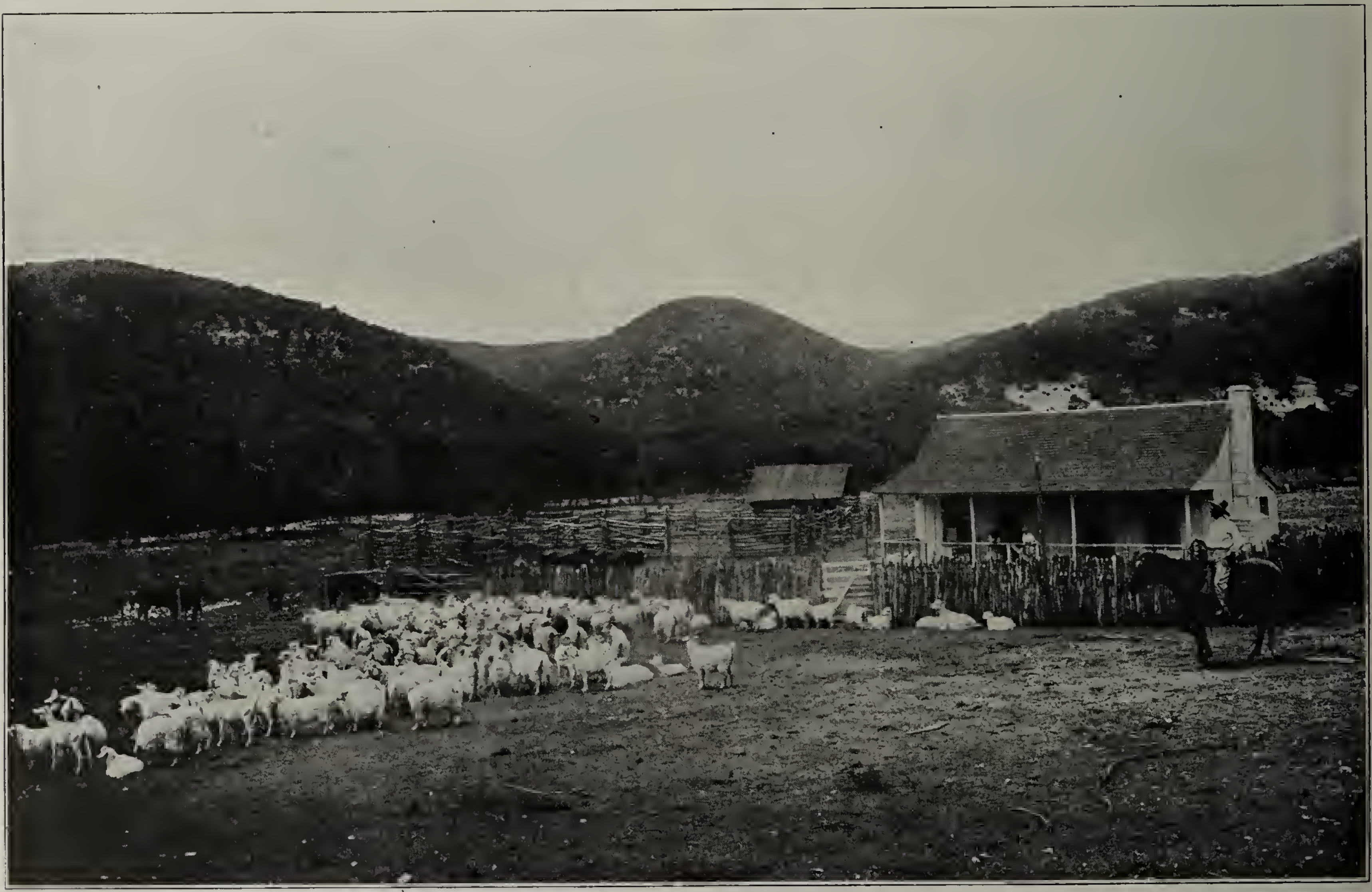

Fig. 2.—Typical goat ranch on a tributary of the Nueces river, near Barksdale, Texas, showing dusty bedding-ground of goats in front of the ranch house.

Case 2 (Already reported[3]).—The patient, L. E., returned to Langtry July 10. When seen at the army laboratory July 14 he was very pale, but not emaciated; temperature normal.

The blood-serum July 19 gave a positive test of *Micrococcus melitensis* in dilution of 1/100 in fifteen minutes.

July 21 the patient relapsed for the fourth time with a temperature of 103 F. He complained of pain in left shoulder, headache, earache, loss of appetite, obstinate constipation and abdominal distention. The fever gradually decreased and the temperature became normal again July 26. No relapse since and patient appears well.

CASE 7.—J. E., Langtry, Texas, aged 55, goat ranchman, father of Patients 1, 2 and 3, 4 and 5 had "typhoid-pneumonia" at 5 years of age, and malaria at 21. He became ill June 20, 1911, with headache, pains in bones, epigastric tenderness, pains in neck and back; some cough and slight amount of thick, glairy sputum; temperature ranged from 98.6 to 99 F. in the morning to 101 to 102 F. in the evening for about two weeks; returned to normal July 5; severe pains in right shoulder during second week of disease; bowels constipated; appetite good.

The patient had no relapses and did not go to bed during the course of the fever.

July 19 agglutination test was positive with *M. melitensis* at dilution of 1/50 in thirty minutes.

CASE 8.—The patient, J. I., Langtry, Texas, aged 21, was a goat-herder. Father and brother suffered with similar symptoms at about the same time. They had fever for several months with frequent relapses and joint pains. Patient became ill in April, 1909, with headache, chilly sensation, and pains in back of the neck; went to bed after fifteen days of fever. Temperature ranged from 101 to 103 F., with evening rise and morning remissions, and with profuse sweating at night. Patient had five relapses with an interval of three or four days of normal temperature between them. Fever lasted about two months. In each attack when the temperature began to fall, patient suffered severely with pains in back, hips and shoulders. There was obstinate constipation.

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[3] THE JOURNAL A. M. A., Aug. 26, 1911, p. 730. Cases 1 to 5 were reported in this first paper and the detailed histories will not be repeated. Case 6 was reported in THE JOURNAL Sept. 9, 1911, p. 889.

Agglutination test July 19, 1911, two years after attack, gave positive test of *M. melitensis* at dilution of 1-40 in one hour. Controls negative.

Case 9.—E. B., Langtry, Texas, aged 22, goat-herder, whose brother and father suffered with similar disease during same year, became ill about June 1, 1907, with fever, headache, pains in back of neck and sides. Fever ran an irregular course lasting about two months. At times patient had no fever and would get up and around for several days; suffered with severe pains in shoulders, knees and hips; no pain in wrists and ankles; profuse sweating at night and obstinate constipation.

Fig. 3.—The Pecos River Cañon, near Langtry. A typical view in the goat-raising country of Texas. For miles on either side of this river the country is rocky, arid and barren, and covered with a desert vegetation.

Agglutination test on July 18, 1911, still gave positive test with *Micrococcus melitensis* at dilution of 1/30 in thirty minutes. Controls negative in one hour.

Case 10.—The patient, C. G., Rock Springs, Texas, aged 10, was the son of druggist. Adenoids and tonsils were removed at 7 years of age; patient had typhoid fever in 1910; was sick in bed thirty days. Present illness began May 1, 1911, with headache, general aches and pains all over body; profuse perspiration and obstinate constipation with some abdominal distention. Fever began gradually with evening rise and morning remission ranging from 99 to 102 F. Fever ran until May 10. The patient got up May 15, and returned to school a few days later. Relapsed May 30, with mild continuous fever with evening rise and morning remission, often not higher than 99.6 F. in the evening. Temperature became normal five or six times. During the second attack the patient had severe pains in knee, hip and ankle; some pain in left side during last attack; has had no elevation of temperature since July 5. At present looks somewhat anemic, but feels well. Patient has never drunk any goat's milk, but has often played in dusty goat pens.

Agglutination test, positive, with *Micrococcus melitensis* on August 1, at dilution of 1/160 in thirty minutes. Controls negative.

Case 11.—I. W., Barksdale, Texas, aged 6, had had no disease previously except measles at one year of age. He became ill May 12, 1911, with headache, malaise, stiff neck, evening rise of temperature and some sweating; appetite good; bowels constipated and some abdominal distention. On June 15, the fever rose to 104 F. and remained at 102 to 104 F. for about one week, then declined somewhat and afterward run an irregular course, at times going as high as 102 F. There were general aches and pains all over the body and in the shoulders, hips and knees; some pain in side at times; fever still present. At time of examination (August 2) it was 100 F.; spleen and liver enlarged. Physical examination otherwise negative. The patient was well nourished and not markedly anemic; had never drunk goat's milk, but had played constantly in dusty goat-pens. There is a goat-bedding ground just in front of the house.

Agglutination test with *M. melitensis* strongly positive at dilution of 1-150 in thirty minutes. Controls negative.

Case 12.—B. R. P., aged 32, Barksdale, Texas, goat ranchman, had influenza and bronchopneumonia three years ago; made a good recovery; taken sick May 1, 1911, with malaise, fever, headache and pain in back of neck; felt well in the morning, but very feverish toward evening, when the temperature would rise to 102 to 103 F.; had harsh constant cough and distinct dulness over bases of both lungs; lungs seemed filled up with mucus, and he spat up thick, glairy sputum, which was never blood-tinged. The cough lasted about fifteen days; spleen occasionally palpable; fever lasted until May 15, but returned May 25 and lasted until June 21. The temperature ranged from 100 to 103 F.; bowels were tympanitic and there was some diarrhea. The temperature fell to normal for about five days, but the fever returned again June 27 and lasted until July 6, ranging from 100 to 102 F. There was normal temperature again for four days. The fever returned July 10 and ran an irregular course since to the time of this report, ranging from normal in the morning to 100 F. in the afternoon. Bowels became very constipated and when moved with castor oil there were occasionally small sloughs of mucous membrane and a few flecks of blood. There was some epigastric tenderness. The spleen and liver were slightly enlarged and tender, and at times the patient complained of pains in the left side of the chest, which were relieved by a mustard plaster; had pain in the right shoulder, hip and elbow, and constant occipital headache. The patient worked constantly with goats and the goats were bedded all around the house.

Agglutination test August 3, 1911, was strongly positive with *Micrococcus melitensis* at dilution of 1/160 in thirty minutes.

Controls were negative.

On September 2 patient still had some fever and had been suffering severely with pains in shoulders, hips and knees.

BACTERIOLOGIC INVESTIGATION ON GOAT HERD WHICH WAS THE PROBABLE SOURCE OF INFECTION AT LANGTRY

In order that the source of infection might be definitely ascertained, if possible, in the cases of Malta fever occurring at Langtry, it was necessary to make a careful examination of the goat herd from which the milk used by Patients 1 to 4 had been obtained. Unfortunately, circumstances prevented this being done in a thorough manner, owing to the fact that at the time of our arrival at Langtry the goat herd was being transported, one-third to New Mexico and the remainder to an inaccessible range thirty miles distant. The herd consisted of about 1,500 goats (divided approximately as follows:

Pure Maltese	100
Spanish and mixed	400
Angora	1,000

Twenty-three female goats were examined with the following results:

Goat.	Serum Dilution.	Result.	Time. Minutes.
1. Maltese	1-20	—	50
2. Maltese	1-20	+	30
	1-40	—	50
3. Spanish	1-20	—	50
4. Angora	1-20	+	30
	1-40	—	50
5. Angora	1-20	+	25
	1-40	+	30
	1-80	—	50
6. Maltese	1-20	—	60
7. Maltese	1-20	+	20
	1-40	—	60
8. Angora	1-20	—	60
9. Angora	1-20	—	60
10. Angora	1-20	—	60
11. Spanish	1-20	—	60
12. Maltese	1-20	+	20
	1-40	—	60
13. Maltese	1-20	+	20
	1-40	—	60
14. Maltese	1-20	—	60
15. Maltese	1-20	—	60
16. Maltese	1-20	—	60
17. Angora	1-20	—	60
18. Maltese	1-20	—	60
19. Angora	1-20	—	60
20. Angora	1-20	—	60
21. Maltese	1-20	—	60
22. Maltese	1-20	+	30
	1-40	—	60
23. Angora	1-20	+	30
	1-30	+	45
	1-40	—	60

Thus eight out of the twenty-three goats (34.7 per cent.) agglutinated the *M. melitensis* completely at a dilution of 1/20, two of the eight going also to 1/30 and one at 1/40 in one hour. The milk of those giving a positive reaction at a dilution of 1/20 was centrifugalized and the sediment plated out on glucose-nutrose-litmus-agar and incubated for four days at 37 C. All plates proved negative for *M. melitensis*.

The Zammit milk agglutination test [4] on the milk of all twenty-three goats was negative in every case.

CONCLUSIONS

1. Malta fever is endemic throughout the older goat-raising sections of Texas.

2. Although typhoid fever is prevalent throughout these sections, we believe that careful serum tests will show that a large proportion of the cases diagnosed as atypical typhoid fever will be found to be suffering from infection with the *M. melitensis*.

3. All cases of Malta fever found have occurred in territory devoted to goat-raising and all patients either gave a history of drinking unboiled goat's milk, or were actively connected with the goat-raising industry.

4. While we have not yet found the *M. melitensis* in the milk of goats, the positive serum test obtained in 34 per cent. of goats examined points strongly to this animal as the source of infection.

A CASE OF SPOROTRICHOSIS

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Patient.—W. H., a farmer, aged 19, weight 185, height 6 feet 1 inch. Father, aged 56, mother 51, two sisters, 26 and 15 respectively, and one brother 12, living and all in good health. One sister, married, died at the age of 25, cause unknown. Patient never had any previous illness.

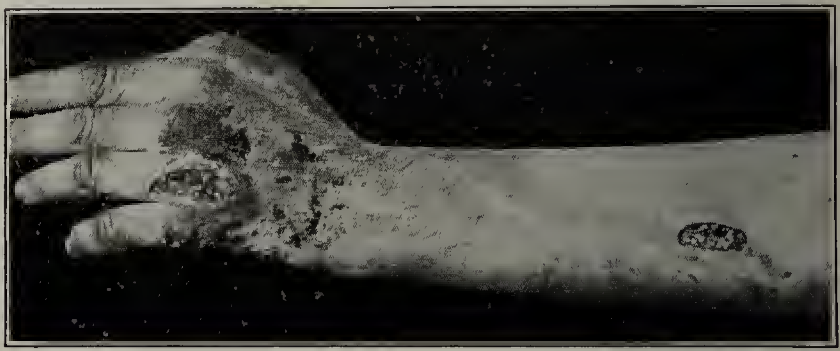

Fig. 1.—Initial lesion on hand and the course upward along the back of forearm.

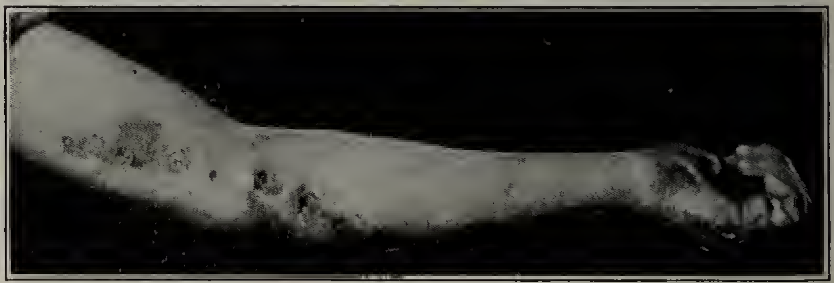

Fig. 2.—The course of infection as it passes toward the ulnar side and around the elbow to the inner and under surface of the arm and up to the axilla.

History.—In the early part of March, this year, patient noticed a small pimple on dorsum of left hand between fourth and fifth metacarpals, 1 inch above metacarpophalangeal joint. This continued to increase in size and was opened with a pin and poulticed.

Course.—March 28, the patient came to my office. The lesion appeared as a ragged, depressed ulcer 1½ inches in length by 1 inch in breadth. Extending upward from this, along the back of the forearm toward the ulnar side, and passing around the elbow to the inner and under surface of the arm and thence up to the axilla, the lymphatic vessels were purple and distended, and eighteen or twenty nodules were present along their course, as shown in the accompanying photographs. The vessels were filled with a dark serous fluid, and tension compelled me to make some ten or twelve incisions for drainage. Later they discharged considerable pus. At no time was there pain or rise of temperature.

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[4] Zammit: Reports of British Mediterranean Fever Commission, February, 1906, Part 4, p. 98.

Treatment.—The usual surgical treatment was employed, with potassium iodid internally. The patient made a slow but uninterrupted recovery, and was discharged July 15.

My friend, Dr. William K. Trimble, pathologist in the School of Medicine, University of Kansas, at Rosedale, corroborated my diagnosis.

REPORTABILITY OF SYPHILIS AND GONORRHEA *

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The action of the California State Board of Health in declaring syphilis and gonorrhea reportable diseases is the most important step in this relation that has, as yet, been taken in this country. In a word, it places these two diseases where they belong. It is the result of a straightforward, logical, scientific point of view, unbiased and untrammeled by any smaller consideration than that of the public health of this great state and is prompted by the conviction that boards of health and physicians are to a large degree responsible for that public health.

It thus adds another powerful factor to public hygiene and is destined to define more clearly the relation between physician and society.

It is certain to stimulate the unthinking practitioner, whose motto is "the way we did twenty years ago is good enough for me," into a realization that there is a sociologic and scientific progress for the medical profession as well as for every other branch of human endeavor; that, as society develops, the relations of its various parts necessarily change and he who will not see the movement will be swallowed up in it.

Do physicians ever stop to consider the difference between the relation of a doctor to the community in which he lives to-day and even so short a time ago as twenty-five years? To suspect a family physician of error would have been as heterodox as to change one's religion. A consultation was called only as a last resort and then the tone of the whole family was pathetically apologetic.

How many physicians can feel to-day that they stand in such relation to many of their clients? We are living in a scientific age; the tendency to question, the desire to know and understand is felt even by the most ignorant classes. It would be an object-lesson could the physicians who give their time in hospitals and clinics hear the keen analysis of their characters and methods which takes place among their patients in the waiting-room.

The research worker may shut himself up in his laboratory and obtain for us precious knowledge, the result of his devotion, labor and sacrifice. But the practitioner who applies this knowledge must remember that he forms part of the great world in which he lives; he cannot hold himself apart as a dispenser of panacea but he must live in the midst of that world swayed by its justice and injustice, its joys and sorrows, and on him is often imposed, as in this instance of venereal disease, the choice between his personal tendencies, the influence of the individuals who make up his closer life and that greater circle of activity which means the greatest good to the greatest number, the maintenance of the nation and the race.

Professor Wolf of Strasburg, moved by one of those impulses which is akin to genius, at the international conference at Berlin in 1897 for the purpose of taking measures against the spread of leprosy, brought to the notice of the assembled scientists the puerility of their cause as compared with a condition endemic in every country and unattacked. He little thought that his utterance would be the impetus to a world-wide movement.

Within two years, in 1899, the first international congress for the purpose of combating venereal disease took place in Brussels. The second followed in 1902. National societies were formed in Belgium, France, Germany, Austria, Denmark and the United States.

A close study of the proceedings and work of these societies shows that, except in England, Norway, Sweden and in Denmark as late as 1906, the only measures taken against the spread of venereal disease was the so-called *réglementation* or compulsory examination of prostitutes. In Germany, France and Austria *réglementation* still obtains, although its advocates acknowledge frankly that the system is inefficient and unreliable. They take refuge in the weak statement that a poor system is better than none.

The first European country to make and consistently carry out laws governing venereal disease was Norway. The syphilization of the army and the rapid and intense spread of the disease among a primitive peasantry caused it to assume the character of a contagious disease, pure and simple, with a very small percentage of infection by sexual contact.[1]

In 1774, '79 and '92 treatment of venereal disease was made compulsory. The point of view having been established that these were not shame diseases made it simpler than elsewhere to develop hygienic measures.

In 1860 a law was passed making hospital treatment compulsory on an order of the sanitary commission and classing them with other infectious diseases.

In 1888 regulation of prostitution was abandoned and sane laws covering hygiene and morals established.[2]

In 1901 still more stringent laws were passed covering isolation and treatment.[3]

Sweden, suffering from the same conditions as Norway, as early as 1817 made the treatment of venereal disease compulsory and at the cost of the state. For this purpose a new tax was provided for, called, since 1873, tax for the sick (*Abgabe für Krankenflege*).

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 12. The same condition obtains in Russia to-day, where to 7 per cent. of genital infection 93 per cent. extragenital is found. In fact, there are villages where no inhabitant escapes.

[2] In 1888 the laws regulating prostitution in Christiania were rescinded. 1. Examination and treatment were made easily obtainable for those who demanded it. 2. It was made the duty of every physician to endeavor to discover the sources of infection. 3. When necessary cases were reported and isolation in hospitals secured. Free clinics were established and, although there were 5,000 known prostitutes, 20,000 annually received treatment in these free clinics. Möller: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 7.

[3] Dec. 2, 1901 (after the first congress). It shall be the care of the state:

Sec. 5. To see that the syphilitics be placed in hospitals when found necessary by the sanitary commission.

Sec. 6. Every venereal patient who does not provide himself with proper medical attendance or who fails to follow the physician's orders may be sent by the sanitary commission to the hospital and detained there until cured, or at least the danger of infecting others is materially lessened.

Sec. 7. If syphilitics are allowed to leave the hospital in a condition which is liable to infect others, the board of health must be notified. The patient will be obliged to report himself for examination at stated intervals or present a certificate which shows that he is under the care of a reliable physician. . . .

Sec. 13. If a syphilitic, still in that period of disease in which infectious symptoms might be feared, gives up treatment, physician must notify the health office. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 2.

Inspectors for the provinces were appointed whose duties were carefully defined by the law.[4] Seved Ribbing is quoted as saying that it had never come to his knowledge that the people of Sweden felt these measures as inimical to personal freedom. On the contrary, the persons who have innocently or ignorantly fallen victims to the disease are thankful to the authorities. *Réglementation* was, however, still in force in Sweden.

In 1903 the Swedish government appointed a committee to deliberate over the legal measures to be taken against prostitution and its social and sanitary evils.

After seven and one-half years of deliberation and investigation it has declared itself against *réglementation.*[5]

Denmark, in 1906, rescinded the law regulating prostitution and substituted sane general laws calculated to reach every side of the evil.[6]

It will thus be seen that under circumstances of public danger these northern countries were able to establish laws both humane and thorough. Compulsory report is demanded but the privacy of the individual is respected as long as he submits himself to proper treatment and observes such rules as prove that he respects the community in which he lives. A glance at the laws in force in Prussia and Austria will show the difference in method.

By an edict of 1835, physicians in Prussia were required to report dangerous cases of syphilis to the police.[7] To a certain extent, at least as far as the power of the police is concerned, these laws are in force to-day.

Harthüng, head physician in a Breslau hospital for venereal disease, made the following statement at the international congress in Brussels, 1902: When he is convinced that his out-patients have sexual intercourse against orders of the physician, or are otherwise dangerous, he asks them to enter the hospital for treatment. If they refuse they are arrested and brought to the hospital by the police. If they leave without permission, they are again returned by the police.

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[4] Article 28. Measure against venereal disease.

1. If a physician, following the order of the authorities, examines a person supposed to have venereal disease, it is his duty to report to the magistrate the name and address of the patient if said patient cannot show within a short period, named by the physician, that he has placed himself under satisfactory medical treatment. It is also the duty of the physician to inform the magistrate, when he deems it necessary, that the patient should be sent to a hospital, and the magistrate must report the same to the physician as soon as it happens. If a patient refuses examination, the authorities must invoke the law.

2. In order to prevent the spread of venereal disease the county physician must do his best to discover the source and method of infection, as well as to further the admission into hospital.

The physician is also bound to inform the authorities if the patient refuses treatment, does not faithfully follow orders of physician, or when there is danger of further infecting others. Finger: Ztschr. f. Bekämpf. d. Geschlechtskrankh., Leipz., v, part 11.

[5] "The objections which are brought to bear against regulation from a social, moral and legal point of view are so formidable that the usefulness which, from a sanitary point of view, it might possess is not allowable as a consideration for its retention or abolition.

"Any prophylactic measure which so offends the sense of justice cannot be maintained by reason of so lame a recommendation as that it is of some, although not great, usefulness.

"Only under conditions that would prove regulation a sanitary necessity could there be any consideration of its retention. Since the committee can admit no such presumption, it cannot consent that this form of law against contagious venereal disease be further used in our country."

The committee recommended certain new laws, such as punishment for the infection of another, in severe cases two years' imprisonment; the duty of physician to search for the source and the conditions under which infection takes place; punishment to four years of forced labor for procurers; making infectious diseases grounds for divorce. Furthermore, it was recommended that professional prostitution be forbidden and such persons be made amenable to the law as vagabonds. Mitt. d. Deutsch. Gesellsch. z. Bekämpf. d. Geschlechtskr., April, 1911.

[6] Danish law of March 30, 1906, rescinds the law regulating prostitution. New laws:

Article 1. Police regulation of professional prostitution is repealed.

The police have the right to interfere (take steps against persons who practice this trade) according to the law against vagabonds.

Article 2 of the law against vagabonds can be used only after due warning has been given. This gives the police the right to bring before a judge vagabonds or others who cannot show that they have means or regular work; he may order such person to get work or provide work for him.

If the said person does not appear or does not follow the order to work, they may be punished by forced labor. However, the vagabond law can be put into effect only after a preliminary warning.

Article 2. Whoever provokes, tempts or entices to prostitution, whoever openly leads a life of indecency, whoever gives rise to open scandal or is a nuisance to neighbors, will be punished by imprisonment; under aggravating circumstances or repitition or offence, by forced labor. Under extenuating circumstances the punishment may be a fine.

The same punishment will be inflicted on any professional prostitute who keeps in her house any child over 2 years of age or who receives for immoral purposes young people under 18 years of age.

An admonition may precede punishment in any of the above cases in which it is a first delinquency.

Article 3. It is forbidden to keep houses of prostitution. Whoever disobeys this law is punishable with imprisonment, the house of correction or hard labor.

Procuring amendable to same punishment.

Whoever for pecuniary gain allows prostitution in his dwelling or rents rooms not to permanent roomers but to encourage prostitution, or who shelters girls under 18 who prostitute themselves, will be punished with imprisonment or hard labor.

Repetition of the offence may be punished by two years of forced labor in a penitentiary.

It is forbidden to advertise publicly, to expose or export articles for the purpose of preventing the consequences of sexual intercourse or to offer the same for sale to strangers or promiscuous individuals.

Article 4. Any person who has sexual intercourse under the conditions set down in Article 181 of the Penal Code will be punished as provided for in Article 181 if through such intercourse another becomes infected and institutes a suit within one and one-half years after the diagnosis of the disease.

If the person infected in such intercourse was ignorant of the danger of such infection, the author of the infection must pay not only the cost of treatment but damages (compensation) as well.

Article 5. Individuals with infectious diseases have the right, though they may have the means to pay for treatment, to derive such treatment from government sources. On the other hand, they are obliged to submit to this treatment; in every event must the individual be under such medical care as offers a sufficient security.

If the venereally infected individual finds himself so placed that he or she cannot prevent infecting others, or if he does not obey the rules of prophylaxis which have been prescribed, he must be sent to a hospital. The prefect of the police in Copenhagen and the president of the police are the authorities in such cases.

Neglect of these duties are followed by correction from the above officials. If these remain without results the police step in.

Individuals who are in receipt of public charity must be treated in hospital when subjects of venereal disease.

Article 6. If during, or at the end of, treatment the physician considers that in view of the danger of infecting others the patient must still be kept under observation, the physician must demand of the patient to present himself at stated times, if the patient does not bring a written proof that some other legitimate physician has him under treatment. The necessary proof can be obtained from the government physicians and the municipality.

If the patient does not obey this law, or if the physician wishes to give up the case and the patient does not appear with a certificate stating that he is under the care of another physician, then the official physicians must be informed and the aforesaid patient must be commanded to present himself at the public dispensary.

Article 7. The physician is commanded to inform the patient of the infectious character of his disease as well as the punishment which would follow his infections of another. Particularly must he be warned against marriage as long as the danger of infection exists.

Article 8. The physician is ordered to report weekly the number of persons who come under the head of Article 6. Patients who give the physicians false names, sheltering positions or addresses are punished.

Article 9 treats of the infection of a healthy nurse through a sick child or a healthy child by means of a sick nurse.

Article 10. Whoever is accused of crime against Articles 1, 2, 4 or 9 of these laws or 181 of the Penal Code must be asked on an order of the police to submit to examination by a physician. In case of refusal, if the proof of the accusation is sufficient, the law must force the examination.

Article 11. The medical examinations in cases above described shall be made by the public district or city physician or by a specially appointed visiting physician. The compulsory visit shall be made by a physician of the same sex as the accused (unless it is immaterial to the accused) if such is to be found in the same district, so that no delay may occur, and if the said physician is willing to undertake such examination.

Article 12. The official physician must treat all venereal patients free of charge.

Article 13. If the official physician deems it necessary, the patient must present himself at the times stated by physician. Neglect in doing so is punished first by fines and later by intervention of the police.

Article 14. Those who are treated free in hospitals may not leave such institutions without the consent of the physician.

Article 15 forbids proprietors of hotels or rooming-houses to make use of prostitution for the service or amusement of guests.

Article 16 gives the various grades of punishment and defines venereal disease and its various forms.

Article 18. The law shall go into action six months after date, Oct. 11, 1906. All earlier laws governing prostitution thus become null and void.

[7] Edict of 1835. Prussia.

65. When, according to the opinion of the physician, secrecy as to the disease will lead to adverse consequences either to the diseased person or to the community, he is obliged to report the case to the police. Failure to do so makes the physician amenable to a fine of 5 thaler, with a double fine for a second offense.

69. It is the duty of the police to see to it that physicians, especially those employed in hospitals, make every effort to inform the police of the sources of infection in order that careless and indigent persons may be prevented from further spreading the evil (Finger).

In the Rudolf Virchow Hospital in Berlin, while other diseases are treated in pavilions of twenty beds, two buildings, four stories in height, are devoted to venereal disease. It is significant that each is surrounded by a stout wall and a locked gate.

In Austria the few laws which apply have been inspired by the same spirit.

The most cursory glance at the different methods of these countries will show why in Norway, Sweden and Denmark, in spite of the appalling conditions of a hundred years ago, there is a steady decrease of venereal disease, while in France, Germany and Austria venereal disease shows no appreciable decrease. These governments will not admit that they have to deal with a wide-spread contagious disease, the control of which should be in the hands of a health commission, but still rely on the police to carry out a number of paradoxical and one-sided laws which are utterly unfitted to control disease.

Another important point in the laws of these northern countries is that concerning the investigation of the sources of infection.

In the study of a question so difficult of solution, so momentous in its importance, one seeks in all directions for the support of some known experience.

Dr. Magnus Möller of St. Goran, Stockholm, gives some interesting data based on the questioning of 661 patients, mostly artisans and laborers, concerning the sources of their infection. He was struck with the general willingness to give full information, when the questions were tactfully put and the seriousness of the investigation made evident.

At least 20 per cent. of the number gave information sufficiently clear to make investigation of the source possible; 67.7 per cent. could give no information, having been drunk at the time of infection. In one-quarter of the cases was the cause traced to controlled prostitutes. A number of cases were often traced to one individual.[8]

The secrecy maintained in regard to syphilis and gonorrhea has led to a neglect of these diseases by the general practitioner. A physician does not follow closely the woman patient whom he dares not warn of the true nature of her disease.

The symptom once eradicated, the patient drops from view and is still exposed to further ravages of the disease. The physician is deprived of clinical observation, valuable not only to his own further development, but to the health of the community. Diseases neglected in treatment will be neglected in study. It is the constant cry of specialists that the knowledge of the general practitioner in the matter of venereal disease is lamentably defective.

Professor Finger has rightly said that we shall never make progress in the treatment of syphilis and gonorrhea until the public has been made to understand that instead of being ashamed of and not fearing these diseases, they should not be ashamed of but fear them. The public can be made to understand this only by placing syphilis and gonorrhea where they belong, with the other infectious diseases.

Where these diseases are reportable, both physician and patient are placed in a position of joint responsibility as regards the public health. The physician's interest is kept alive. It would be of incalculable educative value for the man who is carrying about with him a disease to know that it is regarded, not as a concomitant of manhood, but as a pathologic condition and to be forced by public measures to consider himself a menace to others whether he evades the law or not. If, as in other infectious diseases, the law is made to cover the seeking and elimination of the sources, we shall have the whole matter of scientific treatment in our hands.

The theory has been advanced that there is only one thing to do: wait for science to find a remedy. There has been a remedy in existence since the sixteenth century. It was found by chance but properly used is good. Salvarsan may or may not fulfil its promise. It is already much talked of as an excellent adjunct to mercury.

How can the public be made to feel the necessity for treatment and how can they be saved from quacks? A law should exist making treatment of such diseases by any but legitimate physicians a criminal offence. The quack is already making use of scientific discovery and social progress.

After our first public meeting in San Francisco, a decided difference crept into the wording of quack advertisements. It was easily discernible that they were stealing our thunder.

No sooner was the discovery of salvarsan made public property than an enormous advertisement appeared in an Austrian paper inviting the public to visit an exhibition of "Professor Ehrlichhata's Cure 606." "The Greatest Discovery the World has Ever Seen. Entrance 10 pf. Fridays for ladies only." The usual panoptikum wax figures were shown with the inscriptions: "Before Treatment." "A Few Hours After Treatment with Herxherimers Reaktion." "Several Days After, Cured."

There are only two ways for the medical profession to protect itself from these parasites: appealing to the law and assuming a definite attitude regarding this question.

For those who have studied the psychology of the crowd, it is not so difficult to see the reason for the success of the quack. He talks out loud, very loud. He makes a great show of being open in his methods. The people do not go to quacks for the treatment of venereal diseases alone. They fear and distrust the knowledge of the physician which he dares not impart. It smacks too much of magic and so often does not fulfil its promise.

Let the public realize that we range ourselves on the side of law, order and justice. Let the physician respect the confidence of his patient but let him scorn the confidence of the man who would deliberately do a criminal act and make him a party to it. There may be those who will prate of professional secrecy, but in their souls they will esteem and admire the man who can rise above an antiquated tradition in order to save even one woman from the results of either one of these dread diseases.

The medical profession stands in a position of peculiar delicacy in this matter, being the only class outside the handful of social workers, who have come in contact with the recognized results of prostitution. Physicians in the world and of it have shared the universal error of secrecy. We may safely say—until now an error. We may also confidently assert, speaking for the world, or rather for those who make the world worth the while and who must ever be the mouth-piece and the guide of the physically, mentally and morally unfit, that the physician who now lends himself to the policy of secrecy makes himself the accessory to a crime.

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[8] A number of cases were often traced to the same source of infection: thus, three cases of gonorrhea to the same controlled prostitute. Three cases of primary syphilis (two boys of 16) to the same source. Four gave the same woman as cause (controlled prostitute. (Magnus Möller, Stockholm. See Note 2.) In Norway during a period of nine years, by means of report and search for the source, 546 women of all ages, of whom 262 were syphilitics, came under the care of the sanitary commission. Strange to say, only twenty-two syphilitic men were discovered in this manner. Italy must be mentioned as not only treating all who come gratis, but providing medicine as well. This law, *Lex Crispi*, was due to the efforts of Prime Minister Crispi.

It is not only his bounden duty to take his public stand for the public good, but it is also his duty to assert his attitude toward those of his profession who through ignorance, mistaken ideals, or absence of professional honor create an opposition which is destined to deprive medical practice of its right to be called a profession.

The moment for half measures is past. The dire physical consequences, with frequent vicious mental accompaniments, come to our notice daily and what do we do about them? We are treated like merchants. Our prescriptions are taken—bills paid or not; our patients neglect themselves or worse—pass on the consequences of their vice—and we shrug our shoulders, pocket the money when we get it and feel that our duty is done.

The members of the international congresses of 1899 and 1902 found themselves face to face with a seemingly insoluble problem. In despair at finding an immediate corrective, and overwhelmed at the universal magnitude of the problem, like little children of larger growth, they turned to the mothers and cried out, "You cannot make us over. See in us the evil effects of ignorance and neglect. Care for our sisters and brothers!" They did, it is true, strike a fundamental note. Reformation of character can rarely begin with the adult.

The horror of economic conditions has been laid bare and willing hands and minds are working in every direction to help the poor to a living chance. But what has the medical profession done? It is now twelve years since the first international congress was held. Societies for the purpose of fighting venereal diseases have been formed the world over, inspired or founded by medical men. In this country the general complaint is that medical men do not uphold them. It is the layman who keeps them going.

It is time that the medical profession rises as one man and does its duty toward the state in which it lives and the nation whose health it is supposed to safeguard. Publicity in this matter of venereal disease is one of the first requisites for its control, as it is for the control of any other infectious disease. Read the findings of the Chicago Vice Commission and ask yourselves if there should be any more temporizing.

If laws demanding a report of every case, without name, be passed; if every discoverable source of infection be controlled regardless of the patient's social position; if adequate hospital and clinical facilities are provided not only for the very poor but for the struggling middle class, the medical profession will be able to say with pride: "We have done our best to inspire public confidence. We have vindicated our right to be the custodians of the public health."

5 Avon Street.

Neglect of the Middle Period of Life.—The rungs at the bottom of the ladder of life are being carefully looked after; those at the middle of the ladder have been neglected; the physical welfare of the man has been lost sight of in the multitude of attempts at prolongation and betterment of the physical properties of the child.—Guilfoy in *Journal American Public Health Association.*

REPORT OF COMMITTEE ON CONTROL OF VENEREAL DISEASE BY A MUNICIPALITY *

When I was asked by the Chairman of the Section on Preventive Medicine and Public Health, Dr. William A. Evans, to act on a committee for the purpose of reporting on the control of venereal disease by municipalities, I accepted without hesitation, and for two principal reasons: first, because my associate on the committee was to be Dr. George M. Kober of Washington, who has studied this problem exhaustively and has reported on it, and second, because I have made some study of the question myself and consider it one of the most important problems, as well as one of the most difficult ones, with which the public health official comes into contact and is expected to solve.

There is no need of taking up the time of a gathering of sanitarians by reciting statistics, easily accessible and probably more or less known, to show the prevalence and the ravages of this class of diseases. Such an introduction to the subject would be indicated in a popular address, but may be safely omitted here.

I have written to the health officials of twenty-one of the larger cities, asking what their cities are doing for the control of venereal disease and what, in their opinion, the cities should do. I have received answers from fourteen cities, and they show that in seven nothing is being done, in six some steps are now being taken for the prevention and restriction of venereal disease, and one city, namely New York, is about to start a vigorous campaign, which is outlined by the secretary of the Board of Health as follows:

"As the result of widespread agitation that has taken place in the city of New York during the past few years, the Board of Health has urged on the Board of Estimate and Apportionment the need of making provision in the next annual corporate stock budget for the erection of a public hospital for the care of persons suffering from venereal diseases. In addition, the matter is to be referred to the Medical Advisory Board of the Department of Health and it will be requested to consider the subject and submit recommendations for a comprehensive plan for the public control of all such diseases."

In four of the seven cities in which nothing is being done, the health officers make no recommendations and give no expressions of opinion as to what ought to be done, but in the three remaining cities the health officers are evidently anxious and willing to start activities. They all recognize the value of an educational campaign and all advocate it.

One of the writers, a health officer of a large eastern city says: "Every city ought to furnish advice to those contemplating marriage. More than this, it should work for the control of these diseases by instituting a program of sex education, beginning with the little child when it first begins to ask questions relating to the origin of its being."

Another letter from a far western city says: "I think, however, that the public should be educated on the importance of this question, as the results are more far-reaching than any one has an idea of."

The third letter from an assistant health officer strongly advocates "a sane method of spreading knowledge on this subject" as the only way to control the diseases. Of the six cities in which some precautionary methods are in vogue, five are taking care of the patients in hospitals, some insist on hospital treatment which is compulsory or nearly so, while others take only such patients as are willing to go to a hospital for treatment. In two cities, special clinics are maintained by the municipality for the purpose of controlling venereal disease. At these clinics cases are registered, patients properly treated and can be kept under observation.

An interesting letter was received from the health commissioner of one of our most prosperous and growing western cities. He deals with the subject from the standpoint of the spread of venereal disease by public prostitutes and relates some interesting municipal history. The former mayor of the city in question established a restricted district, in which all known prostitutes were segregated and then subjected to rigid inspection and police control. On account of the establishment of this district and conditions which surrounded it, a recall election was held and a mayor elected who announced his position in his campaign substantially as follows: "If I am elected mayor I will not allow a restricted district to exist in the city, and furthermore, I do not believe that public prostitution is necessary." The health commissioner goes on to say that the mayor has carried out his preelection promise and that the city is much freer of prostitutes than it has been at any time within the last twenty-two years, and then the writer concludes: "Venereal infection in this city has been reduced to a minimum. Two years ago, the woman's ward in the City Hospital was filled with women suffering from venereal infection. To-day, while we are treating more patients, such diseases are not frequently seen." Although I cannot agree with the doctor's conclusions, I was much interested in his report and am pleased to submit it. There are only two cities from which I have received the information that these diseases are reportable to the board of health. The health officer of Cleveland says: "Venereal diseases are reportable in Cleveland. The law is not strictly enforced, as it is as yet almost impossible, but it gives us the power to order to a hospital any one that we find, for instance, in salesrooms or restaurants, etc., affected with venereal disease." Dr. Evans of Chicago reports that the dispensaries of that city are required to report venereal diseases and that, even without a law requiring this, hospitals are reporting to the board of health, for the most part at least, their cases of venereal disease.

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* Read in the Section on Preventive Medicine of the American Medical Association, at its Sixty-Second Annual Session, held at Los Angeles, June, 1911.

In Michigan and in Detroit there is as yet no law requiring the reporting of cases of venereal diseases. This is true, not because the public health officials are opposed to having these cases reported, but rather because they believe that it would not be possible at this time to enforce such a law strictly. In order that a sanitary law may be enforced it must be backed by public opinion, and this can be brought about only by a campaign of education. We therefore believe that the first and most necessary step for the control of venereal disease is a vigorous campaign of education which will teach the people something of the prevalence and dangers of these diseases and the necessity of reporting the same.

The physicians, too, must be educated in this respect. Ten years or more ago it would have been impossible to have passed and enforced a law requiring the reporting of cases of tuberculosis, and practically the same objections that were then advanced against such a law are now used against the reporting of these diseases. It is held by the opponents of such a measure that the knowledge of a patient having venereal disease must be kept secret between the patient and his physician. This objection can easily be overcome by inserting in the proposed law, as was done in the case of tuberculosis, a section protecting the records and making it unlawful for the health officer to divulge them.

In undertaking a campaign of education of the masses, the health authorities of any municipality should seek the cooperation of a number of intelligent people who may associate themselves by the formation of a society for sex hygiene or some similar organization. This has been done in Detroit. There has been formed an organization known as the Detroit Society for Sex Hygiene, whose principal object it is to give this subject the proper kind of publicity. Pamphlets have been published and distributed in the workshops, in public schools, among church societies and in other places where it is thought they would do the most good. A number of public meetings have been held in which well-informed speakers have explained the subject to the people. In this way public sentiment is being aroused and it will not be long before it will be possible to obtain a law requiring the reporting of all cases of venereal disease and at the same time it will be possible to enforce such a law.

In the meantime there are some things that a municipality can do looking towards the prevention of venereal disease. In the case of tuberculosis we did not wait for the reporting of all of the cases but rather went in search of them. In Detroit, for example, we employed visiting nurses to make a house-to-house canvass, the primary object of which was to spread the gospel of the prevention of tuberculosis, but incidentally to find cases of the disease that had not been reported and refer them to the board of health for further investigation and action. In the case of venereal disease, we can reach some of the cases, and it seems to us that the practice now in vogue in Chicago and reported by Dr. W. A. Evans, namely, to require the reporting of cases of venereal disease by all dispensaries and hospitals, is a good one. There is no reason why this cannot be done in other communities and it is not likely that hospitals and dispensaries would object to such a requirement. Again we know that in nearly all cities there are a number of prostitutes, and in most cities these women are more or less segregated, and we further know that among this class are to be found a large number of cases of venereal disease. It stands to reason, then, that these women, who are plying a lawless vocation, should be made to report the cases of venereal disease that may exist among their number. In making this suggestion we do not intend to recommend the licensing of houses of prostitution and the regular medical inspection of their inmates. We believe, as has been said by Dr. George M. Kober in his paper on "Diseases Which Menace Public Health and Morals," "that such licensing and medical inspection tend to produce a false sense of security, as inspection is insufficient to prove the absence of disease even in the hands of the most skilled." On the other hand, it is possible to secure the reporting of venereal disease among prostitutes by another method, which has been adopted by the Detroit Board of Health. We accept no certificates of good health whatsoever. The keepers of all houses of prostitution, known to the police, have been notified by the latter that inspectors from the board of health will make occasional visits at these houses for the purpose of examining inmates. These visits are made at unannounced and irregular intervals. Whenever an examiner finds one or more of the inmates ill with a venereal (contagious) disease, the house is placarded. We use a large yellow placard with the one word, "quarantined," printed thereon in large, conspicuous black type. If the keeper of the house or her physician reports the case to us before we discover it, we give the patient the alternative of going to the hospital and do not quarantine the house, just the same as if it were a case of some other contagious disease, for example, small-pox, scarlet fever or diphtheria. The effect of this regulation is that the cases are reported, but the machinery necessary to make it a success is a corps of competent medical examiners and proper hospital accommodations. In Detroit it worked out as follows: Shortly after the adoption of the regulation by the board of health, the health officer made a visit to one of these houses and examined the inmates. One woman suffering with gonorrhea was found, the clinical diagnosis being confirmed by a bacteriologic examination. The house was immediately quarantined and the result was that within a week we had reports of at least twenty cases of venereal disease with requests that the patients be removed to the hospital. We found that our hospital facilities were wanting and accordingly began an agitation for an appropriation for this purpose, which was finally granted in the spring of this year and we hope, within the next twelve months, to have hospital facilities sufficient to carry out the plan.

There is another class of cases of venereal disease, gonorrheal vaginitis in young girls, which can be reached. Many of these cases are found in dispensaries and children's hospitals and would be reported under the Chicago plan; many others can be found in the juvenile courts wherever such institutions are in existence. A juvenile court has recently been established in Detroit and by placing a physician at the disposal of the court for the purpose of examining the girls and boys who come under its jurisdiction, a number of cases have been discovered. I desire to say in this connection that the cases of venereal disease among boys have been very few as compared with those found among the girls.

The maintenance of special clinics by the municipality, such as are reported from two cities, is of great value in the control of these diseases. In Detroit and in many other cities the board of health maintains one or more clinics for tuberculosis. In these institutions the cases are found and the opportunity is given to the board of health for a visit to the homes of the patients and the possible discovery of additional cases. It has been our experience that the majority of incipient cases are found in this way. The same opportunity for a visit to the homes and a proper inspection may be had in the case of a special clinic for venereal diseases. We are about to open such a clinic in the Board of Health Building in Detroit and are hopeful of good results.

It is a striking fact that in my correspondence with the health officials of fourteen cities, only one, in his answer, alluded to the damage done the eyes of the new-born by gonorrheal infection. The suggestion comes from Dr. Evans of Chicago that this side of the problem should not be forgotten, and well we know that he is right. To control ophthalmia neonatorum every city should have effective regulations governing midwives and physicians who attend maternity cases, as well as hospitals and institutions in which such patients can be cared for. Special clinics, known as "mothers' clinics," should be maintained and, besides being in charge of a competent physician, they should be equipped with a corps of visiting nurses whose duty it is to make calls at the homes of the babies and, while instructing the mothers in the general hygiene of the child, they should pay particular attention to the care of the eyes.

In conclusion I would make the following recommendations:

1. The inauguration of a campaign of education, in cooperation with a society specially organized for that purpose.
2. The requiring of reporting of all cases of venereal disease by dispensaries, hospitals and juvenile courts.
3. The requiring of the reporting of all cases among prostitutes.
4. The establishment of special clinics under boards of health for the treatment and control of venereal diseases.
5. The enactment of a law requiring the reporting of all cases by physicians.
6. The establishment and maintenance by the municipality of hospitals of sufficient capacity to care for all highly infectious cases.
7. The establishment of laboratory facilities for diagnostic purposes, such as are had for other contagious diseases.
8. The amendment of all birth registration laws so that births are required to be reported within twenty-four hours.
9. The enactment of laws or regulations for the control of midwives and physicians who attend maternity cases.
10. The enactment of laws requiring the reporting of specifically infected eyes.

Guy L. Kiefer, M.D.,
Health Officer, Detroit.

I concur in Dr. Kiefer's recommendations.

George W. Kober, M.D., Washington, D. C.

ABSTRACT OF DISCUSSION

ON REPORT OF DRS. KIEFER AND KOBER AND PAPERS OF DRS. GREENE AND EATON *

Dr. Herbert Gunn, San Francisco: As chairman of the Committee of Public Health of the County Medical Society of San Francisco, I had occasion to look into this subject very thoroughly. We were asked to pass judgment on it, which later on was deferred; but I took the trouble to go to the venereal disease clinic established in San Francisco, as described in Dr. Eaton's paper, frequently during that time, and also to go around at night with the plain clothes policemen who were in charge of the work under the supervision of inspectors of the clinic. I know, from personal observation, that a definite work is being accomplished there. They have under the control of the clinic now several hundred women; many of those found infected have been checked up in their homes or their places of business, at various hours of the day and night, and it has been found that a great many of them are really not doing work when they have been told not to do it. The madam in charge of them, in instances in which they are in regular houses, cannot afford to allow them to do it, because the houses are put out of business for a week on the first offense, or permanently if repeated. One woman was sent to the county jail for sixty days for having disobeyed the orders of the clinician; so that many of them are afraid to disobey. The only thing which I could see which would greatly improve the work would be the absolute segregation of prostitutes. Were this possible they could be controlled very much better than they can now. The greatest difficulty is encountered in dealing with the women in cafés or dance halls—women who live, possibly, in apartments and go to these cafés to pick up customers whom they take to a transient hotel, subsequently returning to their apartments. These women are very hard to control, because they move around constantly. I believe, however, that quite a number of them are going to the clinic, while some have either left town or stopped doing work when they were ordered to appear for examination.

As far as the matter of education is concerned, and the dissemination of knowledge on this subject, I think that the establishment of the clinic in San Francisco has done more in that line than anything that was said or done by any of the societies of California prior to its establishment. Every business man in San Francisco at the present time is perfectly familiar with the subject; they are talking about it, and the majority of them, I believe, are in favor of it.

As far as the success of *réglementation* or segregation and the regulation of prostitution is concerned, it is not a failure in all parts of the world; and, furthermore, if it were, is that any reason why it should not be tried again if no better working plan can be devised? In Manila the plan of segregation and inspection has been carried out thoroughly and successfully. The percentage of venereal disease there has materially decreased. Years ago, when I was in the Army, Manila was one of the worst infected cities in the world. Even then, I saw examples on a small scale of segregation and regulation in army posts. In one regiment, nearly 900 strong, over 400 had venereal disease. In one company there were thirty cases of syphilis, nearly all originating from one woman.

The smaller the town the less the difficulty there would be in controlling prostitution. In the larger cities the difficulties are considerable, especially in San Francisco. In the valley towns of California, for instance, it could be carried on with very little difficulty, because practically every prostitute would be known by everyone in town, so they could be readily controlled.

It is said that venereal diseases should be treated the same as other infectious diseases. Why not treat them as smallpox is treated? In San Francisco patients with small-pox are either quarantined in the house or sent to the hospital; they are immediately isolated and compelled to be under observation; exactly as they are doing with venereal diseases, as far as possible. True, they cannot control them entirely, but if we, as physicians, or people, as business men, found that expenses could be decreased 10 per cent., would the opportunity not be embraced? If we could reduce a typhoid epidemic 10 to 15 per cent., we would think we were doing a good deal. Exactly the same with this: if you can control a small part of it, you have done something. If this clinic does no more than save one or two a month from developing syphilis it is accomplishing a good work.

Dr. Frances M. Greene, Cambridge, Mass.: When I first went to the laboratory of our great master, Rudolf Virchow, I was going to do more than anybody else ever did. I began at the beginning and worked for several weeks with might and main. Then the Geheimrath came to me and said: "Now, my child, when you begin to do a scientific work, the first thing for you to do is to find out what was done before, and if it was done, and well done, by reputable scientists; begin where they left off, but do not waste your time in doing the things that have already been well done." That is exactly what is being done in San Francisco to-day. It is a great paradox. Directly following the passing of one of the sanest laws—we are the one race that has had the courage to put these diseases where they belong, with other infectious diseases—we go back 100 years and begin where Napoleon began in France—trying to segregate the prostitute and control venereal disease in that way. Dr. Nevins, an English authority, calls attention to the fact that venereal disease of all kinds throughout the whole home Army, and also primary disease in the Army stations under *réglementation* (that is, under the contagious disease acts) show the same results—a large reduction of disease for six years before *réglementation*, under the influence of sanitary, social and moral agencies with the object of raising the character of the men. These agencies were still sporadic when *réglementation* was tried; and the disease still continued to fall, but at a low proportionate rate. The government, dissatisfied with comparative failure, stopped the pay of the men, sent them to the hospital for primary diseases, and the men ceased to report to the Army doctors. Hence the published statistics of the disease were unreliable owing to the amendment.

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* The paper by Dr. G. L. Eaton, San Francisco, describing the attempts at regulation carried on in that city, is not yet published. The entire discussion is given here, however, following the remainder of the symposium.

It is a well-known fact that there are constant oscillations in this matter of venereal disease in all countries, whether they are under *réglementation* or not. In 1883 *réglementation* was suspended; that is, the theoretical examination of the women at a certain time when the soldiers were returning from Egypt, bringing a great deal of disease, and the figures rose for those two years. In 1886 parliament absolutely abolished *réglementation*, and venereal disease began to fall largely and steadily from 275 per thousand to 140 per thousand during the twelve years of abolition. In India there was a steady fall for seven years before regulation. After the introduction it went on falling, and then it rose again for nine years, at the end of which time, as in the beginning, it rose steadily; and at the end of twenty-one years it was twice as high as in the beginning.

Denmark had regulation eighteen years—1874 to 1891. During the first six years the army at Copenhagen showed sixteen cases to a thousand; during the last six years it showed 201 per thousand under regulation. The Dutch East India army under regulation showed 443 per thousand; the English in India at the same time, without regulation, showed 425 per thousand.

Now, it is an absolute fact, declared by every known specialist on venereal disease, that you cannot always diagnose a gonococcus infection, and that you cannot possibly control women by examining them, for this reason: these diseases may be passed by the vagina, even if the woman has no disease whatever. Here are the statistics in the British camp at Aldershot: In 15,000 men, among whom there was general inspection, Mr. Lawson found twenty-three per thousand in one regiment; 142 in another; and all of them under exactly the same regulation. In the English army, therefore, in order to investigate this matter, fourteen stations were selected and fourteen left without *réglementation* as an experiment; the lowest in the whole twenty-eight was in a camp in which there was no regulation. The same occurred in Holland and in Denmark. Pearson of Holland says that in certain cases women absolutely without disease would pass it on from man to man. At Hardwicke, in Holland, the women of the two houses of prostitution were rarely seen, but the numbers were enormous that had venereal disease, which went up to eighty-seven per thousand. In the Franco-Prussian war, at one place there were 200 women who were thoroughly examined, as they thought, but the hospital was filled with soldiers with venereal disease. They examined these women and found only one or two cases of disease in the whole 200.

The greatest of all specialists on this question, M. Fournier of Paris, says: "We cannot do *réglementation* well. It is impossible." They have had a commission there for years trying to better the conditions, but he shrugs his shoulders, as a Frenchman would, and says: "*Réglementation* may do a little good; but we have no right to do that little good, because we are doing a great deal more harm than that little does good."

What do you suppose it means in San Francisco to let our youth know that prostitutes are being inspected? These young, sincere and enthusiastic physicians who are trying to do it present their first statistics and declare that they have the diseases under control. What does it mean? That they say to the young boys in San Francisco: "It's all right, boys. Go ahead!"

In Berlin there are 5,000 prostitutes under absolute control. Do we hope, could we hope, in San Francisco, under a mayor who declares absolutely that the town is "open," who has opened every dive that a former good administration closed; who will not allow any measures to be used against dance halls—can we hope to make that police sufficiently conscientious to drag those women to the courts; and, after all, have we any right to drag those women? None whatever. None, more than we have to drag the men. But we can interpret the wise law which the State Board of Health has formulated. We may not get every case; but we must make every one, the prostitute as well as the non-prostitute, the men as well as the women, amenable to the law.

In Norway there is no objection to clinics; they have three; and while there are 5,000 legalized prostitutes there, they treat some 20,000 to 30,000 women every year, and men as well; and it is only in this absolutely just and sane way of treating the matter that we can hope to make any real progress. We must not assume from little sporadic indications that we have done it all; the thing that has existed for so many decades cannot be cured in three months!

Dr. W. F. Snow, Sacramento: We have in California a number of very interesting plans which are being tried out in the way of control of syphilis and gonococcus infections. Los Angeles is at one extreme of the problem and San Francisco at the other, with the State Board of Health trying to begin somewhere in the middle. Education of the people is the only thing which is going to help us permanently make progress on this problem, and I believe that the control of marriage is more important than the control of prostitution. The accurate reporting of syphilis and gonococcus infections cannot be overestimated. In California we now have a state law requiring syphilis and gonococcus infections to be reported. I supposed that it would be rather slow work getting reports from physicians, but it is not so. They are beginning voluntarily to report before our board has even had time to draft an explanatory letter stating what we wish on this subject.

We should make these diseases reportable by law in every state and city. I think we can do it without in any way involving the professional confidence between physicians and their patients; and I believe we can build on that, as Detroit has done, in an administrative way. I think, secondly, we should work for better laws controlling marriage and prostitution; thirdly, we should unquestionably come out in the open, as men and women, and discuss these things on a high and practical basis, and educate every boy and and (I want specially to emphasize this) every girl, with reference to the physiology and the hygiene of sex.

Here in California, as I said yesterday, over 85 per cent. of our children leave the schools when they are 15 years of age. Who helps them with this problem? Their parents do not. Their parents have not been taught how to help them wisely; our schools give them practically no instruction on this subject. Who helps them in that period of awakening passions, from the age of 15 to 27, when our young men in this state and the United States as a whole marry? Who tells them of the dangers of visiting the "red-light" districts? No one. I think we, as citizens of the United States, owe it to these young people from the age of 15 to 27 that they should know about the dangers of these communicable diseases, the facts of sex hygiene and physiology, and the sacredness of marriage, that in their time they may come to realize that greatest of all human blessings, a happy home and family.

Dr. E. Stuver, Fort Collins, Colo.: We have done a great deal in the last few years in the attempt to stamp out tuberculosis and to educate the people as to the dangers following from this disease. I believe that venereal diseases to-day are causing a great deal more trouble, sorrow and death in this world than is tuberculosis; and I believe that we should devote as much or more time to the stamping out of these diseases as we devote to that of tuberculosis.

I fully believe that every case of venereal disease should be reported. About sixteen years ago I read a paper before the Colorado Medical Society advocating the reporting of these diseases and the isolation of those affected with them in special hospitals for that purpose. To me, the most important thing in connection with the prevention and control of venereal diseases is education. I believe that we, in the reading of papers, speaking in discussions, and all that sort of thing, at our meetings, should do that; and not only that, but we should go back home to our several communities and constitute ourselves a committee of one and carry this expression to the people who are under our charge. I believe that every physician here, by approaching the director of the Y. M. C. A., the superintendent of the schools, or in other ways, could have the privilege of educating the people of his community.

During the last couple of years I have delivered a course of lectures to the boys of our Y. M. C. A. on this very subject. I have also given a couple of lectures to the nurses in our training school on the subject, because no one is more exposed to the dangers of venereal infection than the nurse. By this individual enthusiastic work on the part of every physician in the country we could soon so arouse the people that they would say that venereal diseases must be controlled. I do not say stamped out, because I do not believe, as long as human nature is constituted as it is, that we will be able to stamp out venereal disease; but I do believe that we can place it under such control that the innocent will be protected and there will be no necessity for anybody being ignorant on the subject. And, as before stated, nearly all the young boys and girls at the present time are really ignorant on this exceedingly important subject.

Dr. S. A. Knopf, New York: The control of syphilis and venereal diseases in general, as has been outlined by the preceding speakers, I most highly approve of. There is, however, one phase which should not be forgotten. That is to say, every city should do as New York has done—have an open house for the girl who wishes to leave that life. We have in New York such a house; we call it simply Waverley House, not Magdalene Home. We do not like that name. We let every girl who voluntarily wishes to return to a proper life enter there; no questions are asked. Most of our judges, when about to sentence a girl who has come up for the first or even a second time for soliciting, give her a chance to go to this probation or Waverley House and be under the care of a probation officer. Last year no less than one-third of all the girls received at that home returned to society as honest members. They have left their life of sorrow and shame voluntarily; they have returned to their parents, have been given positions, or have been provided a trade, so that they can now earn an honest living. The society providing this home for the unfortunate girl is incorporated under the laws of the State of New York, and the best men and women of the community are interested in its work and help to maintain it.

Therapeutics

ASPHYXIA

By asphyxia is commonly understood "a state of suspended animation caused by impeded respiration, as by strangulation, smothering, submersion, or the inhalation of an irrespirable gas" ("Foster's Medical Dictionary"). To these conditions should be added asphyxia due to electric shock or lightning stroke.

Asphyxia is one of the grave surgical emergencies which demands instant action by anyone present who knows what to do. Every physician should be conversant with the best methods to employ in treating patients in this condition. Its importance is equaled only by another grave surgical emergency, that of hemorrhage from a large vessel.

The forms of asphyxia which we are most likely to encounter are that of the new-born, that which is present in drowning, that which occasionally occurs during the administration of an anesthetic, and that due to the effect of electricity or lightning.

ASPHYXIA NEONATORUM

This condition is one which every obstetrician should be prepared to treat promptly. In milder degrees it occurs in a large proportion of deliveries. In its more severe forms it fortunately is less common.

The more common causes of the condition are premature detachment of the placenta, prolapse of the umbilical cord, excessive use of chloroform, of chloral, or of morphin administered to the mother to diminish the pain of labor, or large doses of ergot given during the second stage of labor to increase the contraction of the uterus, extreme compression of the head of the child owing to unusually severe contractions of the uterus separated by brief intervals, obstruction to the passage of the head by narrowness of the pelvis, compression of the head by unskilful delivery with forceps, compression of the after-coming head in the delivery of breech cases, and compression of the cord through its being wound around the child's neck, or through its being drawn into a knot.

The preventive treatment naturally is based on a consideration of these causes. In instrumental delivery great pressure on the head of the child should be avoided, and the traction should be made intermittent and not continuous. If there is prolapse of the umbilical cord, it should be replaced, the woman placed in the knee-chest position, and every effort made to retain it until the head has become engaged at the brim of the pelvis. In all severe labors preparation should be made before the birth of the child to apply suitable treatment in case it should be born in a condition of asphyxia. These preparations should include a baby's bath tub with a supply of warm water conveniently at hand, a bowl of cold water, a warm woolen blanket, small pieces of gauze, a bottle of aromatic spirits of ammonia, a bottle of whiskey and a hypodermic syringe.

As soon as the child is born it should be promptly slapped repeatedly on the buttocks and back. The mouth and throat should be wiped out with a piece of gauze so as to clear out any blood, mucus or amniotic fluid which may be there. If this does not promote the reflex action of breathing, the cord should be felt to see if it is pulsating.

By this time one has had an opportunity to inspect the surface of the child to see whether the condition is one of *asphyxia livida*, in which the skin is congested and livid and the reflexes are maintained; or whether the condition present is *asphyxia pallida*, in which the surface is pale and cold, the muscles are relaxed, and the reflexes are absent. The treatment should vary somewhat according to which of these two conditions is present.

If the condition is one of *asphyxia livida*, with congestion of the skin, there is some difference of opinion as to whether the cord, if it is pulsating, should be at once cut and a small amount of blood allowed to escape, or whether it should not be cut until later. Probably it is wiser to postpone this for five or ten minutes. In the meantime the child should be grasped by its feet in the left hand of the physician and held in an inverted position while several light blows are administered on the buttocks, shoulders and chest, in order, if possible, to expel any more blood or mucus which may be in the larynx and trachea. This position should be maintained for only a few seconds.

Next, the Byrd Dewey method of artificial respiration should be tried. This consists in placing the palm and fingers of the right hand under the child's shoulders while the index finger and thumb support its head, the left hand being placed under the hips. With the child in this position, by raising the radial sides of the hands, the legs and knees of the child are brought up onto its chest and the chest is compressed so that the air is expelled; then reversing this position and allowing the head and shoulders to fall backward, the chest is expanded and the air drawn in. These maneuvers should be repeated at intervals of about five seconds, so that the procedure will be repeated from ten to fourteen times in a minute. If the cord is of average length, this can be done before the cord is cut.

If the cord has not been cut before, it should be now, and the child at once placed in a tub in which water of a temperature between 100 and 105 F. has been placed. This will promote the circulation in the skin and prevent the body from being chilled, and further treatment may be carried out.

The next method of encouraging respiration is that known as the method of Laborde. This consists in grasping the tip of the tongue either with the thumb and finger, with the aid of a piece of gauze, or with forceps, and drawing it forward and then letting it fall backward. This should be repeated from ten to fourteen times in a minute, and may be continued for one or two minutes. While this is being done the child should lie with the head drawn slightly backward, or on one side.

If the child does not breathe by this time, it is well to take it out of the warm water and plunge it into a bowl of cool water of a temperature of from 65 to 75 F. It should be allowed to remain here but a few seconds, and then placed back in the warm water. In the meantime it should be vigorously rubbed, but at the same time caution should be used not to rub it harshly for fear of doing serious damage to the skin.

In some cases it has been found that inserting the tip of the little finger into the anus will stimulate the reflex action of breathing.

Another method not infrequently employed is that known as the method of Schulze, which consists in standing back of the child, placing the palmar surfaces of the three outer fingers under its shoulders, the index finger of each hand under the axilla, and the thumbs on the chest, with the ball of the thumb resting on each side of the child's head. The physician thus grasping the child and then standing erect, gradually swings the child forward and upward in front of himself until it is above his head. In this position the child's thighs and legs fall against its chest, which is thereby compressed and the air forced out. Then swinging the child back into the original position, the chest is expanded, and the air enters. This may be repeated at intervals of five or six seconds, so that it will be done from ten to fourteen times in a minute. This is a method which presents more or less of the appearance of violence, and hence it is not always practicable to do it in the presence of the friends of the patient. It should also not be practiced if there are fractures of any of the bones, or if the child is especially feeble, or has been born prematurely.

If difficulty has been experienced in clearing the larynx and trachea of mucus, a small soft catheter may be inserted through the larynx into the trachea, and any mucus present drawn out, either by the physician himself or with the aid of a syringe or aspirator.

If other methods fail, it is recommended to blow air into the lungs of the child. This may be done by the so-called mouth-to-mouth method in which, a piece of gauze being placed over the mouth of the child, the physician filling his cheeks with air expels it into the mouth of the child, at the same time holding the child's nose. This method is somewhat inexact, as much of the air frequently goes into the stomach, but some of it goes into the lungs, if they are not already distended. After blowing air into the lungs, the chest should be compressed so as to drive it out again.

A few drops of ammonia on a piece of linen may be held under the child's nose, but not too closely, with the hope that this will stimulate respiration and, as it sometimes does, muscular contraction.

A hypodermic injection of 8 to 10 drops of whiskey is frequently recommended. Other things recommended are a hypodermic injection of a drop of tincture of belladonna or 1/1,000 of a grain of strychnin.

If by the time all these methods have been tried the child has not commenced to breathe, the physician naturally wonders how long he ought to continue his efforts. The answer to this question depends largely on the condition of the heart. He should continue efforts at artificial respiration and external stimulation as long as the heart beats. After it has been impossible for five minutes to detect any pulsation of the heart, it is useless to continue any further efforts at resuscitation.

If the efforts have been successful and the child commences to breathe, even if the breaths are taken at long intervals, one should avoid an over-anxiety in interfering with the natural performance of the function by the child. Once it has begun to breathe it probably will continue to breathe and the breaths will increase in depth and frequency until they become normal.

Turning now to the other class of asphyxia neonatorum, viz., *asphyxia pallida*, in which the reflexes are absent and the heart is weak; if the cord is not pulsating, it should be immediately cut and the child placed in a tub of warm water. If, however, it is pulsating the child should not be separated from the mother until the pulsation has ceased. The same methods are applicable in these cases as in the others, except that the more violent ones had better be omitted and all the efforts concentrated on the employment of the milder methods, especially the rhythmical traction of the tongue as practiced by Laborde. Especially is it important to maintain the temperature of the child, and the water in the warm bath should be maintained at a temperature of 100 or a little higher by adding fresh warm water as fast as the water in the tub becomes cool.

After the child has gained the ability to breathe regularly it should be carefully watched for several days, for if there has been difficulty in relieving the asphyxia, there is danger that it will become feeble and die in the course of a few days. It should be well wrapped up, and the external heat should be maintained. Whiskey may be given in doses of from 3 to 5 drops every two hours. The milk should be drawn from the mother's breast and fed to it with a medicine dropper, if it is not able to take hold of the breast and draw for itself.

(To be continued)

Martyrs of Science.—Unhappily every important new development in human knowledge brings its martyrs. When Langerhans, in 1896, lost his 2-year-old son—the first definitely recorded death following the use of serum—ignorance and wilful prejudice sought to attribute it to antitoxin. No one was yet sufficiently alert to see the great significance to humanity of the phenomenon that most likely was the cause of this pitiful sacrifice.—R. G. Eccles in *Medical Record*.

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THE ACTION OF TROPICAL SUNLIGHT

Modern investigation of tropical diseases has been so successful that in our enthusiasm we are apt to consider these as the only influences deleterious to life in warmer climates. It must be remembered, however, that the physical peculiarities of the tropics also have their effect on the animal economy—an effect the exact importance of which it is difficult to estimate. These various physical factors of a tropical climate are being studied, and Aron[1] in recent articles gives the results of his investigations on the effect of tropical sunlight on the living organism.

It is obvious that sunlight in equatorial and subequatorial regions will be more potent than that of more temperate zones; for not only does the perpendicular course of the rays make the intervening protective layer of the atmosphere relatively thinner, but it also results in a greater intensity of illumination for any exposed area. The actual occurrence of this greater power is readily shown by measurement of the chemical activity of tropical sunlight as compared with that of colder latitudes; and, possibly as a result of such experiments, the idea has been prevalent that the harmful effect of sunlight is primarily due to the chemically active (actinic) rays. It was because of this idea that orange-colored underwear was tried on soldiers in the Philippines—an experiment that, as is well known, was unsuccessful. The other view, that it is the infra-red heat rays that are most powerful for harm, is held by Aron, and he advances experimental evidence in its support.

In the temperature regulation of a normal isothermic animal, two opposite tendencies are constantly closely balanced, heat production and absorption being neutralized by various devices for giving off heat. Should the production or absorption of heat reach a point beyond the compensating powers of the eliminating mechanism, or should this latter for any reason fail to act properly, heat is retained in the body, and a rise of temperature follows. Thus, if a dead animal, in which the heat dissipating devices are of course inactive, be hung in the warm sunlight, its superficial temperature will rise rapidly, and its deep, rectal temperature will rise also, but more slowly. A living animal, on the other hand, while absorbing heat at the same rate, will avoid its retention by increased elimination, with the result that the surface rise will be unaccompanied by the increase of deep temperature. So, for instance, a dog in these circumstances may attain a surface temperature of over 104 F., while the rectal temperature will not have risen beyond 101 or 102. But its rapid respiration and lolling tongue will give evidence of the means taken to attain this result. If the dog be tracheotomized, so as to cut off this method of heat dissipation, rectal and subcutaneous temperature will both rise, and the animal will rapidly succumb. The magnitude of the heat elimination by vaporization of body secretions may be judged by the fact that rabbits in the sunlight were found to lose in this way from six to seven times as much weight as their sheltered fellows.

The most interesting results were obtained with apes. In these, the superficial temperature is normally ½ to 1 degree lower than the deep temperature, but on exposure, if only for a few minutes, to sunlight, this relation became reversed; if exposed long enough to cause death —which takes only a short time for these animals—the superficial temperature exceeded the deep by one-half a degree. Shaving the animals emphasized these differences, and shortened the fatal period markedly. If a current of air was kept in circulation over the exposed animal, however, it became capable of resisting the action of the sunlight indefinitely. Conclusive evidence against the supposed direct action of the actinic rays on the meninges was afforded by a simple experiment. An ape was encased in a double-wall box in such a way as to expose its head only to sunlight. Absolutely no harm resulted to the animal, although a superficial scalp temperature of 116.5 F. was attained.

The effect of sunlight on human beings was also studied. The normal human superficial temperature was found to range from 90 to 92 degrees F., but on exposure to sunlight this rose rapidly to 96 and 97 degrees. Farther exposure resulted not in farther rise, but in an actual drop of one-half or one degree, coinciding more or less closely with the appearance of perspiration. With muscular exertion, this fall was both greater and more rapid. In general, colored individuals did not attain as high superficial temperatures as did the whites, although from the greater absorptive powers of pigmented skin the reverse would be expected. This Aron believes to be due to the earlier onset of perspiration, possibly occasioned in part by the greater heat absorption. Visible perspiration, however, is less marked in colored than in white races, but as he points out, it is the invisible, vaporized perspiration that is effective in temperature reduction, and there is a distinct possibility of "economy of sweat" in races habitually requiring its protective influence. Aside from this, colored individuals have an advantage in their ability to go uncovered without danger of the painful solar dermatitis to which whites are so subject.

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[1] Berl. klin. Wchnschr., 1911, xlviii, 1115; Philippine Journal of Science, April, 1911.

The chief importance of Aron's work lies in its overthrow of the "actinic theory" of solar action. It is obvious that this more correct knowledge of the effect of the sun's rays makes possible the adoption of rational means of protection against them, and so affords an additional step toward increasing the habitability of the tropics for races of northern origin.

ORGANIC MATTER IN EXPIRED AIR

Most of us are aware by experience of the acute discomfort that may be caused by continued reinspiration of expired air. And the assurance of experimenters in this field that this is mainly the result of the unduly high temperature and moisture content of the air has scarcely seemed adequate to explain a phenomenon so pronounced. Indeed, aside from the testimony of everyday experience, the evidence as to the toxicity of impure air is itself of a most contradictory character. Thus, while Hammond, Brown-Séquard and d'Arsonval, and Davis secured results pointing unmistakably toward such toxic action, a considerable number of other observers, some of them duplicating the methods of Brown-Séquard and his fellow workers, have come to the opposite conclusion. It has been shown with practical certainty that air expired during normal quiet respiration is almost wholly free from microorganisms, so that in the absence of droplet infection any immediately harmful effects of impure air can scarcely be ascribed to bacterial contamination; and with the failure to demonstrate other impurities, the assumption that it is entirely the moisture and temperature of expired air that produce discomfort, has reached wide-spread acceptation.

In view of this conclusion, much interest attaches to recent work by Rosenau and Amoss,[1] in which they have apparently found in used air, by means of the anaphyactic reaction, minute quantities of organic matter. Their method was to collect the condensed vapors from human breath, to inject these into guinea-pigs, and after a suitable interval, to reinject these animals with small quantities of human serum. In all, ninety-nine animals were so tested in twenty-five different experiments, and of these twenty-six gave definite evidence of an anaphyactic reaction. The experiments were carefully conrolled bacteriologically. Unfortunately no description of the methods followed in collecting the air, beyond iagrams of the apparatus used, is given, and there is a possible doubt as to the freedom of the condensed vapors rom contamination with material mechanically carried ver. It is true that as a control on this possibility, a umber of guinea-pigs were tested similarly with human aliva, with negative resnlts; but it is difficult to undertand why saliva, which would apparently be saturated with air and whatever impurities might be in the air, hould fail to give the same reaction as the condensed apors.

While it would seem that further work might be desirable to establish beyond doubt the presence of organic matter in expired air, it is evident that the results just presented, if so confirmed, will be of marked interest and value. For although no evidence has been adduced as to the toxic character of the organic matter, the mere demonstration of its presence is a marked advance on our present knowledge of the action of impure air. It would seem also, as Rosenau and Amoss point out, to clear up the problem of the anaphylactic reaction sometimes observed after the first injection of foreign serum, particularly diphtheria antitoxin. And finally, it would serve as an instance of a phenomenon hitherto wholly unsuspected—the volatilization, or gaseous solution, of a substance of the complex composition and high molecular weight of the proteins.

THE CHARGE AGAINST DR. WILEY

III.—THE DENVER MEETING

While the decision of the President disposes of the charges and completely vindicates Dr. Wiley, the evidence presented before the congressional committee is so interesting and illuminating on other subjects that we continue to present to our readers extracts from this testimony.

This week, these extracts relate to the meeting of the Association of State and National Food and Dairy Departments in Denver, in 1909. At the previous meeting, at Mackinac Island, in 1908, resolutions had been adopted deploring the failure of the Secretary of Agriculture to cooperate with the state food departments in the development of uniform standards and the enforcement of pure food laws. At the same meeting, the retiring president, Prof. E. F. Ladd of North Dakota, in his presidential address, referred to the Remsen board as a "specially constituted board of doubtful constitutionality," standing between Dr. Wiley and "the interests." He emphasized the need of uniform standards for the proper enforcement of state and national food laws and deplored the lack of cooperation between the state authorities and the Department of Agriculture. Furthermore, a few weeks before the Denver meeting, the American Medical Association had adopted resolutions urging Congress to amend the Food and Drugs Act so as to prohibit the use of benzoate of soda as a preservative.

The Denver meeting was selected by the reactionaries and the manufacturers of adulterated food products as an opportunity to counteract the rapidly growing sentiment against the use of preservatives in foods. The testimony shows, what has long been popular knowledge, that every effort was made by the Secretary and by many employees of the Department of Agriculture to control the meeting. It should have been a dignified gathering of representative scientific men, deliberating on ways and means of enforcing the pure food laws for the protection of the people. It degenerated into a semipolitical

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[1] Jour. of Med. Res., 1911, xxv, 35.

Donnybrook fair, in which any means were used to secure and to retain votes. Solicitor McCabe's testimony shows that he was not only present at the head of the delegation from the Department of Agriculture, but that, several weeks before the meeting, he went West to round up as many votes as possible to back up the referee board and to discredit Dr. Wiley. McCabe says, "I interviewed every man I met that would probably come to the convention and I asked every man of that kind I met to uphold the department when he got there." The Remsen board, which had been conveniently sent to California, stopped at Denver on the way East, and so was present at the meeting. Professor Remsen says that the board was "requested," and not "directed," to attend the Denver meeting, but Secretary Wilson's formal letter of Aug. 6, 1909, sounds strangely like an order. Professor Remsen says in his letter of June 30, 1909, that the board is "anxious . . . to get things on a solid, scientific, common-sense basis." This was a highly commendable attitude on the part of the Referee Board, but if the question was to be settled on a scientific basis, where was the necessity of McCabe's electioneering activities? When have scientific men settled doubtful questions by popular vote and by political methods rather than by carefully considered evidence?

It also seemed odd at the time, and even at this late day it reads strangely, that, in spite of the presence at this meeting of scientific men, of the Secretary of Agriculture, a member of the official family of the President of the United States, of the entire Referee Board, of several employees of the Department of Agriculture, to say nothing of swarms of lobbyists and agents of borax companies and catsup manufacturers—in spite of all this assistance for the establishment of a scientific truth, benzoate of soda was "vindicated" by the vote of nineteen states to fourteen states, with three not voting. Rather a barren victory for a "scientific proposition."

The Denver meeting has passed into history. Some of those who attended this meeting and participated in its deliberations doubtless thought, when the meeting adjourned, that the benzoate question was settled and would return no more to annoy them. But, alas, two years later, all the details of this meeting and of the "scientific" way in which this question was settled, are brought out before a congressional committee. Nor is this all. Unless the leaders of the Democratic majority in the Lower House are blind to a great opportunity to act for the public good, next winter will see the same question again ventilated on the floor of Congress. *Hæc fabula docet* that a question is never settled until it is settled right.

IV.—THE CASE OF DR. ROBISON

Probably the most incredible single act disclosed by the hearing before the congressional committee was the treatment of Dr. Robison of Michigan by the Secretary of Agriculture. Dr. Robison, formerly State Chemist for Michigan, was duly appointed on a per-diem basis as a civil-service employee of the United States Department of Agriculture in 1907. In other words, he wa not permanently employed, but worked when called o and was paid for the time he worked. In 1909, he wen to the Denver meeting of the Association of State an National Food and Dairy Departments as one of th representatives of his state. He received no pay from the Department of Agriculture for his expenses. H was not, at that time, drawing any salary from th federal government. He attended as a scientific man representing a state government, and presumably fre to hold any opinion on any question which might com before the meeting. He was appointed by the presiden of the Association of State and National Food and Dair Departments as the chairman of a committee of eleve state food chemists to prepare a report on benzoate o soda. On this committee he represented the state o Michigan and not the Department of Agriculture. Thi committee prepared a report which "respectfully sug gests to the President of the United States and th honorable Secretary of Agriculture to institute investiga tions along some such broader lines as indicated above. This is one of the offenses for which Dr. Robison wa summarily discharged.

Dr. Robison's second offense was that he did no vote for the candidate for president of the associatio favored by Secretary Wilson. On this point, Dr. Robi son says (letter to Secretary Wilson, Aug. 4, 1911) "My own state had a candidate for the same position and inasmuch as I did not represent your departmen or draw either salary or expenses from it, I felt it my duty to support the candidate from my own state."

The third and apparently the most serious offense Dr. Robison was summoned as a witness in the Indian case. He was not at this time drawing a salary from the United States government. His expenses were paid by the Indiana State Board of Health. He was paid nothing for his time. He says, "I testified according to the truth, as I understood it to be and had found it from my own investigations and according to my oath, and without any regard in any capacity to any other policy." Secretary Wilson said: "You appeared . . . in opposition to the policies of the administration with regard to the reports of the Referee Board on benzoate of soda and the report of the three secretaries with regard to it."

Secretary Wilson, explaining his summary discharge of Dr. Robison, said: "I do not propose to have subordi nates in my department going off on tangents that are against the decisions of the three secretaries and myself and all that, after we have gone to the expense of hiring such noted experts and scientists as we did to make up that Referee Board. I propose that gentlemen will work in line or keep still about it."

In such ways and by such methods, has the Department of Agriculture sought to enforce its opinions regarding benzoate of soda. We reproduce (pages 1071-1072) practically all of Dr. Robison's testimony since we believe it will prove instructive and interesting.

Current Comment

DR. WILEY EXONERATED

President Taft has exonerated Dr. Wiley of the charge preferred against him. In doing so, he has given official voice to the verdict already rendered by the American press and people. If the attack against Dr. Wiley were a mere personal fight, The Journal could allow the matter to rest here; but it was a principle, not a man, that was at stake. Dr. Wiley's enemies are opposed to him because he represents a principle—that of protection to the consumer. They would be equally antagonistic to any other individual holding the same position and actuated by the same ideas. For this reason we continue to publish the testimony that was given before the congressional committee. The evidence that was given there is of value because, for an all-too-brief space, the curtain was partly drawn aside and the pernicious activity of those interests that are arrayed against the public health was disclosed. Of the venomous and harassing tactics of McCabe and the sycophantic attitude of Dunlap in the carefully laid plot to depose Dr. Wiley, the President says nothing—at present. He does indeed hint that the demoralized condition of the Department of Agriculture will call for executive action: "The broader issues raised by the investigation, which form a much weightier relation than this one to the general efficiency of the department, may require much more radical action than the question I have considered and decided." If by these words President Taft means that he will, at the earliest convenient opportunity, sever the connection of McCabe and Dunlap with the government, he will find that he is merely expressing the opinion of the American people as to what should be done in this matter. Meanwhile, congratulations are due to the President on the wisdom of his decision, to Dr. Wiley, on being exonerated from the malicious and unfounded charge, and to the people of the United States, because they still have Dr. Wiley to stand between them and the food adulterators.

ALBRECHT KOSSEL

The series of lectures which is supported at Johns Hopkins by the endowment of the late Dr. Christian Herter, will this year be given by Prof. Albrecht Kossel, professor of physiologic chemistry at the University of Heidelberg. In 1910 Professor Kossel was awarded the Nobel prize in medicine in recognition of his researches on the composition of the constituents of the nuclei of cells, especially on the nucleins and their components, a summary of which is given in his address on "Die chemische Beschaffenheit des Zellkerns,"[1] delivered at the time of the award of this prize. Kossel's studies are of fundamental importance in biologic chemistry, and the award of the highest honor in medicine was richly deserved and universally approved, although as yet the results of his work have not found direct application in the practice of medicine. He had already made extensive and productive investigations into the composition of the proteins at the time when Emil Fischer, turning aside from his triumphs in the chemistry of the purins and of the carbohydrates, introduced new methods for the isolation of the constituents of the protein molecule and with swift strides dominated this field. While Fischer's work added especially to our knowledge of the mono-amino-acids of proteins, Kossel placed on a firm footing the study of the diamino-acids, which occur in especially large proportions in the nuclear proteins of germinating cells. The simplest proteins known, the protamins, consist chiefly of the diamino-acids, and so prominent and constant a part of all proteins is formed by one of these diamino-acids, arginin, that Kossel advanced the hypothesis of an arginin nucleus for all protein molecules. With his students Kossel has also made extensive investigations on the non-protein elements of nuclear material, namely, the purins, the pyrimidins and the carbohydrate radicals. To the many American students in Heidelberg Professor Kossel is known as a most interesting and lucid lecturer on a difficult topic, and he will find in America many old pupils not only in the science faculties, but also among practicing physicians.

SECTARIAN LICENSING BOARDS—AN OBJECT-LESSON IN PENNSYLVANIA

It has been repeatedly asserted that higher standards of medical licensure will not be uniformly effective so long as the enforcement of such standards depends on different boards representing and favoring different medical sects. That such an arrangement provides makeshifts whereby unfit candidates are enabled to secure licenses has long been known; Pennsylvania has demonstrated this very effectually. In that state responsibility for the enforcement of the medical practice act was parceled out to three separate boards, regular, homeopathic and eclectic. As may be noted in the report of the last examination, published this week,[1] out of forty-one candidates examined by the eclectic board only seven were graduates of eclectic colleges and two held diplomas from a nondescript institution, while thirty-two, or 78 per cent., were graduates of so-called regular medical colleges! Of these thirty-two, it also should be noted, twenty-five were graduates of a single medical school, rated in Class C by the Council on Medical Education — the Maryland Medical College of Baltimore. Further, official reports show that during the last three and a half years only seventeen graduates of eclectic colleges have been examined by the Eclectic Board of Pennsylvania and every one of these seventeen passed and received a license to practice medicine; during the same period, however, this eclectic board examined 117 graduates of regular and homeopathic colleges. Incidentally, as might be expected, these 117 came chiefly from notoriously low-grade institutions — and only seven failed! Happily, however, Pennsylvania has adopted a new medical practice act, providing for a single board of medical examiners, which will become effective the first of next year. If this practice act is properly enforced it will put a stop to such makeshifts in the licensing of physicians as have been reported from Pennsylvania for several years past. In this day of scientific medicine, there is no excuse for laws which place the responsibility for their enforcement in the hands of from two to four special and avowedly prejudiced boards. The people of Pennsylvania are certainly to be congratulated on the change soon to take place in their state, a change which comes none too soon.

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[1] Kossel: Munchen. med. Wchnschr., 1911, lviii, 65.

[1] Page 1077, this issue.

Medical News

ILLINOIS

Personal.—Dr. Sidney D. Wilgus, superintendent of the Elgin State Hospital, has been appointed superintendent of the Kankakee State Hospital, vice Dr. Frank P. Norbury, appointed a member of the State Board of Administration to succeed Dr. James L. Greene, Springfield, resigned, to take charge of the Arkansas State Hospital, Little Rock.——Dr. Emerson M. Brewer, Rantoul, local surgeon, has been promoted to district surgeon for the Illinois Central system.——Dr. L. M. Griffin has been appointed local surgeon at Polo for the Illinois Central system.——Dr. Wallace Blanchard, Chicago, has returned from Europe.

INDIANA

State Society to Have Banquet.—For the first time in twenty-two years the Indiana Medical Association will have a banquet at its annual meeting which is to be held in Indianapolis, September 28 and 29. On the days preceding and following the meeting, clinics will be held at the city hospital.

New City Hospital.—A committee of physicians of Indianapolis, consisting of Drs. Samuel E. Earp, J. Rilus Eastman and James H. Ford, appointed by the board of public works, have prepared specifications for a new city hospital, with accommodation for 500 patients. The plans follow closely those of the Harvard Hospital.

Personal.—Dr. A. P. Schier, Evansville, has been appointed first assistant physician in the Indiana Southern Hospital for the Insane, vice Dr. John F. Glover, resigned.——Dr. John Medaris, Brookston, who has been seriously ill is reported to be improving.——Dr. John W. Ballard, Logansport, had a slight cerebral hemorrhage in his office, September 9.

Rules Regarding Communicable Diseases.—The Indianapolis Board of Health has adopted the following rules for medical inspectors in the city schools: Any child having a communicable disease shall be excluded from the school; all children of a household where there is diphtheria, scarlet fever or small-pox shall be excluded from school; all children of a household where there is whooping-cough, chicken-pox or mumps may attend school except the child having the disease; all children of a household where there is measles may attend school except the child having the disease and the child who has not had the disease. Six physicians have been added to the staff, making now a total force of twenty-six inspectors of public schools.

KENTUCKY

Money for Health Exhibit.—Dr. W. E. Grant, health officer of Louisville, will make application to the city for an appropriation of $3,000 for Louisville share toward the erection of a permanent building on the Kentucky State Fair Grounds for health exhibit. The State Board of Agriculture will, it is thought, also appropriate $3,000 toward the project.

Personal.—Dr. Louise B. Triggs, Lakeland, has been appointed physician to the female department of the Hopkinsville State Hospital.——Dr. Herbert Bronner, Louisville, was attacked in his office by an insane patient armed with a revolver, but fortunately escaped injury.——Dr. Nathan R. Simmons, health officer, Lexington, is ill at his home with rheumatism.

State Board Meeting.—At the meeting of the Kentucky State Board of Health held in Louisville, September 13, Dr. John G. South, Frankfort, was elected president. Dr. Joseph M. Mathews, Louisville, in nominating Dr. South stated that since the organization of the board the office of president had been held by older men, and he was in favor of recognizing the younger members of the board. Dr. William A. Quinn, Henderson, and Dr. Joseph M. Mathews, recent appointees, were sworn in as members of the board. Dr. Mathews' term had expired, and Dr. Quinn had forfeited his membership by being elected a member of the Henderson Board of Education, but on his resignation from this board, was reappointed a member of the State Board of Health.

LOUISIANA

Free Medicine Commission.—The mayor has appointed the following commission to administer the Sickles fund for the free distribution of medicine: Drs. Sara T. Mayo, William T. O'Reilly, Joseph A. Danna and Marion Souchon, Rev. J. C. Barr and Messrs. E. H. Singreen and A. B. Tippin. The fund now aggregates about $108,000, of which only the interest, which amounts to about $5,000 a year, can be used.

Brief of Work of State Board.—During the last fiscal year the work performed by the State Board of Health includes the tour of the health exhibit train through Louisiana and several other states, in the interest of sanitation and hygiene; the abolition of the public drinking-cup and towel; the appointment of commercial travelers as subsidiary inspectors; the regulation of barber shops; the adoption of model vital statistics; the registration of dairies; formulation of the plan for distribution of antidiptheria serum for the poor, and the adoption of a report covering the work of a year made on the condition of the waters of Bayou Teche.

MARYLAND

Baltimore

Herter Lectures.—The sixth course of lectures on the Herter foundation will be given October 4, 5 and 6, in the auditorium of the physiologic building of Johns Hopkins University, by Dr. Albrecht Kossel, professor of physiology, and director of the physiologic institute of the University of Heidelberg. The subjects of the lectures will be "Proteins" and "Metabolism." The lectures will be given at 4 o'clock, and physicians and students are cordially invited to attend.

Personal.—Dr. Harry Friedenwald arrived home from Palestine, September 12, and says that he does not intend to make his future home in Asia, but expects to remain in Baltimore.——Drs. Mary Sherwood and Lillian Welsh are attending the International Congress for the Study and Prevention of Infant Mortality, in Berlin.——Dr. Thomas R. Brown sailed for Europe, August 24.——Dr. F. Oehlecker, Hamburg, who is making a study of hospitals in the United States, visited Baltimore, September 8.

MINNESOTA

Personal.—Dr. Webber, Leech Lake, has been made physician at the San Juan Indian Agency, Shiprock, N. Mex., vice Dr. Lewis C. Day, transferred.——Dr. E. H. Bailey, St. Paul, has been appointed superintendent of the Wabasha County tuberculosis sanatorium.——Dr. John S. Holbrook has been reelected president, and Dr. William A. Beach treasurer of the board of education of Mankato.

MISSOURI

New Building at Sanatorium.—A new building has been completed at the State Sanatorium for Tuberculosis, Mt. Vernon, which will accommodate about seventy-five patients, thus doubling the capacity of the institution.

Personal.—Dr. James A. Waterman, Kansas City, formerly physician at the penitentiary, has been appointed superintendent of the Farmington State Hospital. Drs. William S. Hutton, Fornfelt, and John A. Tiller, Bloomfield, have been appointed assistant physicians at the same institution.

A Bnai Brith Sanitarium.—A canvass was commenced in St. Louis, September 15, to raise $75,000 as a building fund to erect a nonsectarian sanitarium at Hot Springs, Ark., under the auspices of Independent Order of Bnai Brith, a Jewish fraternal organization. The sanitarium will be for the benefit of dependent sufferers from rheumatism and blood diseases.

Medical Library Club Established.—A medieal library is to be established in Kansas City, with rooms on the thirteenth floor of the Rialto Building. The greater number of the office rooms in the building will be occupied by physicians, and the owner has devoted the entire west wing on the thirteenth floor to space for the library, free of charge. The club now has sixty members, one of whom has promised to lend his own medical library. The membership is divided into three groups, and $2,000 has been already subscribed for the institution. The committee on organization consists of Drs. Edward H. Skinner, Arthur E. Hertzler, Jabez N. Jackson, Franklin E. Murphy, Harold P. Kuhn, William J. Frick, Richard L. Sutton, Howard Hill, Robert M. Schauffler and Herman E. Pearse.

St. Louis

College News.—Barnes University, according to an announcement made to the alumni at a banquet recently, is now free from debt. Dr. Charles H. Hughes renews his affiliation with the school and is president of the board of trustees.——Rumors of the absorption of the American Medical College and the College of Physicians and Surgeons have been revived.

Woman's Society for Pure Food.—A woman's movement has been started with the object of stamping out impure food products, following a meeting September 14 at which simple tests for detecting impure foodstuffs were demonstrated by Mr. Rhey McCord, manager of the pure food exhibit. Mrs. W. E. Fischel was elected chairman of the temporary organization, with instructions to submit plans for the permanent organization at a subsequent meeting.

Hospital Thief.—Several physicians have been robbed recently by a sneak thief who, declaring himself a country physician desirous of witnessing operations, would be given the freedom of the hospital and privilege of presence in the operating room. He then would leave the room before the operation was finished and pilfer money and valuables from the physicians' clothing. Physicians at the University, St. Anthony's and St. Mary's hospitals have been thus victimized.

Hospital Situation.—Mayor Kreismann has taken a hand in the hospital muddle and has promised that the hospital board shall receive $1,500 monthly additional for food for patients. The disclosures following an investigation by a committee of the House of Delegates aroused the people to a realization of the needs of the hospitals. The visiting staff system of treating patients has proved far superior to former methods. In addition to extra money for food, provision will be made at once for an adequate number of graduate nurses and for the instruction of student nurses at the City Hospital, and dietists will be employed at all institutions.

Upheaval Concerning Milk-Supply.—Newspapers, civic organizations and citizens have become agitated over the milk-supply owing to recent declarations by the State Food and Drug Commissioner that the milk-supply of St. Louis is the product of insanitary, ill-kept and filthy dairies in and around the city. The city chemist maintained that the city dairies were in good condition, but the investigation rather startled him by its disclosures, and he joined forces with the state commissioner for a general clean-up of the dairies. Thus far 328 gallons of formaldehyd milk have been destroyed, several dairies have been refused permission to sell milk to distributors and twenty-nine dairymen indicted for selling impure milk. In fining three of these offenders the court said the practice of selling impure milk was worse than murder; the other cases were continued. At the City Club on September 13. Dr. John Zahorsky, Mr. Bedal, an attorney, Mr. Lange, a milk dealer, and Dr. Max C. Starkloff, health commissioner, spoke on the subject. The result of these efforts for a pure milk-supply showed that little had been done because of legal complications and the crux of the situation was well stated by Mr. Bedal and Dr. Starkloff who declared that the only effective method of securing clean milk was to establish a system of licensing the dairies by the board of health, such license to be revokable by the board. The dairymen have successfully resisted previous efforts to establish this system. At present action against refractory dairymen can be had only by the tedious and utterly inadequate procedure of prosecution in the courts.

NEW MEXICO

Personal.—Dr. Lewis Clinton Day has been transferred from the position of physician to the San Juan Indian Agency, Shiprock, and has been made resident physician at the Haskell Indian Institute, Lawrence, Kan.

State Society Meeting.—The thirtieth annual meeting of the New Mexico Medical Society was held in Las Vegas, September 6-9. Roswell was selected as the next meeting place, and the following officers were elected: president, Robert L. Bradley, Roswell; vice-presidents, Drs. Le Roy S. Peters, Silver City; M. F. Marais, Las Vegas; James J. Shuler, Raton; secretary, Dr. Robert E. McBride, Las Cruces; treasurer, Dr. Frank E. Tull, Albuquerque; councilor, Dr. Edwin B. Shaw, Las Vegas; delegate to the American Medical Association, Dr. William R. Tipton, Las Vegas; alternate, Dr. Francis T. B. Fest, Las Vegas. During the session the Guadalupe County Medical Society and the Valencia Society were chartered.

NEW YORK

New Hospital.—A hospital was formally opened September 2, at Babylon. The building contains twenty-five ward beds and two private rooms and is well equipped.

Death-Rate in the State.—During July the total number of deaths in the state from all causes decreased by 438. The number of deaths of infants under 1 year was 2,590, while for July, 1910, it was 3,486. The percentage of lessened infant mortality appears to be greater in the cities than in the rural districts. Pneumonia and other respiratory diseases caused 864 deaths during July, 1911, while deaths from this cause for 1910 were 978. In July, 1911, pulmonary tuberculosis claimed 1,101 victims, 650 of whom died in Greater New York. The deaths from typhoid fever show an increase over those of the previous year. In July, 1910, there were 486 cases of typhoid fever reported, with 94 deaths, while in July, 1911, there were 641 cases with 125 deaths.

Regents to Require Full-Time Instructors.—At its last meeting the board of regents of the University of the State of New York amended its rule and now requires, that after Oct. 1, 1912, a medical college, in order to be registered in that state as maintaining a proper medical standard, must have at least six full-time salaried instructors, giving their full time to medical work; must have a graded course of four full years of college work in medicine, and must require for admission not less than the usual four years of academic or high school preparation, or its equivalent, in addition to the pre-academic or grammar school studies. This agrees with the definition of a medical college adopted in 1910 by the Council on Medical Education of the American Medical Association.

New York City

Work of the Season at Sea Breeze.—Junior Sea Breeze, the summer emergency hospital for sick babies, conducted by the Association for Improving the Condition of the Poor, closed its season on September 7. The visiting nurses made 4,098 visits during the summer and instructed 1,321 mothers.

Two Physicians Have Septicemia.—Dr. Edward H. Quinn is in a very serious condition as a result of blood-poisoning contracted while operating on a ward patient in St. John's Hospital.——Dr. John A. Bodine, who was called in to operate on Dr. Quinn, developed septicemia the day following the operation. Dr. Bodine's condition has not been regarded as serious.

School Children Have Poor Teeth.—The first report of the School Dental Hygiene Council, which was appointed about a year ago to make an examination of school children's teeth, shows that about 60 per cent. of those so far examined have defective teeth. As a result of this investigation it is believed that there will be a regular system of dental inspection and clinics for the schools.

Inebriety Board Holds Meeting.—The recently-appointed Inebriety Board held its first business meeting September 12. The board has decided to call on the police to furnish data as to all arrests for intoxication after October 1. It was also decided to acquire land within 35 miles of New York City for a site for three hospital buildings, the cost of the site and buildings to be about $550,000.

Smoke Nuisance Abated.—New York is practically free from the smoke nuisance and this is due to the work of the Health Department in enforcing the amendment to the sanitary code which went into effect a little over a year ago. During this time 2,000 arrests have been made and $6,000 has been collected in fines. This result has been accomplished by compelling all who burn soft coal to use smoke consumers.

Cholera in New York City.—During 1911, steamers arriving from Italy brought cholera to New York City, the first case arriving on the *Carpathia*, June 7, and the last, up to the present time, on the *Koenig Albert*, August 17. So far forty-four cases have been stopped at quarantine. In the city only three cases were found. This is the first time since 1892 that the sanitary authorities have been called on to deal actively with Asiatic cholera.

Typhoid in the Bronx.—For the seven weeks previous to September 9, there were 180 cases of typhoid fever in the Bronx as against eighty for the same period of 1910. Since January 1 there have been twenty-two cases in that borough as against 178 for the corresponding time in 1910. The typhoid situation in the greater city has practically cleared up except in the Bronx. Up to the year ended September 9 there have been 1,898 cases in the greater city since January 1, as against 1,963 last year.

Harvey Society Lectures.—The Harvey Society has secured the following lecturers for the coming season: Prof. Walter B. Cannon, Harvard Medical School; Prof. R. H. Chittenden, Yale University; Dr. Simon Flexner, Rockefeller Institute; Prof. H. S. Jennings, John Hopkins University; Prof. Albrecht Kossel, University of Heidelberg; Prof. H. F. Osborn, Columbia University; Dr. James J. Putnam, Harvard Medical School; Prof. T. W. Richards, Harvard University; Prof. W. T. Sedgwick, Massachusetts Institute of Technology; Dr. William S. Thayer, Johns Hopkins Medical School, and Prof. Verworn, University of Bonn. The following lectures will be delivered during October: "Local Specific Therapy of Infections," by Dr. Simon Flexner, October 7; "The Chemical Structure of the Cell," by Prof. Albrecht Kossel, October 14; and "Anesthesia," by Prof. Verworn, October 28.

Personal.—Dr. Simon Flexner, director of the laboratories of the Rockefeller Institute of Medical Research, has been awarded the Cameron Prize in Practical Therapeutics by the University of Edinburgh. The award was made in recognition of Dr. Flexner's work in cerebrospinal meningitis and its treatment with antimeningitis serum. In accordance with custom Dr. Flexner has been invited to deliver an address at the University of Edinburgh some time during the coming academic year.——Drs. Henry W. Frauenthal and Charles L. Dana have returned from Europe.——The country home of Dr. Charles McBurney at Stockbridge, Mass., was robbed, September 13. The articles taken were mostly jewelry and the loss is estimated at $5,000.——Dr. Samuel J. Meltzer, president of the Rockefeller Institute for Medical Research, has been elected a member of the German Imperial Academy of Natural Sciences.

Buffalo

Cornerstone Laid.—The cornerstone of the New German Deaconess Hospital was laid with appropriate ceremony, September 10.

Crusade Against Milkmen.—The department of health has instituted a crusade against milkmen who sell milk which does not come up to the standard requirements, or in other words, is adulterated. After due notice, warrants were sworn against about fifty milkmen.

Personal.—Dr. Matthew D. Mann, Dr. Irving M. Snow and Dr. George A. Himmelsbach, have returned from Europe.——Dr. Burton T. Simpson, Dr. Maud J. Frye and Dr. Charles A. Bentz have gone abroad.——Dr. Otto R. Eichel has been appointed chief of the tuberculosis division of the Bureau of Vital Statistics.

PENNSYLVANIA

Tuberculosis Crusade.—The directors of the Pennsylvania Society for the Prevention of Tuberculosis, September 13, agreed to arrange for a state exhibit by means of which the unsanitary conditions of many houses will be shown. The exhibition will be given in a number of cities and towns in the state during the winter.

Inspection of School Children.—State Health Commissioner Dixon is preparing to make the medical inspection of school children authorized by the new school code. The inspections will be made in 785 school districts, which means that 250,000 children will receive the direct benefits of this important work. The inspectors will also make a thorough investigation of the sanitary conditions existing at the schools. They will be instructed to note the age and sex of the pupil, the condition of sight, hearing, respiration, skin, teeth, cervical glands, contagious diseases, pulmonary tuberculosis and deformities. In recording the deformities they will be classified as those of the spine, the chest and the extremities. Those of the extremities will be further described as congenital or acquired. Each eye will be tested separately, using Snellen's chart at 20 feet. The presence of blepharitis, conjunctivitis, iritis or trachoma or any affection of the cornea will be observed. Each ear will likewise be tested separately for accuracy of hearing by whispering at 20 feet. The presence of a discharge from either ear will be watched for and its nature observed. Defective teeth and nasal breathing will be noted. Enlargement of the cervical glands will be observed. With regard to nervous conditions the existence of chorea or epilepsy will be stated, and the general condition of nutrition. If indications of present or recent contagious disease are found, note will be made of the fact and the exclusion of the child and its brothers and sisters at once ordered. Under no circumstances will the medical inspector advise as to the selection of a physician or communicate with the family of a pupil personally with regard to the results of the examination, all reports to the family being made directly from the department. On receiving the reports at the central bureau in Harrisburg, the chief medical inspector and his assistants will go over them very carefully and letters will be written to the parents of children in whom physical defects have been found, calling attention to these defects and suggesting that the child be taken to the family physician for more detailed examination and treatment.

Philadelphia

Resignations.—Dr. Daniel W. Fetterolf has resigned as demonstrator of chemistry and toxicology in the University of Pennsylvania, to accept the position of acting assistant surgeon in the U. S. Army, with a permanent station in New York.——Dr. Howard T. Karsner has resigned as demonstrator of pathology in the same institution to accept the position of assistant professor of experimental pathology in Harvard University.——Dr. Borden S. Veeder, assistant demonstrator of pathology in the University of Pennsylvania, has resigned in order to accept the position of assistant in the department of pediatrics in Washington University, St. Louis.

Baby Hospitals Successful.—The Race Street Pier, which opened on June 15, with thirty-five beds and nursed back to life fully 500 babies during the summer, closed its season, September 15. The Wynnefield Babies' Hospital and the Chestnut Street Pier will probably remain open until October 1, when the most active baby-saving campaign that has ever been carried out in this city will terminate for another year. The following statistics show the reduction in infant mortality. The number of children under 2 years of age who died of summer complaint during June, July and August, 1910, was 1,258, while in the corresponding months of this year, only 924 died, a reduction of 234, or 18.6 per cent.

Dental Clinic Opens.—The free dental clinic for the treatment of school children's teeth opened September 15. It is on the seventh floor of city hall and is under the charge of Dr. P. B. McCullough. The plan this year is to have the dentists visit the schools, examine the pupils and make a note of those whose teeth need attention. This note will be given to the teacher to forward to the parents, with a recommendation that the child either be sent to the family dentist or to the city hall clinic. After a child's mouth has been put in good condition, he is given a tooth brush and a box of tooth powder and is instructed in the care of the teeth. Last year 2,561 patients were treated in the clinic.

Contagious Diseases Hidden.—A reduction in the mortality from most of the preventable diseases is noted for the first eight months of this year as compared with the same period of 1910, as follows: tuberculosis, 15 per cent.; typhoid fever, 23 per cent, and pneumonia, 12 per cent. This does not hold true with diphtheria and scarlet fever, however. Through the newspapers, Dr. Joseph S. Neff, director of public health and charities, has called attention to the continued prevalence of these diseases, and asks the public to cooperate with the health authorities in carrying out the instructions of physicians and health officers. He states that many persons, to avoid the necessary restrictions, do not send for a physician in order that the case may not be reported.

University Changes.—Announcement has been made of changes in the medical department of the University of Pennsylvania. A fuller course in toxicology is announced for the second year class, the second half of the term under the charge of Dr. John Marshall and his staff in the Hare laboratory. There will be also a department of physical therapy under the charge of Dr. R. Tait McKenzie. The changes in titles and duties in the teaching staff follow: Dr. Gwilym G. Davis assumes charge of orthopedic surgery in place of the late Dr. DeForest Willard; Dr. T. Turner Thomas becomes associate professor of applied anatomy; Dr. Alfred Stengel assumes the chair of medicine in place of Dr. David Edsall, resigned; Dr. M. Howard Fussell has been advanced to the chair of applied therapeutics, this department being created under the chair of medicine, in place of the position of professor of clinical medicine vacated by Dr. Alfred Stengel; Dr. George W. Norris is advanced to assistant professor in medicine; Drs. Ringer and Rose assume the duty of instructor and assistant instructor in physiological chemistry; Dr. Oscar H. Plant becomes demonstrator of pharmacology; Dr. R. M. Pearce has withdrawn from the chair of pathology and will confine his work to the chair of research medicine, and Dr. Allen J. Smith returns to the charge of the department of pathology, retaining at the same time the directorship of the laboratories of comparative pathology and tropical medicine.

UTAH

State Association Meeting.—The seventeenth annual meeting of the Utah State Medical Association will be held in Salt Lake City, October 4 and 5, under the presidency of Dr. Frederick W. Taylor, Provo. A banquet is to be given to the association by the Salt Lake County Medical Association, October 4. At the first session an address will be delivered by Dr. Joseph N. MacCormack, Bowling Green, Ky.

New Members of Faculty.—The new list of the faculty of the University of Salt Lake includes the following appointments and changes: Dr. Joseph Peterson, professor of psychology in the Brigham Young University, Provo, professor of psychology; Dr. Perry G. Snow, professor of anatomy; Dr. Ralph L. Byrnes, professor of bacteriology and pathology; and State Bacteriologist and Pathologist Dr. Charles T. Voorhies has been made acting dean of the school of medicine, and Dr. Henry A. Mattill has been promoted from assistant professor to associate professor of physiology and physiologic chemistry.

WASHINGTON

Personal.—Dr. John B. McNerthney, Tacoma, left for Europe, September 9.——Dr. John W. Mowell, Olympia, has been appointed chief physician of the state's commission on industrial insurance.——Dr. C. J. Brobeck has been appointed assistant health officer of Tacoma.——The board of education of Bellingham has declined to accept the resignation of Dr. William R. Gray as president.——Dr. James F. Cropp has been elected mayor of Walla Walla.

State Society Meeting.—At the twenty-second annual meeting of the Washington State Medical Association held in Spokane, September 5 to 7, the following officers were elected: president, Leon L. Love, Tacoma; president-elect, William C. Cox, Everett; vice-president, Dr. George N. McLoughlin, Seattle; secretary, Dr. Curtis H. Thomson, Seattle (reelected), and treasurer, Dr. Herbert E. Coe, Seattle. Tacoma was chosen as the place of meeting for 1912.

WEST VIRGINIA

Tri-County Society Meeting.—At the annual meeting of the Barbour-Randolph-Tucker County Medical Society, held in Elkins, September 5, the following officers were elected: president, Dr. Edmond J. Horgan, Jenningston; vice-presidents, Drs. Albert S. Bosworth, Elkins; E. Mendel Hamilton, Belington; secretary and treasurer, Dr. Ernest R. MacIntosh, Elkins; and censor, Dr. W. Hoddis Daniels, Elkins, reelected.

County Society Reorganized.—The physicians of Preston County met in Kingwood, August 23, reorganized and elected the following officers: president, Dr. Buckner F. Scott, Terra Alta; secretary and treasurer, Dr. A. G. DeFoe, Brandonville; and censors, Drs. Daniel J. Rudisill, Kingwood; Frank M. Fogle, Rowlesburg, and Dr. William F. Dailey, Terra Alta.

Antituberculosis Organization Chartered.—The Ohio County Anti-Tuberculosis League was chartered August 29, with offices in Wheeling. The league is given authority under the charter to own and transfer real property to the value of $50,000, and personal property to a similar amount, and to erect and maintain hospitals for the care of persons afflicted with tuberculosis. The incorporators are Drs. Harriet B. Jones, Eugenius A. Hildreth II, and William H. McLain, and Messrs. Jesse A. Bloch and Henry M. Russell.

WYOMING

State Society Meeting Indefinitely Postponed.—Dr. William H. Roberts, Sheridan, secretary of the Wyoming State Medical Society, announces that several unforeseen circumstances, including the failure of the Burlington system to complete its line to Thermopolis, have conspired to cause the indefinite postponement of the annual meeting of the society, which was scheduled to be held at Thermopolis, September 4 and 5.

GENERAL NEWS

Societies to Meet.—Among the society meetings that are to occur in September and October are the following:

Amer. Acad. of Ophthal. and Oto-Laryngol., Indianapolis, Sept. 25-27.
Amer. Assn. of Obstet. and Gynecol., Louisville, Ky., Sept. 26-28.
American Association of Railway Surgeons, Chicago, Oct. 18-20.
American Urological Association, Chicago, Sept. 26-27.
Assn. of Military Surgeons of United States, Milwaukee, Sept. 26-29.
Delaware State Medical Society, Lewes, Oct. 10.
Idaho State Medical Association, Boise, Oct. 11-13.
Indiana State Medical Association, Indianapolis, Sept. 28-29.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Assn. of the Southwest, Oklahoma City, Okla., Oct. 10-12.
Medical Society of Virginia, Richmond, Oct. 24-27.
Michigan State Medical Society, Detroit, Sept. 27-28.
Minnesota State Medical Association, St. Paul, Oct. 5-6.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Nevada State Medical Association, Reno, Oct. 10-12.
Pennsylvania State Medical Society, Harrisburg, Sept. 25-28.
Utah State Medical Association, Salt Lake City, Oct. 4-5.
Vermont State Medical Society, Burlington, Oct. 12-13.

FOREIGN NEWS

International Congress of Pathology at Turin, Italy.—This congress has been scheduled to meet at Turin, October 1 to 5, and extensive preparations have been made for the scientific work.

Tuberculosis Congress Postponed.—The postponement of the Seventh International Tuberculosis Congress at Rome, Italy, to April, 1912, meets with general approval on account of the prevailing dread of cholera in southern Europe. The congress was to have been held the last week of this month—September—and the work had already been well organized and numbers of important papers received.

Centennial of Christiania University.—The *Norsk Magazin for Lægevidenskaben* issues a souvenir volume, in honor of the centennial of the university at Christiania, reviewing the history of medicine in Norway during the last hundred years. It is profusely illustrated with views of old and new hospitals and asylums and portraits of the leading physicians, especially the members of the medical faculty. The work is from the pen of S. Laache, professor of internal medicine at the university.

The Zander Festschrift.—The tenth volume of the *Archiv für Orthopädie* is dedicated to Gustav Zander on the occasion of his seventy-fifth birthday. The first nine articles describe Zander's work and apparatus for medico-mechanical exercises and the opening of his institute at Stockholm, Sweden, in 1865 and of similar institutions on this model in other countries. The benefits of these mechanico-therapeutic exercises in the various internal infections are emphasized by different authors. From 1880 until recently Zander was docent of medical gymnastics at the university of Stockholm.

LONDON LETTER

(From Our Regular Correspondent)

London, Sept. 9, 1911.

Reform of the Naval Medical Service

Considerable reforms have been introduced into the naval medical service, corresponding to those introduced some years ago into the army service. The rate of pay has been slightly increased for surgeons by about $180 per annum and in the higher grades proportionately. Officers are permitted to retire into private life at an earlier period than heretofore. After serving four years a naval surgeon may pass into the reserve, taking a gratuity of $2,500 and incurring no other liability than being called on to serve in time of war or emergency. This liability places no impediment in the way of private practice. But the most important reform is the establishment of a naval medical school at Greenwich. It is considered essential for the scientific development of the service that it shall possess a school of instruction and research in the vicinity of London, where it will be in close touch with the principal civil medical schools and with the army medical school at Millbank. It has therefore been decided to establish a naval medical school at the Royal Naval College, Greenwich, in close proximity to the Seamen's Hospital and the London School of Tropical Medicine. It will thus be in a position to carry out its educational and scientific work in close connection with these establishments. There are already at Greenwich excellent chemical and physical laboratories, and the additional laboratories required for medical research will be provided in the college buildings. The following new offices have been created as the nucleus of an instructional staff—a professor of bacteriology and clinical pathology, who will be a fleet surgeon with a special allowance of $750 a year, and a professor of hygiene under the same conditions. The latter will reside at the college and will be in charge of naval medical officers taking courses and for this duty will receive an extra allowance of $250. Certain alterations have been made in the regulations for the selection and examination of candidates for naval surgeons. The course of instruction after entry has been lengthened from four to six months. At the termination of the course there is an examination. An officer who fails to pass this is given a second trial and if he fails again his services are dispensed with. In future, postgraduate instruction of naval medical officers will consist of two distinct courses—a six months' course before advancement to staff surgeon and a second course for officers of not less than 14 years seniority.

The subjects of study and examination will be: (1) *Compulsory:* clinical medicine and surgery, operative surgery, anesthetics, ophthalmology, clinical pathology and hygiene. (2) *Optional:* bacteriology, throat, nose and ear diseases, and skiagraphy. The second course is designed for the purpose of affording to senior officers the opportunity of refreshing their general knowledge of surgery and medicine and familiarizing themselves with modern improvements. A small medical library of value not exceeding $50 will be supplied to each ship carrying a medical officer.

Acute Poliomyelitis Rendered Notifiable

The outbreak of acute poliomyelitis in this country, mentioned in a previous letter to The Journal, has caused the London County Council to declare this disease notifiable to the local health officers under a penalty of $10.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 8, 1911.

The Coming International Sanitary Conference

The International Sanitary Conference mentioned in a previous letter (The Journal, Aug. 5, 1911, p. 492) will meet at Paris beginning October 10, with a view to revising the articles of the conference of 1903 for the prevention of the epidemics of cholera or the plague. It will be composed of representatives from about forty states, instead of the twenty-three governments which took part in a similar conference held at Paris in 1903 which drew up the articles of the sanitary convention signed December 3 of the same year.

Agitation Among the Nurses

For some time there has been strong discontent among the male nurses, and a strike has even been declared in one of the insane asylums at Aix-en-Provence. The grievances of the nurses are to be found principally in the poorly prepared food and the unhygienic dormitories assigned to them. They also demand a discontinuance of the practice of setting aside of a portion of the salaries of probationary nurses in view of future retirement. The *Journal Officiel* recently published a very interesting report of the inspector-general of the administrative service of the ministry of the interior which disclosed the fact that in many asylums the nurses receive only $60 (300 francs) a year to start with, which may be raised to a maximum of $100 (500 francs) a year. This, as the inspector-general remarks in his report, is a smaller salary than is paid to farm hands. This low salary also explains the insufficient training of the nurses, the difficulty in recruiting the whole body, which, as Dr. Charron, director of the asylum at Dury-les-Amiens, says, is composed to a very large extent of a wandering, unstable element without interest in their work, without any professional pride, and often without even personal dignity, a class of outcasts—lazy, intemperate, and dissolute; discharged working-men or servants.

Encouraging Large Families

A departmental league of the fathers and mothers of large families has just been established at Troyes. The president has given out interesting information about the work to be undertaken and has disclosed the generous offer of Mr. G. Verbeckmoes, the proprietor of the working-men's houses at Clichy (on the Seine). He introduced into his contracts the following clause: "After a year of residence in the house, each occupant, paying less than $120 (600 francs) rent, will be allowed a rebate of a half term's rent each time that his wife is confined."

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Aug. 31, 1911.

Classical Courses in High School and College

Some water has been mingled with the wine of the hope which I expressed in my comments on the Kaiser's speech, in my last letter, regarding the appreciation of the classical course in our higher schools, according to an official statement of the North German *Allgemeine Zeitung*. In this communication attention is directed to the fact that the words of the Kaiser must not be regarded as of general application, but rather as intended only for the pupils of the first grade of the classical gymnasium at Cassel. In other words, it should be stated that the Emperor now, as formerly, adheres to his high estimate of the technical school education (*Realschulbildung*) in general. A contradiction, nevertheless, does exist between this subsequent explanation and the words of the Kaiser. It is explained, like most of the inconsistent statements which are found in the speeches of the Kaiser, by his impulsiveness in consequence of which he followed the thought of the moment without reference to his former assertions of its general relation.

That the danger, to which I have called attention, of a further depreciation of classical studies, especially the study of Greek in our gymnasiums, actually exists, is shown by a statement just published by the faculty board of the university of Giessen. This statement is as follows:

"In view of the recent repeatedly occurring efforts to abandon the study of Greek in classical gymnasiums or to materially restrict it, we declare that we must regard it as equivalent with the abandonment of the classical high-school course as a whole. While it is far from our purpose to attack the equal estimate put on the technical gymnasiums and the technical colleges in comparison with the classical gymnasia, we must still, as formerly, accord to the classical gymnasium a special importance in the preparation for all university studies, and recognize in any serious injury to such schools a grave danger for education in general. This is especially true for all important and broad subjects for which a thorough insight into the nature and connections of historical development form the foundation and necessary preliminary. We, therefore, hold it our duty to enter our protest, as early and as emphatically as possible against those injurious attempts.

"We furthermore protest against making the school responsible for the injury of our youth which we can only regard as the results of modern conditions of living, and we assert that exactly in reference to the struggle against these injurious consequences we regard any further letting down in the requirements of the schools as dangerous." This statement forms in a certain sense an answer to the publication in the North German *Allgemeine Zeitung*. If the faculties of other universities should express themselves in the same sense as that of Giessen, it is to be hoped that the authorities will thoroughly investigate the question of further school reform before the ideas which are now prevalent regarding a classical education are carried into effect.

Refusal of a Promotion

Dr. R. Geigel of Würzburg, professor extraordinary of internal medicine, has refused the title of regular professor, which has just been accorded to him. The motive of this unusual step is so far unknown; it is possible that the investigator who is now in his fifty-ninth year is offended at the fact that instead of his being appointed successor of Professor von Leube, as was formerly announced, Professor Gerhardt has been chosen as director of the medical clinic. Such a conception must be regarded as entirely unjustified, for Geigel has not done work of sufficient note to give him any claim to such an appointment.

An Alleged Prussian Epidemic Bureau

An item appeared in the daily press, a short time ago, according to which a committee had been appointed under the cooperation of the medical section of the department of the interior and the war department as well as the imperial health office, which should have for its aim the foundation of a central station for the investigation of and campaign against epidemic diseases. The active work of this central station was stated to consist mainly in testing preparations which promise to be of service in the campaigns against the most frequently occurring epidemic diseases. According to information given me from an authoritative source, the entire announcement is the product of the overheated fancy of a reporter; at least nothing is known of such a foundation by those who are in a position to know most about it.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 1, 1911.

Difficulties of Building the New Clinics

While the clinics of von Noorden and von Pirquet have been recently completed, and the first-named will be opened in a few days and the latter in October, the building of the remainder has suddenly become doubtful. The difficulty lies in the lack of money, both for building and for running the institutions. As has been explained in a previous letter, there is a certain corporate faction known as the "hospital fund" (Spitalsfonds), whose duty it is to provide hospital accommodations for needy patients. This "fund," though bankrupt for several years, is still in function because neither the municipality nor the local or central government acknowledge any responsibility for it, or for the existence of suitable hospital beds. Yet, the hospitals had to be kept running and the money required for this purpose was loaned to the famous bankrupt "fund"; a most amusing situation, were it not so sad. The conditions became unbearable at last and a cooperation of the famous fund with the three above-mentioned public forces brought about an arrangement by which the old hospital clinics should be transferred to the new General Hospital, and the funds necessary for this transfer should be obtained by the sale of real estate belonging to the old hospital. Thus the two gynecologic clinics, the clinic of von Noorden (medical), the pediatric and the rhino-laryngologic clinics were erected on a grand scale. The expenses of running are much higher than expected, also the building was much dearer than originally planned, and now the "fund" has no money for the necessary new clinics: two surgical, two medical, two dermatologic, one aural, two ophthalmologic clinics, one chemical and one pathologic-anatomic, besides a medicolegal institute. Already more than $4,000,000 have been expended and another $6,000,000 are wanted! The Spitalsfond has found out that it is not its duty to build any more clinics but that the ministry of education should do this; thus a deadlock has been produced. Meanwhile, the clinics remaining in the old hospital have made use of the space made vacant by the emigration of the four clinics now located in the new hospital, and the Spitalsfond asserts that they are not now in need of space for wards, and proposes to make the existing old wards over into laboratories, baths and lecture halls so that the necessity of new clinics could be done away with; for these expenses the funds are available. The news of the radical change of the old plan has caused much disappointment both in the public and among the profession, as well as in the teaching staff of the university. A conference between the mayor of Vienna, the representatives of the government and some banks has resulted in an arrangement by which sums would be furnished which would prevent this disgrace to the Vienna Medical School. But here again, the question is whether bureaucratic red-tape will not spoil this arrangement. The professors have taken the matter up and it is possible that serious consequences may follow if the new hospital should remain incomplete.

Marriages

William Seaman Bainbridge, M.D., New York City, to Miss June Ellen Wheeler of Yonkers, N. Y., at Grenheim, September 9.

Nathaniel Robert Mason, M.D., Boston, Mass., to Miss Eunice Ireland of Winchester, Mass., at North Conway, N. H., August 31.

Frank Caryl Totten, M.D., Morristown, S. D., to Miss Charlotte Louise Hutton of Sioux City, Ia., September 1.

Arthur William Stillians, M.D., Chicago, to Miss Therese Spitler of Vienna, Austria, in New York City, July 24.

James H. Kenyon, M.D., to Josephine S. Hemenway, M.D., both of New York City, at Glasgow, Mo., September 7.

Nathaniel M. Baskett, M.D., Moberly, Mo., to Miss Margaret Gore of Fulton, Mo., in London, Eng., August 26.

Upton Sharretts Reich, M.D., Bridgeport, Conn., to Miss Lillian H. Kessner, at Waterbury, Conn., August 30.

Fred McKemy Ruby, M.D., Union City, Ind., to Miss Ethelyn Marie Butcher, at Richmond, Ind., September 7.

Herbert Bancroft Priest, M.D., Groton, Mass., to Miss Edith Houghton of Littleton, Mass., September 6.

Gustav Leonard Kaufmann, M.D., Chicago, to Miss Muriel Gregory of Fredericton, N. B., Can., September 4.

George Luther Davenport, M.D., to Miss Eva Beulah Griffith, both of Chicago, September 12.

Harry Bailey Chalfant, M.D., Philadelphia, to Miss Elva Storey of Landenberg, Pa., July 27.

Edward G. Birge, M.D., Altoona, Pa., to Miss Edna Ebaugh, at Orangeville, Md., September 7.

Thomas Arneson, M.D., to Miss Mabel Chandler, both of Frederic, Wis., August 20.

John Frederick W. Rost, M.D., to Miss Adela Peine, both of Minier, Ill., June 14.

Deaths

Thomas Dwight, M.D. one of the foremost anatomists of America, and successor to Dr. Oliver Wendell Holmes as Parkman professor of anatomy in Harvard Medical School; died at his home in Nahant, Mass., September 8, aged 67. Dr. Dwight took both his academic and his medical course at Harvard, graduating from Harvard Medical School in 1867. After two years of study abroad, he returned to the United States, and commenced to practice in Boston, and became instructor in comparative anatomy at Harvard Medical School in 1872, and was at the same time lecturer on and professor of anatomy in Bowdoin College, Brunswick, Me. From 1874 to 1883 he was instructor in histology in his alma mater and for the last three years of that time also an instructor in topographical anatomy. In 1883 he was made Parkman professor of anatomy, and continued in this position until his death. From 1873 to 1878 Dr. Dwight was editor of the *Boston Medical Journal.* His society membership included the Massachusetts Medical Society, the Association of American Anatomists, of which he was once president, and the American Society of Naturalists. He contributed numerous papers to the literature of human and vertebrate anatomy, and also was author of a work on "Anatomy of the Head," which appeared in 1876, and "Description of Frozen Sections of a Child," which was published in 1881; and a monograph on "Variations of the Bones of the Hand and Foot," in 1907.

Frank E. Waxham, M.D. for many years well-known as a laryngologist and rhinologist of Chicago, but for several years a resident of Denver, Colo., died in Sugar City, September 4, from cerebral hemorrhage, aged 59. Dr. Waxham was a native of Laporte, Ind., and took his medical course in the Northwestern University from which he was graduated in 1878. He commenced practice in Chicago, and became rapidly prominent as a specialist on diseases of the throat and nose. In 1893, on account of his wife's health, he was obliged to move to Colorado. He settled in Denver where he was professor of medicine, clinical medicine, laryngology and rhinology, in the University of Colorado, Boulder. He was a member of the American Medical Association and the state medical societies of Illinois and Colorado. He was a member of the medical staff of St. Joseph's Hospital, Denver, laryngologist and rhinologist to the University Hospital, Central Free Dispensary, National Jewish Hospital, and Children's Hospital and consulting laryngologist and rhinologist to the Denver City and County Hospital.

William Flynn, M.D. Louisville (Ky.) Medical College, 1876; once president of the Grant County (Ind.) Medical Association, and a member of the faculty of Indiana Medical College for many years, and later emeritus professor of medicine in the Indiana University School of Medicine, Bloomington; died in his apartments in Marion, September 1, from cerebral hemorrhage, aged 59. At the funeral of Dr. Flynn, the active pallbearers were members of the profession of Grant County, and the county medical society, at a special meeting, adopted resolutions deploring its loss in the death of Dr. Flynn.

Maurice Clarke Dwight, M.D. Harvard Medical School, 1882; of Haverhill, Mass., a member and once vice-president of the Massachusetts Medical Society; for twenty-two years secretary of the Essex North District Medical Society; formerly a member of the Haverhill (Mass.) board of health and a member of the local pension board; formerly consulting physician to the Danvers State Hospital; surgeon and chief of staff of the Hale Hospital; and secretary and treasurer of the Haverhill Medical Club; died at Hathorne, Mass., September 7, aged 59.

George Halsey Peets, M.D. University of Pennsylvania, Philadelphia, 1860; of Fort Adams, Miss.; chief surgeon of brigade in the Confederate service throughout the Civil War; at one time representative in the legislature from Wilkinson County; died at his country home "The Valley," in the western part of Wilkinson County, May 4, from carcinoma of the rectum, aged 73.

Benjamin Edson, M.D. New York University, New York City, 1873; a member of the Medical Society of the State of New York, and ever since his graduation a practitioner of Brooklyn; physician to the Home for Destitute Children, and for several years principal of Public School No. 14; died at his home, September 6, from heart disease, aged 70.

William Monroe Burroughs, M.D. Medical College of the State of South Carolina, Charleston, 1859; of Pineville, Ala.; a member of the Medical Association of the State of Alabama; died in Nadawah, in October, 1910, from senile debility, aged 74.

Lewis Wheeler Rose, M.D. New York University, New York City, 1887; a member of the American Medical Association, and the New York State Pathological Society; once president of the Monroe County Medical Society; for two years surgeon to the New York State Soldiers' and Sailors' Home, Bath; from 1882 to 1898 physician to the State Industrial Home; a member of the surgical staff of the Rochester General Hospital; died at his home in Rochester, August 29, from heart disease, aged 45.

George Dana Towne, M.D. New York University, New York City, 1878; of Manchester, N. H.; a member of the American Medical Association, and once president of the Hillsboro County (N. H.) Medical Society, and secretary of the New Hampshire Surgical Club; for many years visiting surgeon to the Elliot Hospital, and a trustee of the State Normal School, Plymouth; died at his summer home in Dunbarton, N. H., September 11, from cerebral hemorrhage, aged 57.

Alfred W. Mitchell, M.D. Washington University, St. Louis, 1879; a member of the American Medical Association and local surgeon of the Frisco system at Humansville, Mo., a member of the legislature for two terms from Polk County; died suddenly, while working in his garden, September 4, from heart disease, aged 55.

Carroll M. Baggarly, M.D. University College of Medicine, Richmond, Va., 1901; a member of the American Medical Association; associate professor of ophthalmology in his alma mater, and medical director of the public schools of Richmond; died in the Virginia Hospital, Richmond, September 3, from typhoid fever, aged 38.

John E. Lockridge, M.D. Medical College of Virginia, Richmond, 1863; a Confederate veteran; for several years a member of the staff of the Indiana Asylum for the Deaf and Dumb, and a practitioner of Indianapolis; died at the home of his sister-in-law in Nevada, Ia., August 13, from senile debility, aged 81.

George Fairlamb Harris, M.D. University of Pennsylvania, Philadelphia, 1864; a member of the American Medical Association, and a veteran of the Civil War; for several years vice-president of the First National Bank of Bellefonte, Pa.; died at his home in that city, September 11, from heart disease, aged 68.

John Taylor Gilman Nichols, M.D. Harvard Medical School, 1859; of Cambridge, Mass.; a member of the American Medical Association; acting assistant surgeon in the Army during the Civil War; at one time visiting physician to the Cambridge Hospital; died at Little Boars Head, N. H., August 27, aged 74.

Leonidas Franklin Wilbur, M.D. Harvard Medical School, 1854; for half a century a member of the Ontario County (N. Y.) Medical Society; and for many years president of the board of trustees of the Honeoye Public Library Association; died at his home in Honeoye, September 2, aged 79.

Justin de Lisle, M.D., Jefferson Medical College, 1882; of Springfield, O.; a member of the American Medical Association; while pursuing investigations regarding a serum for the cure of syphilis at the Pasteur Institute, Paris, France; died August 1, from arteriosclerosis, aged 52.

Isaac Buckeridge, M.D. Hahnemann Medical College, 1883; a member of the Wisconsin State Medical Society, and for several years a member of the council and health officer of Beloit; died at his home, August 30, from hypertrophy of the liver, aged 61.

Lorenzo D. Hamblett, M.D. Eclectic Medical College of Maine, Lewiston, 1885; for more than fifty years a practitioner, and since 1871 a resident of Somersworth, N. H.; died at his cottage in York Beach, Me., August 24, aged 84.

Harland Edgar Beers, M.D. Willamette University, Salem, Ore., 1890; a member of the American Medical Association and one of the oldest practitioners of Sherman County, Ore., died at his home near Wasco, March 25, aged 42.

James C. Melville (license, Michigan, years of practice, 1900); assistant surgeon of volunteers during the Civil War, and for thirty-three years a practitioner of Grand Rapids, Mich.; died at his home, September 6, aged 71.

George Koenig (license, Neb., 1891) for more than forty years a practitioner of Richardson County; is said to have committed suicide August 18, by hanging himself from the limb of a tree while despondent, aged 72.

William S. Browne, M.D. Bennett Medical College, Chicago, 1875; formerly of Watseka, Ill.; a member of the Illinois State Medical Society; died at his home in Opolis, Kan., August 21, from cerebral hemorrhage, aged 67.

William T. Sherwood, M.D. University of Michigan, Ann Arbor, 1859; a retired practitioner of Ravenswood, Chicago; acting assistant surgeon in the Army during the Civil War; died at his home, September 1, aged 79.

Samuel P. Seese, M.D. University of Pennsylvania, Philadelphia, 1874; of wide reputation as a botanist and investigator of medicinal plants; died at his home in Lansdale, Pa., August 29, from heart disease, aged 60.

Edward Parrish Thatcher, M.D. University of Michigan Homeopathic College, Ann Arbor, 1881; for two terms coroner of Wayne County, N. Y.; died at his home in Newark, N. Y., September 1, aged 53.

Arthur Kipp, M.D. Kentucky School of Medicine, Louisville, Ky., 1903; for several years a practitioner of British Honduras; died at his home in Louisville, September 1, from diabetes, aged 29.

Johiel H. Bonebrake (license, Kan., 1901) of Lecompton; twice a member of the state legislature; a practitioner since 1860; died at the home of his daughter in Overbrook, Kan., January 13.

Walter Henry Maynard, M.D. New York University, New York City, 1898; of New York City; a specialist on diseases of the throat and nose; died suddenly at his home, September 2, aged 45.

Samuel R. Kreidler, M.D. Hahnemann Medical College, Chicago, 1873; for many years a practitioner of Red Oak, Iowa; died at his home on a ranch near Moorcroft, Wyo., August 19, aged 63.

Julius Adolph Stegmair, M.D. New York University, New York City, 1886; a member of the Medical Society of the State of New York; died at his home in New York City, April 4.

Robert N. C. Tate, M.D. New York University, New York City, 1849; a member of the State Medical Association of Texas; died at his home in Gonzales, September 4, aged 84.

James W. Rock, M.D. Eclectic Medical College of the City of New York, 1876; formerly of New York City; died at his home in Utica, N. Y., August 24, from nephritis, aged 64.

Paul Robert Baer, M.D. Marion-Sims College of Medicine, St. Louis, 1893; of St. Louis; died in Herrnhut, Saxony, Germany, August 31, from cerebral hemorrhage, aged 55.

James G. W. Entwistle, M.D. Albany (N. Y.) Medical College, 1883; formerly of Chicago; died at his home in Canton, Ill., September 1, from pernicious anemia, aged 69.

Hamilton Byron Griswold, M.D. University of Vermont, Burlington, 1886; a veteran of the Civil War; died at his home in New Milford, Conn., June 24, aged 64.

David Mitchell, M.D. Victoria College, Coburg, Ont., 1869; a pioneer practitioner of Olympia, Wash.; died at the Canyon Hotel, Yellowstone Park, Mont., August 30.

Jacob Weber, M.D. University of Pennsylvania, Philadelphia, 1858; of Philadelphia; died in Cape May, N. J., August 30, from heart disease, aged 86.

Phoebe Low, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1872; died at her home in Liberty, N. Y., August 21, from cerebral hemorrhage, aged 73.

Silas Wright Frame, M.D. Bellevue Hospital Medical College, 1875; a veteran of the Civil War; died at his home in Belleville, N. Y., August 27, aged 69.

Henry L. Schilling, M.D. Tulane University, New Orleans, 1890; formerly of Magnolia, Miss.; died at his home in Hot Springs, Ark., September 2, aged 56.

A. Herbert Bayard, M.D. Albany (N. Y.) Medical College, 1889; health officer of Cornwall-on-the-Hudson, N. Y.; died at his home, August 31, aged 42.

William Harmon Miller, M.D. Jefferson Medical College, 1893; formerly of Rockport, Tex.; died at his home in San Antonio, August 29, aged 44.

Clarence N. Mitchell, M.D. Baltimore Medical College, 1902; of Lawrence, Mass.; died at the Cottage Hospital in that city, August 26, aged 31.

George David Greenslate, a practitioner since 1876; died at his home in Willmathsville, Mo., July 12, from carcinoma of the liver, aged 62.

George F. Chapman, M.D. University of Louisville (Ky.), 1890; died at his home in Centertown, Ky., recently from nephritis, aged 57.

Thompson M. Wells, M.D. Hahnemann Medical College, Philadelphia, 1875; died at his home in Bellaire, O., August 31, aged 58.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE CHARGE AGAINST DR. WILEY

Extracts from the Testimony Given Before the Congressional Committee

(Continued from page 997)

THE DENVER MEETING

[In August of 1909 the thirteenth annual convention of the State and National Food and Dairy Departments met in Denver. At the previous meeting, held at Mackinac Island, Mich., Aug. 4-6, 1908, the association had adopted resolutions expressing its regret that the cooperation of the Secretary of Agriculture in establishing standard for the enforcement of food laws, had been withdrawn. At the 1909 meeting in Denver strenuous efforts were made by the Secretary and his friends to control the convention, to prevent the passage of resolutions denouncing the findings of the Remsen Board, and to control the election of officers. The extracts from the testimony which follow show how the resources of the Department of Agriculture were used to secure the presence of as many adherents of Wilson and McCabe as possible and to influence the votes of as many of the delegates as could be swayed. The first extract is from Professor Remsen's testimony, and shows how Secretary Wilson arranged to have the Referee Board attend the Denver meeting and how its influence was used. Part of Professor Remsen's evidence is given below:]

DR. REMSEN'S TESTIMONY

Mr. Floyd. Did you attend the convention of State and National Dairy and Food Departments at Denver in 1909?

Dr. Remsen. Yes, sir; on the way back from California I stopped there.

Mr. Floyd. Did you attend on your own volition, or were you directed by the department to attend?

Dr. Remsen. I was not directed; I was requested.

Mr. Floyd. You were requested to attend?

Dr. Remsen. Yes.

Mr. Floyd. How long did you remain at Denver during that convention?

Dr. Remsen. Two or three days; I am not sure just exactly how long.

Mr. Floyd. What was the purpose of that convention, and what were the questions discussed there? Did they relate to pure foods?

Dr. Remsen. Well, I do not know much about the association. I do know that I was asked by the president of the association to give an address on the subject of the work of the referee board, I think, or at least it had reference to the benzoate question, and after finding I could stop there conveniently on the way from California and that the other members of the board could do the same, I accepted the invitation. The association discussed all sorts of questions pertaining to things of which I have no knowledge, but I do know that they took up this benzoate question in rather an active way, and I suppose it was felt by the Secretary that it was desirable to have some one there to explain what it all meant. They seemed to be going on the wrong track, so far as we could gather. They got some wrong impressions of the thing and the nature of the work, or what we were appointed for, or what we were doing, and it did seem wise not to let them go too far that way without some explanation from us, which we gave in a dignified way, I think I can safely say.

Mr. Floyd. And the expenses of yourself and the other members of the board for this trip to California and this trip to the convention in Denver were paid by the department?

Dr. Remsen. Yes. Of course the trip to the convention amounted to very little. That was simply stopping over.

Mr. Floyd. You state that you addressed the convention yourself. Did any of the other members of the board address the convention; and if so, who?

Dr. Remsen. Dr. Chittenden, Dr. Long, and Dr. Herter all addressed the convention, at the request of the president of the association, Mr. Emory.

Mr. Floyd. I will ask you to state if in the address you made before the convention on the question of benzoate of soda you made a defense of the use of benzoate of soda?

Dr. Remsen. No, sir.

Mr. Floyd. You just discussed the findings?

Dr. Remsen. I discussed the general method of procedure which we had followed. I have nothing to do with the use of benzoate of soda. We were not asked to decide whether it was a good thing to use or not, and we have never expressed ourselves upon that point.

Mr. Floyd. What was it, then, that you were asked to decide?

Dr. Remsen. Whether the use of benzoate of soda in small doses and in large doses is or is not injurious to the human system. That was the end of the inquiry so far as we were concerned.

. . . .

The Chairman. Your expenses at Denver were also paid by the Department of Agriculture?

Dr. Remsen. We went, as I said yesterday, to California for an important purpose, looking into the sulphuring process, and on our way back we stopped there. We did make a little effort to time our trip back so that we could attend that meeting, because we had been asked to give addresses. We were asked by the president of the association. We stayed there possibly three days. I am not sure whether it was two or three, but not more than three. The slight expense of the board during that period in the way of traveling expenses was paid by the——

The Chairman (interposing). You gave an address there?

Dr. Remsen. Yes.

The Chairman. And the purpose of that address was to explain and defend the report you had made to the Secretary of Agriculture?

Dr. Remsen. I did not defend the work. I didn't think that was my business. The report had been made. But I did do this. I explained, somewhat as I have explained to this committee yesterday, how the board came into existence, and very little else. I don't think that address was ever published. Then. I may say that after that the work of the board was attacked very violently by Dr. Reed of Cincinnati, which was most astonishing to me. After that attack I felt it my duty to respond, which I did in measured manner, and I didn't say anything I would not repeat. I will add that to what I said yesterday, because I made really two addresses there The other members of the board I think did not answer the attack. I think they were satisfied with my answer.

The Chairman. In making either one of those addresses did you go beyond the official work of your board and defend the use of benzoate of soda as a preservative of food?

Dr. Remsen. No, sir.

[Solicitor McCabe not only attended the Denver meeting at government expense and, as he naïvely says, "cast the vote for the Department," but also—as his evidence shows—made an earlier trip west, of which, at first, he could not remember any of the details. Under the cross-examination of Dr. Wiley's representative, Mr. McCabe was forced to admit that he went west to line up votes for the Department of Agriculture, "to support the referee board's decision on the benzoate of soda question, as against the decision of the Bureau of Chemistry on the same question." A part of his testimony follows:]

MR. MCCABE'S TESTIMONY

Mr. Floyd. Did you attend a meeting of the Association of State and National Dairy Departments of the United States at Denver in 1909?

Mr. McCabe. Yes, sir.

Mr. Floyd. Did you take any part in the discussion or proceedings there?

Mr. McCabe. Yes, sir.

Mr. Floyd. Was there any question raised in that convention in regard to the use of benzoate of soda as a preservative?

Mr. McCabe. There was.

Mr. Floyd. Did you take any part or participation in the discussion of that question?

Mr. McCabe. I did.

Mr. Floyd. On what side?

Mr. McCabe. In favor of the ruling of the department. I have always been on that side.

Mr. Floyd. In favor of the ruling of the department. What was the occasion of your attending that convention? Did you go there in your official capacity?

Mr. McCabe. I went there by direction of the Secretary of Agriculture. The occasion of my attending was this. That meeting in Denver was held in 1909. The meeting the year before had been held at Mackinac, in the State of Michigan. That was in 1908. At the Mackinac meeting they held a secret session of the association. Not only was it a secret session barred to the public, although they were public officers attending there at public expense, either national or state, but they had a secret ballot. Among the resolutions that they adopted, among the resolutions which were reported by the committee on resolutions, was one vilifying and abusing the Secretary of Agriculture and questioning his good faith I was not at that meeting.

Mr. Floyd. Can you produce that resolution in this connection?

Mr. McCabe. I will tell you about that. I will come to that point. There were four or five department people there. When the resolution was reported, they could not bear to remain and see their chief slaughtered. So they asked to be excused and went out, I suppose with their handkerchiefs to their eyes, and the resolutions were adopted; that is, some resolutions were adopted. There were some resolutions reported in the papers, and the resolutions which were reported in the papers virtually and practically accused the Secretary of misapplication of funds. And the Secretary of Agriculture wrote to the secretary of the association and asked him for a copy of the resolutions, and he wrote repeatedly, and he was never able to get them. So when the Denver meeting was coming on the Secretary said, "We will go out there and we will have an open meeting, and we will see what they have to say when I am there." And we went out.

Mr. Floyd. And you went in your official capacity?

Mr. McCabe. Yes.

Mr. Floyd. At the direction of the Secretary?

Mr. McCabe. I did.

Mr. Floyd. Did other members of the Department of Agriculture attend?

Mr. McCabe. Yes, sir. There were a number of employees of the Bureau of Chemistry and a number of the employees of the Bureau of Animal Industry—Dr. Bigelow, Dr. Wiley; I think Dr. Kebler was there, and Dr. Melvin and Dr. Rawl, of the Dairy Division, I think were there.

. . . .

Mr. Davis. Very well. You were asked about being present at the convention that was held in Denver?

Mr. McCabe. Yes.

Mr. Davis. When was that Denver convention held?

Mr. McCabe. Sometime in the summer of 1909.

Mr. Davis. Do you remember the month?

Mr. McCabe. I do not. It was either July or August.

Mr. Davis. It was August, I believe; I am so informed. You attended that in your capacity as a member of the Board of Food and Drug Inspection?

Mr. McCabe. I attended it because in my capacity as an employee of the Department of Agriculture I was directed by the Secretary to go there.

Mr. Davis. Do you know how you gained admission to the floor to participate in the voting or debates; was it as a member of the force of the Secretary of Agriculture, or as connected with the Bureau of Chemistry?

Mr. McCabe. As associated with the Secretary of Agriculture—with the Department of Agriculture.

Mr. Davis. And not in connection with the Bureau of Chemistry?

Mr. McCabe. I never considered that I have been connected with the Bureau of Chemistry.

Mr. Davis. You voted in that convention?

Mr. McCabe. I did; that is, I cast the vote of the Department.

Mr. Davis. Who constituted the representatives of the department whose conclusion was expressed in the vote that you cast?

Mr. McCabe. I think all the representatives of the department who were there.

Mr. Davis. I take that for granted; but were they connected with one or another bureau or branch of the department?

Mr McCabe. Connected with different bureaus and branches.

Mr. Davis. Could you enumerate them?

Mr. McCabe. Well, there was the Secretary's office; there was the Bureau of Animal Industry; and there was the Bureau of Chemistry.

Mr. Davis. And there were how many—nine, were there not?

Mr. McCabe. Nine what?

Mr. Davis. Nine representatives of the department.

Mr. McCabe. There must have been more than that, because there were, I think, five members of the referee board and the Chief of the Bureau of Chemistry. I remember Dr. Bigelow was there, although I think he was attending the meeting of official agricultural chemists. There was Dr. Kebler, Dr. Melvin, and I think Dr. Dorsett was there. That is simply from recollection. I think, perhaps, Dr. Rawl of the Dairy Division was there. I was there.

Mr. Davis. Before you went to that convention you took a trip through the Northwest, did you not, in connection with it?

Mr. McCabe. No; not in connection with it.

Mr. Davis. When did you leave Washington to go to the convention?

Mr. McCabe. I don't know.

Mr. Davis. How many days before the convention?

Mr. McCabe. Several days.

Mr. Davis. Do you mind saying where you went?

Mr. McCabe. I went directly from Washington to Denver.

Mr. Davis. Before that, had you been out in the Northwest at all on this business?

Mr. McCabe. Not on this business.

Mr. Davis. You had not been out there?

Mr. McCabe. I could not answer positively from recollection. I think I had taken an official trip before that time.

Mr. Davis. Was it not almost immediately before that?

Mr. McCabe. How long before, I don't know.

Mr. Davis. I wish you would look that up.

Mr. McCabe. I will verify that and put it in my testimony.

Mr. Davis. Would you object to stating what that trip was about?

Mr. McCabe. I would, from memory, because it has been a good while ago, and I do not remember about it.

Mr. Davis. Will you be good enough to refresh your recollection?

Mr. McCabe. Yes.

Mr. Davis. You were traveling at the expense of the Agricultural Department?

Mr. McCabe. Yes; it was an official trip.

Mr. Davis. And during that official trip, is it not a fact that you interested yourself to interview various persons who would be in attendance at that Denver meeting?

Mr. McCabe. I think I did.

Mr. Davis. With a view to the question that would come up in reference to benzoate of soda?

Mr. McCabe. With a view of upholding a ruling of the department.

Mr. Davis. Do you remember how many persons you interviewed during that official trip who afterwards appeared at Denver and voted to support the benzoate of soda decision?

Mr. McCabe. No.

Mr. Davis. Could you approximate the number?

Mr. McCabe. I do not know that I could. I would say possibly three or four or five.

Mr. Davis. In refreshing your recollection about the other matter, you can refresh your recollection about that and recall, if you can, the itinerary of your trip?

Mr. McCabe. Yes.

Mr. Davis. Be good enough to tell us who the persons were that you interviewed on that trip.

Mr. McCabe. I can tell you now that I interviewed every man I met that would probably come to the convention, and I asked every man of that kind I met to uphold the department when he got there.

Mr. Davis. And that you did while traveling on an official trip at the expense of the Department?

Mr. McCabe. Yes.

Mr. Davis. The exact object of that trip was what? Do you now remember?

Mr. McCabe. No; nor do I think it is remarkable that I do not remember.

Mr. Davis. I do not make any suggestion that it is remarkable.

Mr. Higgins. What is the purpose of this examination?

Mr. Davis. It is completed, Mr. Higgins. The purpose of it, I can say without the slightest reservation, is to show that the Solicitor for the Department of Agriculture was on a trip at the government's expense, if not for the purpose, with the effect of marshaling forces that were to be at the Denver convention to support the referee board's decision on the benzoate of soda question as against the decision of the Bureau of Chemistry on the same question.

Mr. Higgins. And he has stated that he did that at the request of his chief.

Mr. Davis. No; he has not stated that he did that at the request of his chief.

Mr. Higgins. I so understand—that he attended the Denver convention at the request of the Secretary of Agriculture.

Mr. Davis. Yes; but this was before this trip about which I have been inquiring.

Mr. Higgins. I would suggest that inasmuch as he said that, that it might be more pertinent to examine the Secretary of Agriculture when he comes on the stand.

Mr. Floyd. I think you misunderstand Mr. McCabe. He stated that it is true that he went to the Denver convention at the request of the Secretary of Agriculture; but Mr. Davis has been asking him about another trip he made.

Mr. Higgins. He stated, as I understand, that before that time he took an official trip, which, I presume, presupposes that the Secretary of Agriculture either directed him to make that trip or agreed that he should take it.

Mr. Floyd. He has been asked to refresh his memory about the details of that trip.

Mr. McCabe. I can state now with the greatest positiveness that if I met anybody on that trip, and I know I did meet some, who were entitled to go to that convention, that I asked them to go and when they got there to support the ruling of the Department of Agriculture; that I considered the investigation that had been made by the referee board and its adoption of the three Secretaries settled the question, and I hoped that we would not have a repetition of what occurred at Mackinac. I further argued with the men I met that when we got there we ought to have an open meeting and settle the question, and I worked, and worked hard, along that line, and I am very proud of it.

Mr. Higgins. At that time there was a great deal of contention among the food manufacturers, or certain food manufacturers, as to the use or harmful effect of benzoate of soda.

Mr. McCabe. From the moment the referee board was created there was a newspaper war carried on against that board——

Mr. Higgins. And is now, is there not?

Mr. McCabe. Well, the papers speak for themselves. There was a correspondent here in Washington almost from the time that the board was created who sent out any number of copies of articles reproduced by a typewritten process abusing the Secretary, abusing the referee board, impugning the motives of the Secretary for creating the board, attacking the personnel of the referee board; and those articles have continued to be sent out up to within certainly a very few days. The fight on benzoate of soda, so far as the manufacturer is concerned, was purely a trade fight. It was a matter of advertising. And when we got to Denver both sides were drawn up—the people who were opposed to benzoate of soda and opposed to the methods of the board and favored the findings of the Bureau of Chemistry.

Mr. Higgins. What people were principally opposed?

Mr. McCabe. The people who appeared there were the Heinz people, their advertising people, the people who have since formed an association of which Heinz & Co. and other manufacturers are members.

Mr. Higgins. What is the name of that?

Mr. McCabe. It is called the Association for the Promotion of Purity in Food Products.

Mr. Higgins. And where located?

Mr. McCabe. I think possibly their office is in New York, although I do not know. A representative of the national food magazine, *What to Eat*, the editor or proprietor of that paper, it was—I have never had any experience in attending many political conventions, but it was a stand-up and knock-down fight from the minute we got there until it was over, with both sides trying to control just as many delegates as they possibly could.

Mr. Floyd. How did the vote stand on the final vote?

Mr. McCabe. The vote on benzoate of soda, on the division, on the resolution indorsing the findings of the referee board—I do not know how it stood. The fight was continued—each side had a slate of officers. When the meeting was held at Mackinac behind closed doors, the result was that resolutions were published accusing and condemning the Secretary of Agriculture; and there was just one gentleman who had red blood enough to get up and say that he thought it was wrong for the Secretary of Agriculture to be condemned without a hearing.

Mr. Floyd. What I wanted to know was how the vote stood——

Mr. McCabe. That man was Mr. Flanders, of New York. I am coming to an answer to your question. I do not know how the votes stood on the question of benzoate of soda, but the result was an indorsement of the ruling of the department. We supported Mr. Flanders for president, and he won by one vote. The State of Georgia switched after the vote on president, I think—yes; I think it was the State of Georgia—and the rest of the other slate was elected.

Mr. Floyd. Now, right in that connection, before we get away from it, you stated that quite a number of the employees of the Agricultural Department and its different bureaus were there in addition to yourself.

Mr. McCabe. Yes.

Mr. Floyd. To get to the item of expense, were the expenses of these various employees paid by the Department?

Mr. McCabe. Yes; they always have been at every meeting.

[Dr. Robison, a chemist, attended the Denver meeting as a representative of the State of Michigan and voted for the commissioner of that state for president. He was also chairman of a committee on benzoate of soda. Later he testified for the State of Indiana in the Indianapolis case. For these offenses he was dismissed by Secretary Wilson.]

DR. ROBISON'S TESTIMONY

Mr. Moss. State your full name.

Dr. Robison. Dr. Floyd W. Robison.

Mr. Moss. What is your occupation or for what have you been fitted by occupation.

Dr. Robison. I am a chemist by occupation.

Mr. Moss. What official positions have you held?

Dr. Robison. I have held the official position of state chemist for the Michigan State Experiment Station and the position of state analyst of the Michigan State dairy and food department, and the position of a per diem employee, food and drug inspection, in the United States Department of Agriculture.

Mr. Moss. How did you obtain that employment in the United States Department of Agriculture?

Dr. Robison. Shortly following the passage of the national food and drugs act, by virtue of an examination taken under the Civil Service Commission, being duly certified by that commission and subsequently appointed over the official signature of the Secretary of the United States Department of Agriculture.

Mr. Moss Then you were a civil-service employee?

Mr Robison. Yes.

Mr. Moss. When did your connection with the Department of Agriculture begin?

Mr. Robison. I have the original appointment here which will answer that question.

Mr. Moss. You can refer to that.

Dr. Robison. My probationary appointment for a period of six months was made on May 1, 1907, which was followed on March 14, 1908, by a permanent appointment which was to take effect on November 9 the year previous, 1907.

Mr. Moss. When did your connection with the Agricultural Department terminate, if it has terminated?

Dr. Robison. My connection terminated on June 30, 1911.

Mr. Moss. How did it terminate—by resignation?

Dr. Robison. No, sir.

Mr. Moss. How?

Dr. Robison. By virtue of a letter of dismissal from the Secretary of Agriculture.

Mr. Moss. Were there any charges filed against you?

Dr. Robison. None.

Mr. Moss. Have you the letter of dismissal with you?

Dr. Robison. I have.

Mr. Moss. Please read it to the committee, so it will be a part of the record.

Dr. Robison (reading):

> UNITED STATES DEPARTMENT OF AGRICULTURE,
> OFFICE OF THE SECRETARY,
>
> *Washington, D. C., June 26, 1911.*
>
> Mr. Floyd W. Robison, of the State of Michigan, a food and drug inspection chemist, having a salary at the rate of $7 per diem when actually employed on the miscellaneous roll, paid from the fund appropriated for general expenses, Bureau of Chemistry, food and drugs act, salaries out of Washington in the Bureau of Chemistry, of the United States Department of Agriculture, is hereby removed from that position and his name ordered to be dropped from the rolls of the Department of Agriculture at the termination of June 30, 1911, and this order shall take effect on that date. He is removed from the department for the good of the service.
>
> [SEAL] JAMES WILSON,
> *Secretary of Agriculture.*

Mr. Moss. I will ask you if you have had any subsequent correspondence with the Secretary of Agriculture about this?

Dr. Robison. I have.

Mr. Moss. You will read the letter addressed to you by Secretary Wilson giving a more extended reason for your dismissal.

Dr. Robison. I will say, if the chairman will permit me, that following the receipt of that letter of dismissal I wrote a letter to the Secretary of Agriculture, a brief letter, in which I demanded of him by virtue of my right as an American citizen and as an employee under the civil-service act that he state the charges on file against me, and to that I received this letter.

Mr. Moss. You can place the copy of the letter in the record.

Dr. Robison. The letter I wrote him is in the hands of the Secretary of Agriculture.

Mr. Moss. Well, we may be able to get that. You may read the response of the Secretary of Agriculture to you.

Dr. Robison. This is dated, "Office of the Secretary of Agriculture, July 25, 1911:"

Mr. Floyd W. Robison,
1111 Union Trust Building, Detroit, Mich.

Sir: I have your lettter of July 14. The facts in the case are as follows:

In May, 1907, you were appointed food and drug inspection chemist, at $7 per day, on the food and drugs roll when actually employed. On November 9, 1908, you were transferred to the roll for food and drugs outside of Washington, D. C. During the year 1909 you were paid $28 and reimbursed $26.84 for expenses.

At the meeting of the Association of State and National Food and Dairy Departments at Denver in July, 1909, you attracted attention by taking a strong and public position against the policies of this department and of the administration. You appeared in the Federal court in Indianapolis in opposition to the policies of the administration with regard to the reports of the referee board on benzoate of soda and the report of the three secretaries with regard to it.

It recently came to my attention that beginning with February, 1911, you had resumed work under your old appointment, though you had not rendered any previous service since April 30, 1909. I had supposed that your long absence and work for the State of Michigan and positive stand against the administration had all resulted in your leaving the service. I have approved your dismissal for the good of the service. There are no charges against you; we make none. I recognize the fact that you have a perfect right to occupy any position you see fit with regard to the policies of the administration or of the department, but I do not think you should draw salary while you are taking this stand.

This is all I have to say. If you want a hearing, you can have one at any time.

Respectfully, James Wilson.

Mr. Moss. Were you a delegate to the Denver convention?

Dr. Robison. I was.

Mr. Moss. Whom did you represent at the Denver convention?

Dr. Robison. I represented the State of Michigan.

Mr. Moss. Who paid your expenses for attending that convention?

Dr. Robison. The State of Michigan.

Mr. Moss. Were you drawing any salary from the Government at the time you were at the Denver convention?

Dr. Robison. I was not.

Mr. Moss. Did you draw any money, either directly or indirectly, from the National Government for your attendance at the convention or for your expenses?

Dr. Robison. I did not.

Mr. Moss. What position did you hold at the Denver convention, so far as the convention itself was concerned?

Dr. Robison. I held the position of chairman of the committee of eleven state food chemists appointed by the president of the Association of State and National Food and Dairy Departments.

Mr. Moss. Did you make any report at that convention?

Dr. Robison. As chairman of the committee, I did, sir.

Mr. Moss. Will you read into the record just the report that you made to the convention?

Dr. Robison. I have this report embodied in my reply to the Secretary of Agriculture. I will state, Mr. Chairman, that the report involves several paragraphs, but the final recommendation of the report is the one——

Mr. Moss. Read the recommendation, and if the committee wants the entire report it can be inserted.

Dr. Robison (reading):

Your committee therefore respectfully suggests to this association the wisdom of asking the President of the United States and the honorable Secretary of Agriculture to institute investigations along some such broader lines as indicated above.

Mr. Moss. In making that report did you make it in your personal capacity as the delegate or did you make it in your capacity as chairman of this committee?

Dr. Robison. I made it in my official capacity as chairman of this committee

Mr. Moss. As I understand it, you were appointed a delegate by the State of Michigan?

Dr. Robison. That is correct.

Mr. Moss. And expenses paid by the State of Michigan?

Dr. Robison. That is correct.

Mr. Moss. And as such delegate you were appointed chairman of the committee by the president of the association?

Dr. Robison. That is correct.

Mr. Moss. And as chairman you made a report of the convention?

Dr. Robison. That is correct, sir.

Mr. Moss. What disposition was made of this report?

Dr. Robison. The report was unanimously adopted by the convention.

Mr. Moss. Were you acting in any way, directly or indirectly, for the Department of Agriculture at the Denver convention?

Dr. Robison. I was not.

Mr. Moss. Did you receive any information from Secretary Wilson or any person representing the Department of Agriculture as to what the policy of the department or administration was?

Dr. Robison. I received no information from the Department of Agriculture or anyone else as to what the policy of the administration was.

Mr. Moss. Did you address the convention?

Dr. Robison. As chairman of this committee; yes.

Mr. Moss. I mean did you make an address there advocating benzoate of soda or opposing it in any way?

Dr. Robison. I did not.

Mr. Moss. Did you make any address to the Denver convention in which you referred to the Remsen board one way or the other?

Dr. Robison. I did not.

Mr. Moss. In your capacity as delegate did you cast a vote for president of that association?

Dr. Robison. I did.

Mr. Moss. Will you state for whom you cast that vote?

Dr. Robison. I cast that vote for the commissioner of the State of Michigan, who was a candidate for the presidency at that meeting.

Mr. Moss. Was the candidate for whom you cast your vote receiving the support of the Department of Agriculture at that convention?

Dr. Robison. He was not.

Mr. Moss. So far as you know, then, did you appear in opposition to the Department of Agriculture in any other manner except casting your personal vote for the president of the association?

Dr. Robison. I did not.

Mr. Moss. And will you state upon what grounds you cast your vote for the president?

Dr. Robison. On the grounds that the commissioner of the State of Michigan was a candidate for the presidency, and as a delegate of the State of Michigan I thought it my duty to cast the vote of Michigan for him.

Mr. Moss. So you cast it, then, upon the ground of state pride and your acquaintance——

Dr. Robison. Solely, sir.

Mr. Moss. At whose request did you appear at Indianapolis to give testimony at that trial?

Dr. Robison. At the request of the Board of Health of the State of Indiana.

Mr. Moss. Who paid your expenses at that trial?

Dr. Robison. The Board of Health of the State of Indiana.

Mr. Moss. Were you paid any fee?

Dr. Robison. I received no fee; no, sir.

Mr. Moss. At the trial in Indiana, upon what grounds did you testify? Upon the ground that you had done original work along the lines involved in the suit, and was testifying as to your own findings as the chemist of the original work?

Dr. Robison. Solely, sir.

Mr. Moss. In your testimony, then, were you testifying to discredit the policies of the administration or were you testifying as to the truth, as you understood it, of the issues involved, as discovered by your original work as a chemist?

Dr. Robison. I testified according to the truth as I understood it to be and had found it from my own investigations, and according to my oath, and without any regard in any capacity to any other policy.

Mr. Moss. Were you warned, either directly or indirectly, by any member connected with the Department of Agriculture, that you should not give this testimony, because it would be in opposition to the policies of the administration of the United States?

Dr. Robison. I was not.

[Dr. Wiley, although chief of the Bureau of Chemistry and responsible for the enforcement of the national Food and Drugs Act, was not a delegate from the Department of Agriculture and had no vote. Instead the delegation representing the pure food work of the national government was headed by Solicitor McCabe, a lawyer, who knows nothing of chemistry, foods or drugs. A portion of Dr. Wiley's testimony relating to the Denver meeting follows:]

DR. WILEY'S TESTIMONY

Mr. Davis. It was stated by Mr. McCabe, on page 436 of the record, that you, among others, attended the meeting at Denver which has been several times referred to in these proceedings. What is the fact about that?

Dr. Wiley. I understand that Mr. McCabe said I was a delegate.

Mr. Davis. That is the implication of his answer.

Dr. Wiley. I was not a delegate to the meeting at Denver. I went out there to attend a meeting of Official Agricultural Chemists, of which I am the permanent secretary, and also to visit my laboratory, or, I should say, the laboratory of the Bureau of Chemistry there, which I had never seen. During my stay there I was incidentally in the meeting of food commissioners a few times, and my name was down to read a paper on the program, and when the time came for my paper I was attending the meeting of the Official Agricultural Chemists, which was held in the same building, and the Secretary of Agriculture was appointed chairman of a committee to wait on me and bring me into the hall to read my paper. The Secretary of Agriculture and the committee waited on me and I went with them into the meeting, and the Secretary presented me to the chairman in a short speech and I read my paper, which consumed about 15 minutes, I think, and I then returned to the meeting of Official Agricultural Chemists. I was not otherwise a delegate to that convention and took no part whatever in its proceedings.

The Chairman. Did you vote in the meeting that you have been referring to—the meeting of the State and National Dairy and Food Department?

Dr. Wiley. No. When it came time for the Agricultural Department to vote Mr. McCabe asked me if I wanted to vote. I said, "No, I am not a delegate and I will not vote."

The Chairman. Were you paid any expenses for having attended the National Food and Dairy Department meeting?

Dr. Wiley. No. My expenses were paid to the other meeting, the Association of Official Agricultural Chemists, and the inspection of my laboratory. Nothing was paid in connection with the dairy and food commissioners.

Mr. Higgins. But you took the trip and this was incidental to your trip and the expenses for the trip were paid by the Department?

Dr. Wiley. Yes, sir.

Mr. Davis. You have spoken of the expenses of certain appointees as having been paid from the bureau, or some reference was made to that—in fact, I don't think you yourself have made a statement about it—and I call your attention to the names of Charles W. Boyle and others whom I named to Mr. McCabe, and Mr. McCabe stated that these persons had been appointed for duty in his office. I will ask you from what appropriation they were paid, if you know?

Dr. Wiley. I do know.

Mr. Davis. Well?

Dr. Wiley. They were paid from the money appropriated to the Bureau of Chemistry.

Mr. Davis. Did you ever have the services of those men or any of them?

Dr. Wiley. They were never in my office; not one of them to my knowledge.

Mr. Davis. In other words, they were appointed and they were paid out of your fund and they performed their duties in the office of the Solicitor?

Dr. Wiley. That is correct.

Mr. Floyd. Have you a list of those?

Dr. Wiley. I have. It is there [indicating].

Mr. Davis. I now hand you a list and ask you to examine this list and state whether that correctly gives the names and the compensation of the persons of whom I have just inquired?

Dr. Wiley (after examination of list). To the best of my knowledge and recollection it does. These appointments were made, and the only knowledge I had of them was that they had been appointed to the Bureau of Chemistry and detailed to the Solicitor's office, and that the money would be charged against the Bureau of Chemistry. That was to notify me so that I would not myself spend that money when it was being spent in another place.

Mr. Higgins. Did you understand that was for the enforcement of the Food and Drugs Act.

Dr. Wiley. I did not understand what it was for.

[Comment is hardly necessary on the portion of Secretary Wilson's evidence given below. Those who have followed the testimony of this case to this point will find a number of suggestive statements in the secretary's replies.]

SECRETARY WILSON'S TESTIMONY

The Chairman. It was at your request, Mr. Secretary, that certain employees of the Department of Agriculture attended the Denver convention of the Association of State and National Food and Drug Departments, was it not?

Secretary Wilson. Yes; that is right.

The Chairman. Did you assign any special duty to those employees who attended this convention, which duty did not appear on the published program of the association?

Secretary Wilson. That particular question I would have to look over my orders to refresh my recollection about. I do not remember anything of that kind, and yet it might have been.

The Chairman. Dr. Dunlap stated in his testimony before the committee that at your request he made an unofficial trip at public expense to confer with Dr. Remsen concerning the Denver convention. Will you be willing to explain to the committee what request you submitted to Dr. Remsen through Dr. Dunlap?

Secretary Wilson. I could not remember. If I can dig it up in my recollection or from any contemporaneous fact, I will be glad to send you an intelligent answer.

The Chairman. In a letter which Dr. Remsen wrote to you, Mr. Secretary, he used this language—and I can put in the entire letter, if you would like to have your recollection refreshed—in which he speaks of your plan as an excellent one. I will read it so it will come back to your memory and refresh your memory on the point.

The letter is dated June 30, 1909, and is as follows:

> MY DEAR MR. SECRETARY: Mr. Dunlap has no doubt informed you of the general trend of our conversation. I have now to say that I have written to all the other members of the board urging them to arrange so as to be in Denver at the time of the meeting of the association. You may count upon the attendance of most of us. There is some doubt as to Dr. Herter, as he has been somewhat disabled, but I know he will go if possible.
>
> Your plan, as explained by Dr. Dunlap, is an excellent one. It is time something definite were done. You will find our board not only willing, but anxious to cooperate with you in this effort to get things on a solid, scientific, common-sense basis.

The letter is addressed to you, Mr. Secretary, and is signed Ira Remsen, chairman of the Referee Board of Consulting Scientific Experts.

Secretary Wilson. Yes.

The Chairman. Would you care to explain to the committee what your plan was that you had Dr. Dunlap explain to Dr. Remsen?

Secretary Wilson. Surely. That was the Board of Foods and Drugs, and if I remember the names of those connected with it, nearly all of them have my permission to cooperate with us in their states, and so forth, and to help us, and we help them. They had met at Mackinac Island, I think it was, Lake Superior, if my geography does not desert me, and they had done queer things there. We had a referee board, and I think a pretty expensive referee board, you will confess. We had gone after big men, and it was costing a good deal of money, and those people met there at Mackinac Island and got themselves outside of sympathy with the department along those lines, attacked me personally, misrepresented things, and I thought the amount of effort the United States was making and the amount of money it was expending to get facts from the greatest chemists in the land made it worth while for us to get those big men there before that class of men and let them see them and let them hear them. I did not think they comprehended the difference there was between a small chemist and a big one. That was the one thing in my mind. They were in California studying the drying of foods with sulphur, that we spoke about this morning, and the arrangement was they should stop over at Denver on the way back. I was going to the forests, and I arranged and it was my plan to stop there on my way to the forests. I went into the forests from Denver and stayed a month. Those were the plans. There is nothing

I care to conceal here, not a thing. Those were the plans and we talked them over, and every one of them addressed that convention, every one of them, and I think those people got new light from those men.

The Chairman. However, I believe the function of the board was simply to make recommendations to you as Secretary of Agriculture, was it not?

Secretary Wilson. That was a function, of course; that was the original function; but they were on their way back, and they stopped over there and let them have the benefit of their high intelligence along those lines.

The Chairman. Do you consider, or did you consider at the time, that the attendance of members of the Remsen Board and Solicitor McCabe at this Denver convention, which we were speaking about heretofore, was in line with their official duties?

Secretary Wilson. Yes; it was a kind of public trial we were having really, of the Remsen board.

The Chairman. Their attendance being in the line of their official duty. Will you explain why you issued to each one of them a special authorization for traveling expenses to attend this particular convention, when each one of them had an annual authorization for travel anywhere in the United States upon official business?

Secretary Wilson. If you have evidence of that special authorization, you had better call my attention to it.

The Chairman. Very well, I will be glad to do that.

Secretary Wilson. I do not remember anything about that.

The Chairman. I have the special authorization for Mr. McCabe, which does not appear in our proceedings, but which was furnished by your kindness and your direction.

Secretary Wilson. There is not a thing we have that you can not get.

The Chairman. Probably I had better refresh your memory with that official authorization before making further inquiry about it. It is as follows:

> Washington, D. C., *July 1, 1909.*
>
> Dr. Ira Remsen,
> *Consulting Scientific Expert to the Secretary of Agriculture.*
>
> Sir: Authority is hereby granted you to perform such travel within and throughout the United States during the year 1910 as may be necessary in connection with your duties as consulting scientific expert. This authority may be extended by you to your associates, Dr. John H. Long, Dr. Russell H. Chittenden, Dr. Alonzo E. Taylor, Dr. C. A. Herter, associate consulting scientific experts, and to such regularly appointed assistants of the board as you deem proper. You, your associates, and the regularly appointed assistants mentioned above, will be allowed the usual traveling expenses when traveling upon official business.

In another communication you say:

> Washington, D. C., *August 6, 1909*
>
> Dr. Ira Remsen,
> *Consulting Scientific Expert to the Secretary of Agriculture,*
> *Johns Hopkins University, Baltimore, Md.*
>
> Sir: You are advised that authorization No. 1163, which permits you and the other members of the referee board to perform travel within and throughout the United States in connection with your duties as consulting scientific experts, is hereby so amended as to permit you and your assistants to attend the convention of the Association of State and National Food and Dairy Departments, to be held at Denver, Colo., beginning August 23, 1909, and I trust that you and your assistants will be able to attend that meeting while en route to or from the Pacific coast.

Secretary Wilson. I guess that is correct. What do you want to know about it?

The Chairman. I want to know, if this attendance was in line with their official duties, as stated here, why it was necessary they should have special authorization when they had a regular authorization?

Secretary Wilson. I presume they had some doubts about stopping off at Denver being in their original authorization. If they had, then I gave them all the authorization they would need.

The Chairman. If there were any doubt it would be doubt as to whether or not that came within their official duties?

Secretary Wilson. Precisely.

The Chairman. Do you hold that you have executive authority to add to the official duties of the Remsen board other than that prescribed in the order creating them?

Secretary Wilson. To this extent; yes.

The Chairman. To that extent you have?

Secretary Wilson. Yes.

The Chairman. I presume the same reply would be applicable as to the special authorization issued to Mr. McCabe?

Secretary Wilson. The same thing, although I do not remember now what authorization it was.

The Chairman. I will say to you, if you care to go into it, that I have a copy of the special authorization. It has been sent to me, but I presume it is not necessary to produce it at this point.

Secretary Wilson. Not at all; I take your word for it.

The Chairman. Do you consider there is any degree of doubt about Solicitor McCabe having the right and official duty to attend that particular convention any more than did the Remsen board?

Secretary Wilson. I do not imagine there would be much difference.

The Chairman. Was Mr. McCabe placed upon the program at that meeting, so far as you remember?

Secretary Wilson. That I do not remember.

The Chairman. Do you remember whether or not he was invited to address the convention?

Secretary Wilson. That I do not remember, either.

The Chairman. Do you remember whether any request came from that association officially to Mr. McCabe to attend that meeting or not?

Secretary Wilson. That I do not remember, either.

The Chairman. You stated there did such a request come to members of the Remsen board?

Secretary Wilson. Oh, yes; there is no question about that.

The Chairman. Would you mind, Mr. Secretary, looking up that question and placing in the record a statement as to whether or not there was a request came from the association to Mr. McCabe to attend?

Secretary Wilson. I will be glad to do it.

The Chairman. We will be glad if you will do that.

Secretary Wilson. I will be glad to do it, Mr. Chairman.

(Note.—On revising this testimony, Secretary Wilson finds, upon inquiry, that Mr. McCabe attended this convention at Denver as a delegate from the Department of Agriculture.)

The Chairman. In your letter of July 25, 1911—and I have the letter, if you care to refer to it—to Floyd W. Robison, in giving the reasons for his dismissal from public service, you stated that Dr. Robison attracted attention by taking a strong and public position at the Denver convention against the policy of your department and of the administration. I believe at that time Dr. Robison was a member of the Department of Agriculture, was he not?

Secretary Wilson. Dr. Robison's position in the Department of Agriculture at that time, I think, was a little bit peculiar. Dr. Robison was recommended to me by, I think, Dr. Wiley or some of the chemists, to be employed as expert to do some day's work; that is all—just some day's work, at so much a day. He did a few days' work and then he went and associated himself for two years with the Michigan people as their agricultural chemist, and I supposed he was out altogether, and so I did not pay any attention to his activities at Denver. But he was also active at other places. As I understand it, there is quite a difference between chiefs and subordinates of that kind. I learned, however, that he had been set at work again; that he had been in your State, Mr. Chairman, and had been active there. When you start out to drive a six-horse team, Mr. Chairman, if each horse is going to pull his own way, you will never get anywhere. I do not propose to have subordinates in my department going off on tangents that are against the decisions of the three secretaries and myself, and all that, after we have gone to the expense of hiring such noted experts and scientists as we did to make up that referee board. I propose the gentlemen will work in line or keep still about it.

The Chairman. That particular phase was covered in full in Dr. Robison's testimony, and I want to get your version of it. In what particular way, Mr. Secretary, if you care to state it, did Dr. Robison oppose your policies at the Denver convention?

Secretary Wilson. Dr. Robison was not frank in that testimony before you. He did not say a word to you about his being away two years. He really did not belong to our department. But under that old appointment he had a few days' work which he was put on actively at New York, and I did not think it ought to be without my knowing it.

The Chairman. That is all right about that; but will you kindly explain again in what way at Denver he was opposed to your policy or to the policy of your department? In what particular thing did he oppose your policy? What particular thing did he do or what particular thing did he favor that was opposed to it?

Secretary Wilson. He was connected with a committee or board to get up resolutions, is my recollection.

The Chairman. He stated he appeared there as chairman of the board.

Secretary Wilson. Yes; appointed at this Mackinac Island meeting, I think.

The Chairman. Did you understand, Mr. Secretary, that his action in reporting there was a personal one, or that he was acting for the committee?

Secretary Wilson. If he belonged to the Department of Agriculture, he should have gotten consent from the Department of Agriculture to do that kind of work. The fact is, he did not.

The Chairman. You mean he should have gotten consent before he accepted the chairmanship of that board?

Secretary Wilson. Surely.

The Chairman. He should?

Secretary Wilson. He should have done so.

The Chairman. Was Dr. Robison there at the expense of the Department of Agriculture?

Secretary Wilson. No; he was not. And I do not think he belonged to the Department of Agriculture at that time. I think he belonged to the Michigan people.

The Chairman. The only opposition he could show was as being opposed to the decisions of the referee board in the matter of benzoate of soda. That is it, is it not?

Secretary Wilson. Precisely it. That was the dividing line.

The Chairman. You also stated that he appeared in the federal court in Indianapolis in opposition to the policies of the Department of Agriculture. Please explain in that regard.

Secretary Wilson. If he belonged to the Department of Agriculture, he should have consulted me before going anywhere to discuss or act with regard to that question. That is the position I took.

The Chairman. Is it not true that Dr. Robison is the only employee of the Department of Agriculture who appeared in Indianapolis and testified in behalf of the state in that suit?

Secretary Wilson. That I do not know.

The Chairman. Has any other employee who attended there for the State of Indiana been called to your attention as attending?

Secretary Wilson. I have no recollection.

The Chairman. Is it not also true that at least four of the employees of the Department of Agriculture did attend at Indianapolis and testified for the plaintiffs in that case?

Secretary Wilson. It has come to my attention that we paid the expenses of one, and I have heard incidentally that there were two others there. I never heard of the fourth.

The Chairman. I am making that statement of four upon the statement of the attorney, Mr. Baldwin. Up to that time I only knew of three who were members of the Remsen Board. I believe Mr. Baldwin stated there were four, one coming from Kentucky.

Secretary Wilson. I do not happen to know of anybody that would go there from Kentucky, but I do not think that is very important.

The Chairman. The records of your department would show that those employees of your Department of Agriculture who appeared at Indianapolis are still within the employ of the government, will they not?

Secretary Wilson. I think so, if they are.

The Chairman. And those records will also show that Dr. Robison was discharged?

Secretary Wilson. Oh, the records will show that, surely.

Correspondence

Informing the "Typhoid-Carrier"

To the Editor:—It has been found that 3 to 5 per cent. of the patients recovering from typhoid are "carriers," that is, have typhoid bacilli in their stools even after they are well enough to be up and about. These unfortunate individuals are a danger to those about them and constitute one of the most difficult problems in preventive medicine. Although physicians are well aware of these facts, very little is done to minimize this source of infection. Hospital patients and private patients are discharged from observation without an examination to discover which are the "carriers" and which are rid of typhoid bacilli. This *laissez-faire* attitude is probably due to the irksomeness of routine bacteriologic examinations, and to the realization that we are in possession of no means of curing a "carrier." Nevertheless, I believe that we are not justified in taking this position, in sending patients back to their homes in ignorance of the fact that they may readily transmit typhoid to their friends and relatives. Although it is true that we cannot rid them of typhoid bacilli, there would be a decided advantage in most cases if the individuals were aware of their infectious state. As things are now, they go home and take no precautions, many of the women cooking the meals or at least handling the food as usual. They do not know that they should observe especial cleanliness in the various sanitary matters which it is unnecessary to detail.

I feel that this state of affairs constitutes a very weak link in the chain of the prophylaxis of typhoid. It seems to me that it would not involve too great labor to have a bacteriologic examination made of the stools before each typhoid patient is discharged from the hospital. It would not be possible to detain the patient until a negative culture could be obtained, as we do in the case of diphtheria; however, we could inform the "carrier" (and possibly the board of health as well) of his condition, and give him written instructions as to the precautions which he should observe. We might even arrange for subsequent stool examinations by the hospital or by the board of health, so as to acquaint the patient when he is finally rid of the bacilli.

This subject was recently brought home to me with emphasis when, following the discharge from the hospital of two children who had been suffering from typhoid, a third case immediately developed in the home.

Alfred F. Hess, New York City.

The Home for Widows and Orphans of Physicians

To the Editor:—In a communication by me to The Journal of Aug. 28, 1909, page 735, regarding the "Fund for Relief of Widows and Orphans," founded by the Medical and Chirurgical Faculty of Maryland in 1903, I stated that it was our hope eventually to found here also a home where the widows and children needing it could be cared for, the children educated and helped to get a start in the world and even helpless or superannuated physicians could find a shelter. It was our purpose and desire that this work, like the fund, should be under the direction and control of the faculty, which is the state medical society. Unfortunately it was found that the charter of the society gave no authorization for the institution and the advice of lawyers who were consulted was against its assumption.

Believing thoroughly in the urgent need of a home and compelled to act independently, we set to work to raise funds. The result of our efforts so far—a little over a year—is a substantial fund in the bank, and we are now on the lookout for a suitable property within the city with a view to purchase. We propose to start within the city, where it will be convenient to our workers and in a modest fashion work up.

And now we appeal to the members of the medical profession throughout the United States for their aid. By its charter the home is to be one for the "widows and orphans of physicians" and this in no limited sense. The institution is national in scope and those for whom it is designed will be welcomed whether they come from the north or the south, the east or the west. Those worthy will be admitted without unnecessary delay and without admission fee. We hope to see it grow rapidly and to be able to accommodate all who need assistance. We ask contributions of all whose hearts can be touched by pity or suffering. We ask for the widows and orphans of our brethren. Who knows but that our own widows and orphans may some day need this very help?

Eugene F. Cordell, M.D., Treasurer.
257 W. Hoffman Street, Baltimore.

Factors in Death-Rate.—Hoffman, in his paper on the "General Death-Rate of Large American Cities," enumerates the following factors as affecting the rate: size of city, density of population, latitude, longitude, elevation, rate of annual increase, proportion of males, of foreign-born, of foreign parentage, of colored, of illiterate, of male wage-earners, of ages, the mean annual maximum and minimum temperature, and mean annual relative humidity; so that the general death-rate, when analyzed, is found to be based on a very complex set of props, and the influence of the most important must be measured before accepting it as an index of mortality.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

LANOLIN NOT A PROPRIETARY

To the Editor:—In saying that "lanolin" is a "non-proprietary name" (The Journal, Sept. 9, 1911, p. 902), do you mean that it is neither trademarked, patented or in other ways protected? I should be pleased to know that.

Adolph Koenig, Pittsburgh.

Answer.—In the case of lanolin the supreme court of the State of New York upheld the principle that as the name given by the parent to the child belongs to the child, so the name applied to a product belongs to that product and not to those who gave the name. Therefore, the court ruled that the name used to designate a patented product becomes the proper designation of that product and that, when the patent expires, others may make and sell the product and may also apply the name originally used by the owners of the patented product. In the lanolin case it was held that anyone could manufacture the product and could call it lanolin so long as no attempt was made to mislead the buyer into believing that the particular product was made by the original patentees, when it was not.

BREEDING PLACES FOR FLIES AS NUISANCES—DISPOSAL OF WASTES IN A NON-SEWERED TOWN

To the Editor:—1. What sanitary regulations would you consider advisable and practicable in regard, particularly, to disposal of livery stable and other manure in a small, flat, river-valley town without sewers? 2. Suppose in the absence of adequate town or county regulations a citizen relied on a statutory prohibition of "nuisances," and prosecuted an offender, say a livery stable keeper, for depositing and accumulating manure in proximity to dwellings, what test might reasonably be applied in defining the term "nuisance"? Could such manure fairly be considered a "nuisance" after one day, or one week, or one month? 3. What time would be needed for the incubation of flies in such manure?

W. R. Tymms, Orting, Wash.

Answer.—1. It could not be considered an unreasonable sanitary regulation to require that stalls be cleaned daily and that stable manure be kept in closed, or at least carefully screened, bins to prevent access of flies, and that it be removed therefrom at least once a week. This would no doubt prevent the breeding of flies and would avoid any considerable accumulation of the manure and consequent nuisance. In addition, to prevent the breeding of flies, a regulation requiring the sprinkling of the daily accumulation with a solution of iron sulphate, one pound to the gallon of water, might be adopted. This is cheap and is said to be effective, and does not spoil the manure for fertilizing purposes. The manure when removed should not be deposited in heaps on the ground, particularly within the town limits, but should be immediately thinly spread. It will then dry out and will not afford a good breeding place for flies.

2. The Supreme Court of Washington has suggested that the question of nuisance or no nuisance cannot be determined by reference to the rules of the common law, but that each case must be considered on its own facts. The case of Everett *vs.* Paschall (111 Pac. R. 879) was briefly abstracted in the Medicolegal Department of The Journal, Jan. 28, 1911, p. 296, under the heading of "Private Tuberculosis Sanitariums As Nuisances." Other instructive comparatively recent decisions of that court on the general subject of nuisances are Thornton *vs.* Dow (111 Pac. R. 899), and Densmore *vs.* Evergreen Camp (112 Pac. R. 255). Coker *vs.* Birge (9 Ga. 425) is an old case holding a livery stable near a hotel to be a nuisance, while in Albany Christian Church *vs.* Wilborn (112 Ky. 507), a private stable near a church is held not necessarily to be a nuisance, everything depending on how it is kept.

3. According to observations by the Public Health Service the eggs of flies were hatched eight hours after being laid; Newstead of Liverpool found that in a temperature of from 75 to 80 F. they hatched in from eight to twelve hours; in a temperature of 60 F. in twelve hours, but at 45 F. they did not hatch until they were brought into a warmer atmosphere on the third day. The duration of the egg stage, as observed in Washington, was usually eight hours; that of the larval stage less than five days. The adult fly may emerge between the third and fourth day after pupation—making in all nine days from the laying of the egg to the appearance of the grown fly. Where the manure is in small piles, or is partly spread out, the full-grown larvæ almost ready for transformation are apt to migrate into the loose ground under the pile or from the edges of the pile outward, to transform under nearby rubbish. This habit may have a very important practical value, since municipal regulations of individual stable practice in regard to the removal of manure should take into consideration that such removal at intervals longer than those required for the larva to reach full growth may result in the leaving of many puparia, except, of course, in cases in which especial receptacles for manure are in use.

Literature on the subject was cited in this department June 24, 1911, p. 1900, and in the Miscellany Department Sept. 3, 1910, p. 875. The latter also refers to the disposal of human excreta. See also the Department of Book Notices, this issue, page 1079.

OPEN-AIR TREATMENT OF BURNS

To the Editor:—Please describe in brief the open-air treatment of burns.

C. L. Olson, McIntosh, S. Dak.

Answer.—The open-air treatment of burns was described in The Journal, Aug. 18, 1906, page 529, as follows: Concerning the local treatment of the burned area, the tendency at present is to the open-air method. The uncovered skin is left exposed to the air, blebs are removed, the area gently dried, dusted with stearate of zinc or other bland dusting powder, and fanned to hasten drying and the formation of crusts. Contrary to early ideas the pain under this line of treatment soon subsides and healing is more rapid than under moist dressings. The unburned portion of the surface should be bathed and cleansed often and the temperature of the room should be maintained high in order to favor the action of the skin. The air must be kept as pure as possible and the utmost cleanliness maintained about the bed linen and everything else that comes in contact with the patient. A liberal supply of pure water should be provided, and only liquid nourishment allowed until the dangers of intestinal complications have passed.

TEXT-BOOKS ON MATERIA MEDICA

To the Editor:—Is there any materia medica published which classifies and describes the medicines under their principal therapeutic action—e. g., medicines acting on the heart, nervous system, pulmonary system, etc.?

E. H. Sauvignet, Laredo, Tex.

Answer.—The principal text-books of materia medica classify drugs in one of four ways: 1, according to origin; 2, according to composition; 3, according to physiologic action; 4, alphabetically.

In the first class is Culbreth; in the second class, Phillips; in the third class, Bartholow, Butler, Cushny, Sollmann, Stevens, Wilcox, Wood; in the fourth, Hare, Potter and Shoemaker.

NO RECIPROCITY BETWEEN NEW YORK AND NEW JERSEY

To the Editor:—Does New Jersey have reciprocal relations in medical licensure with New York?

C. M. E.

Answer.—Reciprocal relations between New York and New Jersey were discontinued in 1910 and have not been resumed.

FORMULA FOR FELT OR CLOTH SPLINT

To the Editor:—In The Journal, Sept. 9, 1911, p. 918, F. S. B. asks for a formula for a good cloth or felt splint. He will find the following very useful:

One pound of gum shellac is dissolved in 1½ pints of alcohol with 1 dram of borax. This makes a thick solution. In order to make the splints, the solution should be applied on one side of a woolen cloth with an ordinary paint brush and dried thoroughly; then a second coat is applied on the same side and dried as at first, making a single piece. If a stronger piece is needed the solution should be applied on the sides of two pieces that have already been saturated, and put together and pressed with a hot iron until they unite and become as one piece. Cloth that has been worn is better than new cloth, for it is more porous and takes up more of the solution. The alcohol should be evaporated out of the cloth before applying the second coat; also good shellac that has not been adulterated should be used. It will dissolve in a few moments if held in hot water. The splint can be tempered by holding before a hot fire till soft, then placing in a cold atmosphere or in cold water.

For dressing the limb, the splint should be immersed in hot water or held before a hot fire till soft; then applied and shaped to the limb; then removed and lined with some soft material, reapplied and bandaged.

A. E. Spalding, M.D., Luverne, Minn.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, October 2-3. Sec., Dr. Ancil Martin.

Colorado: The State Capitol, Denver, October 3. Sec., Dr. David A. Strickler, 612 Empire Building.

Georgia: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

Idaho: Wallace, October 3-4. Sec., Dr. O. J. Allen, Bellevue.

Illinois: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

Louisiana: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

Michigan: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: State University, Minneapolis, October 3. Sec., Dr. W. S. Fullerton, St. Paul.

Mississippi: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

Missouri: Kansas City, September 25-27. Sec., Dr. Frank B. Hiller, Jefferson City.

Montana: The Capitol, Helena, October 3. Sec., Dr. W. C. Riddell.

New Jersey: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

New Mexico: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

Oklahoma: Muskogee, October 10. Sec., Dr. John W. Duke, Guthrie.

Rhode Island: Room 315 State House, Providence, October 5-6 Sec., Dr. Gardner T. Swarts.

Utah: Salt Lake City, October 2-3. Sec., Dr. G. F. Harding, 310 Templeton Building.

Wyoming: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Pennsylvania June Reports

The Medical Council of Pennsylvania reports the written examinations held at Philadelphia, Pittsburgh and Harrisburg, June 27-30, 1911. The number of subjects examined in was 9; percentages required to pass, 75. At the examinations held by the State Medical Society of Pennsylvania, at Philadelphia and Pittsburgh, the total number of candidates examined was 377, of whom 359 passed and 18 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Yale University	(1908)	1
Chicago College of Medicine and Surgery	(1911)	2
University of Louisville	(2, 1910) (3, 1911)	5
University of Maryland	(1909) (1910) (6, 1911)	8
Baltimore Medical College	(1908) (4, 1911)	5
College of Phys. and Surgs., Baltimore	(1908) (3, 1911)	4
Baltimore University	(1904)	1
Johns Hopkins University	(1908) (1910) (5, 1911)	7
Maryland Medical College	(1910) (2, 1911)	3
Harvard Medical School	(1884) (1911)	2
Univ. of Michigan, Dept. of Med. and Surg.	(1905) (1910)	2
Detroit College of Medicine	(1911)	1
University of Buffalo	(1898) (2, 1911)	3
Columbia University, College of Phys. and Surgs.	(1900)	1
Leonard Medical School	(1909)	1
Starling-Ohio Medical College	(1911)	2
Western Reserve University	(1909)	1
University of Pennsylvania	(1897) (1908) (2, 1909) (2, 1910) (76, 1911)	82
Jefferson Med. Coll.	(1906) (1909) (7, 1910) (64, 1911)	73
Temple University	(1910) (19, 1911)	20
Medico-Chirurgical College, Philadelphia	(1909) (4, 1910) (57, 1911)	62
University of Pittsburgh	(1909) (3, 1910) (46, 1911)	50
Woman's Medical College of Pennsylvania	(1906) (1908) (1910) (16, 1911)	19
University of Vermont	(1904)	1
University of Virginia	(1911)	1
McGill University, Montreal	(1907)	1
University of Giessen, Germany	(1901)	1

FAILED

College	Year Grad.	Per Cent.
Georgetown University	(1908)	71.2
Howard University	(1909)	62.7
University of Louisville	(1911)	52.8, 62.3, 71.5, 71.7, 72.
College of Physicians and Surgeons, Baltimore	(1910)	65
Woman's Medical College of Baltimore	(1904)	70.1
Maryland Medical College	(1911)	71.2
St. Louis College of Physicians and Surgeons	(1906)	69.5
Medico-Chirurgical College, Philadelphia	(1910)	68.9
University of Pittsburgh	(1911)	74.2
University of Pennsylvania	(1909) 74.2; (1911)	63.7, 73.1
University of Nashville	(1910)	66.7
University of Naples, Italy	(1902)	62.2

At the examination held by the Homeopathic Medical Society at Philadelphia, the total number of candidates examined was 39, of whom 37 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
University of Michigan Homeopathic College	(1908)	1
Hahnemann Medical College and Hospital, Philadelphia	(1910) (29, 1911)	30
New York Homeo. Medical College and Hospital	(1911)	1
Cleveland-Pulte Medical College	(1911)	5

FAILED

College	Year Grad.	Per Cent.
Hahnemann Med. Coll. and Hosp., Philadelphia	(1910)	66.8
Cleveland-Pulte Medical College	(1911)	63.5

At the examination held by the Eclectic Medical Society at Harrisburg, the total number of candidates examined was 41, of whom 39 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
Baltimore University	(1903)	1
Maryland Medical College	(1910) (23, 1911)	24
Baltimore Medical College	(1905) (1910)	2
University of Maryland	(1909)	1
Eclectic Med. Coll., Cincinnati	(1896) (1910) (5, 1911)	7
Medico-Chirurgical College, Philadelphia	(1910) (1911)	2
University of Naples, Italy	(1901) (1904)	2

FAILED

College	Year Grad.	Per Cent.
Maryland Medical College	(1911)	73.5
Atlantic Medical College	(1910)*	

* Did not complete the examination.

The Public Service

Medical Corps, U. S. Navy

Changes during the week ended Sept. 16, 1911.

Wells, H., medical director, detached from command of the naval hospital, Portsmouth, N. H., and ordered home.

Higgins, S. L., P. A. surgeon, ordered to duty at the naval hospital, New York.

Huff, E. P., P. A. surgeon, detached from the Navy yard, Washington, D. C., and ordered to duty at the naval hospital, New York.

Porter, F. E., P. A. surgeon, ordered to the Navy yard and to additional duty at the naval hospital, Portsmouth, N. H.

Crow, G. B., asst. surg., ordered to duty at the naval hospital, Philadelphia.

Bogan, F. M., surgeon, detached from the *Wisconsin* and ordered to duty at the naval hospital, Portsmouth, N. H.

Rennie, W. H., P. A. surgeon, detached from the *Tacoma* and ordered to the *Wisconsin*.

U. S. Public Health and Marine-Hospital Service

Changes for the fourteen days ended Sept. 13, 1911.

Glennan, A. H., asst. surg.-gen., granted nine days' leave of absence from Sept. 7, 1911.

Cofer, L. E., asst. surg.-gen., granted ten days' leave of absence from Sept. 18, 1911.

Austin, H. W., surgeon, detailed to represent the Service at the annual meeting of the American Hospital Association to be held in New York City, Sept. 19-22, 1911.

Carter, H. R., surgeon, granted seven days' additional leave of absence from Aug. 31, 1911.

McIntosh, W. P., surgeon, leave of absence for fifteen days from Sept. 1, 1911, amended to read "fifteen days from Sept. 4."

Wertenbaker, C. P., and Young, G. B., surgeons, detailed to represent the Service at the next annual meeting of the Association of Military Surgeons, to be held at Milwaukee, Wis., Sept. 26-29, 1911.

Eager, J. M., surgeon, directed to proceed to Marseilles, France, for duty in the office of the American consulate.

Gardner, C. H., surgeon, granted ten days' leave of absence from Sept. 5, 1911, on account of sickness.

Foster, M. H., P. A. surgeon, directed to proceed to Stapleton, N. Y., and report to the medical officer in command for temporary duty and assignment to quarters.

Grimm, R. M., asst. surgeon, detailed to make an investigation of local outbreaks of pellagra.

Del Valle Atiles, Pedro, A. A. surgeon, granted thirty days' leave of absence from Sept. 1, 1911.

Duffy, Francis, A. A. surgeon, granted twenty days' leave of absence from Sept. 1, 1911.

Hembree, A. T., A. A. surgeon, granted fifteen days' leave of absence from Aug. 15, 1911.

Kaplan, Maurice I., A. A. surgeon, granted seven days' leave of absence from Aug. 15, 1911, under paragraph 210, Service Regulations.

Kennedy, S. R. M., A. A. surgeon, granted thirty days' leave of absence from Sept. 1, 1911.

Moorer, M. P., A. A. surgeon, granted fourteen days' leave of absence from Sept. 5, 1911.

Robinson, H. D., A. A. surgeon, granted seven days' leave of absence from Sept. 11, 1911.

Tarbell, B. C., A. A. surgeon, granted thirty days' leave of absence, with pay, from Aug. 21, 1911, and thirty days, without pay, from Sept. 20, 1911.

Clegg, Moses T., assistant director, Leprosy Investigation Station, leave of absence for twenty-eight days, with pay, from July 12, 1911, and two days, without pay, from Aug. 14, 1911, amended to read "twenty-six days, with pay, from July 12, 1911."

Stiles, C. W., professor of zoology; directed to represent the Service at the Conference on Hookworm Disease to be held in Nashville, Tenn., Sept. 14-16, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

INFANT WELFARE IN LEIPSIC

By Charles R. Henderson, Ph.D., D.D.
Professor of Sociology in the University of Chicago
CHICAGO

The organization of Leipsic is selected as a concrete illustration of recent tendencies in German cities because it is relatively well developed and because it was early in the field. Its administrative measures cannot be slavishly copied, but they are suggestive for American cities, where lawyers, physicians and philanthropic workers are wisely joining forces.

In Leipsic the local court centralizes guardianship for all public wards in one city office, an arrangement which simplifies the judicial tasks and makes the guardianship more effective. This central office, with expert lawyers in charge, is responsible to the court for all illegitimate children in Leipsic from birth to the end of school age, whether in charge of the mother or of some other person. Legitimate children placed with foster parents at public cost are under the same supervision. The care is extended to majority.

Every birth is reported to the police office by the midwife or physician. Neglect of this important duty is punished. Then begins the activity of the physician for foster children, the man who was a pioneer in rational and effective methods, Dr. Taube. In the splendid new city hall, the medical staff have commodious quarters: office for inspections, large waiting-rooms, consultation and nursing rooms and even courts for baby carriages. The municipal authorities evidently appreciate the importance of infant welfare. The mother or foster mother must present the child soon after its birth, on Friday afternoon, in one of the places appointed. From the beginning, the child is under medical control. Dr. Taube has long insisted that "it should be legally forbidden for any one to assume charge of an infant in return for payment without knowledge of the central office." The direct supervision of the infants, after the examination by the physicians, is carried out by women assistants who are carefully selected, trained and paid. They receive at first $125 yearly and may be advanced to $300. Twenty-one days each year are given for vacation. From personal observation, from actual visits of inspection in the dwellings of the poor, and from authoritative information, I have received a very favorable impression of these supervising women. Each one of them is assigned about 285 to 300 children; for inspection the very young, the sick and the feeble are visited most frequently. The observations made and recorded, extend to rooms, beds, food, clothing and conduct of the foster parents. Cases of suspected communicable diseases are isolated. Sick children are treated by other city physicians at cost of the sickness insurance or poor relief funds.

Foster parents must be approved by the central office. In many places visited in the city the dwellings were defective and crowded, especially where poor, unmarried mothers are compelled to live. Here one realizes the close connection of housing reform and infant mortality, for without the sharp and competent inspection of the women assistants good results would be impossible. The foster parents are paid about $1.25 a week.

Another tour of inspection with Dr. Taube, revealed the inner workings of the system in the rural colonies when the central office places children until their fourteenth year, at which time they are apprenticed. Each colony has from fifty to sixty wards in as many foster homes, and is placed under the supervision of a resident who is generally the village pastor. This superintendent is not paid for his services, but for outlays he receives about $1.25 a year for each child. In addition to this, the places are constantly inspected by trained visitors and physicians. Medical services are paid by the city.

A children's home supplements the municipal activity and comes under the same medical control. This institution was founded in 1878 by benevolent individuals and is especially designed for unmarried mothers, frequently domestics, before and after their first confinement. The woman can come several weeks or months before confinement and must promise to remain six months to nurse the child and, perhaps, some motherless infant. The housework is done by the inmates. Nurslings thrown on the care of the city are temporarily kept here. The institution also trains children's nurses. In the year 1910, 325 children were cared for, with forty-four deaths (13.5 per cent.). On the day of my visit in August, 1911, there were 110 children.

Since the year 1906, nursing premiums have been given to those mothers to whom nursing the child would involve a loss of earnings, or who, from poverty, could not give the breast without assistance. The weekly allowance is from 75 cents to $1.50, paid out by a mature and married officer at a place appointed for consultations. These premiums are not counted as poor relief. In 1908, there were, 1,316 requests for this aid, and $6,000 are in the city budget for the purpose. One private society gives aid to married mothers at confinement, and another gives attention to legal protection.

Sick and indigent illegitimate nurslings and children of dependent mothers are given milk through contracts made with several milk dealers who are required to supply milk at 5 cents a quart, 3 per cent. fat content being required. Dr. Seiffert's laboratory controls the quality of this milk, and all milk is also subject to inspection by the health office. Milk depots do not exist, "because they are too dear, are invoked too late and have a tendency to hinder breast feeding." The mothers are taught to boil milk when nursing.

At the end of 1910, of the 9,323 children who were on the records of the municipal office, 7,443 were under this general guardianship.

The collection of money from fathers is a necessary factor in reducing infant mortality. In 1910, 2,213 fathers of illegitimate children paid over $90,000. Since the beginning of 1900 more than $500,000 have been thus contributed. Where mothers are working for wages they are automatically insured against sickness and the fund provides medical relief. If there is no insurance the city physician is called.

The reduction of mortality of illegitimate infants from 33.4 per cent. in 1904 to 21.05 per cent. in 1910 is substantial evidence that the new methods are efficient. The mortality from summer diarrhea is lower with the illegitimate than with the legitimate children, because of the closer supervision of the former. The number of atrophic children at the end of the nursing period has sensibly diminished.

Moral results cannot be tabulated. But it is believed by the authorities that the more complete enforcement of the law tends to make men more thoughtful.

The lesson for American cities is obvious. We need a central and trained guardianship for all children who require protection. In a central municipal authority should be coordinated all the medical, legal and educational public forces. Public and private charity should be auxiliary and cooperative. The details must be worked out by study and experiment. The Leipsic organization is rich in hope and instruction.

To City Councillor Dr. Weber and to Private Sanitary Councillor Dr. Taube I am deeply indebted for explanations, documents and opportunity of seeing at close range, through a prolonged stay, the many activities of their department.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—Third Weekly Meeting

ANGIOMA

SIMPLE NEVUS: Varieties, structure of each, distribution.

CAVERNOUS NEVUS: Structure, distribution, prognosis.

PLEXIFORM ANGIOMA: Structure, distribution.

LYMPHANGIOMA

LYMPHATIC NEVUS: Microscopic changes, distribution.

CAVERNOUS LYMPHANGIOMA: Structure.

LYMPHATIC CYSTS: Structure, occurrence, distribution, prognosis.

SARCOMA

GENERAL CHARACTERS OF SARCOMA: Vascular supply, metastasis, capsule, infiltration, lymphatic supply, secondary changes, distribution.

ROUND-CELLED SARCOMA: Microscopic section, distribution, age, prognosis.

LYMPHOSARCOMA: Microscopic section, distribution, age, prognosis.

SPINDLE-CELLED SARCOMA: Microscopic section, distribution, prognosis.

ALVEOLAR SARCOMA: Microscopic section, origin, distribution.

MELANOSARCOMA: Microscopic section, pigment, origin, distribution, prognosis.

CARCINOMA

ORIGIN, MICROSCOPIC STRUCTURE, VARIETIES

GLANDULAR CANCER: Distribution, gross and microscopic appearances, lymph- and blood-vessels, secondary changes, differentiate from adenoma.

SQUAMOUS-CELLED CANCER: Distribution, gross and microscopic appearances, characteristic margin, infiltration, secondary changes.

Book Notices

THE HOUSE-FLY, DISEASE-CARRIER. An Account of Its Dangerous Activities and of the Means of Destroying It. By L. O. Howard, Ph.D. Cloth. Price, $1.60 net. Pp. 312, with 35 illustrations. New York: Frederick A. Stokes Co., 1911.

This is not a scientific treatise but a book for the general reader. Nevertheless, it is accurate and complete from a scientific standpoint. Probably none of our American entomologists is better fitted to write such a book than Dr. Howard. His first publication on this subject was in 1896, when he contributed the chapter on the life-history of the fly to a bulletin on household insects published by the Department of Agriculture. In 1900, he published a long paper on the transmission of typhoid fever by flies. This volume can be commended to all who wish to learn the life history, personal habits, dangers and means of exterminating the common house-fly, the constant companion of man for centuries. Unfortunately, the character of the fly does not improve with acquaintance. His origin is not only lowly but filthy. He is prolific to an extent beyond the reach of ordinary figures. For instance, Dr. Howard estimates that one fly, survivor of a winter, laying 120 eggs on April 15 will, on September 10, be the direct ancestor of 5,598,720,000,000 adult flies, of which one-half will be females. This is the opposite of race suicide for the fly, but something very like race murder for its human associates. The book is well written, copiously and illuminatingly illustrated and well printed. It contains practically all the important facts available regarding the house-fly and is admirably adapted for popular use. An extensive bibliography is found in the appendix.

THE NATURE OF ENZYME ACTION. By W. M. Bayliss, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. Cloth. Price, $1.20 net. Pp. 137. New York: Longmans, Green & Co., 1911.

This volume of "Monographs on Biochemistry"—the first one to enter a second edition—covers adequately and accurately this interesting and fundamentally important subject. Presented originally in the form of lectures, it is more easy to read and assimilate than treatises of this sort are likely to be, a point of particular favor in the eyes of readers who are interested in the subject only in its general aspects. In the new edition the more recent contributions to enzyme chemistry and the theories of enzyme action have been incorporated, the author assuming the reasonably conservative attitude necessary in considering a subject in which theorization is so prominent.

DIE NEURALGIEN DER TÄGLICHEN PRAXIS. Von Dr. O. Schellong, Arzt in Königsberg i. Pr. Paper. Price, 1.80 marks. Pp. 83. Berlin: Julius Springer, 1911.

This is an instructive monograph on a very practical subject. The author bases his conclusions on an experience with 458 persons suffering from neuralgia among a clientele of 2,631 patients. He first gives a general study of the subject and follows this by a detailed consideration of the different forms of neuralgia as manifested in different nerves. A considerable number of case-reports are inserted and the treatment is succinctly described. A few synthetic remedies are given a place, but there appears to be no tendency to overestimate them.

Medicolegal

Physical Examination of Female Plaintiff Required

(Illinois Central Railroad Co. vs. Beeler (Ky.), 135 S. W. R. 305)

The Court of Appeals of Kentucky holds, in directing a new trial in this personal injury case, brought by the latter-named party, that a physical examination of the plaintiff should be ordered, if asked for by the defendant. It says that the plaintiff claimed that, as a result of her injuries, her monthly period was decreased to two weeks and she suffered from falling of the womb. An affidavit was filed, on behalf of the defendant, setting out the importance of having an examination made by some competent physician or surgeon, in order that the real condition of the plaintiff might be made to appear; and asked the court to appoint a physician and order that such an examination be made. The plaintiff objected, and filed affidavits to the effect that a medical examination could not be made to ascertain the extent of her injuries without offending decency and inflicting severe pain. No physician had made an examination to determine whether she in fact had the troubles claimed. Her family physician had only her word for it, but stated that he could easily determine by a physical examination whether the alleged troubles existed or not. In other words, here was a case where the injury complained of was not apparent. The plaintiff herself was the only person who gave any direct evidence as to her condition. Her physician did not make any physical examination, but simply took her word for her condition. Without a physical examination the defendant had no means of controverting any statement which the plaintiff might make. The character of her injury did not appear, and it was not a case from which the jury could otherwise determine the extent of her injury. In the court's opinion, this was a case in which the ends of justice would be better subserved, and the truth more likely discovered, by ordering a physical examination.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

California State Journal of Medicine, San Francisco

September

1 *Migraine. H. C. Moffitt, San Francisco.
2 Consideration of Mental Defectives. R. Moore, Los Angeles.
3 Modern Operative Procedures in Ear Affections. H. B. Graham, San Francisco.
4 Control of Pathogenic Organisms in Butter. J. N. Force, Berkeley.
5 *Determination of Sex in Human Species. D. McConnel, San Francisco.
6 Senile Skin. H. E. Alderson, San Francisco.
7 Some Types of Intestinal Indigestion in Young Children. L. Porter, San Francisco.
8 *Treatment of Tic in Childhood. E. C. Fleischner, San Francisco.
9 Prophylaxis of Arthritis. C. C. Crane, San Francisco.
10 Removal of Foreign Bodies from Lung. E. C. Sewall, San Francisco.
11 Occipito-Atlantoid and Atlanto-Axoid Dislocation. L. L. Thompson, Gridley.

1. **Migraine.**—Moffitt deplores the tendency to urge operation for the treatment of neurasthenia. He believes that more may often be accomplished for the man or woman with migraine by a rational mode of living, working and thinking than by drugs, eye-glasses or operation.

5. **Determination of Sex.**—This question the author claims to have studied in her own case, in other women and in animals. Her reasonings in the matter have led her to believe that the greater the differentiation the higher the species, the more limited the reproductive power the more confined the method of reproduction. All extraneous influence affecting reproduction in the lower orders has passed away in the higher, and the power to produce the female is vested, so to speak, not in the individual, but in the ovum. That is to say, no condition affecting the nurture of the mother herself has any power in determining the sex of the offspring, but it

is determined by some condition inherent in the ovum, and common to all women at certain times. The male-element has no influence in determining the sex. The sex of the future child is determined at impregnation by the condition of the ovum at the time. The fullest development of the ovum produces the female after impregnation. The male is produced by impregnation either before the fullest development of the ovum, or after waste begins to take place. Given normal physical conditions of health in the woman, that is to say, menstrual period recurring every twenty-eight days and continuing five days, the ovum reaches its fullest development immediately before menstruation and continues to preserve that condition until two days after the cessation of the period. If fertilization takes place from one to two days before the period or from one to two days after the cessation of the period a female results, the latter method being the most successful. If fertilization takes place from four to eight days after the cessation of the period or from three to five days before menstruation the male results, the latter being unusual.

McConnel asserts that every experiment carefully carried out has resulted as desired, when the conditions of health and of physical development have been normal. She says further that if fertilization takes place from five to three days before the period a male results, and in that case menstruation demonstrates itself and the child appears to be born before its time; but if fertilization takes place just before the period, say from two to one days, a female results, and menstruation does not generally demonstrate itself, and the birth takes place three weeks later than it was expected. The count should be taken from the date of conception, whereas women count it from the cessation of the period; hence if a male is conceived days before the period, which for some unknown reason demonstrates itself in this case, he is born at a corresponding time, but the mother has counted from the cessation of the period and is out some eight days or so; whereas, if conception takes place immediately before the period a female results, but for some reason menstruation does not in that case appear and the mother counts from the cessation of the previous period and thinks she has had to wait some three weeks over her time. McConnel cannot account for these phenomena unless one may reason that if conception takes place immediately before the period that the ovum being then in its most perfect condition nature is satisfied, and the internal mouth of the uterus is closed; whereas if conception takes place some days before the fullest development of the ovum, the ordinary processes continue because the most perfect state of the ovum has not been accomplished although conception has taken place.

8. **Treatment of Tic in Childhood.**—The details of the treatment employed by Fleischner are as follows: (1) A very complete physical examination is made to be certain that the patient is not suffering from some irritation, such as follicular conjunctivitis, errors of refraction, polyps in the nose, adenoids, tight clothing, which may have been responsible, not for the tic, but for the original voluntary motion that preceded the tic and of which the tic movement is a repetition. (2) The patient is immediately taken out of school, if possible is sent to the country. (3) He is put on an easily assimilated diet, forcing the milk and eggs. (4) He is made to rest one-half hour before his meals and one-half hour after his meals. (5) The children are given very light evening meals and are put to bed within two hours of that time depending on their age. (6) Small doses of sodium or strontium bromid are given for two weeks. (7) Educational treatment. Under this heading are included those methods which enable the patient by training to control his involuntary partially or wholly subconscious movements. The method employed in the cases treated depends on the fact that the tic movements can be stopped by an effort of the will for a longer or shorter period of time by all patients. In other words, it depends on concentration. The effect of the treatment is obvious, the patient controls his tic by force of will.

Virginia Medical Semi-Monthly, Richmond

August 11

12 Diet—A Plea for Accurate Food Therapy. P. S. Roy, Washington.
13 The Economic Phase of Uncinariasis. W. A. Plecker, South Hill, Va.
14 Present Status of Surgery of the Brain and Spinal Cord. A. W. Fly, Galveston, Texas.
15 Personal Experience with Salvarsan. S. S. Gale, Roanoke, Va.
16 Achievements of the Nineteenth Century. S. Lile, Lynchburg.
17 Ileus. W. F. Waugh, Chicago.

Medical Record, New York

September 2

18 Hypophysis Cerebri. C. W. Hitchcock, Detroit, Mich.
19 *Stuttering, Its Origin and Treatment. N. J. P. Van Baggen, Hague, Holland.
20 Virtues of Salt Solution. J. M. Lynch, New York.
21 What Constitutes Hyperchlorhydria? C. S. Fischer, New York.
22 Roentgenotherapy of Malignant Tumors. A. Judd, New York.
23 Relation of Adenoids and Hyperthyroid Tonsils to Retarded Mental and Physical Development. E. B. McCready, Pittsburgh.
24 *Case of Tympano-Mastoiditis with Mental Symptoms. E. Amberg, Detroit, Mich.
25 *Extensives Herpes. G. O. Williams, Greene, N. Y.

September 9

26 *Action of Colloidal Platinum on Blood in Myelogenous Leukemia. H. Dayton, New York.
27 Clinical Uses of Sphygmograph. R. Van Santvoord, New York.
28 Michael Servetus and Discovery of Circulation of the Blood. J. Knott, Dublin.
29 Cancer. E. Atlee, Philadelphia.
30 Importance of Correct Hospital Records. R. E. Coughlin, Brooklyn.
31 Fracture of Inferior Maxilla Complicated by Complete Division of Facial Artery. W. C. Cramp, New York.
32 Aneurysm of Thoracic Aorta Treated by Abrams' Method. M. L. Turnbull, San Francisco.

19. **Treatment of Stuttering.**—The treatment resorted to in these cases in Holland is described by Van Baggen. The first thing to do when treating a stutterer, he says, is to give him a rest. So the stutterer is forbidden to speak. Some do not stutter when they speak in a whisper. These are allowed to whisper, but not more than is strictly necessary. At the same time exercises are given for breathing, vocal and articulating muscles. These exercises not only aim at the development of the muscles but also tend to favorably influence the nerve fibers associated to the muscle. Therefore the exercises must be carefully chosen in such a manner as to produce a quiet, regular movement of the muscles by means of which all stuttering is excluded. After some days the patient is allowed to speak, in the beginning only in the presence of the teacher and only for a few moments. At a later period when the patient does not stutter the discourses are prolonged. These early conversations, during which stuttering must be carefully avoided, are for the specialist one of the most difficult parts of the cure. They require the exercise of the greatest tact in leading the conversation in such a manner as to prevent the patient from stuttering. When the latter has spoken fluently for some days with his teacher without any stuttering he is allowed to converse a few moments with his family and friends. When we have succeeded so far we generally notice a rapid progress. The patient regains his self-confidence and the constant apprehension associated with his speech disappears; this has a favorable influence on the entire nervous system. When the cure is completed the patient must remain under the control of the specialist for some time, while also continuing the exercises with increasingly longer intervals. If there are adherent symptoms the exercises for the breathing, vocal and articulating muscles must be combined with slow, regular movements of the limbs. Those voluntary movements suppress the involuntary convulsions.

Van Baggen says, that when treating a stutterer it is necessary to take into consideration not only the manifest symptoms of the disease but also the temperament of the patient. The timid patient who suffers deeply from the humiliation entailed by his infirmity must be dealt with in a manner different from that with which one deals with the heedless stutterer who feels only the irksomeness of his impediment. The spoiled, undisciplined child requires firmer management, while the bashful little stutterer must be approached with kindness. The success of the treatment depends much on a good understanding between the patient and the specialist.

24. **Tympano-Mastoiditis Exhibiting Mental Symptoms.**—Amberg cites a case of mastoiditis in a hysterical subject, which was accompanied by such prominent mental symptoms as to cause grave suspicions of brain abscess. The patient recovered perfectly after a prolonged stay in the hospital.

25. **Extensive Herpes.**—The patient was a lady, aged 68. On March 8 the herpes appeared, simultaneously on the left upper lip, in the left naris, left inner canthus, in the left middle ear and external auditory canal from the meatus back. An enormous serosanious discharge accompanied the aural lesion, saturating cloth after cloth. The membrana tympani and the ossicles were carried away. Hearing was nil with the watch at contact. Illumination showed the pulsating arch of the auditory artery. Treatment consisted in a free application of a saturated solution of alum to the naris, the lip and the inner canthus, and instillation of the same freely into the auditory canal with boric acid. The external lesions were immediately subdued; the aural discharge became purulent. After a week the alum solution was dropped, and irrigation of the canal and subsequent boric acid packing continued. The purulent discharge gradually diminished.

On the twentieth day a narrow rim of new tissue was noticed at the seat of the destroyed membrane. The packing was dropped, and twice daily gentle irrigation was made with weak boric acid solution. The rim of new tissue increased and the lumen gradually diminished. The arterial pulsations remained visible until the complete closure of the opening. This occurred on the forty-second day.

26. **Action of Colloidal Platinum.**—Temporary leukolysis followed by polynuclear leukocytosis is reported as caused by injection of colloidal metals into normal blood or that showing polymorphonuclear leukocytosis. If polymorphonuclear leukocytosis could be induced in this manner in myelogenous leukemia by such injections, one might cause replacement of myelocytes by polymorphonuclear leukocytes, which change is said to accompany the improvement in this disease under roentgenotherapy. Dayton has administered isotonic, stabilized, electrically prepared colloidal platinum, in doses of 5 c.c. hypodermically, daily or every two days, to two patients with myelogenous leukemia. No constant effects on temperature, pulse, respiration or subjective symptoms were noted, and the disease apparently progressed as usual. The only correspondence in the blood changes with those reported as occurring in normal blood or that with polymorphonuclear leukocytosis was a temporary fall in the percentage of polymorphonuclear leukocytes, but this was not accompanied in both cases by a fall in the total leukocyte count. The neutrophil myelocytes coincidently rose and the mast cells fell. Aside from these changes, the variations in the blood were no greater than are common in this disease.

American Journal of Urology, New York

August

33 *Primary Malignant Neoplasms of Spermatic Cord D. Stetten, New York.
34 Urology Past, Present and Future. M. Krotozyner, San Francisco.
35 *Complete Suturing of Bladder After Suprapubic Section. G. Kolischer and H. Kraus, Chicago.
36 Intravesical Operations for Tumors of Bladder. H. Binney, Boston.
37 Urethral Hemorrhages. A. Ravogli, Cincinnati.
38 Attachment for Buerger's Urethroscope. V. C. Pedersen, New York.
39 Transperitoneal and Suprapubic Approach to Tumors of Bladder. C. L. Scudder, Boston.

33. **Primary Neoplasms of Spermatic Cord.**—The tumor in Stetten's case apparently develops from the areolar tissue of the cord. Microscopically it was a very cellular, mixed small and large spindle-cell sarcoma, as is also a nodule removed from the perineum. A nodule higher up in the cord also gave the same histologic findings. This latter nodule was apparently a metastasis in one of the spermatic veins. Many of the cells of the tumor showed active mitosis and the intercellular connective tissue was rather scant. The tumor was moderately vascular. A month later a small nodule was noted in the wall of the right lower abdomen, seemingly a thrombus in the right superficial epigastric vein. This was excised under local anesthesia and found to be a sarcomatous plug in the vein, of the same nature as the primary tumor. Three months after this second operation there was found a large mass involving the perineum and extending into the root of the penis, seemingly infiltrating along the vascular channels of the corpora cavernosa and corpus spongiosum and producing a psuedo priapism without greatly increasing the diameter of the organ. There was a large mass over the left saphenous opening, most probably a metastasis via the superficial external pudic vein. Two smaller nodules were found along the course of the left superficial epigastric vein and one in the left superficial circumflex iliac. The patient had a slight cough but no signs of fluid or consolidation in the chest. There were occasional moist râles. Abdominal examination was negative.

Stetten subjected the man to a course of treatment with Coley's fluid, which he stood well. He began with ¼ drop and increased the dose gradually to 5 drops every day, injecting the fluid directly into the tumors. There was a moderate general reaction and the nodules that were injected did really decrease in size. Soon, however, a new nodule appeared on the left chest wall; metastases were noted along the vessels of both arms; fluid appeared in both chests; an increasing edema of the penis, scrotum and lower extremities, due to actual compression, developed; cachexia became very pronounced and progressive, and the patient died 6 months after the first operation. No autopsy was obtained.

35. Abstracted in The Journal, Feb. 18, 1911, p. 536.

Journal of Abnormal Psychology, Boston

August

40 Psychoanalysis of a Mixed Neurosis. H. W. Frink, New York.
41 Some Psychologic Phases of Medicine. T. Burrow, New York.
42 Asymbolia. A. Gordon, Philadelphia.

Journal of Ophthalmology and Oto-Laryngology, Chicago

August

43 Enucleation of the Eye Under Local Anesthesia. D. T. Vail, Cincinnati.
44 Neoplasms of the Larynx. C. M. Robertson, Chicago.

Texas State Journal of Medicine, Fort Worth

September

45 *When We Are Wise and Otherwise. J. M. O'Farrell, Richmond, Texas.
46 *Surgical Treatment of Pellagra; Report of Sixteen Cases. T. J. Bennett and Z. T. Scott, Austin, Texas.
47 New Methods of Syphilis Diagnosis and Therapy. I. C. Chase, Fort Worth.

45. **Public Health and Vital Statistics.**—O'Farrell sums up his remarks as follows: When we are proud to register our live stock; when we teach young men how to care for the health and well being of our hogs, horses and cattle; when we extend to such stock the solicitous attention of a well-supported department of our national government; when we carefully conserve any national resources, spending as we do millions of the common fund for reclaiming vast areas of land for our people to occupy, we are wise. But, when we are careless about registering our babies; when we fail to teach our doctors how to protect the human health; when we do not properly safeguard our human food-supply; when we neglect the conservation of the most important of all our resources, because, forsooth, it does not appear merchantable, we are, most assuredly, otherwise.

46. **Surgical Treatment of Pellagra.**—The surgical treatment of pellagra by the transfusion of blood from a healthy donor to the patient originated by Cole and Winthrop of Mobile, was used in each of the sixteen cases reported by Bennett and Scott. The results have been gratifying, a cure in thirteen cases (73 per cent.), meaning no return of the symptoms to date. Of ten patients who either refused transfusion or were treated with medicine prior to the adoption of the transfusion method, seven are now dead, and three are awaiting transfusion at the present time.

Lancet-Clinic, Cincinnati

September 2

48 Neurasthenia Concept: Attempt at Its Systematization. R. Reed, Cincinnati.
49 Colles' Immunity. C. Arym, Milwaukee, Wis.
50 European Travel Notes. A. Schachner, Louisville, Ky.

September 9

51 Left-Sided Appendicitis, with Death from Preliminary Chloroform Anesthesia. V. Rawson, Danville, Ky.
52 Life Insurance Examiner's Responsibility. A. Maxwell, Indianapolis, Ind.
53 Laboratory for Psychiatry. B. Holmes, Chicago.

Boston Medical and Surgical Journal

August 31

54 *Causes and Treatment of Paralytic Dislocations and Subluxations of Hip-Joint. J. W. Sever, Boston.
55 Interstitial Gingivitis. E. C. Briggs, Boston.
56 Wound Diphtheria. F. A. Thompson, Fitchburg, Mass., and W. R. MacAusland, Boston.
57 Rupture of Uterus Through Posterior Vaginal Fornix. A. T. Hawes, Lynn, Mass.
58 Transplantation of Bone in Correcting Nasal Deformities. A. Coolidge and D. C. Greene, Boston.

54. **Paralytic Dislocations and Subluxations of Hip-Joint.**—The clinical history and dynamics of this condition are discussed by Sever. His interest was stimulated by twenty-six personal cases, twenty-two of which were iliac subluxations. Sever attempted to dislocate a hip in rabbits and cats, but, owing to the firm support of the ligaments and muscles, besides the unusually deep acetabulum, the short neck of the femur, which is at very nearly a right angle to the long axis of the shaft, and the high great trochanter, he found it impossible, even when using great force. He then decided to divide certain nerves singly and together in separate animals so as to produce a condition of paralysis of the hip and leg muscles, somewhat analogous to that seen in anterior poliomyelitis. This condition he could not reproduce exactly, for in cutting the nerve trunks he not only destroyed the motor impulses, but also the sensory. The five cats all lived about three months, long enough to show changes in the joint were any going to occur. On careful dissection and inspection no changes were visible, nor could the hip be dislocated. All of the cats but one had the anterior crural divided, in the other the great sciatic was divided.

Sever concludes that subluxations of the hip-joint are not uncommon conditions following paralysis of the thigh and peritrochanteric muscles. The most important factors in their production are the unopposed contractions of the non-paralyzed muscles. The two muscles which escape the paralysis most frequently are the adductors and the tensor vagina femoris. The most common type of subluxation is upward and backward on to the ilium. The changes from atrophy in the femur and acetabulum are practically constant, and consist of a coxa valga and a shallow, flattened and elongated acetabulum. The treatment should be directed toward correcting the contractions and reducing the dislocation of the hip. The muscles may be elongated by stretching, by means of plaster casts, bed traction or division. The best method in Sever's opinion of keeping the hip reduced is by means of an arthrodesis, although this is not practical in all cases. Without treatment the tendency is toward progressive deformity. With treatment the conditions may be permanently helped. Complicating conditions make a total cure impossible, but a more useful leg should be assured under proper treatment. Walking after arthrodesis is often improved. In some cases splints may be altogether discarded. Sever does not regard it advisable to do an arthrodesis on both hips, or on any joint other than the hip and ankle on the same leg.

American Medicine, New York

August

59 Hypothyroidea. G. E. Price, Philadelphia.
60 Plea for More Careful Estimation of Capacity of Female Pelvis During Pregnancy, with a Few Surgical Suggestions. J. G. Dickert, Brooklyn.
61 High Forceps Operation: Is It Modern Surgical Procedure? A. J. Rogny, New York.
62 Sodium Chlorid and Osmosis as Factors in Health and Disease. H. O. Beeson, Grand Junction, Colo.
63 Acute Nasal Discharge in Children; Diagnosis and Treatment. L. Kerr, Brooklyn.
64 Hygiene of Growing Girls. J. C. MacEvitt, New York.

American Journal of Surgery, New York

September

65 Surgical Essentials. F. E. Neef, New York.
66 *Arthroplasty for Ankylosis. J. Wiener, New York.
67 *Advantages of Curved Incision in Certain Classes of Surgical Work. A. Bowles, Ellsworth, Kan.
68 Undescended Testicle: Three Cases in One Family. G. B. Rhodes, Cincinnati.
69 Injury in Relation to Visceral Prolapse. J. J. Moorhead, New York.
70 Removal of Rubber Plate from Esophagus. Esophagoscopy Under Local Anesthesia. R. H. Johnston, Baltimore.
71 Two Cases of Tetanus Treated with Tetanus Antitoxin. I. S. Haynes, New York.
72 New Table for Cystoscopy. V. C. Pederson, New York.
73 Abdominal Hysterotomy for Removal of Uterine Fibroid. T. V. Arumugum, Bangalore, India.
74 Water Medium Cystoscopy vs. Kelly's Method. W. Ayres, New York.

66. **Arthroplasty for Ankylosis.**—The following points summarize Wiener's paper: Brisement force is useful in cases only of synovial adhesions; in true bony or fibrous union it is apt to do harm. The interposition of absorbable or nonabsorbable foreign bodies does not give good results. The interposition of living tissues such as hernial or hydrocele sac is unsatisfactory, as bony ankylosis regularly results. Arthroplasty is a very valuable procedure in cases of bony or fibrous ankylosis of the jaw, shoulder, elbow, hip and knee. Either muscle, or fascia with fatty tissue, should constitute the interposed flap.

67. **Curved Incision in Surgical Work.**—The advantages Bowles claims for the curved incision, as compared with the straight, are the following: There is a better exposure of the subcutaneous field, giving much more room to work. Less retraction is required, and this means less assistance needed, fewer fingers in the wound, and consequently less danger of infection. In looking for a foreign body imbedded in the tissues, it is found more readily and with less traumatism. In removing a growth, a much better exposure of the sides and base is possible, rendering the work of dissecting and shelling it out far less difficult. In case the work calls for an incision into the muscular tissues, they are more accessible, and the intermuscular septa and lines of cleavage are more readily found than where the straight incision has been employed and retractors have to be used to haul the sides of the wound in one direction or the other. And lastly the incision is just as readily closed, and heals as well and as quickly. The points to be observed are to direct the base of the flap toward the source of the blood supply, especially in cases in which the depth of the flap is great in proportion to the length of the incision. And if infection is feared, as in cases in which there is much dead space below the flap that cannot be perfectly obliterated, a small gauze or gutta-percha drain should be slipped in between two of the stitches or brought out through a puncture in the center of the flap.

West Virginia Medical Journal, Wheeling

September

75 Malpositions of Liver. L. Hupp, Wheeling.
76 Psychotherapeutic Value of Psychoanalysis. E. E. Mayer, Pittsburgh.
77 Glaucoma. E. R. McIntosh, Elkins, W. Va.
78 Displacements of Uterus. H. B. Jones, Wheeling.
79 Treatment of Summer Diarrhea of Children. H. G. Tonkin, Martinsburg, W. Va.
80 Treatment of Tuberculosis. L. F. Flick, Philadelphia.

Journal of Experimental Medicine, New York

September

81 *Studies with Electrocardiograph on Action of Vagus Nerve on Human Heart. G. C. Robinson and G. Draper, New York.
82 *Complement Deviation in Scarlet Fever with Comparative Studies of Wassermann and Noguchi Systems. J. A. Kolmer, Philadelphia.
83 *Addition to Technic of Cultivation of Tissues in Vitro. A. Carrel and M. T. Burrows, New York.
84 *Effect of Salvarsan on Heart in Dogs. J. Auer.
85 *Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
86 *Rate of Regeneration of Blood Platelets. W. W. Duke, Kansas City.
87 Excretion of Dextrose in Stomach and Small Intestine. I. S. Kleiner, New York.
88 *Mechanism of Chlorin Retention in Pneumonia. F. Medigreceanu, New York.

89 Composition of Urinary Albumin. F. Medigreceanu, New York.
90 *Physiologic Study of Experimental Nephritis Due to Bacterial Poisons and Cytotoxic Sera. R. M. Pearce and A. B. Eisenbrey, Philadelphia.
91 Athrepsia. H. Apolant.
92 *Nerve Fibrillæ in Pulmonary Artery of Dog. H. T. Karsner, Philadelphia.
93 Studies of Pulmonary Circulation. H. C. Wood, Philadelphia.

81. **Action of Vagus Nerve on Human Heart.**—The authors' records show that stimulation of the vagus nerve by pressure in a man with an anatomically normal heart has produced a marked slowing of both auricles and ventricles, a depression of conductivity of the heart beat from auricles to ventricles, and probably has resulted in a diminution in the force of contraction of the left ventricle. Stimulation of the right vagus nerve apparently has caused stimulation of the left. The left vagus stimulation seemed to have a more marked effect on the conduction of the cardiac stimulus from auricles to ventricles. While no significant changes were noted in this case in the action current due to auricular contraction, right-sided vagus stimulation seemed to increase the action current of the ventricles, giving rise to an increased R wave, while left vagus stimulation apparently produces the opposite effect. There is no evidence in the curves that any changes in excitability of the auricles or ventricles are produced by vagus stimulation. The records supply definite evidence to the effect that the vagus nerve controls the heart in a way which is very similar in man and in other mammals. In hearts showing auricular fibrillation mechanical stimulation of the right vagus nerve causes, as a rule, marked slowing or stoppage of ventricular rhythm, without producing any appreciable effect in the electrocardiographic record of the auricular fibrillation. The ventricular pauses are apparently due to the blocking of stimuli from the auricles. The force of ventricular systole is distinctly weakened for several beats after vagus stimulation, and ectopic ventricular systoles have been seen in several instances, apparently the result of the vagus action. There may, in some cases, be lowered excitability of the ventricles, while no constant change is seen in the size of the electric complexes representing ventricular systole.

82. **Complement Deviation in Scarlet Fever.**—Sera from 250 cases of scarlet fever, representing all stages of the disease, were examined by Kolmer according to the following plan:

1. According to the Wassermann system with the following antigens: (a) With alcoholic extract of luetic liver used as antigen, there were five, or 2 per cent., positive reactions out of the 250 sera tested. In these five cases positive reactions also resulted with scarlet fever liver antigen and with active and inactivated serum of the Noguchi system. (b) With an alcoholic extract of scarlet fever liver used as antigen; the 250 sera were tested with this antigen. The antigen itself was tested with a number of normal and syphilitic sera and was found to be antigenic in dosage from 0.25 to 0.3 c.c., and free of anticomplementary and hemolytic action. The results were practically identical with those resulting from the use of the luetic liver antigen. Deviation of complement resulted in six cases, or 2.4 per cent. These included the five cases given above with the addition of a case which also gave positive reactions with active and inactivated serum, according to the Noguchi system.

2. According to the Noguchi system: (a) With active serum there were sixteen, or 6.4 per cent., positive reactions. Five of these were with the five cases yielding positive Wassermann results. In five, or 2 per cent., of the cases the reaction was positive with active serum alone, and negative with inactivated serum by both the Noguchi and Wassermann systems. In six cases the reactions were positive with both the active and inactivated serum. In other words, with the Noguchi system there occurred eleven more positive reactions than with the Wassermann system, five of these being with active serum alone. (b) The first ninety of these reactions were made with alcoholic extract of luetic liver used as antigen, and it is well to note that four of the positive reactions which were obtained with active serum were made with this antigen.

The remaining 140 cases were tested with an antigen of acetone insoluble lipoids from which but one positive reaction with active serum resulted. Complete hemolysis occurred in 229 cases, or 88.1 per cent., and partial hemolysis in twenty-one cases, or 11.9 per cent. The amount of complement, 0.1 c.c. of guinea-pig serum, was employed because this is the usual dose recommended, although serum from different animals varies in its complement content. It emphasizes the necessity of careful titration of complement, for an excess of this factor, up to a certain limit, will give hemolysis with a decreased amount of hemolysin. The presence of anti-sheep hemolysin in normal human serum probably accounts for the negative Wassermann reaction with serum containing small amounts of syphilitic antibody. On the other hand, normal active serum will give a positive Noguchi reaction. For these reasons Kolmer agrees with Kaplan that a Wassermann and Noguchi reaction should be performed with each serum, the one acting as a control on the other.

83. **Cultivation of Tissues in Vitro.**—It is emphasized by Carrel and Burrows that in the preparation of a culture in fluid medium, an important requisite is a suitable support for the growing cells. Although fibrin is an efficient support, it can be replaced by other bodies, such as cover-glass, cotton, silk, etc. The cells grow in the fluid only if they meet with this condition of support. Therefore, the fragments of tissue must be very small in order to remain adherent to the cover glass, and the fluid must be spread out in a very thin layer about them. The growing cells cling to and spread over the surface of the glass. But if cotton threads are placed in the fluid, the cells have a better support and grow luxuriantly around them. The plasmatic medium is, beyond comparison, the optimum medium thus far studied for the growth of tissues. But cells can also grow in other media and under many different conditions.

84. **Effect of Salvarsan on Heart in Dogs.**—It was found by Auer that the intravenous infusion of 0.5 per cent. acid salvarsan causes a weakening of the heart which is usually fatal. The intravenous infusion of 0.5 per cent. alkaline salvarsan causes no marked apparent effect on the heart, but its factors of safety may be so reduced in some instances that a slight extra strain produces fibrillation and death. The animals stood the infusion of salvarsan in 0.2 per cent. or 0.5 per cent. alkaline solution very well, even with the enormous doses infused (20 to 40 mg. per kilo of body weight). No marked changes of either heart volume, blood-pressure or heart-rate are recorded. In one instance the blood-pressure and heart-rate were practically unaltered after the infusion; the heart, however, showed a moderate dilatation which persisted for about twenty minutes after the infusion. Thirty-five minutes after the infusion, the heart was apparently normal. But on removing the heart from the oncometer, and handling it very gently, it passed at once into fibrillation, from which it did not recover. Similar effects were observed in other experiments where the alkaline solution was infused. On the other hand, some hearts of the same series of experiments stood manipulation very well, and only a very transitory change in the heart's action was observed. The infusion of 0.5 per cent. acid salvarsan produces swiftly a moderate dilatation of the heart; then the blood-pressure begins to fall and reaches a low level rather promptly. During this fall, the pulse pressure diminishes rapidly, and at the lowest level of blood-pressure the heart-rate is very slow. After a low blood-pressure has been reached, the heart dilates still more and may even stop in diastole for a period of seconds. Then the heart begins to beat again, but the beats are weak and hardly affect the lever of the membrane manometer which is connected with the carotid artery. From this state the animal does not recover, though the heart, as a rule, keeps on beating feebly for a number of minutes. Results similar to those described above were obtained in practically all of the ten experiments which were made with the 0.5 per cent. acid solution.

85. **Chemo-Immunologic Studies on Localized Injections.**—Lamar found that in the test tube, sodium linoleate and sodium linolenate kill and dissolve virulent pneumococci more rapidly and in higher dilutions than sodium oleate; otherwise

their action is the same. The intensity of action on the cocci is directly proportional to the degree of unsaturation of the acid. Blood serum inhibits the bacteriolytic and hemolytic action of unsaturated soaps partially or completely, according to definite quantitative relations between serum and soap. Small quantities of serum completely inhibit the action of dilute soap solutions, but even whole serum does not prevent bacteriolysis and hemolysis by relatively concentrated soap solutions, i. e., 1 per cent. and 0.5 per cent. A given quantity of serum inhibits the action of the soaps, in inverse ratio to their degree of unsaturation. The hemolytic and bacteriolytic action of soaps of the unsaturated fatty acids is probably due in part to their avidity for protein and not wholly to their ability to dissolve lipoids. Attempts to prevent serum inhibition of the lytic action of sodium linoleate and sodium linolenate were unsuccessful. The more unsaturated soaps are not as efficient in preventing fatal pneumococci infection of animals as sodium oleate.

86. **Rate of Regeneration of Blood Platelets.**—By repeatedly withdrawing, defibrinating and reinjecting blood, it was evident to Duke that the platelet count in dogs can be reduced to an extremely low level. When the reduction in platelets and fibrinogen has been carried to an extreme degree the animals display a marked tendency to bleed. The regeneration of platelets after their removal by defibrination is remarkably rapid and amounts, on an average, to about one-fifth of the entire number in the blood per day. From the experiments and from observations on the platelet count in human beings, Duke believes that under the usual conditions of life platelets are utilized or destroyed and replaced in enormous numbers daily, and that the life-cycle of the platelet is extremely short, possibly a matter of a few days.

88. **Mechanism of Chlorin Retention in Pneumonia.**—The following conclusions are drawn by Medigreceanu from an analysis of the protocols of the experiments performed by him: 1. The chlorin output is very much diminished during the process of experimental pneumonia in dogs. The quantity of chlorin retained in the patients with well developed exudates is much larger than the exudate could account for. 2. Turpentine pleurisy in dogs also is associated with a retention of chlorin, but this is not so marked as in pneumonia. There is no direct quantitative relation between the water output and the chlorin excretion. 3. Rabbits with pneumococcal septicemia did not retain chlorin in any phase of the disease, a fact which Hutchinson has also noticed. The author deems it justifiable to conclude that the retention of chlorin in the organism in the course of pneumonia is conditioned by more than one factor. The formation of the exeduate is one of these factors, but it alone is not capable of producing the same degree of chlorin retention as occurs in pneumonia. The additional factors are not yet determined; but it may be stated that the retention of chlorin is probably not due to the general effect of the pneumococcus on the organism or to its injury to the kidney. The principal cause of the retention seems, therefore, to be due to local changes associated with the pulmonary condition.

90. **Experimental Nephritis.**—The physiologic study of experimental nephritis caused by poisons of bacterial origin demonstrated to Pearce and Eisenbrey that the poisons may produce types of nephritis in which either vascular or tubular changes predominate. Diphtheria toxin produces a nephritis which in its late stage is of the vascular type, but in its early stage is distinctly tubular. Tuberculin and mallein uniformly cause lesions of the tubular type, which do not pass into the vascular type. Nephrotoxic and hemolytic immune sera cause changes in the kidneys which by physiologic methods of observation present no evidence of vascular injury, but which are anatomically characterized by exudative glomerular lesions of moderate severity. This discrepancy between the results of anatomic and physiologic study indicates that a lesion of the membrane controlling the passage of fluids may occur without alteration in the power of the vessels to contract and dilate. This fact is shown clearly by the lesion caused by hemolytic immune serum, which is in sharp contrast to the lesion caused by diphtheria toxin, since the latter substance not only alters the permeability of the membranes but also influences markedly the power of the vessels to contract and dilate. It is necessary therefore if the term "vascular" is used in its broadest sense, to recognize three types of vascular nephritis: (1) one in which little or no anatomic evidence of vascular injury is found, but in which physiologic methods show profound vascular changes, as in arsenic nephritis; (2) one in which anatomic evidence of vascular (exudative) injury is prominent, but in which the physiologic tests are negative, as in nephritis caused by a hemolytic immune serum, and (3) one in which both anatomic and physiologic changes are prominent, as in diphtheria toxin nephritis.

92. **Nerve Fibrillæ in Pulmonary Artery of Dog.**—By a method of *intra vitam* staining with methylene blue Karsner succeeded in demonstrating the presence of nerve filaments in the muscular coat of the pulmonary artery.

Detroit Medical Journal

August

94 Medical Inspection of Schools. C. B. Fulkerson, Kalamazoo, Mich.
95 Importance of Recognizing Chronic Infections. H. H. Martin, Laporte, Ind.
96 Right-Sided Abdominal Pain in Women. J. Bland-Sutton.

Journal of Medical Society of New Jersey, Orange

September

97 Final Results in Surgery. O. Kiliani, New York.
98 Poliomyelitis Anterior. C. C. Beling, Newark.
99 Insanitary Housekeeping. J. W. Wade, Millville.

New York Medical Journal

September 2

100 Tendencies Toward Race Degeneracy. J. H. Kellogg, Battle Creek, Mich.
101 Nervous Affections in Relation to Adjustments of Eyes. G. T. Stevens, New York.
102 *Location of Pathologic Lesions of Genito-Urinary Tract from Epithelia Found in Urine, Proved by Operation. G. A. Wyeth, New York.
103 *Cerebral Rheumatism. E. M. Williams, Philadelphia.
104 *Triple Rhythm Heart-Block with Auricular Interruption. A. L. Benedict, Buffalo, N. Y.
105 Suction Drainage with New Form of Siphon Air Pump, as Means of Removing Pus and Blood from Abdomen and Pelvis. N. G. Bozeman, New York.
106 Research Work on Dysentery. S. R. Klein, New York.
107 Suicide in Registration Area. H. A. Brown, Washington, D. C.

September 9

108 Dilatation of Heart in Acute Fevers. H. Brooks, New York.
109 Arteriosclerosis, Cardiosclerosis and Intestinal Putrefaction. L. F. Bishop, New York.
110 Greek, Ancient and Modern Language of Medicine. H. C. Muller, Utrecht, Holland.
111 *Crotalin Treatment of Epilepsy. R. H. Spangler, Philadelphia.
112 Influence of Position in Relation to Occurrence of Mastoiditis and Its Complications. C. A. Adair-Dighton, Liverpool, England.
113 Treatment of Fractured Thigh by New Method, Involving Treatment of Fractures in General. W. H. Taylor, Port Arthur, Ontario.
114 Tendencies Toward Race Degeneracy. J. H. Kellogg, Battle Creek, Mich.
115 Treatment of Pneumonia Based on Elimination of Sodium Chlorid. H. G. Hughes, Schenectady, N. Y.
116 Curious Case of Tuberculous Meningitis. M. Freiman, New York.

102. **Genito-Urinary Lesions.**—It has often been stated that when scrapings are made from the different urinary organs the epithelia appear very similar and cannot be differentiated. This is probably true, says Wyeth, but such scrapings are no criterion for the differentiation of epithelia which are bound to become altered to a considerable degree by the scraping. If the epithelia are carefully studied *in situ*, it will soon be found that the epithelia lining the different organs are decidedly different, and they can undoubtedly be distinguished in the urine, so that a definite and correct diagnosis can be made in the great majority of cases.

103. **Cerebral Rheumatism.**—The interesting pathologic features of the cases reported by Williams in addition to the meningeal and cellular changes already described by other observers, are the presence of numerous cells similar in every respect to the so-called plasma cells, numbers of fatty granular cells, and also an abundance of globular, pale blue staining bodies, probably of albuminous nature, having their origin from the disintegrated tissue. The great intensity as well as the diffuseness of the cellular changes, Williams says, are exceptional, as is also the vast extent and degree of the neuronophagocytosis. He reviews the clinical history of this affection.

104. **Triple Rhythm Heart Block.**—In an individual studied by Benedict the arterial pulse was fairly strong and regular, twenty-five a minute. The jugular pulse was three times as frequent and in perfect triple time, but careful inspection of the neck showed that the auricular beat immediately preceding the ventricular, was imaginary, or, at most, so faint as to be imperceptible, although the perfection and steadiness of the rhythm at first gave the impression that we had to deal with a three to one ratio of auricular to ventricular contractions. Expressed in musical notation, the condition was as follows: The treble representing the auricular, the bass the ventricular beat. It is not, however, implied that the tone of either was exactly located. Benedict suggests that as heart block is a rare condition, with which no single physician can as yet have a large experience, it is perfectly possible that the rhythm may not be so constant for the individual case as has been implied in some articles, and that a failure of the auricle to beat at the proper instant may not be at all uncommon. It is also worth while to observe the jugular wave in normal cases and in cases of valvular lesion without suspicion of heart block. There is by no means always a single pulsation in the neck to each heart beat, but often two or three slight waves. Hence, in any case of bradycardia, one who has read much about heart block and has had little or no experience with it, but who has an ambition to detect a case, may deceive himself as to the occurrence of a succession of auricular impulses.

In Benedict's case there were two marked jugular waves with a rest at the instant when the third wave would be expected, and the condition seemed to correspond as closely as could be with the type, with the exception noted. But, without kymographic experiments, Benedict says that with a very slowly acting ventricle and a firm closure of the auriculoventricular valve, it is conceivable that a double wave might occur in the blood in the auricle and great veins, without any secondary contraction of the auricle. Theoretically, the auricular contraction in the musical notation should be indicated as preceding the ventricular. Practically, it seemed to occur at exactly the same time as the radial pulse.

111. **Crotalin Treatment of Epilepsy.**—The solution which Spangler finds most satisfactory and effective consists of the dried, crystal-like scales, from the venom of *Crotalus horridus*, dissolved in sterile water, to which has been added a few drops of trikresol for its preservation and antiseptic effect. This sterile, antiseptic solution is put into sterilized ampoules, holding 1 c.c. each and sealed. Each ampoule contains one dose, which is made as strong as desired, i. e., each c.c. of solution represents 1/22, 1/75, 1/100 of a grain of the venom.

Included in the thirty-six cases cited by Spangler are twenty-four patients who were subject to only major attacks, grand mal; eleven who were subject to both major and minor attacks, and one in whom only the petit mal form was present. In nine out of the thirty-six cases the convulsions occurred in series.

A family history of epilepsy was present in nine of these cases; alcoholism in four; insanity in three; and in the remaining twenty cases of the series the family history was negative, so far as hereditary influences are usually considered. Four cases were preceded by convulsions in infancy, two by chorea, three by scarlet fever, and in one case epileptic attacks developed while the eruption of measles was present. Two cases followed attacks of typhoid and one case followed a heat prostration. There was a history of a fall (traumatism) in four of the cases, and of a severe fright in three. Menstrual irregularity was associated with the convulsions in four patients out of the series. In the remaining thirteen cases nothing of interest or importance could be elicited in regard to the previous history of the patient. The form of epilepsy most influenced by the venom is the so-called idiopathic or genuine epilepsy, for which there is no ascertainable cause. The patient may be subject to either the major, grand mal attacks, or the minor, petit mal, form may be the only evidence of the disease. In a number of Spangler's cases the grand mal type was replaced by the petit mal seizures before the intervals between the attacks were much lengthened.

The organic epilepsies, including those forms arising from traumatic lesions of the skull or brain, or those forms associated with focal organic disease of the brain, such as tumors, cannot be expected to yield to the venom treatment. Likewise, no influence on alcoholic epilepsy or epilepsy arising from uremic or eclamptic conditions can be looked for. While only three cures are reported by Spangler the general improvement in the patient's mental and physical condition was such as to lead him to urge the use of this remedy in these cases.

Wisconsin Medical Journal

August

117 *Ileocecal Adhesions. F. G. Connell, Oshkosh, Wis.
118 Cancer of Upper Rectum and Sigmoid Flexure. K. W. Doege, Marshfield, Wis.
119 Intraperitoneal Rupture of Urinary Bladder: Report of Case, Resulting from Automobile Injury. E. L. Mason, Eau Claire, Wis.
120 Relation of Physician to Animal Experimentation. W. Rittenhouse, Lake Geneva, Wis.
121 Traumatic Neuroses. A. W. Rogers, Oconomowoc, Wis.

117. Abstracted in The Journal, July 22, 1911, p. 314.

Laryngoscope, St. Louis

August

122 The Teaching of Oto-Laryngology in Under-Graduate and Postgraduate Medical Schools. S. M. Smith, Philadelphia.
123 Vasomotor Disturbances of the Upper Air Tract. C. W. Richardson, Washington, D. C.
124 Case Reports Illustrating Ocular Affections Due to Intranasal and Accessory Sinus Disease. L. A. Coffin, New York.
125 Primary Tuberculosis of the Nose. C. D. Van Wagenen, New York.
126 Two Cases of Tuberculosis of the Nose. W. B. Chamberlin, Cleveland.

St. Louis Medical Review

August

127 Man as Geologic Species in Western Hemisphere. A. S. Ashmead, New York.
128 Autumnal Fevers. G. B. Dorrell, Springfield, Mo
129 Ovariotomy. D. D. DeNeen, Cincinnati.
130 Diet in Typhoid. D. W. Reed, Greeley, Colo.
131 Acute Primary Nephritis in Children. A. Bamberger, Chicago.
132 Relation of Alcohol to Hygiene. H. W. Knight, Rutland, Pa.
133 Balsams. J. Knott, Dublin, Ireland.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

August 26

1 Spa Treatment, with Special Reference to Moffat. D. Huskie.
2 *Tuberculin Dispensaries. W. C. Wilkinson.
3 *Bacteriology of Toothbrushes. H. Smale and D. W. Carmalt-Jones.
4 *Frenkel System of Exercises for Tabes. J. G. Garson.
5 Dental Disease from Standpoint of Physician. R. J. E Young.
6 Dentistry and the Public. C. Howkins.
7 Two Abnormalities of Dental Tissues. A. W. Wellings.
8 Pathology of Unerupted Teeth. J. G. Turner.
9 Dental Caries from Public Health Standpoint. J. Wheatley.
10 Infant Feeding. C. E. Wallis.
11 Bread Question. J. S. Wallace.
12 Abuse of Sweetmeats. A. Hopewell-Smith.

2. **Tuberculin Dispensaries.**—Evidence that proves the hollowness of these pretensions that stay in sanatoriums, combined with graduated exercises, can help the poor suffering from consumption is given by Wilkinson. He says that both rest and graduated exercise have long been employed in Germany in the treatment of consumption at sanatoriums, and the results of sanatorium treatment among the poor in Germany lend no encouragement to the view that sanatoriums can help the poor. Moeller, of the famous Belzig sanatorium, near Berlin, claimed that sanatorium methods by themselves cure only 10.9 per cent. of the patients. Arranged according to stages the results were: Stage 1, sanatorium methods alone cured 31.8 per cent. Stage 2, sanatorium methods alone cured 1.9 per cent. According to Moeller's later experiences, sanatorium methods alone may effect a cure in 25.3 per cent. of the cases of pulmonary tuberculosis of Stage 1 (German Board of Health classification), while tuberculin has secured the same results in his hands in 84.6 per cent. Weicker, the devoted pioneer of the Volks-sanatoriums of Germany, found that of every 100 patients treated in sanatoriums by rational methods alone, including exercises, at the end of one to one

and one-half years, forty-one; at the end of two to two and one-half years, fifty-one; at the end of three to three and one-half years, sixty-five, and at the end of four years eighty had lost their fitness for work or were dead. The death-rate was as follows: In one to one and one-half years, 25 per cent.; in two to two and one-half years, 38.4 per cent.; in three to three and one-half years, 55 per cent.; in four years, 56.7 per cent. Wilkinson emphasizes further that the aspect of sanatorium treatment is not encouraging when we read that 7.6 per cent. of patients in Stage 1 are unfit to work or are dead in one to one and one-half years, 19 per cent. in two to two and one-half years, 33.3 per cent. in three to three and one-half years, and 55.6 per cent. in four years.

Wilkinson insists on tuberculin serodiagnosis and serotherapy in tuberculosis. He endorses the dictum of Koch that in Stage 1 tuberculin cures pulmonary tuberculosis with certainty and that the routine use of tuberculin in the second stage of pulmonary tuberculosis is the best means of preventing mixed infections in all forms of open pulmonary tuberculosis. He knows no contraindication to the use of tuberculin except despair. Within the last year he has treated at his tuberculin dispensary more than 100 patients with pulmonary tuberculosis in all stages, and apart from the cases of mixed infections, always in an advanced stage of the disease, he has been unable to find any limitation circumscribing the use and value of tuberculin. Wilkinson admits, however, that it is not wise, except with certain precautions, to use tuberculin in cases of well marked renal disease. Renal disease is in itself, sooner or later, fatal, and there is not much object in curing a tuberculous lesion when there already exists a disease which in itself is likely to be fatal. By a proper course of tuberculin treatment, it is almost the rule that cough and expectoration cease, so that the victims themselves cease to be a danger to their friends and relations.

3. **Bacteriology of Toothbrushes.**—It is claimed by Smale and Jones that a toothbrush becomes septic after once using, each hair becoming an inoculation needle, and the person using it may be vaccinated with such germs as flourish on it. The toothbrush, therefore, as popularly used, namely, for many months, may be the origin of pyorrhea alveolaris, which may lead to such grave consequences as anemia, gastritis or arthritis. The prevalent tooth powders and tooth pastes as usually used do not render the toothbrush aseptic, and even 1 in 20 carbolic acid is not effectual in so doing. The authors insist that all toothbrushes should be boiled for five minutes before and after use. A new toothbrush can be used each day. Those wishing for a more prolonged use of a toothbrush can rinse the brush in trikresol (1 per cent.) or allow it to stand between use in formalin (10 per cent.). Their remarks are based on extended experiments.

4. **Frenkel System of Exercises for Tabes.**—A case is reported by Garson as illustrating the beneficial effects which result from the systematic practice of the exercises designed by Frenkel of Heiden for restoring the power of coordinate movements in persons affected by tabes dorsalis. It shows how a person who has been reduced to a state of almost complete invalidism may by this means regain the power of locomotion so as to be able to live a comfortable and useful life.

Lancet, London

August 26

13 The Students' Number, Session 1911-1912.

Tropical Medicine and Hygiene, London

August 15

14 *Clinical Varieties of Undulant (Malta) Fever Met with in South Africa. A. Garrow.
15 *Pemphigus Contagiosus. R. H. Castor.

14. **Malta Fever in South Africa.**—This paper is founded on an experience with Malta fever extending over three years, during which time Garrow has been in practically daily contact with the disease or its sequelæ. He thinks that every case that one is likely to meet will find a place in one or other of the following groups: (1) *Acute type*—(a) malignant cases; (b) one-wave cases; (c) more than one-wave, or the undulant cases. (2) *Subacute type.* (3) *Chronic type.* (4) *Complicated*, including those cases which first come under observation on account of a complication or sequela of Malta fever, or during a concurrent illness. The clinical manifestations in a case of the chronic type are so entirely different from those found in one of the acute varieties that, but for the Widal test, Garrow says, it would be impossible to believe that both patients were suffering from the same disease. There is a connection, however, running throughout all the varieties, and the best conception of that is gained by remembering that the undulant type is what might be termed the central type. All the other types are but variations of it, depending on varying combinations of such factors as the quantity of the virus and the virulence of it, and the state of the defense forces of the patient. The undulatory type is characterized by intermittent waves or undulations of more or less remittent pyrexia of variable length and number, separated from one another by periods of variable length of temporary abatement or absence of symptoms. The acute one-wave type designates those cases characterized by simply one wave or undulation of varying length and severity, followed usually by a convalescence and recovery. The malignant type includes those acute cases characterized by great severity of symptoms and profound toxemia, and generally resulting in death. On the other side of the central type are the subacute and the chronic, in which, owing, perhaps, to a weakened virus, or a smaller quantity of it, or to more sluggish action of the defense forces of the body, the pyrexia is more or less subdued. The cases which go to form the complicated type are in the majority of cases subacute or chronic. Examples of each type are cited. Of the complicated type the following cases are mentioned: Pulmonary-pleural; hepatic; renal; nervous; simulating hip-joint disease.

15. **Pemphigus Contagiosus.**—Castor points out that pemphigus contagiosus is fairly common in Burma, contrary to the belief hitherto held. He recently came across six cases in one family. In three of these patients the eruption first appeared on the chin; in one it appeared on the forearm, in another it appeared on the abdomen, and in the infant on the forehad. The usual places, like the crotch, axilla, etc., were not attacked. The course the eruptions followed was the usual one. The sizes of the vesicles varied from a pea to about those covering the area of an inch. They did not affect the general health of the children. In one case there were only two vesicles, in another there were four. One case showed ten vesicles, and in the others there were several. The most diffused cases were in the children aged 10 months and 3 years, respectively, and in these two cases they gave rise to much discomfort and irritation. The cases lasted from one to three weeks. The treatment was cleanliness, frequent use of mercury lotion, and antiseptic powder dusting.

Annales de Gynécologie et d'Obstétrique, Paris

July, XXXVIII, No. 7, pp. 385-448

16 Tedious Labor from Lack of Synergy in the Contractions of the Uterus. (Un accouchement ennuyeux par manque de synergie dans la contraction utérine.) A. Herrgott.
17 *Influence on Nursling's Syphilis of Injection of Salvarsan in the Mother. (Le salvarsan injecté à une mère en période d'allaitement peut-il influencer la syphilis de son nourrisson?) E. Jeanselme.
18 When Does the Head Become Engaged in Vertex Presentation? (Nouveaux documents sur l'époque de l'engagement dans les présentations du sommet.) Audebert and Baux.

17. **Can Syphilis in the Infant be Influenced by Injecting the Nursing Mother with Salvarsan?**—Jeanselme reports seven cases in which salvarsan was administered to the nursing mother, and compares the outcome with seven other cases that have been reported by others. In only six cases were beneficial results evident, and in these cases the infants were not kept under observation long enough for a decisive judgment as to the value of the method. The salvarsan injected into the nursing mother sometimes induces evident retrogression of the superficial lesions of the nursling, but they generally soon recur and sometimes in a more pronounced form. The deep or visceral syphilitic lesions are not benefited and may even become fatally aggravated under the influence of the injection in the mother. Before applying this indirect method of treating the infant, the condition of the principal viscera should be investigated and it should not be applied if they are found much impaired. Inunction with mercury proved suc-

cessful in arresting the serious symptoms of inherited syphilis which had resisted the indirect method of salvarsan treatment in his cases.

Archives des Maladies du Cœur, etc., Paris

August, IV, No. 8, pp. 481-544

19 *Paralysis and Neuritis from Deficient Supply of Blood. (Paralysie et névrite d'origine ischémique.) R. Desplats and A. Baillet.
20 Digitalis. E. Robert-Tissot.
21 Case of Typhoid Bradycardia. Pierret and Darteville.

19. **Ischemic Paralysis and Neuritis.**—Desplats and Baillet present evidence to show that total or complete, durable or transient interference with the supply of blood to a peripheral nerve may entail serious functional disturbance and even degeneration of the nerve. When the ischemia is incomplete, as in Raynaud's disease, there may be paresis or paralysis without loss of electrical irritability. Complete ischemia is liable to entail neuritis, but if the circulation can be reestablished early the neuritis may rapidly retrogress before the nerve has become irremediably degenerated. If on the other hand the blood-supply is permanently shut off, degeneration of the nerve seems inevitable. Four cases of the various types are reported and compared with the few similar ones in the literature, especially with the fourteen cases of atrophy and paralysis following ligation of an artery, cited by Porta and Broca. The electric excitability of the nerve was not tested in these cases, but, taken in connection with the personal cases reported, they sustain the possibility of a paralysis, spreading out funnel-shaped, with degenerative neuritis, solely as the result of interference with the blood-supply. In the cases reported there had been no compression of the nerve sufficient to account for the disturbances. The theory of an ischemic origin for paralysis and neuritis in certain cases explains also those that follow severe chilling, as this interferes more or less with the circulation in the region.

Bulletin de l'Académie de Médecine, Paris

July 18, LXXV, No. 29, pp. 67-77

22 Spinal Anesthesia. (Rachianesthésie.) P. Reclus and E. Schwartz.

July 25, No. 30, pp. 78-108

23 *General Anesthesia with Part of Circulation Excluded. (De l'anesthésie générale avec circulation réduite ou exclusion des quatre membres dans l'anesthésie générale.) H. Delagénière.

23. **General Anesthesia with Part of Circulation Excluded.**—Delagénière has applied the method according to Klapp's technic in 1,144 cases, using chloroform, and in 35 with ether. An elastic band is applied to the upper part of each leg and arm, drawn tight enough to arrest both arterial and venous circulation. When the constriction is removed, the blood and tissues thus excluded from contact with the anesthetic, dilute and take it up rapidly. The patient rouses at once or in about ten minutes, and the postanesthetic disturbances are reduced in frequency and intensity. In case of accident, removing one or more of the bands flushes the system with fresh blood and starts up the respiration anew. The members feel a little numb or there may be minute ecchymoses, and postoperative phlebitis developed in four of his total 1,179 cases, but in three of these cases the operation had been for a gynecologic trouble and the edge of the inclined plane or the leg supports may have been responsible for this complication. Heart and vascular disease or general infections may contra-indicate the method in certain cases, but he asserts that it has special superior advantages in all cases of kidney and liver disease.

Lyon Chirurgical, Lyons

August, VI, No. 2, pp. 121-248

24 *Perforating Sigmoiditis. (Diverticulites sigmoidiennes perforantes avec péritonite généralisée.) M. Patel.
25 *Experimental Grafts of Arteries. (Recherches expérimentales sur les greffes vasculaires.) E. Villard, L. Tavernier and E. Perrin.
26 *Conservative Treatment of Osteosarcoma. G. Tisserand.

24. **Perforation from Inflammation at the Sigmoid Flexure.**—Patel discusses the diffuse peritonitis from simple inflammation at the flexure causing perforation. He has compiled twenty-eight cases, all but eight being in men over 35. The trouble is traceable to a diverticulum in most cases, he thinks. The details of fourteen cases are given in which an operation was attempted and of fourteen without, all confirmed by necropsy. An early operation and modern methods of managing the peritonitis may yet succeed in saving patients, although to date he knows of no case of recovery.

25. **Experimental Grafts of Arteries.**—The experiences related show the factors to be especially heeded in surgery of blood vessels. The work was done on twelve dogs.

26. **Conservative Treatment of Osteosarcoma.**—In the two cases reported by Tisserand the treatment gave perfect functional results. The patients were girls of 13 and 20 and the growth was in the fibula in one and in the ulna close to the wrist in the other. He ascribes the fine outcome to the fact that he was able to leave intact the lower end of the ulna articulating with the wrist. A flap of periosteum was left when the segment of fibula was removed and the bone regenerated from this.

Presse Médicale, Paris

August 5, XIX, No. 62, pp. 641-648

27 *Salvarsan and the Auditory Nerve. (606 Ehrlich-Hata et troubles labyrinthiques.) E. Félix.
28 *Sudden Death in Scarlatinal Myocarditis. E. Weill and G. Mouriquand.

August 9, No. 63, pp. 649-656

29 Experimental Syphilitic Orchitis. (Production d'orchite syphilitique chez les lapins à l'aide de cultures pures de Treponema pallidum.) H. Noguchi.
30 *Relative Frequency of Symptomless Tuberculous Infection and Tuberculosis at Different Ages. A. Calmette, V. Grysez and R. Letulle.

27. **Salvarsan and the Internal Ear.**—Félix reviews forty-six articles that have appeared on syphilitic lesions of the auditory nerve with or without administration of salvarsan or any preparation of arsenic. Without deciding whether the salvarsan is or is not responsible for the disturbances in the labyrinth that have been observed after its use, he remarks that the data cited confirm the importance of careful examination of the ear before giving salvarsan and refraining from its use in case there is evidence to show that the organ of hearing and equilibration was impaired before the patient had contracted syphilis. The occupations which predispose to ear disturbances, such as boiler-making, and a history of an old internal ear disease, should positively exclude the patient from salvarsan treatment, and the greatest caution is necessary in employing salvarsan if the patient has been taking arsenic for some time in any form. He reports a personal case in which a young man became suddenly deaf, with tinnitus and vertigo, two weeks after an injection of salvarsan, the sixth week after contracting syphilis. It was learned that the young man for several years had been slightly deaf in one ear. In another case, years before salvarsan had been heard of, a patient developed deafness and tinnitus three weeks after infection with syphilis; Delsaux has reported a similar case one month after the primary sore; Rozier has reported a case in which the primary sore and the labyrinthitis developed almost simultaneously; Stümpke two with an interval of four and five months; Politzer reported in 1901 a case in which the interval was only a week, and Habermann in 1896 reported sixty-six cases of syphilitic labyrinthitis with intervals of only three to nine weeks between the primary sore and the internal ear trouble in sixteen. All of these cases preceded the discovery of salvarsan.

28. **Sudden Death from Scarlatinal Myocarditis.**—Weill and Mouriquand assert that myocarditis is the cause of sudden death in convalescents from scarlet fever much more frequently than is generally recognized, and cite a case in which a girl of 15, apparently recovered from a mild attack of scarlet fever, died suddenly while at stool. In another case an infant of 18 months had been in the diphtheria ward for a month on suspicion of diphtheria but with negative bacteriologic findings. Then a scarlatinal eruption developed and faded and the child was apparently doing well when it suddenly died. Necropsy revealed acute myocarditis, notwithstanding the total absence of myocarditic symptoms during life.

30. **Relative Frequency of Symptomless Tuberculous Infection and Tuberculosis at Different Ages.**—The tuberculin skin test was applied to 1,226 children at Lille and the children

were examined the fifth or sixth day thereafter, a control scarification without tuberculin having been made on each. A positive reaction was observed in 8.7 per cent. of the 273 children less than a year old; in 22.1 per cent. of the 145 between 1 and 2; in 53.8 per cent. of the 206 between 2 and 5; in 81.4 per cent. of the 366 between 5 and 15, and in 87.7 per cent. of the 236 over 15. And yet, notwithstanding the large number of children shown by the tuberculin test to be infected, only an average of 24 per cent. develop tuberculosis later; that is, this is the death-rate from tuberculosis in the town. All the others, fully 66 per cent., escape tuberculosis, the infection remaining permanently latent or occult, while the subjects are apparently healthy and succumb in time to entirely different diseases. Calmette concludes by emphasizing the necessity for distinguishing between the occult infection revealed merely by the tuberculin tests, and tuberculosis, "the disease characterized from the beginning by the follicular lesions resulting from the symbiotic existence of the tubercle bacillus with the cells of the different organs."

Semaine Médicale, Paris

August 2, XXXI, No. 31, pp. 361-372

31 *The Arcus Senilis or Crescentic Degeneration of the Cornea in the Aged. (Structure et pathogénie de l'arc sénile.) P. Marie and G. Laroche.

August 9, No. 32, pp. 373-384

32 *Geographical Distribution of Pneumonic Plague. (Les applications de la géographie médicale à l'étude de la peste pneumonique.) J. Guiart.

August 16, No. 33, pp. 385-396

33 Perithelioma an Illogical and Artificial Term. (Le périthéliome.) G. Roussy and P. Ameuille.

31. **Arcus Senilis.**—Marie and Laroche present evidence to prove that the greyish crescent is in reality a deposit of cholesterin. Research on the lipoids and cholesterin in different tissues and in the blood seems to promise to throw light on certain hitherto obscure points and suggest unsuspected connections between them, such as in the effect of epinephrin injected into animals which entails both atheroma and hypercholesterinemia.

32. **Medical Geography of the Plague.**—Guiart shows by historical review and five maps how pneumonic plague seems to be restricted to the region between the isothermal lines of 5 and 10 C. (41 and 50 F.), apparently being favored by cold; the epidemics to date have broken out in the winter. Europe, lower Canada, the upper Missouri and British Columbia are in the region involved. Bubonic plague on the other hand clings to the region between the isothermal lines of 20 and 25 C. (68 and 77 F.) and a certain amount of heat is necessary for its spread.

Archiv für Verdauungs-Krankheiten, Berlin

August, XVII, No. 4, pp. 395-510

34 *Estimation of Stomach Functioning. (Ueber die funktionelle Magenuntersuchung.) A. Galambos.
35 *Indirect Estimation of Amount of Stomach Content. (Modification de la méthode Mathieu-Rémond.) A. Laboulais and R. Goiffon.
36 *Idiopathic Enlargement of the Esophagus. (Speiseröhrenerweiterungen.) S. Mintz.
37 *Colitis from Mercurial Poisoning. (Experimentelle Beiträge zur Entstehung der Colitis mercurialis.) H. Cobliner.
38 Chronic Perisigmoiditis: Two Cases. M. Simmonds.

34. **Estimation of Gastric Functioning.**—The aim of Galambos' research was to compare the history of the case with the objective findings and with the findings with the test breakfast, striving to determine the differential value of the patient's story and the objective findings. He thus investigated eighty-six patients, giving 103 test breakfasts, and tabulates the findings under various headings. They show among other things that the various symptoms of something wrong in the stomach may be encountered in about the same ratio of cases with excessive, deficient or lacking gastric secretion and chronic gastritis; none is pathognomonic of any. He accepts, on the whole, Stiller's asthenia universalis, although the frequent exceptions to the rule may lead to erroneous conclusions. When the gastric secretion fluctuates irregularly from excess to deficiency, hysteria may be assumed, he declares, mentioning further that when blood is found in the stomach content in case of cancer, ulcer or erosion, the white leukocytes are generally numerous in it on account of the inflammatory conditions. If the proportions of red and white corpuscles are the same as in the circulating blood, then it is more probable that the bleeding has been caused by some injury from the stomach tube. He describes some cases to illustrate his points, urging that functional examination should never be omitted except in case of the well known contra-indications to the stomach tube, and especially not in nervous dyspepsia, on account of its suggestive action.

35. **Indirect Method of Estimating Amount of Stomach Content.**—Laboulais and Goiffon have modified the Mathieu method, as mentioned already in The Journal, April 2, 1910, page 1175. They use a titrated solution of sodium phosphate; after this is poured into the stomach and well mixed with its content by aspirating the fluid out and pouring it in again several times by raising and lowering the funnel, they withdraw some of the fluid and compare its concentration with that of the original, 1 to 1,000 phosphate solution. The method is more exact the smaller the amount of stomach content. After siphoning out a certain amount of stomach content, a given amount (q) of a solution of sodium phosphate of the concentration n is poured into the stomach and mixed with its contents. Some of the contents is then removed and its concentration estimated (n′), from which it is a simple matter to compute the amount of fluid in the stomach as it will equal n q — n′ q divided by n′.

36. **Idiopathic Enlargement of the Esophagus.**—Mintz gives the radiographs of several puzzling cases of idiopathic dilatation of the esophagus, comparing them with the history of the case and stating that in nearly every case there is a spastic stricture at the cardia, either primary or secondary, and that all trouble subsides as a rule when this stricture is conquered. Sedatives internally to control the stricture never benefited in his experience, nor galvanization, and recurrence followed generally in the cases in which Hacker's method of "sounding without end" was applied. Permanent recovery was obtained by Mikulicz in five out of six cases in which he forcibly stretched the cardia with forceps introduced through an opening into the stomach, and others have obtained equally favorable results with this measure and Reisinger from resection of the dilated portion. Temporary relief can be obtained by repeatedly rinsing out the dilated esophagus. Mintz is inclined to believe that many cases of supposed diverticulum in the esophagus in reality were merely a general enlargement. The various means of differentiation to date are not reliable, he says, and the Roentgen pictures only when taken with instantaneous exposures.

37. **Mercurial Colitis.**—A man of 52 was ordered to take pills of bichlorid of mercury for two weeks after an operation for glaucoma, but he continued to take the pills for four months, the daily dose being thus 0.01 gm., or 0.15 grains. Ulcerative colitis developed with diarrhea and the patient succumbed the fifth month to the results of perforation of an abscess in the rectum. There had not been any marked subjective disturbances at any time, no stomatitis, and all the organs appeared intact except the large intestine. Cobliner reports experimental research on mercurial poisoning which seems to show that the mercury circulates in the blood in the form of the albuminate and is eliminated into the intestine. A toxic action is evident when mercury ions are liberated, and incorporation of large amounts of salt splits off the ions and thus increases the toxicity of the mercury. The elimination of the mercury into the intestine can be promoted by irritating substances and reduced by sedatives.

Berliner klinische Wochenschrift

August 21, XLVIII, No. 34, pp. 1541-1584

39 Histologic Study of Three Melanoblastomas. C. Kreibich.
40 *Criticism of Practical Importance of the Wassermann Reaction for Treatment of Syphilis, Especially the Later Manifestations. A. Plehn.
41 Differential Importance of Wassermann Reaction in Rhinology. O. Strandberg.
42 Experiences with Salvarsan in 1,900 Cases of Syphilis. F. Zimmern.
43 *Neurotropic Action and Elimination of Salvarsan. (Weitere Beiträge zur Neurotropie und Depotwirkung des Salvarsans.) W. Fischer and F. Zernick.
44 Quinin Derivatives in Experimental Trypanosome Infection. J. Morgenroth and L. Halberstaedter.

45 Experimental Research on Chemotherapy of Pneumococcus Infection. J. Morgenroth and R. Levy.
46 Artificial Immunization Against Trypanosomes. E. Teichmann and H. Braun.
47 *Proctoclysis with Sugar Solution in Treatment of Diabetic Acidosis. (Behandlung der Diabetesacidose mit Zuckerinfusionen.) R. Balint.
48 *Chondrotomy for Funnel Breast. (Zur chirurgischen Behandlung der angeborenen Trichterbrust.) L. Meyer.

40. **Wassermann Reaction Not a Guide for Treatment of Syphilis.**—In order to ascertain the diagnostic reliability of the Wassermann reaction, Plehn has had the serum of 200 patients at the Urban general hospital repeatedly examined with the five various technics for the complement-deviation test. The vials with the serum were only numbered and the serologist knew nothing of the patients yielding the serum, not even whether they had a history of syphilis or not or had taken treatment. The results confirm the possibility that syphilis may become permanently cured with no or very slight treatment. Among the forty-two giving a positive Wassermann reaction repeatedly, nine had reached an advanced age without ever having had any manifestations of their syphilis after the very first, which was also the case in fourteen others who had received what would be regarded as very inadequate treatment; some in this group gave a positive, others a negative reaction. Neisser has stated this year that the spontaneous recovery of syphilis is an extremely rare occurrence, but Naunyn has asserted that it generally dies out of itself in most cases, even without treatment—although he is the last one to rely on this—and the experiences related here by Plehn demonstrate that a clinical cure with little if any treatment occurs oftener than is generally recognized. This fact explains the positive reactions obtained in so many persons who are supposed to be entirely free from a history of syphilis. On the other hand, the Wassermann reaction may become negative while florid manifestations of syphilis persist or develop afterward. The fact that the reaction has become negative does not therefore signify that the patient is actually cured; neither is it always possible, even with the most energetic treatment, to transform a positive into a negative reaction or prevent tardy syphilis of the nervous system, especially the parasyphilitic affections with and without a positive reaction. Plehn adds that the Wassermann reaction gives no information as to the infectiousness of the case. The reaction may persist positive for decades while the patient is free from the slightest clinical symptom; thus a positive reaction is no proof of the syphilitic nature of clinical manifestations developing during this period, which may or may not be of a syphilitic nature. On the other hand, a negative reaction is no proof that they are not syphilitic. Plehn reiterates that the Wassermann reaction is only one symptom of syphilis, and, like other symptoms, it may be present or not, and it may be encountered in conditions other than syphilis, as with neoplasms and lead colic. Plehn also has had occasion to deplore the depression produced by knowledge of a positive reaction in persons clinically normal. One young man recently committed suicide on this account and necropsy failed to disclose the slightest trace of syphilis. A syphilitic with a negative reaction may yet speedily die of brain syphilis, while others with positive reactions may live to be 77 and over without symptoms. He does not dispute the value of the test in certain dubious conditions, but regards the interpretation of the test as a matter involving great responsibility.

43. **Neurotropic Action of Salvarsan and Its Elimination.**—Fischer and Zernick report a case of polyneuritis and one of neuroretinitis developing in syphilitic women after injection of salvarsan. They also tabulate the findings in regard to the elimination of arsenic after intramuscular, subcutaneous or intravenous injection of salvarsan, showing that the elimination may continue for seven to twelve months and also that even after intravenous injection there may be storage of the arsenic in internal organs. The arsenic may be circulating in the blood, even when no traces of it can be detected in the urine.

47. **Sugar Solution in Diabetic Acidosis.**—Balint gives the sugar solution by proctoclysis so that absorption may be promoted and long continued. As a still further aid in this line he restricted the amount of calories in the diet during the two days of the proctoclysis, not over 700 or 800 calories being allowed, which included the 100 or 150 gm. of sugar in the rectal infusion. In some cases the acidosis ceased entirely or became strikingly reduced, the more so the longer the proctoclysis was kept up. The tolerance of the patients was much increased in every case and the acetonuria materially diminished for some time. He theorizes to explain this, ascribing the better utilization of sugar from the rectum to its passage at once into the general circulation instead of its being obliged to go around by way of the portal vein.

48. **Chondrotomy for Congenital Funnel Breast.**—Meyer reports the application of Freund's operation to relieve the depression of the lower sternal region which was so pronounced that as the boy grew he had not room to breathe and operative measures became imperative at the age of 16. About 2.5 cm. was resected from the second and third costal cartilages on the right side and the chest at once expanded and the lad has had no further trouble since. Meyer thinks that this chondrotomy should be applied to all abnormal conditions in the chest wall or spine causing interference with normal breathing.

Deutsche medizinische Wochenschrift, Berlin

August 17, XXXVII, No. 33, pp. 1505-1544

49 Criticism of Prevailing Theories in Regard to Anaphylaxis, Allergy and Hypersusceptibility in General. (Ueberempfindlichkeit in der Pathologie des Menschen.) A. Menzer.
50 Case of Fatal Puerperal Osteomalacia. F. Speyer.
51 *Dangers of Gas Distention of Stomach with an Effervescing Mixture for Diagnostic Purposes. (Kohlensäure-Aufblähung des Magens zwecks Röntgenuntersuchung.) F. Nieden.
52 *Subcutaneous Rupture of Intestines or Bladder. (Darm- und Blasenrupturen.) E. Gottschalk.
53 *Appearance of Salvarsan in Milk. A. and A. Bornstein.
54 Internal Hemorrhagic Pachymeningitis in 11 Months' Infant. H. Hahn.
55 Question of Complete Cure of Syphilis by Salvarsan. (Zur Therapia sterilisans magna durch Salvarsan.) L. Geyer.
56 Technic for Salvarsan Infusion. (Zur Frage der Konzentration der NaCl-Lösung bei Salvarsaninfusionen.) Wehner.
57 Simplified Brandberger Apparatus for Determination of Albumin. (Neuer Apparat zur Brandbergschen Eiweissbestimmung nach Ameseder.) A. Dlabac.

51. **Dangers of Inflating the Stomach with Effervescing Mixture.**—Nieden protests against the recent statements of Stiller and Hoffmann in regard to the harmlessness of this measure as an aid in Roentgen examination. He reports a case of severe gastric hemorrhage induced by the procedure and cites two reported by Bardachzi and three with fatal outcome by Behrend and another by Leo. For Roentgen work he commends barium sulphate as effectual for shadow photography; it has been used at the Bonn medical clinic in thousands of cases without ever causing appreciable by-effects. It is important, however, to write out the name in full, adding "for internal administration," as the substitution of barium sulphite, for the sulphate, ordered as "barium sulph," proved fatal in a recent case in Freiburg.

52. **Rupture of Intestines and Bladder from Contusions.**—Gottschalk remarks that the outcome is growing better in these accidents as the first aid is becoming more intelligent. The duodenum was the viscus ruptured in all but one of his last series of fifteen cases (since 1901). Only one patient succumbed of the three with subcutaneous intraperitoneal rupture of the bladder and one of the five with extraperitoneal rupture. One of these patients was a healthy woman of 41 and the rupture occurred in a fall while dancing, her partner falling on her abdomen and rupturing the full bladder. At the operation a pedunculated fibrosarcoma, the shape and size of a kidney, was found in the omentum. It was readily removed, the findings indicating that the neoplasm had been attached to the bladder and had been torn away by the accident, the weakened wall of the bladder rupturing at this point.

53. **Appearance of Salvarsan in Milk.**—Bornstein found arsenic in the milk of women who had been treated with salvarsan and the arsenic was in a form identical with or closely allied to the composition of salvarsan. Experiments with a syphilitic infant fed with the milk of a goat which had received an intravenous injection of salvarsan proved disappointing. The goat milk contained much smaller proportions of arsenic than the specimens of human milk that had been examined.

Medizinische Klinik, Berlin

July 23, VII, No. 30, pp. 1147-1186

58 Present Status of Cancer Research and Treatment. (Chemotherapie der bösartigen Geschwülste mit aromatischen Arsenverbindungen.) F. Blumenthal.
59 *Stratification of Food in the Stomach. (Schichtung der Speisen im Magen.) R. Kaufmann and R. Kienböck.
60 *Operative Treatment of Hemorrhoids. H. H. Dreesmann.
61 Epinephrin Enhances Action of Certain Local Anesthetics. (Das wirksame Prinzip der Nebennierenpräparate in Verbindung mit den Lokalanästheticis.) P. Esch.
62 *Ocular Tuberculosis. (Zur Kenntnis neuer Erscheinungsformen der Augentuberkulose.) E. Lubowski.
63 *Varicose Veins. (Ueber Krampfadern.) L. Stephan.
64 *The Hematocrite in Estimation of Effect of Iron in Anemia. (Untersuchungen mittels zentrifugierter Blutmessröhrchen Hämatokritmethode—über den Wert des Eisens bei der Behandlung der Blutarmut.) R. Schmincke.
65 Typhoid Complications. (Komplikationen im Verlauf von Typhus abdominalis.) F. Klewitz. Commenced in No. 29.
66 Bacterial Contamination of Meat. (Praktisches und Theoretisches zur Frage der bakteriellen Fleischvergiftung.) Aumann.

July 30, No. 31, pp. 1187-1222 and Supplement

67 *Specific Diagnosis of Tuberculosis. G. Jochmann.
68 *Operative Treatment of Nephritis. R. Lichtenstern.
69 *Treatment of Pneumococcus Meningitis. Kleinschmidt.
70 *Retention of Hydatidiform Mole. (Retention von Blasenmolen.) K. Mayer.
71 Therapeutic Importance of Alkaline Mineral Waters. (Therapeutische Bedeutung der erdigen Quellen.) E. H. Kisch.
72 *Autotreatment of Sciatica. (Selbstbehandlung der Ischias.) C. P. Dannehl.
73 Indian Arrow Poison Derived from Frogs' Skin Secretion. (Ueber ein indianisches Pfeilgift nebst Versuchen mit einem aus der Haut von *Rana esculenta* gewonnenen Gift.) W Caspari and A. Loewy.
74 Importance and Technic of the Wassermann Reaction in Syphilis. E. Sonntag.

59. **Stratification of Food in the Stomach.**—Kaufmann and Kienböck report study of this subject with the Roentgen rays on five healthy persons. The food spread out to form a sort of stratified shell, the food last eaten forming the kernel.

60. **Operative Treatment of Hemorrhoids.**—Dreesmann extols the advantages of two parallel incisions above and below the anus, leaving the latter intact. With a blunt instrument the skin is separated from the rectum and the hemorrhoids can thus be excised from without, leaving the mucosa intact. The incisions afford ample opportunity for inspection of the rectum and arresting hemorrhage. The details of the technic are shown in two illustrations as he has performed this operation on sixteen patients. The special advantages are that the wound being in a comparatively aseptic region rapidly heals by primary intention while there is no danger of stenosis later as the mucosa near the anus is not injured. For the same reason defecation is not painful.

62. **Tuberculosis of the Eyes.**—Lubowski expatiates on the necessity for a diagnostic injection of tuberculin for differentiation of dubious affections of the eyes, and describes several instances in which this alone cleared up the case. He deplores the dread among both patients and physicians of the tuberculin test; without it the patient is liable to drift from one physician to another, each diagnosing differently the eye trouble. It is important, he adds, to learn the numerous forms under which a tuberculous process may develop in the eye, and new cases should be described at length, so physicians may become familiar with them. Uveitis and scleritis are of tuberculous origin in the overwhelming majority of cases, and the tuberculous process may also manifest itself as an obstruction in the central artery of the retina with plastic iritis or neuroretinitis with central scotoma. He relates a case of the kind with complete recovery under tuberculin treatment. Probably the process developed behind the eyeball in the central canal of the optic nerve, and as it subsided under the tuberculin treatment functioning was restored without even any atrophic blanching of the optic nerve. In another case with hemorrhages in the vitreous body and obstruction of the central artery of the retina, the disturbances likewise all retrogressed completely under tuberculin treatment. The remarkably favorable outcome of the tuberculous thrombophlebitis is in striking contrast to the tendency to atrophy of the optic nerve left after traumatic lesions of the kind.

63. **Varicose Veins.**—Stephan has devised an elastic stocking which seems, he states, to control the circulation in the veins like the natural valves. The stocking is of linen with lengthwise strips of round wicking; it is laced only tight enough to compress the enlarged, not the normal veins. The intermittent compression thus exerted by the strips of soft wicking simulates the natural action of the valves.

64. **The Hematocrite in Estimation of Effect of Iron in Anemia.**—Schmincke measures the height of the mass of blood corpuscles in the graduated tube after centrifuging as a means of controlling the effect of treatment in anemic conditions.

67. **Specific Diagnosis of Tuberculosis.**—Jochmann urges that general practitioners should familiarize themselves with the tuberculin tests as their diagnostic importance cannot be overestimated, especially for early detection of tuberculosis. The special technic to be used depends on the circumstances of the case.

68. **Operative Treatment of Nephritis.**—Lichtenstern reports his experiences in this line, all justifying the conclusion that true Bright's disease is not amenable to surgical treatment but that operative measures are indicated for recurring rebellious unilateral renal hematuria, colics and anuria when they are the result of inflammatory processes. Recurring hemorrhage may be arrested by mere decapsulation and anuria by unilateral nephrotomy.

69. **Pneumococcus Meningitis.**—Kleinschmidt has encountered a number of cases of meningitis complicating pneumonia in the last six years, all fatal. Matthes reported four similar cases in 1908 except that there had been no pneumonia in three of them. Kleinschmidt here reports a case of pneumococcus meningitis following an infectious sore throat, the patient, a young merchant, recovering. Hexamethylenamin and pneumococcus serum had been administered, supplemented by lumbar puncture. Kleinschmidt thinks that this case suggests the advantage of giving hexamethylenamin in prophylaxis in epidemic meningitis, and also in croupous pneumonia, otitis media and injuries of the skull. Liebermeister has recently called attention to the frequent suppurative inflammation of the meninges found at necropsy after pneumonia, even when there had been no meningitic symptoms during life.

70. **Retention of Hydatidiform Mole.**—Mayer reports ten cases of this kind. In only one was the uterus very much enlarged; in the others the size corresponded to the period of the assumed pregnancy. In five cases there were atypical hemorrhages and blood-stained discharges; in two, small, tumor-like indurations in the uterus wall were palpable until after evacuation of the mole. The pathologic product had evidently been arrested in its growth but was not expelled and, although not causing special pathognomonic symptoms, it was seriously impairing the general health until it was mechanically removed the fourth or fifth month.

72. **Self-Treatment of Sciatica.**—Dannehl has the patient sit in a hot bath with the foot braced against the end wall of the tub, which he grasps above with both hands and pulls his trunk forward and over, thus stretching the nerve in the hip as he repeats the procedure. It is supplemented by light massage of the nerve trunk. The relaxation in the hot water facilitates both the stretching and the massage, and the patient's sensations are the best guide as to the intensity and duration of the procedures. They take thirty or forty minutes in all, and the water should be kept at about the same temperature, 38 C. (100.4 F.). At the close, cooler water may be poured over the body, avoiding the affected limb. The sound leg should not be braced. These baths should be taken every day or second day for months if necessary, supplemented by general hygienic measures. Dannehl has thus cured himself, by this means, of sciatica which had proved refractory for three years to all other measures, and the cure has been complete during the two years since.

Münchener medizinische Wochenschrift

August 8, LVIII, No. 32, pp. 1705-1752

75 *Research on Beginning of Labor. (Experimentell-biologische Untersuchungen über den Geburtseintritt.) A. von der Heide.
76 *Diagnosis of Spasmophilia in Children: The Peroneal Phenomenon. F. Lust.
77 Phlorin Glycosuria, a New Form of Artificial Diabetes. M. Cremer.
78 Anaphylactic Phenomena in the Cornea. (Ueber anaphylaktische Erscheinungen an der Hornhaut.) K. Wessely.
79 Organ Specificity of Uvea Albumin. (Uveaeiweiss.) W. Weichardt and R. Kümmell.

80 *Experimental Production of Congenital Deformities of the Eyes. H. E. Pagenstecher.
81 Colorimetric Determination of Milk-Sugar in Urine and Milk. W. Autenrieth and A. Funk.
82 *Fate of Tuberculous Individuals Treated in Sanatoria. (Das spätere Schicksal der in Heilstätten behandelten Lungenschwindsüchtigen.) F. Reiche.
83 *Anilin Poisoning. R. Trespe.
84 Acid or Alkaline Intravenous Salvarsan Injection. B. Spiethoff.
85 Late Syphilitic Symptoms Appearing in Early Stages of Syphilis After Salvarsan Injection. Wehner.
86 Technic of Codivilla's Nail Extension. A. Weber.
87 Langemak's Bandage and Temperature Regulation of the Body. P. Schuster.
88 *Peptic Ulcer in Stomach, Esophagus and Duodenum. G. B. Gruber. Commenced in No. 31.

75. **Labor an Anaphylactic Process.**—Sauerbruch and Heyde recently reported experiments with a gravid and non-gravid rat sutured together in parabiosis. The gravidity did not seem to be affected and both animals apparently throve until, a few hours before the gravid animal cast its young, the other suddenly developed serious symptoms, apathy or tetanic cramps or spasms resembling those of uremia. These experiments suggested that the fetal serum had acquired toxic properties which induced the disturbance resulting in expulsion of the contents of the uterus, and recent experiences here reported by von der Heide apparently confirm this assumption. Immediately after birth of a child and severing the cord the reserve placental blood from it was set aside to clot. He then injected 17.5 c.c. of this fetal serum in a young woman supposed to be at term and labor commenced in three hours. A similar result followed in three other women at or approaching term, and then in six cases in which labor had commenced but the labor pains had stopped, he injected 5 or 10 c.c. and labor started up again in a few minutes to one or two hours. One of these patients was a primipara of 30 and the period of dilatation had extended over days without labor pains, but they commenced two and a half hours after injection of 4 c.c. of the fetal serum and kept up for four hours, then ceased until the next day when they recommenced, with speedy delivery. He reports in all twenty-six pregnant women thus treated with fetal serum, the results demonstrating, he states, that not only is labor to be regarded as an anaphylactic phenomenon, due to the action of the alien albumin in the fetal serum, but that fetal serum is an effectual means to promote the contractions of the uterus in case of inefficient labor pains, either primary or secondary. He adds that injection of gradually increasing amounts of the fetal serum—on the principle of tuberculin treatment—might habituate the woman to the alien albumin so that anaphylaxis would not develop and she might carry the child over term. Injection of the fetal serum into non-pregnant women was not followed by any appreciable phenomena, seeming entirely inert.

76. **The Peroneal Nerve Phenomenon.**—Hyperexcitability of the peroneal (external popliteal) nerve was found constantly by Lust in the seventy-six children with spasmophilia examined, while the facialis phenomenon occurred only in 43.4 per cent. of the children although they all presented unmistakable signs of tetany. Holding the child's leg in his left hand he taps with a percussion hammer the external popliteal nerve near or just below the head of the fibula; if the nerve is unduly excitable, this induces transient abduction with dorsal flexion of the foot.

80. **Experimental Production of Malformations of the Eyes and Cataract.**—Pagenstecher fed gravid rabbits and guinea-pigs with naphthalin and there were malformations in the eyes in 50 per cent. of the rabbits in the following litters and in 33 per cent. of the guinea-pigs. The malformations included numbers of congenital cataracts. This experimental research proves the possibility of a toxic origin for cataract and that malformations are not necessarily due to an anomaly in the germ.

82. **After-History of Tuberculous Patients Treated in Sanatoriums.**—The statistics given in this article were cited recently in the Berlin Letter in The Journal, September 9, page 911. It rarely occurs that nearly three thousand patients can thus be kept under observation for so many years, while the conclusions are valuable as the material is so uniform, the patients all belonging to the wage-earning classes. It is certainly encouraging, Reiche remarks, to find that over 54 per cent. of the men and over 64 per cent. of the women given sanatorium treatment from seventeen to five years ago have regained full earning capacity, even although one-fifth required for this a second course and one-thirteenth a third. The data confirm the tendency of pulmonary tuberculosis to a long protracted course, long periods of latency and retrogressions.

83. **Anilin Poisoning.**—The patients were two boys one of whom had applied commercial anilin copiously to his hands in treatment of ulcerated chilblains; the other boy felt its toxic action only by inhalation as the two slept together in a defectively ventilated room. The anilin did not seem to have an inflammatory action on the tissues and the chilblains healed under it, but the general symptoms were severe and there was a bluish gray discoloration of the nails, gums, etc. Both boys were found unconscious but the one who had only inhaled the anilin had recovered the next morning, while the other was still too weak to stand by the ninth day, but then gradually recuperated.

88. **Peptic Ulceration in Esophagus, Stomach and Duodenum.**—Gruber tabulates the details of 170 cases of peptic ulceration or erosions found at 4,208 necropsies; 4 per cent. of the cadavers that reach the dissecting room at Munich thus have signs of peptic ulceration. In only eighteen of the 115 cases of actual ulcers had the affection been diagnosed during life. In fully 61 per cent. of the total 170 cases of peptic lesions morbid changes were found in the heart or vessels. The number of cases in all the various age decades ranged from sixteen to thirty-three except the small number of four between the ages of 10 and 20 and of seven between 80 and 90. Seventeen were in children under 10. In 14 per cent. of the cases the death was due to perforation and in 6 per cent. to hemorrhage from the lesion. Cancer was evident in 139 of the cases, but a connection with a preceding peptic erosion or ulcer was traceable in only 5.2 per cent. Gruber further tabulates all similar statistics that he has found on record in various countries; according to them peptic lesions were found in from 0.1 to 8.32 per cent. of the total necropsies. The higher figures are all from before 1880. No difference between the sexes is apparent from the tables, while the causal influence of cardiovascular disease seems evident. He urges all pathologic anatomists to seek for peptic ulcerations, erosions or scars at all necropsies as important general laws may possibly be learned from comparison of such data.

Therapeutische Monatshefte, Berlin

August, XXV, No. 8, pp. 465-524

89 *Tuberculin Treatment in General Practice. F. Meyer.
90 *Reply to Professor Heubner's "Warning Against Maretin." H. Dreser.
91 *Reply to Above. W. Heubner.
92 Diuretic Action of Amino-Acids. K. Glaessner.
93 *Treatment of Fracture of Upper Arm in Infants. (Zur Therapie des Oberarmbruchs im Säuglingsalter.) F. Göppert.
94 Vaccine Therapy in North America. C. T. Noeggerath.
95 *Fatal Naphthalin Poisoning. S. Prochownik.

89. **Tuberculin Treatment in General Practice.**—Meyer warns that tuberculin treatment may do harm if the dosage is too small as well as when the dosage is too large. It should be regarded as only one factor in treatment of tuberculosis, but is especially indicated for pronounced toxic symptoms such as palpitation of the heart, sweats, gastric disturbances, swelling of the thyroid and slight subfebrile temperature, also in extensive glandular and in open bone affections, combined with surgical measures. Hysteric patients do not take tuberculin treatment at all well, and it is contra-indicated when there is much fever, or pulmonary tuberculosis is rapidly progressive and complicated by mixed infection, epilepsy, severe neurasthenia or heart disease.

90 and 91. **Heubner's Warning Against Maretin.**—As Dreser's pharmacologic research was the basis for the production of maretin, he takes exception to Heubner's warning in regard to its toxic effect on the blood (given in full in The Journal, July 15, 1911, page 256). Dreser rejoins that phenacetin from this hypercritical point of view is also a poison for the blood, Krönig having reported in 1895 a case of fatal changes in the blood after a dose of 1 gm. (15 grains) of phenacetin, and yet no one hesitates to use phenacetin on this account.

Heubner replies to his statements in detail, saying in regard to phenacetin that the number of known cases of injury of the blood from it is negligibly small during the twenty-five years it has been in use in comparison with the number of cases of injury from maretin soon after its introduction. He reiterates that the continued use of maretin is liable to induce anemia even in the ordinary doses, and as an antipyretic action can be obtained with more harmless drugs, there is no reason for its use, certainly not over long periods.

93. **Treatment of Fracture of the Upper Arm in Infants.**—The usual splints used for this purpose hamper the movements of the thorax walls, and Göppert recommends a wire frame of triangular shape, padded at the angles, which fit into the axilla and elbow of the child and hold the arm away from the chest.

95. **Fatal Naphthalin Poisoning.**—The naphthalin had been ordered to expel thread-worms, and was given in ten powders of 0.25 gm. (about 4 grains) each, four a day for two days and then followed with castor oil. The child, a boy of 6, died with symptoms of naphthalin poisoning the third day, after having taken 1.75 gm. in all in two days. Lewin has also reported a fatality from this cause. It is possible that the castor oil dissolved the drug and thus an unusually large amount was absorbed.

Therapie der Gegenwart, Berlin

August, LII, No. 8, pp. 337-384

96 *Rhizotomy for Tabetic Gastric Crises. (Operative Behandlung gastrischer Krisen durch Resektion hinterer Dorsalwurzeln.) O. Foerster.
97 *Vegetables Rich in Inulin in Diet for Diabetics. H. Strauss.
98 *Kuhn's Suction Mask in General Practice. (Ueber die Lungensaugmaske aus der Praxis.) P. Seebens.
99 *Diatheses in Children. (Ueber kombinierte Krankheitsbereitschaften oder Diathesen im Kindesalter.) M. Pfaundler. Commenced in No. 7.

96. **Rhizotomy for Tabetic Gastric Crises.**—Foerster reviews his experience with resection of the posterior spinal nerve roots in cases of tabes with gastric crises of such extreme intensity that the inanition and morphin poisoning were driving the patient into the grave and all other measures had failed to relieve. Only under these conditions does he consider operative treatment. The aim is to resect the sensory gastro-intestinal fibers of the sympathetic nerve, and this may require resection of the roots from the twelfth to the fifth dorsal or even higher; the few failures in the twenty-eight cases on record to date were undoubtedly due to the fact that too few roots were resected. It may be possible to determine beforehand, he says, exactly the roots requiring resection by careful study of the location of the pains and localization of the superficial hyperesthetic zones. Guleke found in one case that the crises recurred after resection of the seventh to the ninth roots but then vanished permanently when the tenth and eleventh roots were further resected. There is always a possibility that the crises may be due to the vagus or to direct irritation of the vomiting center in the medulla oblongata, in which case rhizotomy of course would not relieve. There have been only three deaths from the intervention although the patients were all extremely debilitated and their resisting powers at a low ebb from morphin addiction. Paraplegia of the legs, paralysis of the bladder with cystitis, and pains in the legs have followed the operation in a few instances, but proved transient except in Nonne's case in which the paraplegia of the legs seems to be permanent. These troubles are probably the result of operative injury of the spinal cord or of leakage of blood into the dural sac below or possibly of the draining away of the spinal fluid from the dural sac during the operation and afterward if the pelvis is raised. If the blood-supply of the spinal cord is interfered with, paralysis may likewise result. Another transient symptom is a certain atony of the abdominal walls with more or less meteorism. Many of the patients have been restored to comparative health and enabled to return to business.

97. **Advantages of Vegetables Rich in Inulin in Diabetes.**—Strauss has given with much benefit pure inulin in two cases of diabetes, and urges the addition of vegetables rich in inulin to the diet of diabetics, especially artichokes, dandelion, the black roots of viper's grass, an edible species of *Scorzonera*, and *Helianthus macrophyllus*, of the sunflower family, all of which will repay cultivation and, as a source of inulin, prove useful in antidiabetes diets. The absorption of the inulin proceeds naturally more slowly from the ingested vegetables than when it is given isolated, which is a distinct advantage.

98. **The Suction Mask in General Practice.**—Seebens states that Kuhn calls the mask by this name as it sucks up the diaphragm by restricting the intake of air while it allows expiration to proceed unhindered. During inspiration the diaphragm, the blood and the lymph are all sucked up into the thorax, the main effect of the mask being to induce hyperemia in the organs in the chest. By sucking the blood into the chest it reduces the blood-pressure in the brain and is thus useful in insomnia while the hyperemia in the lungs has a curative influence on lung and heart disease and in all forms of anemia, as also in bronchial asthma, emphysema and bronchitis, and, by its influence on sleeplessness, in neurasthenia. Seebens has applied the mask in thirty cases of various affections and with benefit in all, no by-effects being observed in any instance. He urges general practitioners to familiarize themselves with the advantages of this inexpensive and harmless method, warning that charlatans will soon be taking it up if the profession neglects it. (The principles involved were described in The Journal, Oct. 15, 1910, page 1421). Some fear that the mask may induce hemoptysis but Senator commends it directly for hemoptysis and Kuhn has never had hemorrhage from the lungs in all his experience with the mask.

99. **Diatheses in Children.**—Pfaundler regards the neurolymphatic tendency, the exudative diathesis, as the soil on which "scrofula" develops, and lays great stress on preventive hygiene, a climate which permits constant out-of-door life, companionship with children of the same age, and a diet which excludes more or less completely all animal food, especially milk, cream, butter and eggs, and also sugar. He has often found it possible to cure anorexia by forcing food on the child, giving it by spoonfuls, coaxing, threatening and rewarding the child for eating for a time and then suddenly ceasing this and leaving the child alone. He will not care for food at first but finally clamors for it. Or a meal may be skipped entirely, or the child kept waiting long at table before it is served, on one pretext or another, until it becomes extremely impatient for its food which it then eats with appetite. Children often refuse to eat vegetables, as they prefer other foods, but when milk and other animal food is denied them, they are forced to fall back on the vegetables which they soon take with relish if palatably prepared. The practitioner who instils these hygienic principles may be called a "turnip doctor," and parents may be dissatisfied with his directions, the public still having the medieval conception that drugging is all there is to therapeutics, but the physician must not swerve from his convictions, and the final outcome of the case will be his reward.

Wiener klinische Wochenschrift

August 10, XXIV, No. 32, pp. 1147-1178

100 *Auto-Intoxication with Acids in Human Pathology. O. Porges.
101 *Rhizotomy. (Foerster's Operation.) G. Stiefler.
102 Sterilization with Ultraviolet Light. E. Glaser.
103 Research on Immunity. J. Cecikas.

August 17, No. 33, pp. 1179-1206

104 *Physical Symptoms of Mitral Insufficiency. L. Kürt.
105 Technic for Bacteriologic Diagnosis of Cholera. A. Weisskopf.
106 *Optic Neuritis with Exanthematous Typhus. V. Arnold.

100. **Auto-Intoxication with Acids.**—Porges is assistant at von Noorden's clinic at Vienna, where the subject of acid auto-intoxication has been especially studied. He reviews the various forms of intoxication and the various acids involved, as well as the various factors responsible for the accumulation of acid. The latter may include a deficiency of alkalies or insufficiency of the organs whose task is to eliminate the acid, as well as over-accumulation of the acid. Acidosis is a more common occurrence than has been hitherto recognized, he declares, and it has one pathognomonic sign, namely, increased functioning of the lungs, hyperpnea, the lungs drawing in more breath at each inhalation or the respiration becoming more frequent. Recent research has shown

that the respiration is controlled by the acidity of the blood, the respiration center being peculiarly sensitive to acids. It is probable, he declares further, that the respiration is a means of regulating the acidity of the blood; the lungs by eliminating carbonic acid thus strive to maintain the balance of acidity by throwing off the excess of acid in this way. The increased respiration is thus a sign that the organism is striving to compensate commencing acid intoxication by throwing off increased amounts of carbonic acid. The hyperpnea has the further consequence that the tension of carbonic acid in the blood declines, and this, too, may prove useful in early detection of acidosis. The abstract research recorded thus permits greater certainty in our therapeutic measures. When the physician is confronted with a patient in coma and there are no anamnesic data, and nothing to explain the coma can be discovered on examination of the patient, the presence of hyperpnea discloses that the coma is due to acid intoxication, and hence that alkalies are indicated. On the other hand, the lack of excessive functioning on the part of the lungs may serve to exclude diabetic coma and coma from any acidosis. Meat and other protein foods do not induce acid intoxication but they contribute to acidosis and hence should be restricted when there are other causes suggesting the possibility of impending acidosis, as in certain forms of nephritis and in diabetes. The favorable action of this has long been confirmed by experience and the research reported explains its mechanism from another standpoint. The findings from the research enable us also to refrain from inflicting unnecessary dietetic restrictions on our patients, as the organism has means at its disposal under ordinary conditions to render harmless the acid elements of meat.

101. **Rhizotomy.**—Stiefler reports a case of severe spastic paralysis in a boy of 12 in which he resected the posterior spinal roots according to Foerster's technic with excellent results. It is the forty-first case on record, he says, in which this technic has been applied in Little's disease and successfully in thirty-one; no benefit was apparent in five cases and four of the patients succumbed, one in an epileptic seizure, another from postoperative pneumonia and another from an iodin dermatitis. In the present case the patient is now able to sit erect and walk with the aid of a walking stool. He reports further a case of intolerable gastric crises in a tabetic man of 49 on whom the same operation was performed, adding that in the twenty-six similar cases on record a cure was realized in twelve cases. Great benefit was also apparent in this case, the gastric crises not recurring and the general health showing marked progressive improvement, but the patient died suddenly the seventh day. Necropsy indicated that the fatality was the result of bulbar paralysis and that the operation need not be incriminated, the tabetic lesions in the medulla oblongata amply sufficing to explain the sudden death.

104. **The Symptomatology of Mitral Insufficiency.**—Kürt writes from von Neusser's clinic at Vienna to discuss the physical signs and symptoms of mitral insufficiency at different ages and different stages of the disease and the explanation of their mechanism. He warns that accidental murmurs may be observed in early childhood and lead to much diagnostic confusion. Organic systolic murmurs in children are liable to be more pronounced in the dorsal decubitus. In adults he has found the systolic murmur over the apex more pronounced with the patient lying on the left side. To date he knows of no decisive means of differentiating organic from accidental murmurs. Some instances are cited to show the advantages of indirect palpation in certain dubious cases, and the diagnostic importance of an unusually pronounced pulsation in the chest wall outside of the apex, indicating that the left ventricle is lying closer to the wall than normal and over a larger area, although there may be nothing else to indicate that it is enlarged.

106. **Optic Neuritis with Exanthematous Typhus.**—Arnold states that since he has made a practice of examining the eyes of patients with spotted fever he has found traces of optic neuritis quite common. It was pronounced in eight and mild in two among his fourteen patients with this disease, but none complained of visual disturbances. The neuritis persisted longer than any other symptom but finally retrogressed completely in nearly all, but in a few there are signs of incipient atrophy of the nerve. He adds that he has encountered optic neuritis in no other infectious disease except meningitis, in which he has invariably found it or witnessed its development. He has never found it in typhoid fever and Groenouw was able to find only twenty cases in the literature of optic neuritis in typhoid fever. The discovery of an optic neuritis may therefore turn the scale in favor of exanthematous typhus in dubious cases.

Zentralblatt für Chirurgie, Leipsic

July 22, XXXVIII, No. 29, pp. 985-1016

107 *The "Two-Route Method" of Treating Local Lesions. (Die Pfannenstill'sche Methode in der Chirurgie.) A. v Reuterskiöld.
108 *Surgical Treatment of Tabes Dorsalis. H. Schüssler
109 Resection of Ulna and Radius in Treatment of Contracture After Inflammation of Tendon Sheaths in the Hand. (Zur Behandlung schwerer Hand- und Fingerkontrakturen nach Sehnenscheidenentzündung.) R. Mühsam.

July 29, No. 30, pp. 1017-1048

110 Differential Atmospheric Pressure in Prevention of Aspiration of Air After Injury of Veins. (Zur Verhütung der Luftaspiration bei Venenverletzungen.) M. Tiegel.
111 Camphorated Oil in Prophylaxis of Peritonitis and Adhesions. (Anwendung des einprozentigen Kampferöls bei Peritonitis und die adhäsionshemmende Wirkung desselben.) G. Hirschel.
112 Technic for Correction of Cleft Palate. (Ueber die Operation der Hasenscharte und des prominenten Zwischenkiefers.) L. Kredel.

August 5, No. 31, pp. 1049-1080

113 Indirect Production of Pain at McBurney's Point. (Zu der Frage der Bedeutung des Rovsing'schen Symptoms.) C. Lauenstein.
114 Leverage Extension in Treatment of Fractures. (Hebelextension.) C. Deutschländer.

107. **The Two-Route Method of Treating Local Lesions.**—Renterskiöld reports favorable experiences with Pfannenstill's method of acting on lesions by two routes: potassium iodid taken internally and ozone or hydrogen dioxid applied externally. (It was described in The Journal, July 16, 1910, p. 264.) About 3 gm. of potassium iodid are taken during the day and the lesion is kept moistened with hydrogen dioxid. Reuterskiöld has found it convenient to use two vials connected with a wick, the upper vial containing the hydrogen dioxid which drains away into the lower vial through the wick, the wick being bent in the middle and this fold being introduced into the depths of the lesion. The solution should give an acid reaction and for this he adds 0.25 to 1 per cent. acetic acid, using a 3 to 1 per cent. concentration of hydrogen dioxid.

108. **Operative Treatment of Tabes.**—Schüssler states that in sixty cases of lumbar tabes he has exposed the sciatic nerve and found it invariably in a focus of perineuritis. This alone is sufficient to explain the pains in lumbar tabes; both the gastric crises and visceral symptoms may be regarded as reflex neuroses, originating in the nervi nervorum of the inflamed neurilemma. The disturbances are generally the result of adhesions, and by slitting the neurilemma and releasing the nerve from the adhesions the pains are arrested. When the left forefinger is worked under the nerve and lifts it, the adhesions can be heard tearing. Six weeks of after-treatment should follow this neurolysis procedure. One man of 40 with severe tabetic crises and symptoms has been free from pain since it was applied in 1910.

Zentralblatt für Gynäkologie, Leipsic

July 22, XXXV, No. 29, pp. 1041-1080

115 Prophylaxis of Puerperal Fever and Self-Infection. (Semmelweis und die Selbstinfektion.) F. Ahlfeld. (Spontaninfektion.) L. Aschoff.
116 Ossification in Laparotomy Scar. (Knochenbildung in der Laparotomienarbe.) W. Hannes.
117 Cleft in Trunk from Shoulder to Umbilicus. (Seltene Form von Rumpfspalte.) A. Gutmann.

July 29, No. 30, pp. 1081-1112

118 No Premonitory Symptoms of Thrombosis or Embolism. (Kennen wir prämonitorische Symptome bei Thrombose oder Embolie?) H. Küster.
119 *Syphilitic Meningitis Following Spinal Anesthesia. (Meningitis luetica, ausgelöst durch Lumbalanästhesie.) G Linzenmeier.
120 *Technic for Excision of Corpus Uteri in Tuberculous Pregnant Women. (Indikation und Technik der Korpusexzision bei tuberkulösen Schwangeren.) H. v. Bardeleben.
121 Formation of Corpus Luteum. J. W. Miller.

August 5, No. 31, pp. 1113-1144

122 Improved Management of Umbilical Cord. (Methode, die Nabelabklemmung mit der Unterbindung zu kombinieren.) B. H. Jägerroos.

119. **Meningitis Following Spinal Anesthesia.**—A supposedly healthy woman developed symptoms of meningitis after spinal anesthesia. The Wassermann reaction proved positive and under salvarsan the symptoms promptly subsided. Linzenmeier remarks that the experience suggests special caution with spinal anesthesia on suspicion of syphilis, and also the necessity for tentative specific treatment if symptoms of meningitis follow the anesthesia and persist.

120. **Resection of Corpus Uteri in Tuberculous Pregnant Women.**—Bardeleben has been shocked at the high mortality in tuberculous women who become pregnant even when abortion is induced, 25 and 58.3 per cent. of his fifty patients in the first and second stages of pulmonary tuberculosis dying in less than sixteen months after the abortion. After trials of various supplementary operations, he reports favorable results after systematic excision of the corpus to supplement the abortion. The mortality has dropped to 5.6 per cent. with this technic, which he describes in detail with illustrations. In forty cases, the women less than four months pregnant, he operated by the vaginal route and in the eight others by the abdominal. The operation required only twenty to thirty-five minutes; hemorrhage was slight. Enough functioning corpus tissue is left to prevent disturbances later, while the site of the placenta is removed and the stumps of the adnexa are ligated outside the peritoneum. None of the patients died within sixteen months of the pregnancy and menstruation is not interfered with except that the menstrual hemorrhages are less copious. The operation aims to free the woman of the last trace of her gestation while preventing further conception.

Zentralblatt für innere Medizin, Leipsic

July 22, XXXII, No. 29, pp. 713-736

123 *Percussion in the Bath. G. Hauffe.

July 29, No. 30, pp. 737-760

124 Certain Features of Congenital Heart Defects: Two Cases. (Einige Beobachtungen bei zwei Fällen von angeborenem Herzfehler.) O. Roth.

123. **Percussion in the Bath.**—In order to facilitate percussion, Hauffe has the tub raised so that its walls are level with a stretcher and the physician does not have to bend over much. Both lungs and heart findings are far more pronounced and instructive, he asserts, with the patient lying relaxed in a full bath.

Gazzetta degli Ospedali e delle Cliniche, Milan

July 18, XXXII, No. 86, pp. 907-914

125 *Treatment of Hemorrhoids. G. Baroni.

July 20, No. 87, pp. 915-922

126 Painful Enlargement of Glands in Vicinity of Herpes Zoster. V. Russo.

July 23, No. 88, pp. 923-938

127 Necessity for Development of Forensic Gynecology. (Il presente e l'avvenire della moderna ginecologia.) L. M. Bossi.

July 27, No. 90, pp. 947-954

128 Two Operative Cases of Wounds of the Diaphragm. G. Negroni.

July 30, No. 91, pp. 955-970

129 *Present Status of Pellagra Question. (Nuove vedute eziologiche e nuove critiche a proposito della pellagra.) E. Bertarelli.

125. **Treatment of Hemorrhoids.**—Baroni has found that mere forcible extensive dilatation of the anus has sometimes been sufficient to break up the vicious circle maintaining the hemorrhoids, and in any event is a powerful factor in the cure. When further measures are required, he seizes the tip of each hemorrhoid with forceps and pulls it out as long as possible, ligating it at the base, passing the needle through the base to prevent its slipping. There is no danger of tardy hemorrhage with this technic nor of stenosis as the mucosa is left intact between each nodule as they are thermocauterized.

129. **Pellagra.**—Bertarelli reviews the various theories in regard to the origin of pellagra to date. While he thinks that there is no positive evidence to explain its origin, yet the probabilities are in favor of its being an infectious disease due to a protozoon or some microorganism of similar biologic characteristics, the corn theory not having stood the test of time. The principal argument against the corn theory is that the rigorous measures in regard to the corn harvest and corn as a foodstuff, introduced in prophylaxis of pellagra by the Italian government, have given such mediocre results. The number of cases of pellagra have diminished but by no means in proportion to the extent of these measures and the strictness of their enforcement.

Riforma Medica, Naples

July 17, XXVII, No. 29, pp. 785-812

130 Congenital Median Fistula in the Neck. F. Putzu.

July 24, No. 30, pp. 813-840

131 Blood Findings in Case of Hemorrhagic Purpura. (Ricerche ematologiche in un caso di malattia di Werlhof.) S. Maggiore.

132 Pathologic Anatomy in Case of Diabetes Without Lesions in the Pancreas. E. Cedrangolo. Commenced in No. 29.

July 31, No. 31, pp. 841-868

133 Manometer Findings with Induced Pneumothorax. A. Fagiuoli.

134 Pain of Central Origin. G. Mattirolo.

135 Chronic Hemolytic Acholuric Jaundice with Splenomegaly. G. Cantoni and C. Milani. Commenced in No. 28.

Hospitalstidende, Copenhagen

June 28, LIV, No. 26, pp. 705-736

136 Traumatic Ossifying Myositis. K. Poulsen. Commenced in No. 25.

July 12, No. 28, pp. 761-792

137 Negative Wassermann Reaction in Three Cases of Untreated Tertiary Syphilids. A. Reyn.

138 Lesion in Side of the Cervical Spinal Cord. (Tilfælde af begrænset Sidelæsion af Halsmarven.) A. Wimmer. Commenced in No. 27.

July 19, No. 29, pp. 793-824

139 Experiences with Gastroptosis and Principles for Gastropexy: Seven Cases. L. Kraft.

Ugeskrift for Læger, Copenhagen

July 20, LXXIII, No. 29, pp. 1063-1100

140 Disease of the Ears in Relation to Life and Accident Insurance. (Øresygdommenes Betydning for Livs- og Ulykkesforsikring.) H. Mygind.

July 27, No. 30, pp. 1101-1138

141 Boarding Out the Insane in Families. (Om Familieforplejning af Sindssyge.) F. Hallager.

August 3, No. 31, pp. 1139-1170

142 Phenolphthalein as Laxative. (Nogle Bemærkninger om Phenolphthalein som Afføringsmiddel.) A. Borgbjærg.

143 Institutional Principles in Care of the Insane. (Plejeanstaltsprincipet i Sindssygebehandling.) F. Krarup.

August 10, No. 32, pp. 1171-1202

144 Gastric Ulcers in the Tuberculous. (Ulcerationer i Ventriklen hos Tuberkuløse.) L. Melchior.

August 17, No. 33, pp. 1203-1238

145 Case of Alcaptonuria with Ochronosis. V. Poulsen.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A SYSTEM OF MEDICINE. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital, Cambridge. Volume IX. Diseases of the Skin With General Index. Cloth. Price, $6 net. Pp. 869, with 170 illustrations. New York: Macmillan & Co., 1911.

ELEMENTS OF PHYSIOLOGICAL PSYCHOLOGY. A Treatise of the Activities and Nature of the Mind From the Physical and Experimental Points of View. By George Trumbull Ladd, LL.D., Emeritus Professor of Moral Philosophy and Metaphysics in Yale University, and Robert Sessions Woodworth, Ph.D., Professor of Psychology in Columbia University. Cloth. Price, $4 net. Pp. 704, with 153 illustrations. New York: Charles Scribner's Sons, 1911.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume XXIII. Twenty-Third Session Held at Nashville, Tenn., December 13, 14 and 15, 1910. Edited by W. D. Haggard, M.D., Nashville, Tenn. Cloth. Pp. 532, with illustrations. 1911.

THE COMING OF EVOLUTION. The Story of a Great Revolution in Science. By John W. Judd, C.B., LL.D., F.R.S., Formerly Professor of Geology and Dean of the Royal College of Science. Cloth. Price, 40 cents net. Pp. 171. New York: G. P. Putnam's Sons, 1911.

HEREDITY IN THE LIGHT OF RECENT RESEARCH. By L. Doncaster, M.A., Fellow of King's College. Cloth. Price, 40 cents net. Pp. 143, with 12 illustrations. New York: G. P. Putnam's Sons, 1911.

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THE RELATIONSHIP BETWEEN DISEASES OF THE EAR AND THOSE OF THE EYE*

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I must felicitate the members of this Section on the excellency of our program for this meeting, giving due credit to our worthy Secretary, whose ability in this direction is certainly most commendable. It leads me to urge the adoption of the suggestion from one of our former Chairmen as to the advisability of retaining, for several years, the same man in this office and thus assuring the Section the prospects of a well-arranged and scientific program.

This is the first time that we have met in this far-famed western municipality and, while the workers in oto-laryngology of this Section are known to us through medical literature, we are glad to-day to recognize the imprint of their personality.

It has been a time-honored custom for your Chairman to deliver an address at the opening of our Section meetings, but in the last few years such officers have handled with eminent literary thoroughness every phase of the history and progress of the oto-laryngologic work, so that there is little left in the field which can be considered otherwise than personal views. For some time past much has been written concerning the relationship between diseases of the eye and the nasal cavities with their accessory sinuses, but with the exception of the ophthalmoscopic appearances of the optic disk in cases of suspected brain abscess from middle ear suppuration and the question of nystagmus in labyrinthine involvement, the articles which have appeared in our medical literature on the relationship between diseases of the eye and ear have been quite limited in number. The advanced conservative radical treatment of diseases of the nasal cavities has certainly had a very marked influence in lessening many diseased conditions of the eye, notably that of the lacrimal apparatus, for where we were accustomed to see dozens of patients sitting around our clinic with probes in their lacrimal ducts, now we see but half the number. This is attributed to the attempt being made to give the nasal cavities freer ventilation by the removal of all obstructions.

On the other hand, with the exception of a few scattered articles, notably those of Moos, Rohrer, Rollet and Park Lewis, there have been but few clinical presentations of the relationship between diseases of the eye and those of the ear.

It has only been within the last few years that the teaching of otology in our medical schools has been given an independent chair or an association with rhinolaryngology, as previous to this time it was quite universally associated with the chair of ophthalmology, especially in the smaller medical schools, and even to-day such exists in some of the medical colleges of this country. While such a relationship seems anomalous in the light of our present studies in oto-laryngology, there nevertheless exist some clinico-pathologic grounds for this condition, as is exemplified by the reports from those whose daily practice embraces diseases of both the eye and the ear.

Some vague suggestions have been heard of preferring to limit the chairmanship of this Section, as in other Sections, to men whose practice lies exclusively in that domain for which the Section stands. In other words the Chairman of this Section should be a man whose work is exclusively oto-laryngologic, just as the Chairman of the Section on Ophthalmology should be one whose work is exclusively ophthalmologic. Such ideas to my mind would be detrimental to the best interest of our Section, for this national Association embraces in its membership those whose life work and practice are confined to the small as well as to the larger municipalities, and it is only in the largest cities that a man's clientele is sufficient to allow him to confine his practice to one single organ of the human body. Consequently if such a rule were adopted, our chairmen could only come from the largest cities, while the men from smaller places, doing equally as good work, would be considered ineligible. Such ideas may be very good in theory, but in practice they are certainly not to be commended, for at the present time there are few men doing ophthalmologic work who do not also embrace the oto-laryngologic in their practice, and vice versa this is true but to a smaller extent.

While it is a fact that the oto-laryngologist may work almost independently of the ophthalmologist the reverse is certainly not the case, as has been forcibly demonstrated during the last few years. No man can be a thorough ophthalmologist without having considerable knowledge of oto-laryngologic diseases. He who daily observes diseases of the eye, ear, nose and throat, who studies closely the correlationship of these organs with certain diseased manifestations in each and the end result of their treatment, is certainly more capable of making a correct diagnosis than the man who has to consult a colleague, who in turn only sees and draws conclusions from certain local appearances and who can never thoroughly imbibe the history of the case. Such pioneer workers in ophthalmology as Knapp, Greuning, Sattler, Kipp and others recognized this fact years ago and became thoroughly familiar at the same time with oto-laryngologic diseases. I hope, therefore, this Section will maintain broader views than that only men who practice exclusively oto-laryngology should be selected as its Chairmen.

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* Chairman's address before the Section on Laryngology, Otology and Rhinology of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

With this preface I wish to review in a very cursory manner the literature bearing on the relationship between diseases of the eye and the ear, and as I do not desire to occupy much time in this address the subject must of necessity be far from exhaustive.

When we recognize the fact that medical literature teaches us it was the ophthalmologist who first pointed out the presence of nystagmus in certain diseased conditions of the middle and internal ear, a subject which of late has occupied so much of the otologic discussions, it seems quite fitting that we should look for a moment into the pathologic relationship between these two organs. In taking up the literature of the subject, I have availed myself of all the writings at my command and have quoted freely from them, in order that we may clearly recognize the importance of workers in oto-laryngology being familiar with ophthalmology just as the reverse is even more to be desired.

I. AFFECTIONS OF THE EYES WHICH HAVE BEEN CONSIDERED THE CAUSE OF CERTAIN AURAL DISTURBANCES

In 1898, Rohrer, in a very exhaustive article on this subject, urged a very ingenious embryologic and histologic relationship between the eyeball and middle ear. He makes the cornea homologous with the promontory and the pupil with the labyrinthine windows; the conjunctival sac with the middle ear and the nasal duct with the tuba Eustachii; the tear glands with the acinous glands of the tube, the drum membrane homologous with the membranous portion of the eyelids.

Ostmann, in 1897, called attention to the fact that the eye is much more commonly affected by the ear than vice versa. Affections between these organs may be induced through reflex radiation and combined stimulation of the motor fibers or indirectly through otitic diseases of the brain and cerebral meninges. The nerve tracts which permit these relations between the eye and the ear according to this author are—the trigeminal, facial and acoustic nerves, the latter giving rise to a great variety of reflex effects on the eye according to the involvement of the vestibular branch (static function) or the true auditory nerve. the cochlear branch. Both the eye and the ear are abundantly supplied with sensory fibers from the trigeminus, accounting for the pain in the eye that is felt in severe middle ear suppuration. The facial nerve establishes a communication between the eye and the ear by enervating the stapedius muscle on the one hand. and the orbicularis palpebrarum on the other. It is for this reason that a deep, humming sound in the ear is perceived on tightly shutting the eyelids, which is interpreted as a muscular bruit originating from the stapedius.

As a corollary to this, Moos has reported a case of a woman 60 years old, who had a ringing in her left ear whenever she put on her nose glasses; when she removed them the noise disappeared. This was attributed to a reflex spasm of the stapedius muscle.

Dr. Geo. Stevens, in 1881, before the International Medical Congress, reported several very interesting cases in which aural tinnitus was diagnosed as due to a muscular imbalance in the eyes, relieved by graduated tenotomies of certain extra-ocular muscles. and Dr. Theobald, in 1909, before the Section on Ophthalmology of this Association, reported four cases, besides having observed many others where certain aural disturbances such as tinnitus, muffled and stuffy sounds, and even vertigo were entirely relieved by the correction of definite eye-strains. I myself had been skeptical of this latter statement, but only within the last few months a case came under my own personal observation where severe tinnitus aurium was relieved by the proper correction of a refractive error.

A case has also been reported by Rollet in which a tinnitus was produced whenever the ophthalmoscope was used in the eye on the same side and which ceased immediately after.

D'Arsonval has reported deafness for two hours following the looking at a Voltas light for a few minutes and he believes that it was due to the irritation produced by the ultra violet rays.

Moos, in 1898, reported a case of bilateral panophthalmitis following bilateral cataract extraction which was followed by meningitis and finally by complete bilateral deafness—a case of direct extension of the pathologic process rather than reflex radiation.

De Capdeville has reported two very unique and interesting cases: The first was in a blacksmith into whose left eye had been driven an iron chip. The latter produced considerable traumatism, but was finally extracted. Severe inflammation followed, however, and on the twentieth day after the accident, the left ear began to be affected with tinnitus and deafness. Nothing abnormal could be discovered about the ear. Finally the eye was enucleated and on the next day all subjective phenomena in the ear had disappeared and the hearing became normal. In the second case he reported that of a woman who four months after a cataract extraction showed some ciliary injection and later severe irido-cyclitis with supraorbital pains. Following a subsidence of the acute pain, the ear on the same side became affected with tinnitus and diminution of hearing, so much so that finally the hearing disappeared entirely and the eye symptoms continued. Enucleation was eventually performed which relieved the tinnitus and vertigo, but the hearing remained defective.

To these cases can be added those of Dransart: In the first case a tinman, 28 years old, was injured in the left eye by a chip of iron. This latter was removed, but traumatic changes were left. Later the patient received a blow in the right eye and this was followed by deafness in the right ear. Later an iridectomy was made in the right eye which was followed by improved hearing on the same side.

The sixth case reported is interesting and even startling: A journalist, 56 years old, had entropion of the right lower lid. At the request of the patient this was operated on with good results. Following this, the patient, who had been deaf since his eighth year, reported that he could hear perfectly well.

Bouchut relates the case of a young man who was struck by a ball over the right eye, producing a contusion and finally dimness of vision. This was followed by almost complete deafness in the corresponding ear. These cases certainly seem unique and must be considered in the light of severe reflex irritation rather than through any direct pathologic relationship.

With the exception of the case referred to, I have never seen any other in which aural disturbances could be considered as due to pathologic conditions of the eye, but we are compelled to recognize the fact that such exist, for they have been reported by competent observers.

II. AFFECTIONS OF THE EAR WHICH HAVE BEEN ATTRIBUTED AS THE CAUSE OF CERTAIN OCULAR DISTURBANCES

Here we realize that every ophthalmologist should be familiar with diseases of the ear if he wishes to be thoroughly competent to make a complete diagnosis. This subject is too extensive to be even partially handled in an address like this, and in making a review of the literature embracing this point I shall be able to barely mention its salient features.

During the last two or three years our medical journals have been filled with clinical reports and discussions on labyrinthine diseases of the internal ear and especially concerning the question of nystagmus as a means of diagnosis. No one could underestimate the wonderful scientific work which has been done by Barany and others as an aid to the differential diagnosis of internal ear diseases and no one knows better than the ophthalmologist the difficulty and uncertainty which surrounds the question of nystagmus and how frequently it can be made manifest in diseases other than those of the internal ear. The aurist and ophthalmologist must work together if this symptom is to be recognized as one of positive value; this again teaches us that it is of distinct assistance for the aurist to be a good ophthalmologist.

The effect of labyrinthine changes on the eye and that of brain abscess, has been too extensively considered and discussed for further comment in this address. Consequently I shall exclude these questions and only mention such as are not so familiar in aural and ophthalmologic literature.

Affections of the ear, especially middle ear diseases, have long been known as capable of giving rise to ocular paralyses. In the majority of cases the paralysis involves the external ocular muscles on the side corresponding to the otitis and it appears independently of meningitic symptoms.

The study of the anatomico-physiologic relations between the organ of hearing and that of sight readily explains such a relationship of the ear to the ocular apparatus, but the difficulty begins when we try to interpret the symptoms and to establish the pathogenesis of ocular palsies of otitic origin. According to Urbantschitsch, they were first vaguely considered as reflex disturbances. Later under the influence of the microbic theories, according to Berger, they were attributed to infectious neuritis due to toxins produced by ear infection. Numerous cases have been observed, however, in which the paralysis very probably owes its origin to the direct propagation of an infectious lesion—Gradenigo, Terson and others.

Of course, these remarks are not meant to cover the grave cases of otitic suppuration, giving rise to severe cerebral complications (abscess of the brain, meningitis, intracranial thrombo-phlebitis) in which the infectious origin cannot be doubted. The oculomotor paralysis in these cases is merely a side phenomenon of secondary importance.

The frequent occurrence of paralysis of the sixth pair in affections of the middle ear is accounted for according to most authors by the special relations between otitis and this nerve through the carotid canal, while Perkins believes that the majority of these cases are due to osteitis of the petrous tip.

A series of noteworthy contributions to this subject was published by P. Bonner who, in 1893, called attention to the labyrinthine oculomotor connections and gave as labyrinthine symptoms the oculomotor disturbances through radiation, such as strabismus, diplopia, miosis, etc. Bonner, in the same year, also reported an observation on a patient who suffered repeatedly from disturbances of accommodation in the right eye after strong injection into the right ear for the removal of cerumen and even became presbyopic for several hours, all of which disappeared with the removal of the cerumen. While the occurrence of reflex paralysis seems to have been demonstrated clinically as well as experimentally for the external recti of the eye, the problem is not so clear in cases of the other muscles.

De Lapersonne observed a case of paralysis of the superior oblique which he thinks referable to the same origin. Not only the extrinsic muscles of the eye, but also the intrinsic muscle tissue may present reflex paralysis in consequence of a lesion. Paralysis of accommodation has been reported (Boerne Bettman) as also mydriasis and myosis. Such an occurrence does not even seem to require a serious reaction on the internal ear such as takes place in the presence of vertigo, severe pain, tinnitus and deafness. A weak irritation sometimes suffices and the starting point may be the external ear. Sabrazes reported a case on unilateral mydriasis caused by the presence of a fragment of barley in the internal auditory canal. An analogous case was published by Brandelier; the foreign body was cerumen around a glass bead.

According to Moos, an infectious process of the ear may be propagated from the petrous bone to the meninges, along the trigeminus as far as the Gasserian ganglion, and according to Wiethe, by way of the tympanic and pterygoid venous plexus as far as the ophthalmic vein, where it gives rise to an orbital abscess.

Urbantschitsch has reported a case where dilatation of the pupil was induced in a patient by the rapid change of air pressure in the tympanic cavity, and cases where a suppurative process of the middle ear has influenced the dilatation and contraction of the pupil have been reported by Moos, Schwartze, Gelle and Gervais. Certain observations as to reflex action on the muscles of the eye-lid have been made.

In a case of Desterne a single air douche of the middle ear was followed by the cure of a twitching of the right eyelid which had persisted for over a year. Schwartze mentions the cure of a ptosis after the removal of an ear polyp. Blepharospasm due to the introduction of an ear speculum was noted by Buerkner, and Buzzard observed blepharospasm due to a plug of cerumen in the auditory meatus.

Ostmann, while making mention of these reported cases of seemingly reflex paralysis and spasm, does not believe in the reflex irritation theory, but thinks that such is rather due to intracranial complications. Kipp, as early as 1884, reported two cases of metastatic panophthalmia in connection with middle ear suppuration and this very observant ophthalmologist was one of the first men to call attention to the symptom of nystagmus in connection with severe middle ear diseases—a fact which should always be remembered in discussing the history of labyrinthine diseases.

In this connection it should also be mentioned that Kitamura has reported a case of metastatic ophthalmia as a sequel to sinus thrombosis. Urbantschitsch, in 1908, contributed a very long and exceedingly interesting article on "Subjective Acoustic Phenomena and Subjective Visual Concepts," in which he dealt with sensations of sound and color which accompany unconscious cerebration. Various color sensations may modify the subjective perception of musical composition. Simultaneous excitation of the two eyes by different colors produce changes in the subjective hearing which do not occur with one. I have a friend on whom certain high notes produced the sensation of violet and many such instances could be mentioned of this physico-psychic phenomenon.

I cannot close this paper without mentioning an article by Professor Peters of Rostock, who published in Vol. 36 of Knapp's *Archives of Ophthalmology* an article on miner's nystagmus in which he undertook to show that this condition could be well accounted for by the influence of the vestibular apparatus of the ear on the movements of the eye, particularly nystagmus. He shows good authority for such ideas as founded on the experiments of Breuer, Ewald and others. That nystagmus is produced through irritation of the semicircular canals is now fairly well established, as the number of cases reported in the last two years by otologists will testify; and the prominence of this symptom as shown by Barany and others as a diagnostic sign of vestibular irritation—Peters' argument—is by no means illogical and certainly opens a new field for further investigations.

In conclusion, let me urge otologists as well as ophthalmologists to bear in mind these relations of which I have spoken, for my own observation leads me to believe that many mistaken diagnoses have been made by not considering the interdependence of the various organs of the body.

THE LEUKOCYTOLOGY OF TYPHOIDAL DISEASES, AS A GROUP-PHENOMENON WITHIN THE TYPHOID-COLON FAMILY OF BACILLI (TYPHACEÆ)*

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CHICAGO

Typhoid and paratyphoid bacilli, the bacillus of Gärtner, the paracolon, colon and dysentery bacilli belong to one family.[1] Botanically, they are branches of one tree. There are no permanent, fundamental, cultural[2] or morphologic differences between them.[3] The identification of a single member of this group by any special culture-medium has not been realized. The primordial kinship and common ancestry of these allied germs is demonstrable in many ways. It is only by acquired or biochemical properties that members of this group differ from each other. The Widal reaction, as Durham first showed, is only electively specific, not strictly so in the sense of Widal's and Buchner's words. The teaching of exclusive specificity in medicine produced not only passive, *laissez-faire* clinicians and therapeutic nihilists, but also a crop of specific public hygienists. Pasteur's conception of a specific pathogenic agent for infectious diseases shows the inspiration of a genius. Richet's anaphylaxis and Bordet-Gengou's complement deviation are of incontestable benefit to mankind, but somehow these several discoveries have not accomplished what they seemed to promise. The conditions under which a germ of a given group becomes pathogenic for man are as yet very obscure; even the rules of immunity as applied to anaphylaxis stand on their head.[4] It is certain that our reasoning on the ground of the strictly specific pathogenesis of germ diseases is too narrow. Anatomic and clinical phenomena do not justify the strict separation of typhoid and paratyphoid fevers.[5] Their epidemiology belongs together.[6]

I believe that the epidemiology of all infectious diseases, their morbidity and mortality statistics, their pathogenesis, their pathology, and clinical manifestations will be better understood when we shall study them collectively by groups, rather than individually. Just as in qualitative chemistry, there is shown in qualitative bacteriology[7] a distinct arrangement into botanical families. The law of periodicity of elements as propounded by Mendeleeff[8] in 1869 is applicable to the realm of microorganisms. Even now the laws of chemistry begin to dominate bacteremic processes.[9] That such reasoning is logical is proved by the following:

Germs, like chemical elements, can be arranged into definite groups, because, first, their individual members are morphologically similar; second, they feed or may eventually be made to feed[10] on the same culture-media; third, they show a distinct racial attitude toward oxygen and nitrogen; and fourth, their biochemic products bear plainly the stamp of family-reactions, as proved by Pfaundler's co-agglutinins, and by their leukocytic reactions. Andrewes[11] has found that guinea-pigs are co-sensitized toward paratyphoid germs and colon bacilli by previous injections of typhoid bacilli. From the standpoint of histochemistry and histopathology the classification of infectious diseases into groups suggests itself. The serum and tissue reactions of the typhoid-colon group, of the anaerobic intestinal flora, and of the streptopneumococcus family are group phenomena. The leukocytology of these infections furnishes the biochemical proof of the generic kinship between the members of these bacterial races. Clinically, this grouping of infectious diseases is very striking and, in my opinion, constitutes another proof of the existence in nature of the cyclic or periodic arrangemnt of germs — of living, organic molecules — parallel to that discovered by Mendeleef in regard to chemical elements. It is not unlikely that the teleological scheme of this grouping exists for the induction, maintenance and consumption of the circulation of elements within the human body. The generic, racial or electively specific activity of the typhoid-colon group is spent on the growth and the decay of the protein molecules in the intestines.[12]

As to whether infection and immunity in man show evidences of an evolutionary or mutating character of germs, and of their reactions on the host, I cannot discuss at this time. Suffice it, now, to take up the present status of pathogenesis, and clinical and epidemiologic significance of the leukocytology of typhoid and paratyphoid fevers.

My object in writing this article is, first, to enounce and promote the group study of typhoid infections;

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Vallet, G., and Rimbaut, L.: Les bact. intermédiares de la famille Coli-Eberth, Arch. de méd. expér., March, 1910, xxii, No. 2.

[2] Rubener: The Importance of Paratyphoid Bacilli, Berl. klin. Wchnschr., June 13, 1910, p. 1908.

[3] Müller, Reiner: Ueber Paratyphus, Deutsch. med. Wchnschr., Dec. 22, 1910, p. 2397.

[4] Besredka, A.: Anaphylaxis, Handbuch der Immunitäts-Forschung, 1911, Supp. vol. i.

[5] Rolly, Fr.: Zur Paratyphus Frage, München. med. Wchnschr., March 14, 1911, p. 556.

[6] Bainbridge, F. A.: Epidemiology of Typhoid and Paratyphoid Fevers, Proc. Roy. Soc., February, 1911, iv, No. 4.

[7] Jackson, D. D.: Classification of the Bacillus Coli Group, Jour. Infect. Dis., March 6, 1911, p. 246.

[8] Mendeleeff, D. I.: A Conception of Ether, St. Petersburg, 1869, New Translations by George Kamensky, London, 1905.

[9] Horovitz, A.: Biochemical Rôle of Bacteria, Arch. d. Sc. biol., St. Petersburg, 1910, xv, No. 1.

[10] Bradley, Burton: Biochemical Characters of the Bac. Typhus, Proc. R. Soc., February, 1911, iv, No. 4, p. 43.

[11] Andrewes, F. W.: The Leukocytes in Infection and Immunity, Lancet, June 25, 1910, p. 1739.

[12] Fisher, Van Loghem Citing: Varieties of Typhoid and Allied Bacilli, Centralbl. f. Bacteriol., Feb. 1, 1911, lvii, No. 5.

second, to show why we should suspect and diagnose them earlier than hitherto; third, to discuss the part played by the tissue-cells in the production of group-characteristics versus the specific theory of one individual germ; and fourth, to revaluate the significance of the Widal reaction.

The study of the individual members of the typhoid, paratyphoid colon group has demonstrated a marked discrepancy between the morbidity and mortality statistics of these affections. Indeed, Hazen's[13] theorem of the Mills-Reinke phenomenon is an attempt to cover up this breach in the epidemiology of these water-borne diseases, the generic relation of which was recognized by a layman before clinicians thought of it. The classification of water-borne and food-borne diseases, however, should be based on clinical evidences mainly.[14] The early bacteriologic diagnosis serves essentially to identify the group to which the germ belongs,[15] cultural tests being insufficient and serologic reactions occurring late in the disease. In order to diagnosticate a case of typhoid or paratyphoid infection early we must suspect it earlier, that is, even before clinical evidences have become manifest. In typhoidal affections the pre-clinical symptoms consist in the bacillemia and the leukocytic changes, which, presupposedly, must have existed for some time, perhaps for two or three days, before the onset of any subjective symptoms. If at all applicable, the curative vaccine therapy[16] or the medical abortive treatment of typhoid fevers must be applied very early to induce bacteriolytic immunity, in view of the absence of antitoxic and phagocytic antibodies as observed by Vaughan and his school.[17] The end of the first week of typhoid fever is called the diagnostic stage by O. Naegeli.[18] It is then that the leukocyte counts are most valuable, as I have shown before.[19] The early stage of all typhoid infections is the most infectious, because the germs are very numerous in the circulating blood and excreta during the first stage of the disease.[20]

Typhoid bacillary sensitization is a protein poisoning. The manner of the intoxication, rather than its nature, determines the peculiar lymphoid tissue and leukocytic changes of typhoid fevers. The tissues furnish the characteristic reactions rather than the germ, and they do so in accordance with the manner in which the alien protein is brought in contact with them. This would account for the clinically polymorphous character of typhoidal and paratyphoid affections. Laurent[21] holds that the number of successive generations of bacilli decide on the severity of the infection. It is probable that the negative phase of antityphoid vaccination,[22] the negative phase of leukopoiesis in rabbits, as observed by Andrews, and the incubation of typhoid fevers in man are illustrations of one and the same process.

The revaluation of the Widal test is imperative. This reaction is less specific than formerly believed, but its scope is widening since Pfaundler's work. Its late appearance is its chief drawback, and, owing to the indefinite onset of the disease, an early Widal reaction should always be viewed with suspicion.[23] Its value as a means of group-diagnosis has increased, while in specific diagnosis it has admittedly lessened. The pre-Widal diagnosis of typhoidal diseases should be the rule, not the exception. Paratyphoid affections are seldom recognized in practice and are often classed as ptomain poisoning, gastric fever,[24] mucous gastritis[25] or walking typhoid fever. The existence of intermediate forms of the typhoid colon group, the insensible gradations from the bacillus of Eberth to the bacillus of Escherich, and the exceedingly important pathogenic, hematologic, epidemiologic and clinical characters, varying in crescendo or diminuendo with the distance of a given germ from the top or the foot of his family tree, is unfortunately but little known in medical books.

The incentive for this work grew on me in the course of the last six years, while making routine blood examinations on all of my patients. The value of careful hemanalyses[26] has been recognized by several authors, especially in differential diagnosis.[27] Other reasons impelling me in this line of investigation were the following considerations: Clinically, it is characteristic of the members of typhoid-colon dysentery group to produce ulcers, owing to the lymphotoxic effects of their poisons. While the ulcers of typhoidal and dysentery group show a distinctly segmental intestinal localization, the colon bacillus produces ulcers of the stomach (F. B. Turck), appendix and large bowel. The higher in the scale of this group a given bacillus is, the longer the incubation, the greater the crescendo of negative leukopoiesis, the more marked the immunity, the less the facultative saprophytism and the more pronounced the clinical condition known. I am referring to the bacillus of Eberth. With a preliminary generalizing survey of the typhoid-colon group it will be easier to understand the leukocytology of typhoid and paratyphoid fevers. The diagnostic and prognostic significance of complete successive blood-counts will then explain itself. It is to be hoped that cytology may clear a situation which has lasted for thirty years, and for which twenty years of humoral pathology have not accounted. Typhoid fever does not spontaneously occur in lower animals. The typhoid peritonitis of guinea-pigs is no parallel to typhoid fever in man.[28] Experimental bacteriology is of little use here. Combined bedside and leukocytic data furnish the safest basis for clinical reasoning and for a correct attitude toward the pathogenesis of infectious diseases. The leukocytology of typhoid and paratyphoid fevers is another proof for the distinct generic relations between the members of this group. It throws light on the reciprocal relation between incubation and immunity. The pathogenesis of the typhoid blood-picture must not be ascribed to the endotoxins *per se*, but to the lymphoid tissue reactions which they call forth. Any chronic tissue lymphocytosis may produce a similar blood-picture, for instance, the first stage of tuberculosis and splenic anemia. The generalized endothelial and lymphoid cell hyperplasia described by Mallory,[29] Edsall,

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[13] Sedgwick-McNutt: The Mills-Reinke Phenomenon, Jour. Infect. Dis., Aug. 24, 1910, p. 489.

[14] Brion, Arthur: Typhus-Paratyphus, Modern, Clinical Medicine, 1910, p. 60.

[15] Rolly, Fr.: Diseases Produced by the Paratyphoid Bacilli, Deutsch. Arch. f. klin. Med., 1906, lxxxvii, p. 595.

[16] Richardson, W. W.: Treatment of Typhoid Fever, Mass. Gen. Hosp. Rep., 1908-1909, ii, 97.

[17] Vaughan, V.: The Specific Treatment of Typhoid Fever, Am. Jour. Med. Sc., September, 1908, p. 330.

[18] Naegli, O.: Ueber das Erkennen Typhus-ähmlicher Krankhelten, etc., Cor.-Bl. f. schweiz. Aerzte, 1902, xxxii, 109.

[19] Hultgen, J. F.: The Pre-agglutination Diagnosis of Typhoid and Paratyphoid Fevers, Tr. Chicago Pathol. Soc., August, 1909, p. 270.

[20] Von Ivigalski and H. Conradi: Ztschr. f. Hyg. u. Infect. Krankh., 1902, xxxix, 298.

[21] Laurent, E.: Virulenz-Problem der pathogenen Bacterien, Fisher, Jena, 1910.

[22] Vincent, H.: Typhoid Vaccination, Bull. d. l'Acad. de méd. de Paris, Jan. 24, 1911, p. 63

[23] Drysdale, J. H.: The Agglutination Reaction, Allbutt's System of Medicine, 1905, i, 693.

[24] Schlegelmann, Albert: Febris Gastrica, München. med. Wchnschr., 1911, No. 6, p. 299.

[25] Schneller: Febris Gastrica, München. med. Wchnschr., 1911, No. 10, p. 515.

[26] Cabot, R. C.: Differential Diagnosis, Phila., 1911, p. 406.

[27] Tompkins, McGaw: Atypical Onset of Typhoid Fever with Report of Cases, Old Dom. Med. Jour., March 19, 1911, xii, No. 3.

[28] Metchnikoff, E., and Besredka, A.: Rechurches sur la Fièvre Typhoide Expér., Ann. de l'Inst. Pasteur, March, 1911, No. 3.

[29] Aschoff: Pathological Anatomy, 1909, ii, 353.

Longcope[30] and others and observed by Virchow, depends on the manner of intoxication, rather than on the nature of the intoxicant. Indeed, the colon bacillus produces a disease not only clinically identical with typhoid fever, as Coleman and Hastings report,[31] but also with the blood-picture as that observed in Eberthian infection.

The material for the present report consists of cases of typhoid and paratyphoid fever in my private practice and from the Englewood Hospital. The patient's leukocytes were examined every two or three days during the course of the disease. In this way I was able to secure from two to ten and twelve total and differential leukocyte counts for each day, with the exception of the first two days. This is, of course, quite excusable in view of the usually insidious and indefinite onset of typhoid fevers. From the literature I could gather only total white blood-counts, differential analyses being so rarely and poorly made that I had to abandon their use in this report. As many blood examinations were made as the patients and circumstances would allow. Arneth's method of establishing by nucleo-analysis a polynuclear blood-picture was not used, although most of the writers in this country follow this investigator. I consider it very important to examine *in toto* the white blood-life of the patient, by estimating the hemoglobin, securing the total leukocyte number, and dividing the white cells into four classes, the polymorphonuclear, the small mononuclears, the large mononuclears with the transitionals, and the eosinophils. The basophils were omitted as of little value. Care was taken not to make the blood-specimen right after a cold bath or cold sponge as Winternitz and Thayer cautioned.[32] The following nomenclature was thought more accurate, more simple and descriptive than either Arneth's[33] or Sondern's. For the total number the terms "normocytosis," "hypercytosis" and "hypocytosis" were used. In the differential counting I arranged the white cells into the polynuclear, mononuclear, mixed or di-cytosis, according to the percentages of either the polynuclears or mononuclears, or of both, being above or below the normal proportions. The reasons for this I have explained elsewhere.[34] The normal blood-picture being a dinormocytosis, I was able to establish the leukocytic alterations during the entire course of typhoid and paratyphoid fever. The physiognomy of this continual blood-picture may be summed up as follows:

Polynuclear hypercytosis (several hours, probably).
Polynuclear normocytosis (probably lasts only a day).
Polynuclear hypocytosis (up to 10-15th day).

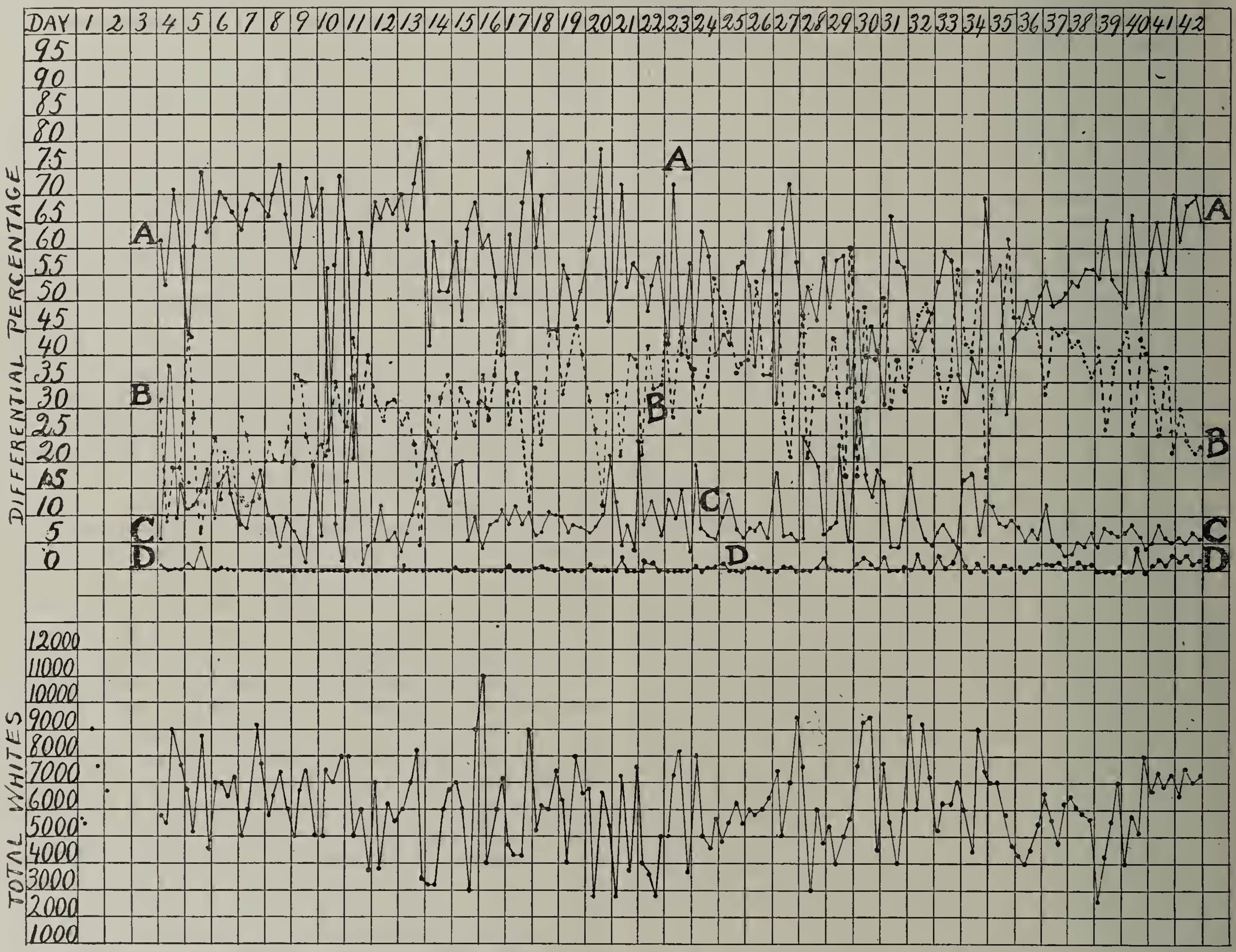

Chart 1.—The leukocytology of ortho-typhoid fevers. Four counts from each day for six weeks, obtained from thirty-six patients in private practice. A indicates polynuclears; B, small mononuclears; C, large mononuclears; D, eosinophils.

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[30] Longcope, Warfield: Rep. Ayer Clin. Lab., March, 1905.

[31] Coleman, Warren, and Hastings, T. W.: Bacillus Coli Communis, Am. Jour. Med. Sc., February, 1909, p. 199.

[32] Thayer, W.: Increase in Leukocytes Following Cold Baths in Typhoid Fever, Bull. Johns Hopkins Hosp., April, 1893, No. 4, p. 30.

[33] Arneth, J.: Blutuntersuchungen bei Tuberculosis Pulmonun., München. med. Wchnschr., 1905, No. 12, p. 542.

[34] Hultgen, J. F.: Mixed Hypercytosis, Its Nature and Significance, Quart. Bull. Northwestern Univ. Med. School, December, 1910, xxi, No. 3, p. 163

Di-normo-hypocytosis (10-15-18th day).
Mononuclear hypocytosis (15-25th day).
Mononuclear normocytosis (20-30th day).
Mononuclear hypercytosis (25-35th day).
Mixed or di-hypercytosis (30th-45th day).
Di-normocytosis (40-50th day).

Charts 2 and 3 are arranged schematically. Chart 1 illustrates the comparative constancy of a typhoidal blood-picture, persisting in spite of the well-timed shifting of its ingredient leukocyte-curves. The blood-picture of typhoid and paratyphoid is typical during the entire course of the disease. Its differential diagnostic value is as great in the fourth week as in the first week. It goes without saying that these total and differential leukocyte-curves represent the movements of the leukopoietic tissues (lymphoid cells, spleen and bone-marrow). As such their great prognostic value becomes self-evident.

A few preliminary remarks on the leukocytology of these kindred affections:

It is, of course, natural to accept the fact that in short duration, abortive or walking typhoid (see Chart 3) or paratyphoid fevers the leukocyte picture shows curves which are much shorter, though otherwise identical with those seen in true typhoid fever. It is also easily conceivable that the cytology of these infections in children would be tinged with the attributes of youth —resiliency, if not exuberance. Hence the shorter course and the greater intensity of blood-life, more lymphocytosis, relative and absolute, a lesser and shorter leukopenia and more marked mixed hypercytosis. Youth, health and the intensity of the existing affections must be considered in the framing of the typhoid-paratyphoid blood-picture. In judging the diagnosis or the prognosis, it is essential to base our opinion on the conjoint clinical and hematologic examinations.

THE INTERPRETATION OF THE TYPHOID-PARATYPHOID BLOOD-PICTURES

After a slight (supposed) initial rise, the total leukocytes drop rapidly and maintain a fairly constant low level until the fifth and sixth week of the disease, when, in juvenile patients or in patients with resilient blood-forming system, they return toward normocytosis, which yield to a more or less transitory mixed leukocytosis and then gradually shifts to a permanent normal level. As to whether these total white-cell changes are due to negative chemiotaxis according to Ehrlich, or due to a typhoid-endotoxin inhibition of the bone-marrow as O. Naegeli believes,[35] cannot as yet be definitely decided on. That the leukocytes are screened in the lung capillaries, as Bruce, Jacob Goldscheider and Andrewes maintain, is a hypothesis to which I cannot adhere. The leukopenia of typhoid affections looks to me like the prolonged ebb of the functional wave of cell immunity, a form of an hematopoiesis characterized by slow production and slow maturation of leukocytes. The polymorphonuclear cells after a probable initial rise diminish at first rapidly in number, then lose gradually but constantly until the end of the fourth week (see Charts 1, 2 and 3), when they return step by step toward the normal percentage. The polynuclear curve crosses the mononuclear wave twice, first on its downward course about the twenty-second or twenty-fourth day, and again on its ascent by the beginning of the seventh week. The small mononuclear leukocytes or lymphocyte curve is the exact counterpart of its predecessor polynuclear. Their movements are always complementary and compensatory. The lymphocytes rise after a slight initial drop, then move at a fairly even subnormal level until the fifteenth or eighteenth day, when they approach and cross their normal line, remain above normal for eight or ten days and then recede gradually into their normal proportions.

The large mononuclears and transitional cells form the most interesting part of the typhoid blood-picture. They are remarkably increased in number up to the end of the sixth week, then they regain their normal percentage. This myelemia, as Pappenheim calls it, was observed by Chetagurow in 1889. The resemblance of their curve to the polynuclear wave is, in my opinion, a very remote one, although Naegeli believes them to "follow the neutrophils mostly." There is no other prolonged leukopenia known to me in which there is such a continually high proportion of large mononuclears. This phenomenon I believe to be explainable in three ways: by a slow maturation of these cells into polynuclears, by their overproduction from the endothelial cells of the lymphoradicles, or by both conjointly.

The eosinophils undoubtedly play an important rôle in typhoid fever cytology. I fully agree with Naegeli's dictum that "no febrile disease can be of typhoid nature if the eosinophils are present in normal or half-normal proportions." These cells disappear suddenly and totally, and return very cautiously around the beginning of the sixth week.

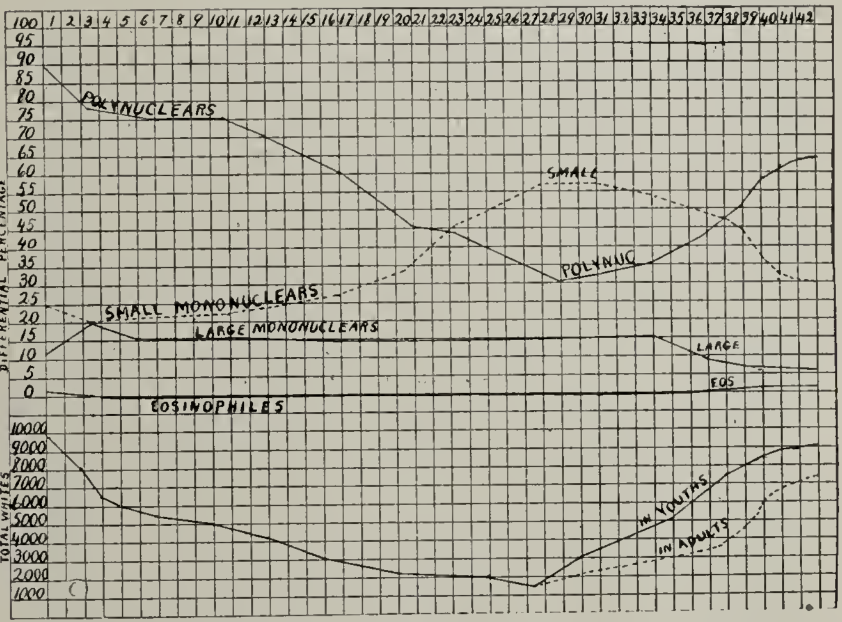

Chart 2.—"Leukocytology of orthotyphoid fever (schematic)."

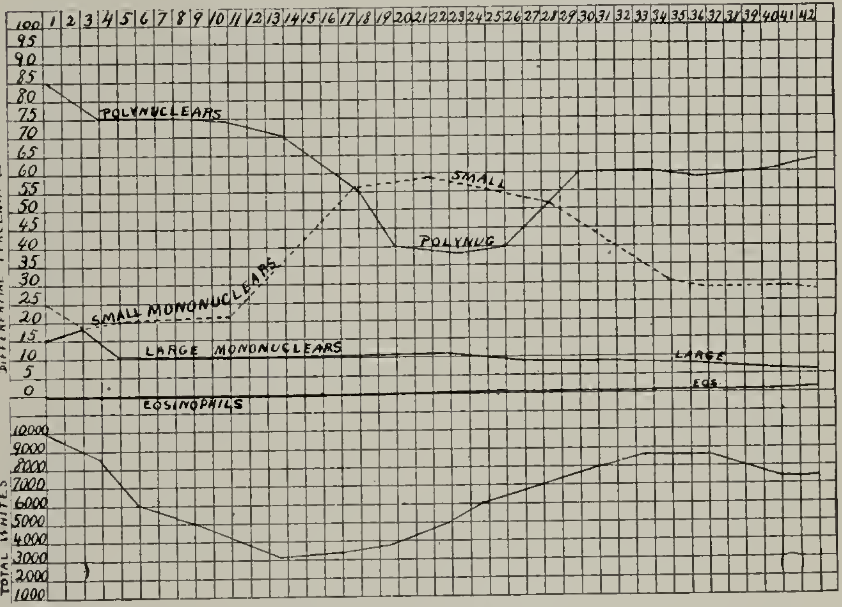

Chart 3.—"Leukocytology of paratyphoid fever (schematic)."

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[35] Naegeli, O.: Blutkrankheiten und Blutdiagnostik, 1908, p. 427.

CONCLUSIONS

1. There exists a typical typhoid and paratyphoid blood-picture throughout the course of these diseases.

2. This blood-picture is characteristic of the obligate parasites of the typhoid-colon group and constitutes, probably, the counterpart to that usually found in colon bacillus infections.

3. The leukocyte reactions of typhoid and paratyphoid infections must be interpreted as group-phenomena.

4. In the pathogenesis of this typhoid-paratyphoid blood-picture, the germs and lymphatic tissues play a joint rôle, but the character of the intoxication determines the blood-picture.

5. The diagnostic value of the leukocyte-picture is particularly great during the first ten days, while its prognostic value is especially marked in the last ten or fifteen days of the disease.

6. Repeated, combined total and differential leukocyte-counts must be made throughout the course of typhoid or paratyphoid fevers. The cytology of these affections can be appreciated in no other way.

7. The immunity with leukopenia of the typhoid-paratyphoid group and the immunity with active leukopoiesis of the colon wing of this family are evidently the two extreme phases of one fundamental process.

8. Blood-charts and reasoning by analogy show that the conception of the typhoid blood-picture as a group phenomenon within the typhoid-colon family is correct.

9. Each member of the typhoid-colon bacillus group is able to produce either a toxic gastro-enteritis or a true typhoid affection.

10. The close or fundamental kinship between the numerous members of the typhoid-colon group of bacilli is proved, first, clinically by the time-honored name of typhoid fevers, second, pathologically by their common faculty of producing ulcers in the gastro-intestinal tract, third, cytologically by their blood-picture, fourth, serologically by the coagglutination of Pfaundler, fifth, epidemiologically by Hazen's theorum of the Mills-Reinke phenomenon of typhoid and general mortality.

11. The law of periodicity of inorganic chemical elements, enounced by D. I. Mendeleeff in 1869, is in my opinion applicable to the distinct group-arrangement of organic, living microorganisms.

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REMEDIES FOR ANIMAL PARASITES

A STUDY OF THE RELATIVE EFFICIENCY AND DANGER OF THYMOL AS COMPARED WITH CERTAIN OTHER REMEDIES PROPOSED FOR HOOKWORM DISEASE *

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Thus far I have experimented with about twenty different remedies for ankylostoma aside from the action of various chemicals on the eggs and larvæ. It is desired to consider more in detail four of these remedies which at present seem to me to be of particular interest in treating hookworm disease, to call attention to some of the dangers accompanying the use of each and to suggest what laboratory experiment and clinical experience have shown to be the best method of expelling hookworm by these particular remedies. What I shall have to say, then, is of the nature of an experimental criticism interpreted in the light of many experiments on dogs, especially, infected and studied under conditions that admitted of proper control.[1]

THYMOL

One of the first substances to be used with any degree of success is thymol, which is one of the higher phenols known as isopropylmetakresol. It is difficultly soluble in water, 1 gm. in 1,100 c.c., but is very easily dissolved in alcohol, and less so in castor oil, olive oil and fats, than in alcohol. When the dry powder is taken after a twelve-hour fast, with the alimentary tract cleaned out by a saline or calomel purge, but little thymol is absorbed, most of it leaving the intestine by way of the feces. After 3 gm. doses daily for a long period of time, Blum was able to recover from human urine sufficient thymol compounds to analyze. These appear in the urine as thymolsulphuric acid, thymolglycuronic acid, thymolhydrochinonsulphuric acid, and a thymol chromogen. During twenty-four hours after taking 3 gm. of thymol one man eliminated thymolglycuronic acid equivalent to 0.2025 gm. dichlorthymolglycuronic acid.

When absorbed in sufficient quantities it causes marked depression, nausea, vomiting, severe headache, roaring in the ears, weak heart-beat, resulting in a thready pulse, muscle weakness, lowering of the body temperature, dizziness, and general collapse. In my experiments on dogs, the myocardiograms show the heart muscle largely responsible for most of the graver symptoms, its contractions grow more and more weak, resulting in a gradually lowered blood-pressure, until finally, if the amount of thymol in the blood is sufficient, the animal dies from low blood-pressure, due to diminished ventricular output. Thymol also acts on the mucous membrane, stimulating secretion of mucin and causing burning sensations and sometimes vomiting, in which case the patient may suffer intensely from its irritant action on the membranes of the mouth, nose, and throat. Should the drug be accidentally drawn into the lungs it may cause grave complications, even consolidation of that part of the lung tissue with which it comes in contact. In general, then, it may be said that thymol resembles phenol (carbolic acid) in action, but is less easily absorbed and is about one-fourth as toxic.

Bozzolo, in 1881, had occasion to treat ankylostomiasis, and discovered that thymol was efficient in expelling the parasite. At first he gave 2 to 10 gm. of the powder a day, followed by a weak alcoholic beverage, so as to have a weak solution of the drug in the alimentary tract. Later he gave 2 gm. every two hours until 12 gm. were given. In the hands of later workers this treatment proved effective, but too drastic, and after a number of mishaps smaller doses were recommended, the use of all thymol solvents forbidden, and more emphasis placed on vigorous purgatives to expel the parasites and diminish the possibility of further absorption of the drug after its function as a vermifuge had been fulfilled.

With thymol treatment, as with most treatments for intestinal parasites, too much emphasis cannot be placed on the proper preparation of the alimentary tract and the parasite before administering the antihelminthic. Since thymol combines with proteins and other substances taken as food, and by dilution alone is kept away from the parasites, the alimentary tract should be as empty as possible. To this end only sufficient food is

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

* From the Hygienic Laboratory of the U. S. Public Health and Marine-Hospital Service.

[1] The details of the experiments, along with a discussion of the other remedies studied, will appear in a bulletin from the Hygienic Laboratory in the near future.

eaten at noon on the day before taking thymol to insure against faintness. The evening meal ought to consist of beef broth, or some form of gruel. At about 8 or 9 p. m. a compound cathartic pill is taken. The following day the treatment proper begins, the best of which seems to be that so clearly outlined by Stiles,[2] in substance being that recommended by the Porto Rican Commission which has reported thousands of successful treatments. It is as follows:

> At 6 o'clock in the morning, one-half of the dose of thymol is taken in flat, 5-grain capsules, the finely powdered thymol being thoroughly mixed with one-half to one-third its bulk of milk-sugar to insure rapid disintegration of the mass in the stomach and intestine. The patient should lie down until some time after the drug has passed into the intestine; at 7:30 or 8 a. m. the second half of the calculated dose is taken and at 10 a. m. a vigorous purge, either of magnesium sulphate or of compound cathartic pill, is taken. The feces from now until the day following ought to be collected, washed and examined for parasites, and a week later a fresh sample examined for eggs to make sure of the efficiency of the method.

The dose of thymol should depend on the age and condition of the patient. Since absorption is much more rapid in young animals than in adults, and their protoplasm reacts more vigorously, the dose must be reduced. The body cells of badly infected individuals are also less able to withstand the toxic action of the drug, the numerous wounds in the intestinal mucosa favoring increased absorption of thymol, just as in the case of abraded surfaces in contact with phenol. Experiments on animals and clinical experience teach that the dose of thymol for both young animals and those weakened by disease must be only one-tenth to one-fifth that of a vigorous adult. The following doses represent the maximum amount of thymol recommended by the Porto Rican Commission and by Stiles to be given during one day for the age groups, respectively, to be given in two doses and modified, not to the age, but to the apparent maturity and vigor of the patient:

Age, Years.	Grains.		Grams.
Under 5	7½		0.5
From 5 to 9	15		1.0
From 10 to 14	30	or	2.0
From 15 to 19	45		3.0
From 20 to 59	60		4.0
Above 60	30–45		2.0 to 3.0

Treatment with submaximal doses of thymol expels only a fraction of the parasites and renders the residue in some way less susceptible to subsequent doses. Though only a part of the parasites are expelled, the patient at once reacts to the improved conditions of nutrition, the hemoglobin content is increased, the heart strengthened, and in general the bodily health is improved. For this reason instead of following within a few days the first treatment with a second, it seems best to wait and take advantage of the host's increased resistance to the drug because of the increased bodily vigor. Then if tolerance is developed by the parasite, use may be made of one of the other vermifuges discussed later.

Although thymol is generally conceded to be one of the most active hookworm expellants, it has certain drawbacks, chief of which are its irritant action, its toxicity when absorbed, and its tendency to cause tolerance in the parasite in excess of that which it develops for the host. These objections have encouraged the trial of other phenol compounds, but with little success, since those that are less soluble are likewise less active vermicides. Beta-naphthol, however, has been tried and with considerable success.

BETA-NAPHTHOL

Beta-naphthol is a naphthalin derivative, soluble at 25° C. in 950 parts of water and 0.61 parts of alcohol, is quite soluble in olive oil, castor oil, fats, and difficultly soluble in the saliva and in the acid gastric juice. Part of the beta-naphthol is absorbed in the intestine; just how much seems never to have been determined, but that which is absorbed is, according to Edlefsen, excreted by the kidneys as beta-naphthol gluconic acid, beta-naphthochinon, and possibly in other slightly modified forms. One of its chief dangers is that the kidney cells are apt to be affected, resulting in nephritis and subsequent albuminuria. The mucous membranes are affected by it, but there is not that intense burning of the mouth, throat, and stomach, following contact with the dry powder, which is experienced with thymol; on the contrary there is more of a numbing sensation of the tongue. Thus far I have found in the literature no cases of severe poisoning from its internal administration. Most of the cases of poisoning recorded are of patients treated for skin disease, this drug being, like phenol, readily absorbed by the skin when applied in ointments.

Colbert, after trying thymol in a few hundred cases of ankylostomiasis with a number of unpleasant results, employed beta-naphthol. Out of 5,000 patients, 4,056 were cured. A large number, however, had to be treated four or five times before the feces no longer contained eggs. Beta-naphthol is a weaker vermicide than thymol, consequently slower to effect a cure. In spite of this, Colbert recommends it above thymol because of the absence of the more objectionable properties of the latter. Fort, of Georgia, reports 374 successful treatments and recommends it highly.

The experiments in this laboratory confirm the reports of clinicians. Dogs stand beta-naphthol much better than they do thymol. It does not cause vomiting except with large doses and in prolonged treatment. It does, however, frequently produce considerable irritation of the genitalia after urinating, but thus far none of the animals developed either immediate or remote symptoms of a grave character. Since the parasites likewise react less vigorously toward this drug, and in equal doses beta-naphthol seems to be less active than thymol, probably the difference in activity is in proportion to their relative toxicity for the host. If further experiments prove this to be true there is no advantage in substituting beta-naphthol for thymol; less thymol should be used at a time and the number of treatments increased. But should the ratio of relative efficiency and that of the relative toxicity of these two compounds be in favor of beta-naphthol, then it is the more desirable and safer remedy in cases of children, anemic, and aged patients. This point I hope to prove in the near future.

In general the procedure of treatment and the precautions to be taken are the same as those described for thymol. For a vigorous adult the procedure is as follows:

> The patient is placed on a liquid diet; at 3 p. m. a mild cathartic of calomel or salts is given. On the second day at 7 a. m. 1 to 2 gm. of beta-naphthol, mixed with about one-third its weight of milk-sugar, is given in a gelatin capsule; at 8 a. m. 1 to 2 gm. more are given; at 11 a. m. a vigorous cathartic of salts or compound cathartic pill; at 12 a glass of milk and bread may be eaten, and after that the regular diet (Clayton, Fort).

MALE FERN

In Europe there is perhaps no vermicide so widely used as the ether extract of male fern. In the more northern portions of Europe it seems relatively easy to obtain very active samples of the rhizome, but in this country a high quality of it is difficult to purchase on the open market. To insure an active extract the best quality of rhizome, showing the characteristic green fracture, is necessary.

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[2] Stiles, C. W.: Bull. U. S. P. H .and M.-H. S., 1910, No. 30.

Its active principles readily deteriorate with age, not only when isolated as such, but also as the crude extract and even as the dried rhizome itself. The extract is a mixture of substances, amongst which the most important are filicic acid (Lach), aspidin, albuspidin (Boehm), aspidinol (Boehm), flavaspidinic acid (Boehm), aspidinin (Boehm). Poulsson, Boehm, and Straub think that aspidin, albaspidin, and aspidinin are powerful smooth-muscle poisons, and Straub has later shown that male fern is primarily a plasma poison, attacking both smooth and striated muscle without destroying nervous conduction. These properties make it, theoretically, a powerful and effective poison for ankylostoma, and if the amount absorbed by the host can be controlled it has most of the essentials of a good vermifuge.

With due precautions against solvents and against too long contact with the mucosa of the alimentary tract, the factor of absorption can in part be controlled, but even then there is usually enough of the drug absorbed to enable one to detect it in the tissues of various organs, and filicic acid along with some of its split products appears in the urine. With moderate doses mild poisoning is very common, and large doses are attended with considerable danger. When poisoning occurs the patient experiences severe abdominal cramps, catarrhal and diarrheal conditions of the intestine, headache, dizziness, shortness of breath, yellow vision, and sometimes amblyopia and even temporary blindness. In the severest cases the person becomes delirious, is attacked with severe muscle-cramps which may develop into tonic spasms, and even death may ensue. In the severe cases in which recovery takes place, permanent unilateral or bilateral blindness results. Sidler-Huguenin, 1898, compiled seventy-eight cases of poisoning and twelve deaths; Nieden compiled forty-seven cases of injury to sight from male fern; nineteen cases showed double-sided, and fifteen one-sided amblyopia. According to Kalayama and Okamoto, in 32.5 per cent. of the cases of male fern poisoning there were varying degrees of visual derangement. Like thymol, then, this remedy is not absolutely safe, for only 5 gm. has caused severe poisoning in man. Various attempts have been made to eliminate the poison that is injurious to the host, retaining the substance that has a selective action for the parasite, but thus far these so-called active principles have been found unreliable.

Male fern extract had long been known as a teniacide, but Perona and Perroncito about 1881 brought it into prominence as a substance highly toxic for ankylostoma. Since then its efficiency as a vermicide has been amply demonstrated.

Fickerman treated 534 patients, the first dose curing 83.9 per cent. Laplanche found that the first dose cured 75.9 per cent. of 1,648 patients. Nagel compiled the results of about 4,000 cases, his observations extending over several years of time; mild poisoning was common. Tenholt treated about 10,202 worm patients, 74 per cent. requiring but one dose. Birgmann treated 22,000 patients with ankylostomiasis and observed only four cases of permanent blindness.

In treating hookworm disease by male fern it is not only essential to have a fresh ether extract, but it is necessary to prepare the alimentary tract for its reception. The mucosa should be free from mucin and from fatty foods. All solvents of male fern such as alcohol, fats, and oils, must be avoided, just as with thymol. Then in order to avoid unnecessary absorption after the drug has fulfilled its function of poisoning the parasite, it should be expelled as quickly as possible. Compound cathartic pills or magnesium sulphate seem to be the best cathartics. Since ether extract of male fern has a very disagreeable taste, it ought to be put up in capsules. Glutinoid capsules have been recommended, but when taken in these, larger doses seem to be necessary. The following procedure used in part by Goldman seems to be a good one:

> For a vigorous adult 8 to 16 gm. of ether extract of malefern is put up in 1 gm. gelatin capsules. First day: Evening meal of meat broth or light soup; compound cathartic pill later, say about 8 p. m. Second day: 7 a. m. 1 gm. malefern every ten minutes until 4 to 8 gm. have been taken. One-half hour is then allowed to elapse and if no undesirable symptoms develop the remaining 4 to 8 gm. are taken, 1 gm. every five minutes. One to two hours later a vigorous purge is taken (calomel or salts). The feces should be washed and the worms counted; three to ten days later the feces are again examined for eggs, and if necessary the treatment repeated.

EUCALYPTUS AND CHLOROFORM

Another mixture known as "Hermann's Mixture" is of considerable interest. It is composed of 3 gm. of chloroform, 2 gm. of oil of eucalyptus, and 40 gm. of castor oil. This is divided into two doses and given at hour intervals.

Thus far I have been unable to find any cases of acute poisoning from pure oil of eucalyptus mixed with castor oil. It is known to have a local action on the skin, but otherwise little is known of its pharmacologic action. Two and one-half c.c. of oil of eucalyptus globulus in 10 c.c. of castor oil, given in a gelatin capsule to a 5 or 6 kilo. dog, causes vomiting. Judging from the contents of the vomit, the mixture caused an abundant flow of mucin, slightly tinged with blood. The same animal can take, apparently with little inconvenience, the same amount of eucalyptus oil if given at hourly intervals in doses of 1 c.c. mixed with 5 c.c. of castor oil.

It cannot, however, be said of chloroform that it is a harmless drug when taken in doses as usually recommended for expelling intestinal worms. As is well known, chloroform alone is a powerful irritant to all parts of the alimentary tract. It acts locally on the mucosa, causing lesions therein, and stimulates both the stomach and the intestine to very active movements. Being absorbed from all parts of the alimentary canal, especially the upper portion, it reaches the liver by a rather direct route and may result in acute poisoning. A 10 kilo. dog may show no outward signs of intoxication after ingesting 3 c.c. of chloroform thoroughly mixed with 10 c.c. of castor oil. Hookworms may be expelled within two and a half hours after giving the mixture. If, however, a second dose be taken three to four hours afterward, a dog, before lively and playful, soon ceases to be so, food is refused, vomiting may set in, and some hours later the animal is seized with acute mania-like symptoms and eventually dies. The postmortem findings of such animals reveal profuse lesions in the liver, the lobules, and in many places groups of them, being distinctly outlined by their yellow color, the pericardium shows a peculiar mottled appearance, and there is hemorrhage in the lungs, diaphragm, stomach and intestines.

There can be no doubt about the chloroform being responsible for these pathologic conditions, and such results place one on his guard in using chloroform internally. Its invidious action on the internal organs may not result in symptoms gross enough to be observed until considerable time has elapsed, thus tempting one to administer a second dose, the summated action of which may bring things to a crisis at once. Acute mania is reported in the case of a boy after taking for hookworms the prescribed dose of "Hermann's Mixture." The dose was probably that supposed to be taken by an adult, and should have been modified according to the age and condition of the patient, a matter to be considered at all times. Even then patients seem to rebel against a second treatment, and Colbert, Key, and Law each speak of it as dangerous and less efficient than beta-naphthol. Thus far I have found the remedy more efficient for dogs than beta-naphthol, and an excellent substitute for thymol in very refractory cases.

It is not quite clear just what part oil of eucalyptus plays in expelling ankylostoma, but until further data are at hand I am inclined to think it is simply an irritant to the parasites, causing in them rapid vermiform movements, and making them loosen their hold and change their position, in which case a vigorous purge may sweep them alive out of the intestine. The chloroform not only does this, but also anesthetizes them sufficiently to render them incapable of again taking hold of the mucosa while being expelled by the purgative action of the ricinolic acid. When quickly expelled in this way the worms are not at first very active, but placed in saline solution they soon become very active and may live twenty-four hours.

That chloroform is the most important constituent of this formula can easily be demonstrated by taking two infected dogs A and B. A is treated with 15 c.c. of castor oil plus 3 c.c. of eucalyptus globulus, in 3 doses an hour apart. After a second treatment only thirteen live worms were obtained. B is treated with 15 c.c. of castor oil and 3 c.c. of chloroform in doses one hour apart. Inside of 3½ hours after the last dose, feces were obtained containing 133 hookworms, and a few hours later 150 more were expelled, all of which were very active after being in water ten minutes. A second treatment some days later secured twenty-five hookworms; subsequent examination of the feces showed it free from eggs, and later after using the animal for a blood-pressure experiment, careful examination of the stomach and intestines showed the animal to be free from hookworm. Dog A was then treated with 15 c.c. of castor oil and 3 c.c. of chloroform, in three doses an hour apart; hookworms were obtained, and after the second treatment the feces showed no hookworm eggs.

These experiments seem to represent in general the relative action of eucalyptus and of chloroform. With some dogs a larger number of worms may be obtained after eucalyptus, but in such cases there is considerable blood in the feces, whereas chloroform is quite uniform in its action and always expels the worms more efficiently. So that one is justified in concluding that the oil of eucalyptus globulus is probably superfluous and at best simply an aid to the chloroform during the stage of irritation in causing the worms to loosen their hold on the mucosa.

CONCLUSIONS

1. Any practical vermifuge to be effective in expelling uncinaria or ankylostoma must be an irritant of sufficient intensity to cause the parasite to loosen its hold.
2. It should paralyze the neuromuscular apparatus to hinder the parasite from making fresh attachment.
3. Its relative toxicity for the parasite must be either much greater than that for the host or be much more readily absorbed by the former than by the latter.

As has already been pointed out, each of the above remedies is absorbed more or less from the alimentary tract, and Tenholt has even gone so far as to assume that only such drugs as are absorbed can be active in expelling ankylostoma. Since their method of taking food is by way of the mouth they must of necessity be poisoned by ingesting the tissues of the host already impregnated with the toxic substance, and if the host does not absorb sufficient thymol, beta-naphthol, male fern, etc., they remain fixed to the intestinal mucosa and are not expelled by the purgative.

My present experimental data suggest that this is at best only a part of the truth. It happens that drugs like thymol when combined with iodin or the benzole radicle are much less active vermicides than thymol itself. It is also true that thymol iodid, being much less soluble than thymol, is absorbed to a less extent by the intestinal mucosa. *A priori* this would seem to support the idea of Tenholt that thymol iodid has no action on hookworms because none of the drug is absorbed by the host. But if the worms themselves be studied in contact with solutions each of thymol and thymol iodid it is possible to explain the reaction of the worms towards the two drugs on the basis of amount of drug in actual contact with the parasite and the effect of introducing the iodin atom into the molecule, and thus lowering its toxicity. While, therefore, the drug absorbed by the host and ingested by the parasite as a part of the cell and plasma may have a toxic action on the worms, it seems that such drugs as thymol, male fern, chloroform, and beta-naphthol, act[1] by direct contact with the worms, causing rapid vermiform movements, and if the irritation is sufficiently great the worms finally attempt to escape. From now on until paralysis sets in not a little of the surrounding media is ingested, since the mouth parts of the parasite are kept in constant action. At this stage the intestinal contents of the host ought to be expelled so as to get rid of the surplus drug and the poisoned or anesthetized worms. Judging from the action on the worms *in vitro,* two to three hours seem to be about the time when the cathartic should begin its work. Although in the case of chloroform and eucalyptus the cathartic in the form of castor oil works hand in hand with the chloroform.

In conclusion it may be said that at present thymol is one of the most toxic vermicides for ankylostoma thus far proposed. It is easy to obtain, keeps well, is cheap, and is easily administered; it kills the parasites instead of merely paralyzing them. When taken under the care of a physician who is careful to gauge the dose in accordance with the physical condition of the host, it seems to be the best all-around remedy thus far studied. While dangerous in large doses, it differs from beta-naphthol, male fern, and chloroform, in that the danger is at once apparent and can be controlled by heart stimulants and by methods that help maintain a good blood-pressure until the drug has killed the parasite and the cathartic has removed the excess of thymol. Whereas, with the other remedies just mentioned the danger signals are less obvious and usually it is only after irreparable damage is done that one is aware that his patient is in danger of any after-effects.

Beta-naphthol is probably the next pure chemical substance that ought to be tried more extensively on human hookworm subjects. Persons affected with kidney lesions ought not to take it, and when used the urine should be examined to determine whether it causes albuminuria. If the maximum dosage of 2 to 4 gm., divided in two parts and given an hour apart, does not cause renal disturbances in adults, beta-naphthol has much to recommend it as a hookworm remedy.

Male fern at present has not much promise in this country because of the lack of care in collecting the rhizome and in preparing an active ethereal extract. This, however, is a condition which doubtless would soon be remedied if once considerable demand existed for an active extract.

At present there is but little reliable data on how efficient "Hermann's Mixture" is for expelling human hookworms, or what percentage of cases might show after-effects. It seems unnecessary to add such an irritating oil as eucalyptus globulus, and if chloroform is used it ought to be given with plenty of oil. It is best to divide the maximum 3 c.c. dose, for a vigorous adult, into 3 parts, 1 c.c. of chloroform to 10 c.c. of castor oil, given at hour intervals. Should vomiting occur before the chloroform is taken, stop the treatment, and if necessary change to thymol or beta-naphthol. By thus regulating the dose of chloroform, I have had excellent results with dogs, it has proven rapid in its action and thus far not followed by any evil after-effects. Should the chloroform-castor oil mixture act as favorably in human beings as it has for me in dogs, it will prove a universal worm remedy of great importance.

Finally it may be said that the best of remedies are but weak instruments of defense in stamping out this degrading disease. The weapon of offense must after all be proper disposal of fecal matter so that infection is rendered impossible. And what can be more effective in accomplishing this than the cultivation of a healthy public sentiment which will insist on its communal rights in this matter, protect the innocent, and by proper police regulation quickly punish the offender? To this end it would seem that the most effective line of attack is that led by Stiles and others who are endeavoring to educate the masses as to the importance of proper sanitation.

MY EXPERIENCE WITH HOOKWORM INFECTION IN THE DEEP GOLD MINES OF CALIFORNIA *

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The physician practicing medicine in the interior of the North American continent may have meager opportunity for the application of tropical medicine or meet few diseases foreign to the locality, but as new diseases, new industries, and a changing population take effect, then he may anticipate new enemies on which to test his skill.

I offer this paper without any anticipation of presenting anything new, but with the hope that my experience with uncinariasis, or hookworm infection, together with the few suggestions that I can make, in relation to its cure and particularly its prevention, may prove of value to the fraternity. I think that I can positively state, without fear of contradiction, that many individuals have gone down to an untimely end from hookworm infection, and we have helped to bury our mistakes by signing a death certificate for "miners' consumption" or some other disease, diagnosed symptomatically; while in many other cases, hookworm has been a contributing cause of death and has gone unrecognized, unheralded and unappreciated.

I may be radical when I say that I doubt if there are any deep mines in the United States, which have been in continual operation for a number of years, and which employ foreign laborers—miners who have worked in the mines of Cornwall, Austria, Italy or South Africa; and perhaps many other places before coming to this country—that are not more or less infected. In the mines along what is called the "mother lode," the deep gold-mining district of California, laborers of this class are employed.

These foreigners, without exception, come to the Pacific Coast from eastern ports, mostly from New York. They frequently stop *en route* at eastern mines, in Pennsylvania, Michigan and other places, and there is no reason to believe that they do not infect these mines.

These miners become infected by working from childhood in infected mines in the old country, and all are carriers, in the same sense as the typhoid carriers that we occasionally see. It is not only my opinion, but also that of Dr. Gunn, of San Francisco, whom I consider an authority on hookworm, that most mines in operation for a considerable length of time, employing this class of labor, where the conditions are favorable to their development, are infected with hookworm.

It might be well to quote at this time from Frohlich, Raillet, Stiles and others, that there are two distinct species of hookworm, the European and American, but I wish to say that if the European are not American, they should be, for they have been in this country long enough to be naturalized. These authorities state that the effects of the two species are not distinguishable and the treatment is the same.

Hookworm infection, if suspected, is not difficult to diagnose, but by the neophyte it may be overlooked. One may stand on the streets of any mining town along the "mother lode," when the miners come from and go to work, and with little chance of mistake point out the men infected with hookworm. Their skin has an appearance as peculiar to their trouble and as characteristic as is the cachexia of cancer.

When a patient complains of symptoms referable to gastro-enteritis, appendicitis, functional heart trouble, etc., the stools should be examined for the ova of hookworm. After an ordinary laxative the worms themselves are not found in the stool, only the eggs. Having once seen the ova, which are clearly pictured by recent books on the subject, there is little chance for mistake. Many cases of apparent heart trouble, gastro-enteritis, appendicitis, anemia, malaria, etc., yield like magic to hookworm treatment. I recall one case in which a miner, supposed to be dying of "miners' consumption," who was too weak to cross the street, was found to be infected with hookworm and responded nicely to the treatment; he is now back at work in the mine, doing hard manual labor, and is well and hearty.

It is not necessary to give a laxative to secure a sample of the stool. The patient can pick up a small amount of an ordinary stool on a toothpick and place it in a clean vial. A thin film of this spread on a slide, and examined under a 1/8 inch objective, without cover glass, will disclose the ova if they are present.

Eosinophilia is diagnostic evidence of hookworm infection; however, we must keep in mind the fact that eosinophilia is found in many other conditions which may simulate hookworm, viz., bronchial asthma, emphysema, phthisis with cavities, diseases of the nervous system, chlorosis, some diseases of the skin, and lithemia. The absolute diagnosis of uncinariasis consists in finding the ova under the microscope and later the worms after having administered the proper medicament.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

Treatment is simple and effective; the usual prescription consists of thymol in 5-grain doses every two hours until four doses are taken, to be preceded and followed by a saline laxative, a light supper, and no breakfast, before taking thymol; fats and alcoholic drinks are interdicted.

The other treatment most in use is the following:

℞	Gm. or c.c.		
Spiritus chloroformi	2|50		m xl
Olei eucalypti	1|25	or	m xx
Olei ricini ....q.s.	60|		℥ii

Sig.: Take one-half and repeat in one hour.

This latter treatment has an advantage in that it does not require the same precautions in diet and beverage, but I do not believe it to be so effective; besides it has its untoward effects, fainting, nausea. Some patients take the mixture with pleasure, while others become cyanosed and have to be placed in a recumbent position and given heart stimulants, due no doubt to the weakened condition and the effects of the chloroform.

Either method of treatment must be repeated at intervals of from three days to a week until all ova disappear from the feces. Any method of treatment should be followed by a good tonic, usually some iron preparation.

Now comes the most important part, that of prophylaxis: Having once cured the patient, how can we prevent reinfection? One can readily appreciate the folly of returning the cured person again to the same opportunity for reinfection without giving instruction and building barriers against such reinfection. Beyond question, the soil of these mines is infected. This fact has been absolutely proved by Dr. Gunn. The ova and larvæ may be seen in specimens of soil taken from the mines, and the mode of human infection is by skin contact with infected soil. Here I wish to say that the ground-itch, so common in the southern states and indicative of hookworm infection, is noticeable by its absence in the deep mines, although we do see an exceptional case.

The natural question that would arise in the mind of the novice, or those not acquainted with the extent of deep mines would be: Why not disinfect these mines? When it is remembered that one mine alone, near Jackson, is 3,600 feet deep (the deepest perpendicular shaft of any gold mine in the world), that its drifts, stopes, crosscuts, and raises cover acres, one can readily see the futility of such an attempt without a great disruption of the social and economic conditions of the locality. The question resolves itself into one of guarding the employees against reinfection and permitting the ova and larvæ in the infected soil to die a natural death.

In accord with this belief I would advise the placing of portable commodes at convenient places in the mines, these commodes to contain an antiseptic, and to be emptied at frequent intervals, and the miners to be instructed to use them exclusively instead of the sumps or drifts, as has been the habit, suspension or discharge from work to be the penalty for violation of this law. The custom of miners bathing only to the waist-line on returning from work must be abolished. A pool or cement tank should be provided and all underground employees be made to take a complete bath. I would also have provided at the changing-room at the mines as many disinfecting rooms as there are shifts, and that the miners be instructed to place their working clothes therein after returning from work, these clothes to be subjected to a thorough disinfecting by means of sulphur, formaldehyd or other disinfectants. All these mines are infested with hordes of rats, that are protected as scavengers, and it has occurred to me that the rodents may be a means of spreading the infection from one level to another. In line with this thought, I have secured rats from all the neighboring mines and have made careful examinations, but so far the results have been negative. At this time, however, I would not care to say that there is not a possibility that they might be carriers under certain circumstances; further investigation will be required.

In conclusion, I must say that to accomplish good results along the line of stamping out hookworm infection in the deep mines, regulations must be passed by state boards of health, empowering county and city health officers to see that the proper regulations are observed in the full sense of the word, otherwise Rockefeller's millions and our good efforts will be wasted on the desert air, and the hookworm will be left as a heritage and burden for those who follow.

HOOKWORM DISEASE IN CALIFORNIA, ITS IMPORTATION, DISSEMINATION AND PREVENTION *

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Up to six years ago hookworm disease was unheard of in this state except for a few isolated imported cases. In 1905 I called attention to the fact that a large number of Porto Ricans were taking up residence in California and that over 50 per cent. of them were hookworm carriers.[1] During the following four or five years attention was frequently drawn to the subject, but no measures were instituted to control the importation of the disease until 1910, when Passed Assistant Surgeon Glover of the U. S. Public Health and Marine-Hospital Service, stationed at the Immigration Station at Angel Island, San Francisco, began the examination of immigrants for hookworm disease.

On account of the very efficient manner in which this work is being continued, it is safe to say that practically no hookworm carriers, coming under the jurisdiction of the immigration department, are now permitted to enter this port. So far as is known this is the only immigration station where such measures are taken, so that Chinese, Japanese, Hindus, Central Americans, etc., may readily enter United States territory without a question as to their being hookworm carriers.

In the latter part of 1910, under the auspices of the California State Board of Health, I investigated the conditions existing in certain gold mines in this state,[2] and found that the disease was endemic and the infection extensive, being as high as 75 per cent. in some of the mines.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] California State Jour. Med., April and August, 1905.

[2] Gunn, H.: Hookworm Disease in Mines of California, The Journal A. M. A., Jan. 28, 1911, p. 259.

During the last year or two several cases of hookworm disease, which unquestionably originated in the Hawaiian Islands, have been observed in San Francisco, which fact is not surprising as the plantations there must have been badly infected before now by the thousands of Porto Ricans who have been employed there for years, and by the Chinese and Japanese. Most of the Hawaiian plantation laborers, after a longer or shorter sojourn in the islands, come to the United States by way of San Francisco, where many remain temporarily, to go into the country districts throughout the state when labor is required, or to the fisheries in Alaska during the fishing season. At the present time there are thousands of these people in this state, or temporarily in the Alaska fisheries who will return in the fall of the year. In San Francisco there is a big colony of them always, but especially in the winter months when there is no employment in the country districts and when the Alaska fishermen have rejoined their families.

With the assistance of the Associated Charities of San Francisco, the San Francisco Board of Health, through a recently established Bureau of Tropical Medicine, of which I have charge, has been investigating the subject of the importation of hookworm disease and, in so far as the infection from the Hawaiian Islands is concerned, has reached definite conclusions. Of a total of 355 examinations of individuals coming to California from various tropical regions, 171 coming from Hawaii were examined especially with regard to hookworm infection, with the following result:

Natives of Spain, total examined	135	
Blood examination for eosinophilia	135	
Eosin count 5 per cent. and higher	68	or 50 per cent. plus
Stool examinations	60	
Ova of hookworm present	9	
Percentage infected with hookworm	15	

Twenty-six of the sixty, or over 40 per cent., were found to harbor parasites of some sort, among which may be mentioned *Ascaris lumbricoides*, *Oxyuris vermicularis*, *Trichocephalus dispar*, *Tænia nana*, and *Balantidium coli*.

Porto Ricans examined	36	
Blood examination for eosin	13	
Eosin count 5 per cent. and higher	11	or 84 per cent. plus

These men were en route to Alaska and no stools could be obtained.

In the following no blood examinations have yet been made:

Porto Ricans, stool examinations	23
Hookworm ova present	13
Percentage infected with hookworm	56 plus

Seventeen of the twenty-three, or over 73 per cent., showed parasites of some sort, among which were *Ascaris lumbricoides*, *Oxyuris vermicularis*, *Trichocephalus dispar*, one case of *Schistosomum mansonii* or lateral spined bilharzia, *Strongyloides intestinalis* and *Balantidium coli*.

In these examinations specimens were obtained from entire families, and in no case was special selection made on account of apparent sickness, so that the percentage of infection may be taken as a fair average. Many of those examined showed marked evidence of the disease, some being quite incapacitated for work and depending on the Associated Charities for their food-supplies. Many of the children were undeveloped, some in height and weight being 30 to 40 per cent. below the standard for their ages.

It is apparent that these unfortunate people, in addition to being a menace to the rural districts in which they reside, must be a source of considerable expense to the counties on account of sickness and its resultant poverty.

The results of the investigations at this time among the Porto Ricans correspond very closely with those I obtained six years ago when an examination of over 100 Porto Ricans in San Francisco showed an infection of more than 50 per cent.

At the present time the San Francisco Board of Health is investigating the subject in regard to other nationalities, but though cases have been encountered, a sufficient number of examinations on which to base conclusions has not yet been made.

Prevention of hookworm disease in California is a task of considerable magnitude, and can be accomplished only by the State Board of Health with the cooperation of the federal health authorities. On account of our geographic situation and our intimate intercourse with many tropical countries, it will be necessary to have permanently the facilities necessary to combat the disease.

It will be necessary in the first place to prevent, so far as possible, the further importation of the disease, and in the second place to eradicate the disease now existing in the state.

To prevent further cases entering will necessitate the examination of certain classes known to be more or less infected (e. g., the laborers arriving at present from the Hawaiian Islands and a large proportion of the laborers now in the Alaska fisheries when they return), and the compulsory treatment of all found infected. There should be compulsory treatment of such persons as are found infected at the immigration station, who for legal reasons cannot be detained there for treatment.

It would probably be necessary to have hospital facilities such as the federal government maintains at the Immigration Station on Angel Island, where work somewhat similar to that outlined above is carried out.

In dealing with the disease as already existing in this state, the work of greatest importance would be in the mines, and here the requirements are very clearly indicated:

1. An examination should be made of every mine in the state in order to determine the extent of the infection.
2. Mine officials should be educated as to the importance of hookworm disease and mine sanitation.
3. Regulations should be promulgated and enforced regarding the examination of employees, the treatment of infected persons and mine sanitation.

The necessity of state regulation is clearly demonstrated by the fact that practically no attention has been given the subject by mine officials since the investigations of the State Board of Health eight months ago brought it to their notice.

In only one mine has any attempt been made systematically to examine the men and treat those found infected, and here only twenty-nine have been examined, showing over 75 per cent. positive.

It is quite impossible for the manager of one mine to carry out preventive measures, no matter how anxious he may be to do so, when adjoining mines are doing nothing, because the miners, many of them very ignorant, become suspicious and avoid the mine in which the requirements are so strict and unusual.

The management of individuals outside of mines and scattered about the state presents many difficulties, but the situation can best be controlled by proper sanitary measures. In some parts of the state, however, there are aggregations of certain people known to be more or less heavily infected, e. g., Hindus, Chinese, Japanese, Mexicans, etc., and these should be especially considered.

To summarize:

1. Hookworm disease has been extensively imported into California in the past.
2. It is still being largely imported at the present time.
3. The deep gold-mines of the state are as badly infected as many of the European mines.
4. In all probability some of the rural districts, if examined, could be demonstrated to be infected.
5. The only preventive measures employed are being taken by the federal authorities, and these are totally inadequate, as they are in operation in only one immigration station, and further, do not cover a large class of people who bring in the infection.

240 Stockton Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. SCHULTZ, ENDICOTT AND GUNN

DR. THEODORE G. DAVIS, Los Angeles, Cal.: I should like to ask Dr. Gunn whether he makes counts of the red blood-cells? The reason I ask the question is that very recently a cattleman, who has lived out of doors all his life overseeing a cattle ranch in San Obispo County, California, came to me for treatment. He had weighed 180 pounds; when he came to me he weighed 120. He had gradually become so debilitated that he was not able to pursue his work, which was to oversee his ranch. I found that he had hookworm and while I made no count of the red blood-cells there was a marked degeneration of the stroma of the cells and the hemoglobin gradually dropped after I first saw him from 80 per cent. down to 65 per cent. But the point that I wish to bring out is a practical point in the estimation or rather the recovery of the hematoidin from the urine of these patients, and also the effect on the liver of this disease, and recovery of the bile acids from the urine. It is, so far as I know, original. I have been working on it for more than three years. This may be applied to cancer and other diseases that produce substances causing degeneration of the red cell. Three ounces of the urine are acidified with hydrochloric acid and heated slowly over a low flame until bubbles begin to rise, or practically to the boiling point. It is then set aside to cool and is covered with ether.

It should not be shaken, but twisted upside down a few times. The hematoidin will be recovered from the urine in the form of hematin and the bile acids. By removing the ether carefully with a pipette, on a porcelain dish the hematin will be deposited on the upper portion and the bile acids will be on the bottom of the dish, very plain and yellow. If a dilute solution of sodium hydroxid is added to the bile acids and a little water the biliary compounds are washed out and the hematin left on the dish. If one wishes to test the substance further for bile I would suggest to try Torquay's test. Torquay's test consists of 1 part of methyl violet in 1,000 of water. If one takes two test-tubes equally filled with Torquay's test and drops in one tube a few drops of the solution of the bile acids or salt it will cause a disappearance of the blue tint of the methyl violet solution, only the red remaining. I have used this method for over three years in the various disease conditions causing destruction of hemoglobin or the red cells—in leukemia, both lymphatic and splenic, cancer of rectum and stomach, in hookworm disease and the various cardiac and intestinal diseases affecting the liver. In cases of babesia from Yuma, Arizona and Mexico, as well as estivo-malarial fever and other infections, I have found this test very suggestive as well as confirmatory.

DR. JOHN W. COLBERT, Albuquerque, N. M.: It has been my privilege to make an extensive investigation of hookworm conditions in Arizona, New Mexico, Mexico and Porto Rico during the past eight years. In the past eight years I have treated over 10,000 patients, having administered more than 50,000 treatments, and my conclusion is this: Thymol is the most powerful antihelminthic, and is the best remedy in the treatment of hospital cases. Its depressant effect is too great, however, to permit the drug to be entrusted in the hands of clinic or home patients. For these patients beta-naphtol should be given. True, it is not so powerful as the thymol, but its depressant effect is not nearly so marked. There is practically no danger in using the beta-naphtol. About seven years ago I tried the eucalyptus oil and castor oil, as suggested by Dr. Phillips, on ten hospital patients, and all suffered marked dizziness, considerable gastric irritation, and in a few cases considerable collapse, and all refused the second dose. I was therefore unable to follow up the treatment. Of the ten patients there was an average of 424 worms passed from the one dose. With beta-naphtol and thymol my average in 5,000 patients in Porto Rico was a little over 1,000 expelled from one dose.

Dr. Gunn only touched on a very important source of importation here in California, and also in Arizona and New Mexico. I refer to the Mexicans working along our railroads—our track laborers. Last August I presented this subject before the Pacific Coast Railway Surgeons' Association in San Francisco. At that time I reported eighteen cases which had come under my observation in two years' time. Within the past year I have seen almost fifty cases among these track laborers, showing that the condition is on the increase. I am fortunately situated in being near the distribution point for these Mexicans, and have examined many of them before they were sent into Arizona and California, and I do not believe that I overestimate conditions in stating that between 15 and 20 per cent. of these men harbor the hookworm. These investigations were made before the Mexican revolution—the recent insurrection—and we must remember that during this insurrection many of these same laborers for many months had been living in open, insanitary camps and going barefooted, and to-day I believe that this percentage is considerably increased. A few days ago I saw a news item, under date of June 18, stating that railway communication had been resumed between El Paso, Texas, and Chihuahua, Mex., and that the first train entering El Paso had on board 1,100 Mexican laborers for contract work in California and Arizona, all of them coming from points south of the city of Chihuahua. From personal investigations I have found that twelve of the states south of Chihuahua have hookworm disease. I am sure that you will find this condition spreading very rapidly. I want to call your attention to the fact that the warm, rainy season is the time *par excellence* for the hatching of the uncinaria ovum.

I have brought this condition to the attention of the officials of the Santa Fe Railroad, and they have already introduced proper sanitary measures to prevent a spread of the infection. We promptly deport the patients as soon as the cases are diagnosed. Within the past two weeks bulletins have been sent to all officials of the track department giving instructions as to adequate sanitation among the men, compelling the digging of trench latrines along the line of work for the men to use during the hours of work. I think this is a matter to be brought to the attention of the officials of other railroads. I wish to state furthermore that I have brought this to the attention of the Public Health and Marine-Hospital Service and this service has instructed all of their surgeons stationed along the Mexican border to be on the lookout for this disease, and they will cheerfully and readily aid any physician in deporting any one found with the disease.

DR. HARRY R. OLLIVER, San Francisco: It is interesting to know that hookworm is an ancient disease, quite accurate description of it being given in the Ebers Papyrus. In modern times it first occurred in Italy in the workers on the St. Gothard tunnel; then traveled down the Rhine to the mines of Westphalia; thence to Cornwall; then to America, etc. It is an interesting question as to the origin of the New World or American variety, whether indigenous to the United States or brought here by Africans. That the latter is probably true is emphasized by the finding of this variety in the interior of Africa. It is also traceable through the West Indies, Panama and the Philippine Islands. As pointed out by Dr. Gunn, laborers returning from the Hawaiian Islands are almost sure to bring it here, and the conditions here are most suitable for its propagation. It is especially true of the middle and southern parts of the state, where the irrigation projects are becoming so extensive and the soil, moisture and temperature are ideal for the propagation of the parasite. These laborers naturally take to agricultural pursuits, which predominate in these districts. This, in connection with already infected mines, gives rise to a decided danger of the infection of a large part of California. I believe that basing estimates on 50 per cent. of Porto Ricans being infected, we have in California, over 20,000 cases of hookworm disease.

Dr. Reid Hunt, Washington, D. C.: Do you get any encouraging results in disinfecting the excreta? I have done no work myself, but Dr. Stiles seems to have about given up in despair the possibility of finding anything that will destroy ova in excreta. Solutions of phenol (carbolic acid) for weeks had little effect. He found that if feces were collected in a septic tank most of the ova disappeared in two or three months.

Dr. E. E. Endicott, Jackson, Cal.: It has never been my experience to see a live worm. They were all dead when they got here. I do not know whether it has been thoroughly demonstrated as to how long the ova would live. They can stand a good deal of heat and a good deal of cold and possibly Dr. Gunn would be better informed on that line than myself.

Dr. Herbert Gunn, San Francisco: On account of the number of patients examined it was impossible to make relative counts. All that was done was a rapid count for eosinophilia, and that was apparent after thirty cells were counted. Ordinarily 100 cells were counted. Thymol I have used in large doses in a patient with marked nephritis of chronic character without any ill effect whatever. I have used the eucalyptus and chloroform mixture quite extensively and never had any ill effects from it. Thymol I have used in clinic work in San Francisco, depending on the patients to carry out directions as to preparation and after treatment. I had one patient who was pretty badly poisoned. I saw another case of poisoning in a hospital and only a moderate dose of thymol had been taken. I think, however, that it has been shown that thymol can be given without much danger when reasonable precautions are taken. At the present time in clinic work and when patients are not to be under observation during treatment, I use eucalyptus and chloroform exclusively. The nausea which frequently results when these drugs are given in castor oil may be avoided if they are administered in capsules. Fifteen minims of eucalyptol and 45 minims of chloroform are put into eight No. 1 capsules. These are sealed with a little water and enclosed in No. 0 capsules, also sealed, and then covered slightly with salol. These are administered at intervals for an hour. I have used this without producing the slightest trouble or irritation. The treatment is, of course, preceded and followed by a laxative. I think Dr. Endicott is perfectly right in regard to the mortality in the mines. I know when I was up there we saw many persons on the streets who presented evidence of grave anemia. In San Francisco I have had two deaths. One was in a Spanish woman who came from Honolulu and who had a hemoglobin of 30 or 40 and general anasarca. Another case I had was in a young Porto Rican boy who had also been in Honolulu and who died of inanition, having been sick a long time. I recently had referred to me in San Francisco a young student who had worked in the mines in Jackson for two months during a vacation. His temperature was 103 F., hemoglobin about 60. The peculiar muddy color was pronounced and he was very sick. He had been unable to keep up with his work at the university for months. The temperature in hookworm disease is quite frequently irregular. I have seen cases in which the temperature ran along so that it was suspected that the patients had malaria or typhoid. Frequently there is a slight fever. One of the cases I saw in the mines had been diagnosed as appendicitis; the symptoms disappeared immediately after treatment. A second case in which this diagnosis was made was seen in San Francisco. The point Dr. Colbert brings out regarding the Mexicans is very important. I had no idea that there were so many coming in and it shows that there should be some examination made on the Mexican border. Such inspection to be of any value would necessitate the routine examination of the stools or blood, as many of the hookworm carriers present no outward evidence of the disease. Regarding the life of the parasite, ova of the hookworm have remained alive for over a year in the laboratory, and the probabilities are that, under favorable conditions, they would live as long in the mines. As to the life of the parasite in the body, I have had cases in which it was alive for seven or eight years and I believe in estimating whether a case has originated here or outside one should give nine or ten years as being the limit of time. In regard to the material used for destroying the ova; it is claimed that common salt is one of the most efficient for preventing the growth of the ova in the soil.

BRAIN SURGERY *

CASSIUS C. ROGERS, A.M., M.D.
CHICAGO

I wish to consider briefly a series of thirty-five cases of unfavorable intracranial surgical lesions in which I have operated, comparing the results obtained in the cases of patients operated on early with the results obtained in the cases of those operated on late.

The results have not been flattering, but when we consider the duration and seriousness of the malady, the results are perhaps as satisfactory as those obtained in other surgical conditions that have been as long neglected and injudiciously treated.

Attempts are at once made to arrest hemorrhage, evacuate and drain abscesses, remove or drain cysts and remove tumors when located in accessible locations in all cavities except the cranial. Why should this be the exception when so often the hemorrhage, abscess, cyst or tumor can be so easily, correctly and accurately diagnosed and located, especially when it is located in focal areas, and frequently when no focal symptoms are present, the lesions being located in a silent area?

Time should be taken and careful and systematic examination should be made; under no consideration except in emergencies should the skull be opened until all means have been exhausted in the attempt to diagnose and locate the lesions. Skiagraphs of anterior, posterior and lateral views should be taken. The Wassermann and tuberculin tests should always be made as well as a complete blood test and uranalysis. And above all, if the patient is mentally impaired, he should be under close observation until all peculiarities are noted and their meaning fully interpreted. When at last operation is decided on, the site should be located and a large skin and osseous flap reflected, making possible the examination of a large area of the brain.

HEMORRHAGE

Hemorrhage due to trauma or to other causes may be classified under four heads: Intraventricular; intracerebral as in Case 4, Table 1, Series 1; subdural as in Case 8, Table 1, Series 1; supradural as in Case 11, Table 1, Series 1. It is the last two varieties that I wish to consider surgically.

In the subdural, the blood is at once distributed over a large area, being carried by the circulating cerebral spinal fluid. A general irritation is soon produced, perhaps at first it is mild, but later the patient may develop marked and diffuse muscular twitching and violent clonic and tonic movements with symptoms of intracranial pressure. The withdrawal of cerebro-

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* Read in the Section on Surgery of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

spinal fluid by lumbar puncture demonstrates the presence of blood. If the hemorrhage is severe, the symptoms are exaggerated, intracranial pressure is soon produced, and unconsciousness may be the result. In many of these cases the patients are relieved almost instantly and often permanently, by simply relieving intracranial pressure by decompression and by the opening of the dura.

Supradural hemorrhage is more localized and usually at the site of injury. If slight, there may be only local headache; if extensive there may be all the symptoms of intracranial pressure, headache, vomiting, vertigo, slow pulse, slow respirations and at last unconsciousness. In the former condition, if the symptoms are not relieved in a few days, the clot should be evacuated through a large opening in the skull; in the latter condition this should always be done:

First, to prevent infection of the clot, thus preventing the formation of an abscess, and second, to prevent organization and calcification of the clot, thus preventing irritation and adhesions which later produce epilepsy.

Intracranial pressure sufficient to cause headache, cerebral or projectile vomiting (vomiting without nausea, irrespective of the ingestion of food) and choked disk that is not improved in three weeks and relieved after six weeks of internal medication should be considered a surgical case and relieved by removing the cause, if located in a site amenable to surgery, or by subtemporal decompression (Cushing's method) if the lesion is in an unfavorable surgical location.

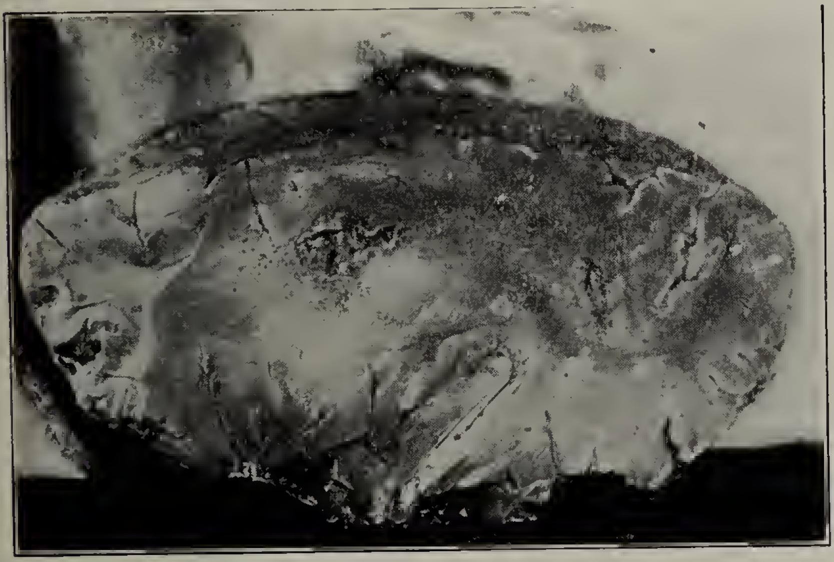

Fig. 1.—Hemorrhagic cysts within the brain.

Many conditions such as hemorrhage, edema, avascular gumma, etc., which stubbornly resisted such treatment before the intracranial pressure was relieved will readily yield to internal medicine after decompression.

Following injuries to the head, if the patient is rendered unconscious, regains consciousness in a short time and then again gradually becomes unconscious, and if the respirations are slow, deep and labored, the pulse slow, full and bounding, or weak, the temperature normal or subnormal, I make it a rule to advise operative interference at once, to relieve pressure produced by either hemorrhage or edema and thus to prevent complications and an unfavorable termination, using for the anesthesia, chloroform, and recently, gas (Crile method). Do not procrastinate in these cases; do as little as possible as quickly and thoroughly as possible, to assist the patient past the critical period; later perform a more thorough and complete operation if necessary.

ABSCESSES

Supradural abscesses originating from acute or chronic suppurative otitis media should be freely drained by removing a plate of skull just above the mastoid and drainage established. Draining through the roof of the mastoid will not give adequate drainage.

Subdural or intracerebral abscesses should be drained by removing a large plate of skull from over the region of the abscess. The dura should be freely opened, and if subdural, the abscess should be drained. If the abscess is intracerebral, the dura should be opened and evacuation of the abscess delayed until adhesions form between the dura and brain, thus preventing diffuse meningitis.

Subdural, supradural and intracerebral abscesses may persist for years and may date back to some slight injury produced many years before and long since forgotten; in some cases, the patients afflicted with them have spent many years in our state institutions for the insane for the want of a correct diagnosis and proper treatment.

CYSTS

Cysts result from many causes but frequently from irritation produced by small hemorrhages. They are frequently subarachnoid as described by Krause.[1] The fluid from the cyst will coagulate, while spinal fluid will not. Cysts may be the result of liquefied glioma.

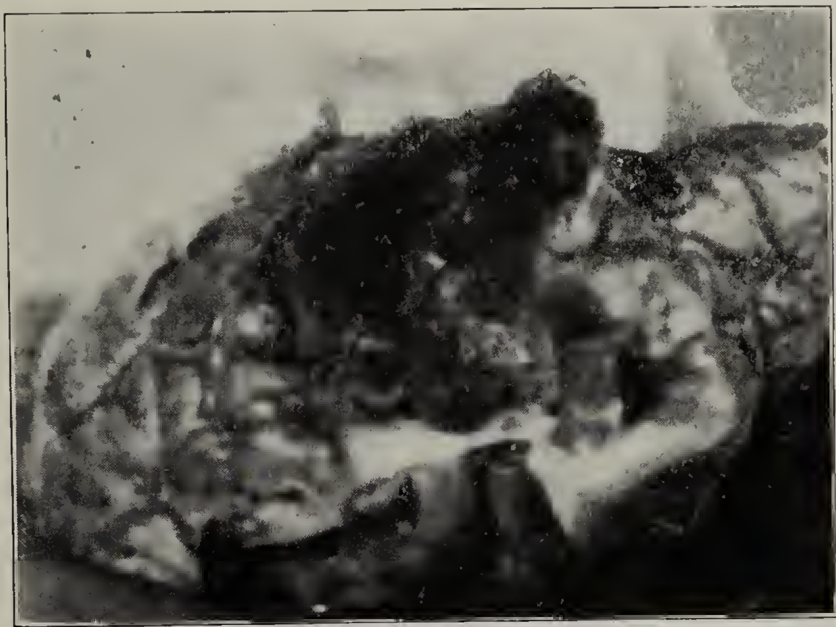

Fig. 2.—Large temporosphenoidal abscess. Series 1, Table 1, Case 8.

TUMORS

All varieties of tumors have been found in the brain, malignant and benign. Under all circumstances, the symptoms of headache, dizziness, vertigo, vomiting, impairment of vision, due to intracranial pressure can and should be relieved early by decompression. Constant, persistent, localized headache should demand our most earnest attention and all efforts made to determine the cause, as it is often in the location of the intracranial lesion and can be relieved by relieving tension.

SUMMARY

1. In cases of suspected tumor the patients should not be treated over long periods of time by antisyphilitic remedies.

2. A Wassermann test should always be made and if positive and the gumma is avascular, the tumor will not

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[1] Krause; Surgery of the Brain, p. 53.

SERIES 1.—TABLE 1.—ABSCESS OF BRAIN *

In each case family history was negative; vomiting and headache were present. All patients were operated on (trephined and drained abscess), the anesthetic in each case being chloroform.

Case Number	Sex	Age	Nationality	Injury	Duration of Illness	Mental State	Epilepsy	Pulse	Respiration	Temperature	Wassermann †	Operative Findings	Location	Etiology ‡	Result	Died After Operation	Cause	Sent by	Hospital	Entered Hospital
1	M.	20	Italian	No.	2 years.	Unconscious	—	60	20	101 104	0	Abscess	T. sphen. lobe	C. S. O. M.	Died	48 hrs.	Mening.	Dr. Good	E. D.	1/16/11
2	M.	23	German	No.	9 days	Cloudy	—	72	18	99 102	0	Abscess	T. sphen. lobe	A. S. O. M.	Cured	....	....	Dr. Good	E. D.	2/17/11
3	M.	22	German	No.	4 years.	Normal	+	75	20	97.5 99.6	0	Extradural abscess	Temp. sphen. reg.	C. S. O. M.	Cured	....	....	Self	F. W.	12/12/10
4	M.	51	American	?	4½ yrs.	Cloudy	+	Slow	Slow	Nor.	—	Abscess	T. sphen. lobe	?	Died	5 days	Mening.	Dr. Schwartz.	F. W.	....
5	M.	4	American	No.	3 mos.	Unconscious	—	..	..	.....	—	Abscess	T. sphen. lobe	A. S. O. M.	Died	3 days	Mening.	Dr. Good	F. W.	6/21/10
6	M.	9	French	No.	6 weeks.	Unconscious	—	Slow	Slow	100 103	0	Abscess	Extr. dur.; T. sphen. reg.	A. S. O. M.	Cured	....	....	Dr. Stoll	F. W.	12/13/09
7	M.	9	American	No.	2 mos.	Semiconscious	—	Slow	Slow	103	0	Abscess	Extr. dur.; T. sphen. reg.	A. S. O. M.	Cured	....	....	Dr. Brode	R. B.	2/20/10
8	M.	59	German	Yes	21 days	Unconscious	—	Slow	Slow	.....	0	Intradural abscess	T. sphen. lobe	Fract. of skull.	Died	47 days	Sepsis	Dr. Stoll	F. W.	12/11/10
9	F.	6	American	Yes	6 mos.	Unconscious	—	Slow	Slow	Nor.	0	Abscess	Occ. lobe	Fract. of skull.	Died	12 days	Mening.	Dr. Wolfe	F. W.	10/28/06
10	F.	14	American	?	2 years.	Normal	—	..	..	.....	—	Nec. of skull; T. B. abscess	Occ.reg	Necros. of skull	Cured	....	....	Self	F. W.	12/28/07
11	F.	47	German	Yes	16 years.	Irritable	+	104	20	101	—	T. B. abscess	Occ.reg	Necros. of skull	Cured	....	....	Dr. Weissenb.	F. W.	3/../08

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* Number of cases, 11; intradural abscess, 8; patients died, 4; extradural abscess, 3; patients died, 0; suppurative otitis media, 7; patients died, 3; fractures of skull, 4; patients died, 1.

† Zero in this and the following table indicates that no Wassermann test was made.

‡ In this column C. S. O. M. means chronic suppurative otitis media; A. S. O. M. means acute suppurative otitis media.

SERIES 2.—TABLE 2.—TUMORS AND CYSTS OF BRAIN *

In each case headache and vomiting were present; pulse slow, respiration slow, temperature normal. All patients were operated on, the anesthetic in all cases being chloroform.

Case Number	Sex	Age	Nationality	Duration of Illness	Mental State	Epilepsy	Wassermann	Paralysis	Eyes	Operation	Babinski †	Result	Died After Operation	Cause	Hospital	Sent by	Diagnosis	Autopsy	Entered Hospital
1	M.	14	German	6 mos.	Normal	+	—	No	Choked disk	Decompres.	++	Died	6 mos.	B. tumor	F. W.	Dr. Seufert	Tumor cerebell. r. mot. area.	Confirm. diagnos.	4/6/10
2	F.	35	Jewish	14 years.	Impairment.	+	—	Left arm and leg.	Impaired vis	Decompres.	+	No imp.	....	....	F. W.	Dr. Heym.	Tumor t. sp. reg.	....	4/10/10
3	F.	18	Amer.	....	Unconscious	—	—	....	Almost blind	Decompres.	+	Died	....	B. tumor	F. W.	Dr. Seufert	Tumor base of brain.	Refused.	12/18/09
4	F.	32	Amer.	1½ years.	Unconscious	—	+	Left side	Blind	Decompres. R. temp.	+	Died	46 days	Mening.	F. W.	Dr. Brode	Tumor r. mot. area; gumma.	Confirm. diagnosis.	4/13/09
5	M.	51	German	3 mos.	Semicon.	—	0	Right side	Impaired vis	Decompres. L. temp.	+	Cured	....	....	S.	Dr. Campbell	Gumma l. mot. area.	....	5/4/11
6	F.	16	Amer.	3 years.	Normal	+	+	No	Impaired vis	Decompres. L. temp. reg.	++	Improved	....	....	F. W.	Dr. Sheets	Gumma cerebell.	....	7/22/10
7	F.	44	Amer.	2½ years.	Normal	—	+	Right side partial.	Choked disk	L. pariet. base flap drain	++	Cured	....	....	F. W.	Self	Cysts in mot. area.	....	1/22/08
8	M.	26	Amer.	6 mos.	Irres.	+	+	Right arm	Poor vision	Occipital decompres.	++	Improved	....	....	F. W.	Dr. Orndorff.	Cerebell. cyst; gumma.	....	2/22/10
9	F.	2½	Amer.	2 years.	Normal	+	+	Limbs spastic	Vision good	L. parietal decompres. subarach.	++	Improved	....	....	M. T.	Self	Subarach. cysts.	....	12/22/10
10	M.	53	Amer.	2 years.	Irres.	+	—	Left side	Poor vision	Raised depres. fracture.	++	Died	4 days	Nephrit. pneum	F. W.	Self	Cyst from old blood-clot.	Confirm. diagnos.	11/10/10
11	F.	8	Amer.	4 mos.	Unconscious	+	—	Right side	Almost blind	Decompres. motor area.	++	Died	4 days	Cerebr. irritat	F. W.	Self	Large cyst l. mot. area.	....	7/9/10

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* Number of cases, 11; tumors, 6; patients died, 3; not improved, 1; cured, 1; improved, 1; cysts, 5; patients died, 2; not improved, 0; cured, 1; improved, 2.

† Babinski + one foot, ++ both feet.

yield to antisyphilitic treatment until pressure is relieved.[2]

3. The patient should have the benefit of early operative interference.

4. Intracranial hemorrhage should be evacuated in all cases in which the patient lives long enough to secure a skilled surgeon to relieve pressure, to prevent infection and abscess formation, and to prevent adhesions which will produce epilepsy in future years.

5. Intracranial pressure should be relieved by decompression to relieve and prevent constant and localized headaches, cerebral vomiting and impairment of vision.

6. Antisyphilitic remedies should not be given over long periods of time unless marked improvement is obtained within from three to six weeks.

7. Tuberculosis test should be made in all suspicious cases, in which the presence of tuberculosis is not positively known.

8. Epilepsy seldom develops before eighteen months after injury, and may develop many years later.

REPORTS OF CASES

SERIES 1 (Table 1).—CASE 4.—Mr. W., aged 51, American, clerk, four years previous to entering the Willard Hospital Jan. 6, 1909, had a stroke of paralysis involving the right side. This slowly improved until the patient was able to be up and around and at his work.

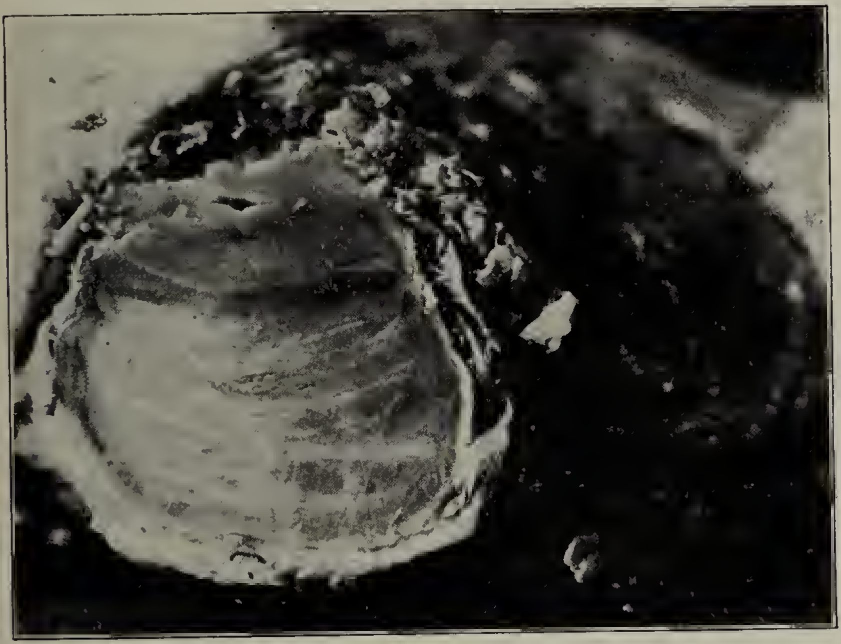

Fig. 3.—Chronic syphilitic meningitis. Series 2, Table 2, Case 4.

A year later he commenced to have temporal headaches on the left side, and for three years sought medical aid without relief. Jan. 7, 1909, I opened the skull in the left temporal region, found a large abscess in the temporal sphenoid lobe and drained it (Figure 1). Patient died on the fifth day from acute meningitis. Autopsy showed cysts of the brain and hemorrhagic areas.

SERIES 1 (Table 1).—CASE 8.—Mr. K., aged 59, German, contractor. Entered the Willard Hospital Dec. 12, 1910. Twenty-one days before entering the hospital while on his way to work he had been struck by a street car and rendered unconscious. He was taken to a hospital and treated. On the twenty-first day there was no sign of return of consciousness. He became very restless and noisy. His pulse was slow, his temperature was 102, and his respirations were slow and deep. He developed paralysis of the left side. He was transferred to the Willard Hospital, where I first saw him.

The diagnosis was fracture of the skull with intracranial hemorrhage. I advised operation. December 12 I opened the skull over the right motor area and found the large subdural hemorrhage (Fig. 2). The dura was opened and a large blood-clot as well as a large quantity of liquid blood was evacuated. The patient was returned to bed; he was conscious and recognized his family about twenty-four hours after the operation. He remained conscious for one week, when he again complained of severe headachs in the right mastoid and supramastoid region. Two days later I advised a second operation, as the patient again developed delirium. The radical mastoid was done, as well as removing a plate of skull over the mastoid region. An abscess was found in the temporosphenoidal lobe and was drained. The patient improved for a few days and then gradually grew worse.

We again opened and explored in the temporal region, draining another abscess. In all, we drained three abscesses in the forty-seven days that the patient was under our care. He died Jan. 27, 1911, forty-seven days after entering the hospital and two days after the last operation, from an abscess in the templar sphenoidal lobe. Autopsy was held by the coroner physician, Dr. Hunter, who gave the following report: "Patient came to his death from multiple abscesses of the brain, following an injury sixty-eight days previous to his death."

Summary.—Fracture of the vault and base of the skull; patient unconscious twenty-one days before operation; conscious twenty-four hours after operation; unconscious eight days after operation, and unconscious or semi-conscious until death.

SERIES 2 (Table 2).—CASE 4.—Mrs. D., aged 32, housewife, American, mother of four children—healthy, about one and one-half years before entering the Willard Hospital (April 13, 1909) complained of headache on the right side. Diagnosis, hysteria. Epilepsy followed. Headache became worse and worse, with cerebral vomiting, unconsciousness, and almost complete blindness. Patient entered Willard Hospital having been unconscious for about two weeks; left hemiplegia. Right motor area was operated on; dura mater was opened; brain bulged; tumor elicited but could not be removed; plate of bone was removed and skin sutured. Large tumor developed. Later skin separated and cerebral fungi formed. Patient gained consciousness; talked naturally and freely; could recognize her friends. She died May 29, forty-six days after the operation. At autopsy, gumma of brain was found with syphilitic meningitis (Fig. 3).

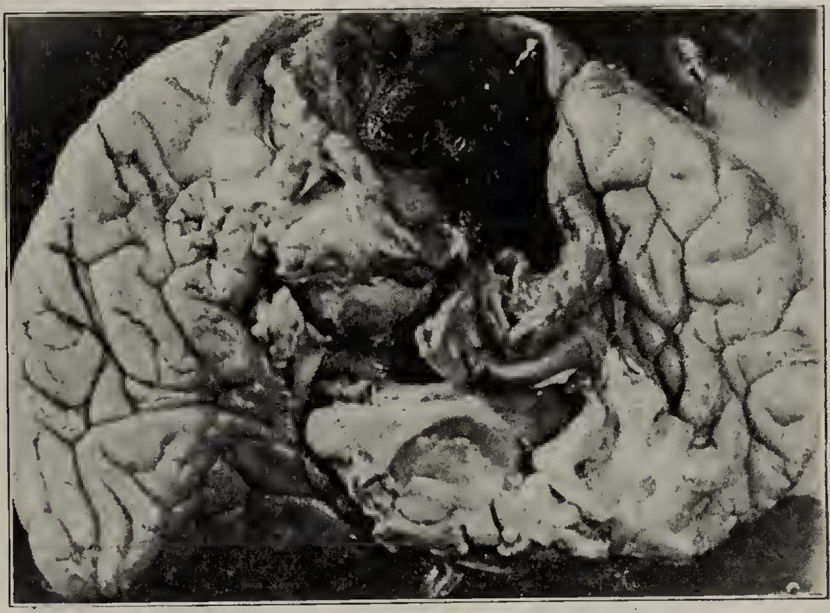

Fig. 4.—Multiple cysts of the brain, Table 2, Case 11.

SERIES 2 (Table 2).—CASE 11.—M. P., aged 8, entered hospital July 9, 1910; died July 19. March 1 patient came home from school feeling tired. A physician was called. There was some fever. The diagnosis was grip. Patient stayed home from school three weeks. Three weeks later had vomiting without nausea associated with headache, left parietal region, lasting twenty-four hours. Diagnosis was acute gastritis. Headache and vomiting continued at intervals until June 25, when the patient became unconscious, remaining so for twenty-four hours. Right hemiplegia was present on return of consciousness. July 9 patient entered Willard Hospital with right

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[2] MacEwen: (Glasgow) Paper read at International Medical Congress, Budapest, 1909, Section vii, Report xliii.

TABLE 3.—FRACTURES OF SKULL WITH INTRACRANIAL HEMORRHAGE

No.	Name	Sex	Age	Nationality	Occupation	Injury	Fracture	Scalp	Paralysis	Mental State	Operation	Duration of Injury	Hospital	Date	Result	Died after operation	Causes of death
1	R	M	47	Irish	Painter	Fell from ladder 7 feet	Parietal base middle fossa	Lacerated	L. side	Unconscious	Opened skull and dura evacuated clot and drained	7 days	R.B.	1-31, '11	Died	6 days	Pneumonia
2	K	M	55	Irish	Bricklayer	Fell down steps	Temp. region, around occip. region, and temp. region of opposite side	Large hematoma	R. side	Unconscious	Opened skull and dura evacuated clot and drained	1 day	F.W.	3-5, '11	Died	6 hrs.	Hemorrhage
3	P	M	40	Ger.	Contractor	Scaffold fell	Parieto-occipital	Lacerated	None	Conscious	Removed fragments of skull	3 hours	F.W.	9-22, '08	Cured		
4	M	F	39	Am.	Modiste	Fell from moving car	Occipital region	Lacerated	None	Unconscious	Opened skull, evacuated extra dural clot	3 days	F.W.	10-10, '07	Cured		
5	B	M	3[illegible]	Am.	Student	Struck by moving car	L. front lobe	Lacerated	None	Unconscious	Opened skull, drained extra dural clot	3 days	F.W.	3-18, '09	Cured		
6	F	M	7	Am.	Child	Fell down stairs	L. motor area	Negative	Constant jerking of all extremities	Unconscious	Opened skull and dura, L. motor area	3 hours	F.W.	7-6, '08	Cured		
7	P	F	40	Am.	House-wife	None	None	Negative	L. side	Unconscious	Opened skull, R. motor area	8 days	F.W.	10-2[illegible], '09	Died	24 hrs.	Cerebral hemorrhage
8	B	F	65	Jew.	House wife	Fell on stairs	Parieto-occipital	Swollen	R. side	Unconscious	Opened skull and dura, L. motor area, large clot	8 days	F.W.	1-30, '11	Died	3 days	Cerebral hemorrhage
9	L	M	42	Jew.	Contractor	Scaffold fell	R. motor area	Lacerated	L. side	Unconscious	Opened skull, R. motor area	7 days	F.W.	4-11, '10	Died	6 hrs.	Cerebral hemorrhage
10	P	F	14	Polish	School-girl	Jumped from porch 14 feet	R. motor area	Negative	L. side	Epilepsy	R. motor area decompressed	2 years	F.W	10-5, '08	Epilepsy cured, greatly impr. paral.		
11	B	M	28	Am.	Laborer	Kicked by horse	R. front eminence	Lacerated	None	Epilepsy	Opened skull, R. front eminence	6 years	F.W.	3- , '06	Cured		
12	C	M	4	Am.	Child	Forceps delivery	R. motor area	Lacerated	L. side	Epilepsy	Opened skull, R. motor area	4 years	F.W.	3-15, '09	Epilepsy cured, paral. greatly improved		
13	W	M	21	Am.	Farmer	Kicked by horse	L. front	Lacerated	None	Epilepsy	Removed deformed fracture	15 years	F.W.	3- , '09	Died	1 week	Pneumonia

Number of cases, 13; number of deaths, 6; average time of unconsciousness before operation, 8 days. All patients who received surgical interference within 24 hours lived.

hemiplegia, vomiting at intervals, severe headache and Babinski constant both feet. Choked disk was marked. Diagnosis was marked intracranial pressure. I advised decompression to relieve pressure (refused). I sought expert opinions; all disagreed with me. July 10, patient was unconscious four hours; regained consciousness but complained of severe headache. July 11, headache was very severe. Patient improved from July 12 until on July 15, she went into complete coma. She was operated on July 15 under chloroform anesthesia. The child gained consciousness after large cyst was evacuated. Died double pneumonia July 19 (Fig. 4).

Note:—Complete histories of all cases are in my possession but are not submitted for publication on account of their length.

I am indebted to Dr. B. H. Orndorff for all laboratory work done.

7 Madison Street.

ANESTHESIA FROM NITROUS OXID-OXYGEN PLUS CARBON DIOXID

WITH SPECIAL REFERENCE TO COMBATING SHOCK *

E. G. MARTIN, M.D.
DETROIT

My purpose in presenting a paper on nitrous oxid-oxygen is to bring out, as forcefully and briefly as possible, its advantages and the added value of rebreathing to combat shock.

Some forty years ago, Dr. Andrews of Chicago discovered that by adding oxygen to nitrous oxid during its administration, the cyanosis was eliminated without impairment to its anesthetic properties. Since that time nitrous oxid has been widely used, but considered mostly as a dental anesthetic and for use in very minor surgical operations; the layman knows it as "laughing gas." During the last few years attention has been called to nitrous oxid anesthesia more seriously, and after extensive use and investigation by some of our leading surgeons—such as Crile, Meyer, Halsted, Kelley, Bevan, and the extended laboratory investigations of Hamburger and Ewing—of the comparative effects of nitrous oxid, ether, and chloroform narcosis on the blood, the American Medical Association reports through its commission on anesthesia that "as a routine anesthetic, nitrous oxid has a peculiar value, . . . and in the hands of highly skilled anesthetists, the method is the best yet devised."

Hamburger and Ewing say as to ether:

> The color index shows a rather constant drop, starting immediately after anesthesia and reaching its lowest point on the fifth and sixth days. This would indicate a relative loss of hemoglobin per cell, and again is unlike nitrous oxid results, in which the only sign of a low color index is found immediately after the anesthetic mask is removed, and which is completely gone in two hours.
>
> The volume-index likewise shows an immediate loss, which is most marked in twenty-four hours, and again on the fifth and seventh days. In nitrous oxid readings, the percentage volume remained unchanged throughout.

A demonstrable anemia is produced even after a fifteen-minute anesthesia of ether that does not begin to improve until after the fifth day, and as Coburn[1] says, "such an effect as this which does not begin to improve until after the fifth day must certainly retard convalescence even in favorable cases, and in critical cases may be the determining factor in producing a fatal termination."

It has been recognized for some time that ether increases the toxemia of infection and impedes the functional activity of the leukocytes thus lessening the patient's resistance. We have been advised against administering ether to tuberculous patients, the result often being the establishment of new foci of infection or the lighting up of an old one. Is this due to the irritant properties alone, or is it more reasonable to believe that it is due to the lowered resistance produced? Further, is it not a logical deduction to make, that patients whom we believe to have no infection, and even those in the so-called simple cases for operation, should have the benefit of an anesthetic that causes no such trouble, that does not, like ether, reduce the functional activity of the leukocytes and retard Nature's forces?

C. B. Parker[2] reports 218 cases of nitrous oxid-oxygen anesthesia, of which nearly all were major operations and the subjects unfavorable for any anesthesia. Among them were patients suffering from organic disease of the heart, kidneys, and lungs, wasting and suppurative conditions, asthma, empyema, diabetes, and alcoholism, the very old and the very young; patients greatly overweight, those who had developed alarming symptoms in previous attempts with ether or chloroform, and those who had experienced the distress of previous etherization. Parker came to the conclusion that nitrous oxid was safer and more agreeable.

Peairs[3] says that "nitrous oxid and oxygen is the safest of all anesthetics; post-operative complications are less frequent," and that its more general use should be encouraged.

In the so-called "borderland" cases, those of grave infections and operations on the very ill, the consensus of opinion seems to be that nitrous oxid-oxygen anesthesia gives the chance to live and is often the hinge on which an ebbing life may turn. In the "inevitably fatal" cases, Crile says: "Not a patient showed the rapid march to fatality immediately following the operation, which occasionally follows ether."

It would seem advisable to endorse the report of the Anesthesia Committee at St. Louis in 1910, that gas in the hands of highly skilled anesthetists as a routine anesthetic is the best method yet devised, when such men as George W. Crile of Cleveland use it in from two to twelve operations every day and grow more enthusiastic in its praise as their experience increases. At a recognized medical center such as Johns Hopkins Hospital, it is in general use every day by such men as Howard A. Kelley and is advocated enthusiastically by Gatch, an authority on the subject of rebreathing, as the best and safest anesthetic.

Coburn[1] quotes Dr. Frederick Hewitt, a leading authority of London, as saying: "There is no form of anesthesia at present known which is so devoid of danger as that which results from nitrous oxid when administered with a sufficient percentage of oxygen to prevent all asphyxial complications."

When such reports come from such sources we must, it would seem, refrain from settling down with too much complacency in this regard, if not in justice to the profession, out of duty to the patients. I wish to discuss briefly the newest and what I believe to be the best method of using nitrous oxid-oxygen, namely, by rebreathing.

It has been found that in rebreathing one's own carbon dioxid during the administration of nitrous oxid and oxygen, the patient's general condition improves in every

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* Read before the Wayne County Medical Society, April 10, 1911.

[1] Coburn, R. C.: The Advantages of Nitrous Oxid-Oxygen Anesthesia, The Journal A. M. A., Feb. 18, 1911, p. 499.

[2] Parker, C. B.: Cleveland Med. Jour., July, 1910.

[3] Peairs: The Journal A. M. A., April 30, 1910, p. 1422.

respect, pulse, respiration and general well-being, and as an explanation for these facts I wish to quote from an editorial[4] in The Journal regarding a series of articles by Yandell Henderson of New Haven, dealing with an elaborate experimental investigation of shock from an entirely new basis.

> Briefly, Henderson believes that shock primarily is due to a diminished amount of carbon dioxid in the blood and tissues of the body. This lack of the normal amount of carbon dioxid is termed acapnia. His experimental results are most interesting and they are full of much practical suggestion to the surgeon, because they seem to show that some of the technic, commonly practiced, is based on erroneous ideas. In a short summary of this kind, necessarily only a few of the most interesting features of the work can be cited.
>
> Henderson reviews the literature of carbon dioxid as a hormone, or chemical regulator of respiration, to show that the failure of circulation and of the nervous system in shock and the cessation of respiration in true apnea must logically be referred to the same cause,—acapnia.
>
> Experiments on dogs, which were devised to bring about a sudden great diminution in the carbon dioxid content of arterial blood, resulted in an increase of the heart-rate up to the point of cardiac tetanus and death. Voluntarily forced breathing in man induces symptoms resembling shock, probably because the increased pulmonary ventilation results in an abnormally great exhalation of carbon dioxid. Pain, ether, excitement, sorrow, fear, and other conditions inducing shock, involve excessive respiration. Because a marked diminution in the amount of carbon dioxid in the arterial blood creates a lack of the normal stimulation of respiration, excessive artificial respiration in dogs for twenty-five or thirty minutes, by causing greatly increased pulmonary ventilation, is followed by a cessation of breathing so prolonged that the heart fails for lack of oxygen. During this anoxemia an acidosis occurs, owing to an accumulation in the blood of products of incomplete tissue combustion. The administration of carbon dioxid gas during the period of cessation of respiration, induces an immediate return of natural breathing; and the administration of oxygen affords ideal conditions for the prevention of the asphyxial acidosis. Anesthetics tend to prevent shock, because they diminish the excessive respiration caused by pain. The respiratory excitement during the initial stages of anesthesia, diminishes the carbon dioxid content of the blood, and thus tends to induce a subsequent failure of respiration. Similarly, ether, unless neutralized by morphin, often causes (in dogs) hyperpnea, acapnia and a consequent fatal apnea. Of particular interest in this connection are observations by W. D. Gatch in several hundred anesthesias, during which patients were allowed to rebreathe some of their own carbon dioxid. In no instance was there any evidence of shock. These observations seem to confirm Henderson's theory to a greater or less degree; and they lend evidence to his statement that "skilful anesthesia consists in maintaining the threshold of the respiratory center for carbon dioxid at a nearly normal level, and in avoiding the development of either acapnia or hypercapnia."

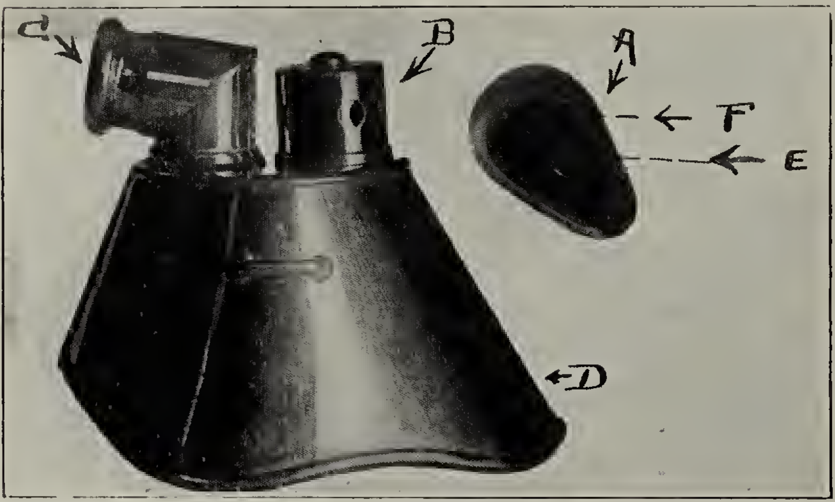

Fig. 1.—Apparatus devised by the author for the administration of nitrous-oxid—oxygen plus carbon-dioxid. A, rubber cushion (underside); B, exit valve; C, elbow connection; D, mask without cushion; E, inner aspect of B; F, inner aspect of C.

I have been using the rebreathing method for nearly a year, and have observed that the rapid pulse becomes slower, seldom faster or weaker, with an increase in the tension and the rapid respiration sometimes seen, becomes slower and deeper. No patients have shown any symptoms of shock and all have seemed improved, being in a more tranquil state of mind and without the depressing after-effects of ether.

As Gatch[5] observes, "very sick patients with a rapid pulse and quick shallow respiration actually seem benefitted by this form of anesthesia." The duration of time that I have continued this anesthesia runs from five to one hundred and twenty-five minutes. It has been my practice recently to administer a hypodermic injection of morphin gr. 1/6, scopolamin hydrobromate gr. 1/150, one hour preceding the operation, and where the patient is not tranquil at the half hour, the dose is repeated. This has proved most satisfactory, giving a smoother and more relaxed anesthesia. If relaxation is not sufficient, ether is administered for five or ten minutes, returning to the gas with relaxation as desired.

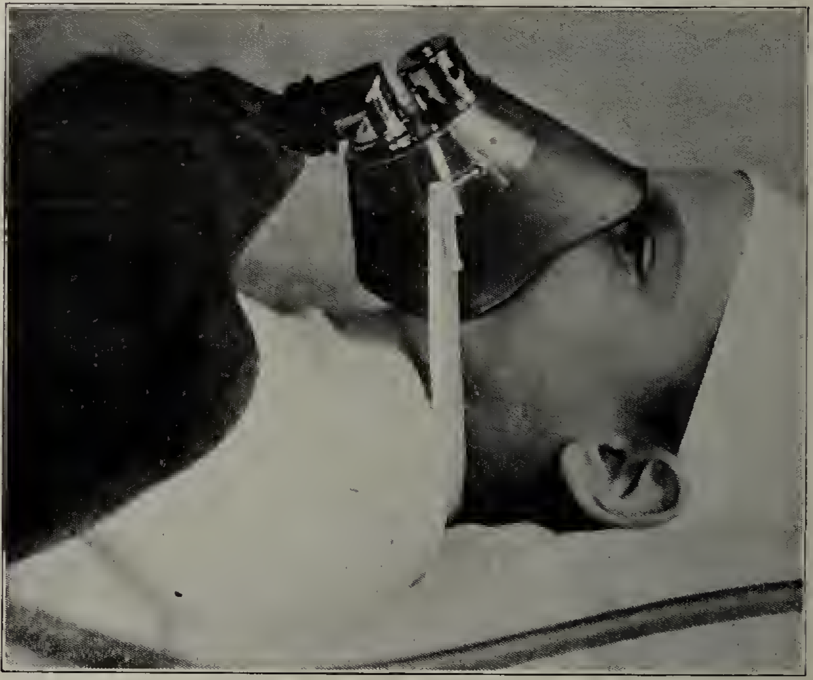

Fig. 2.—Showing inhaler in use on child—rebreathing.

The apparatus which I have devised for the purpose is shown in Figure 1, while Figure 2 shows it in actual use, held in position by an elastic tape, on a child ten years old. This also illustrates the adjustability of the rubber cushion, which is made by stretching the wrist of a rubber glove over the edge of the mask (A). The direct connection of the rubber bag to the mask allows perfect freedom in rebreathing. There is but one valve to be operated (B) and that requires but a slight turn about once every two minutes. By this exit valve the bag is emptied in five or six breaths, or at once by pressure on the bag. The elbow connection may be turned to one side or the other if the straight position shown seems undesirable. If rebreathing is not desired there is a place on the inner end of the elbow connection (which projects into the mask) to insert a little round tin float-valve (F), which prevents exhaling into the bag; when this valve is in use the valve cap (B) is left open. The rubber tube shown ends in a Y connection to a nitrous oxid and an oxygen cylinder (extra Y and cylinder may be attached if desired).

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[4] Feb. 11, 1911, p. 424.

[5] Gatch: The Journal A. M. A., May 5, 1910, p. 778.

The bag is filled, ordinarily, about half full of nitrous oxid, followed by a small spurt of oxygen, sufficient, as experience teaches, to keep the color good.

I have used this apparatus successfully for about one year; it is the result of considerable experiment on my part to devise an apparatus that is light (about one pound), sterilizable, unbreakable and inexpensive.

It has been my aim to show by the experiments of Henderson on shock that the good reports on nitrous-oxid-oxygen, rebreathing, or autostimulation as it might be termed, are founded on scientific laboratory experiments, besides clinical observations, and that this anesthesia is not a mere fad to be cast lightly aside. It is surprising to find so many who are wholly unfamiliar with the progress in anesthesia and who even seem unwilling to believe that there is a necessity for improvement in the present method of using ether alone.

It is not requested that nitrous-oxygen-carbon dioxid should be accepted as a panacea for all the evils attendant on anesthesia, nor can it be expected that ether will be discarded as chloroform has been in the past, but if the clinical studies, the experimental research and the conclusions of so many eminently reliable men are considered, it would seem that but little argument could be advanced against its superiority as an anesthetic.

506 Washington Arcade.

MYOTONIA ATROPHICA

WITH A REPORT OF TWO CASES

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AND
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The symptom-complex to which Rossolimo[1] gave the name of "myotonia atrophica" is not only an extremely rare disease, but apparently is exceptionally uncommon in America, the two cases reported in 1908 by Ramsay Hunt[2] being the only ones on record. Batten and Gibb,[3] in 1909, collected reports of all the cases which had been described under various titles up to that time, which showed the rather definite clinical picture of myotonia atrophica. They were able to enumerate twenty, and as a result of their study state the following as the cardinal symptoms of the disease:

> 1. Weakness and wasting of the following muscles, viz.: the orbicular muscles of the mouth and eyes; the temporals and masseters; the vasti muscles of the thighs with the recti femuris frequently escaping completely; the muscles of the anterior tibial groups, resulting in bilateral foot-drop.
>
> 2. The myotonic phenomenon evidenced more particularly by a marked difficulty in extending the fingers from a flexed position. The muscles show a diminution of irritability to the faradic current and, to a lesser degree, to galvanic stimulation as well. Certain cases show in localized muscle groups a modified myotonic electrical reaction, namely a slow contraction and slow relaxation to both forms of electricity.
>
> 3. The deep reflexes are depressed according to the degree of wasting in those muscles necessary for their production.

There is apparently a frequent tendency for the disease to take on familial characteristics, but this is by no means constant and was not observed in either of our cases.

CASE 1.—*History.*—A clerk, G. S., aged 35, was admitted March, 1911, to the out-patient department of the Neurological Institute, in the service of Dr. Fraenkel, by whose courtesy we are enabled to report on the case. The patient complained of weakness in the legs which, however, was not sufficient to produce extreme disability in walking. (He had just walked over one and one-half miles to reach the hospital, and was by no means greatly fatigued.) Two years before coming under observation, he noticed that he was more easily made tired than usual, especially by going upstairs, in doing which it became necessary for him at all times to make use of the bannisters. Later he found that he frequently tripped against small obstacles in his path; in stepping from the roadway to the pavement, he would fail to raise his foot sufficiently to clear the edge of the latter, etc., and the gradual onset of double dropped foot at last produced the characteristic steppage gait suggestive of a high-stepping horse. The patient's general health remained perfect; he had no pain or paresthesiæ; no sphincter trouble, nor at any time any difficulty with vision. Nevertheless, his condition was stated by two or three medical men to be due to incipient tabes dorsalis. His visit to the Neurological Institute was more the result of his wish to be cleared of what he considered to be the unjust charge of antecedent lues than of the hope of cure of his present disease. He had had measles, whooping-cough and a severe attack of scarlet fever in early childhood. During adolescence and early manhood, he had had three separate and serious attacks of diphtheria. Nothing of a neuropathic nature could be discovered in his family history. He was an only child; his mother was alive and in good health, while his father had but recently died of pneumonia at a fairly advanced age.

Examination.—The patient was seen to be a small, poorly built man with the worn mask-like expression characteristic of the myopathic facies. There was no defect of any of the special senses. The movements of the eyeballs were perfect, but there was very marked weakness of the orbicular eye muscles so that the lids were drooped and the eyes could be closed only feebly. The pupils were normal. The temporal fossæ were scaphoid, appearances produced by the complete atrophy of the temporal muscles. The mouth was lax and patulous. The masseters were below normal in size and power, and the strength of the movements of the jaws was distinctly poor. The sternomastoid muscles were completely atrophic, and were represented in each case by a thin fibrous cord. The abolition of these muscles threw the sternal ends of the clavicles into unnatural prominence, together with the other neck muscles which were quite unaffected. The biceps, triceps and deltoid muscles of both arms were weak and considerably wasted. The muscles of the hands and forearms were of normal bulk and power, but it was found that the patient had remarkable difficulty in relaxing the grasp of either hand—an expression of muscular hypertonus which could not be elicited elsewhere in the body. The trunk muscles were normal. In the lower limbs the internal and external vasti muscles were wasted, though there was complete retention of the rectus muscle of each thigh. The anterior tibial muscles and the peronei were wasted on either side so that a condition of bilateral incomplete foot-drop had resulted. There was no sensory change. The triceps and biceps jerks were diminished while those of the wrist were fairly brisk. The abdominal reflexes were equal on the two sides. The knee-jerks were present but equally depressed on the two sides; the ankle jerks could not be obtained. The plantar reflexes were of the normal flexor type. Electrical reactions: the intrinsic muscles of the hands and those of the forearms showed slow contraction and slow relaxation to both faradic and galvanic currents.

CASE 2.—*History.*—The patient, J. F., a Russian Hebrew who had lived for many years in the United States, by trade an insurance agent, was also in Dr. Fraenkel's service at the Neurological Institute. He presented a family history exceptionally free from influences which might be regarded as bearing on the development of his condition. Both his paternal and maternal grandparents showed unusual longevity, while of his nine brothers and sisters, eight had reached a medically uneventful middle age and the ninth had died as the result of an untreated strangulated hernia. He himself, a married man of 43, of temperate habits, had suffered from no illness with the exception of occasional gastric disturbances, until the onset of the disease for which he presented himself at the clinic. About March, 1908, the patient fell as he was alighting from a street-car, striking heavily upon his right knee and fainting as a result of the accident. He asserts that the trauma to the knee-joint was sufficiently severe to confine him to bed for six weeks, but immediately on arising, he began to perceive a weakness in the right leg which became progressively worse so that he would stub his toe in walking. Simultaneously a cataract began to develop in the left eye; this was subsequently removed. The patient next noticed in turn a diminution in power in the right forearm, the left extremities and, finally, in the muscles which supported the head. The symptom for which the patient sought relief most urgently was an intense fatigue, which, coupled with his loss of power in the extremities, had prevented his working for over a year. He expressly emphasized that at no time had he experienced pain, though of late he suffered great annoyance through weakness of the muscles of deglutition, a diminution of sexual power, and a clouding of vision in the right eye. The sheer effort of undressing in the clinic caused him to perspire profusely and drop back to the couch exhausted, an evidence of the extent to which the disease had progressed.

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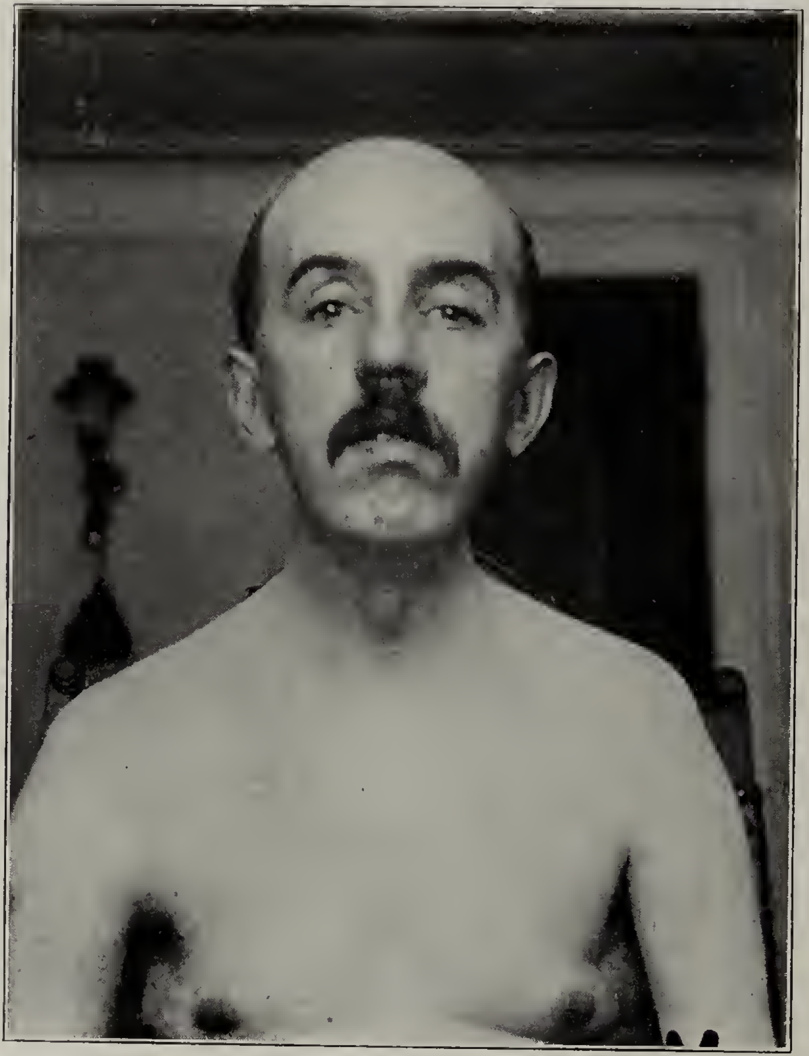
[1] Rossolimo: De la myotonie atrophique,' Nouv. iconog. de la Salpétrière, 1902, p. 63.

[2] Hunt, J. Ramsay: Jour. Nerv. and Ment. Dis., 1908, p. 269

[3] Batten and Gibb: Brain, 1909, p. 187.



Case 1. G. S., showing hollowed-out temporal fossæ, myopathic facies with dropped eyelids and patulous mouth. Absence of sternomastoid muscles.

Examination.—Physically the patient was a moderately emaciated, small, stooped man, whose face showed a peculiar lack of expression, which, without being particularly stupid, seemed vacant, lifeless and tired. He walked with a typical steppage gait, the very effort of which exhausted him so severely that the act appeared laborious. He spoke in a slow, monotonous and subdued tone which produced the impression of tired vocal muscles. The wide, artificially produced irregularity of the left pupil prevented a normal reaction to light, but in the right eye, though reflected light disclosed a beginning cataract, the pupillary response to both light and accommodation remained brisk. The tendon reflexes showed both triceps jerks absent, but the supinator jerks faintly present. Both quadriceps contractions were quite well preserved, but a right Achilles jerk was only faintly retained and the left Achilles could not be elicited. Neither Babinski's sign nor ankle-clonus was present. Epigastric, abdominal and cremasteric reflexes were actively responsive. Sensation was normal. The muscular system revealed myotonia present when the patient made a fist with his left hand. The fingers were relaxed so slowly from the closed position that the patient's hand dropped away from the hand he grasped before his own became fully extended, but after repetition of the movement this difficulty rapidly disappeared. The left side of the face seemed even more relaxed than the right, though the following facial muscles were markedly wasted on both sides, viz., the temporals, producing hollows in the temporal fossæ; the levators palpebræ, causing the lids to droop heavily; the masseters, permitting the cheeks to sink inward and making it difficult for the patient to chew solid food, and the orbicularis oris, which gave a weak expression to the mouth. Perhaps the most striking feature in the whole picture was the total absence of the sternocleidomastoids, but the trapezii were also considerably involved, while the practically total obliteration of the triceps caused the biceps to appear almost hypertrophied by contrast. The extensors of the forearm, especially the left, were weak and flabby. The muscles of the trunk and abdomen had escaped, though both recti abdominalis seemed somewhat relaxed. This weakness, however, was not sufficiently grave to prevent the patient from raising his body from the recumbent position, provided that his head was supported when he made the attempt. In the lower extremities the adductors of the thigh were somewhat weaker than the abductors, and in the leg on either side the tibialis anticus and peronei showed great atrophy. The electrical examination made by Dr. J. W. Stephenson resulted as follows: "There was no complete reaction of degeneration in any of the muscles examined, but with the exception of the right biceps and the flexors and extensors of both forearms, all the muscles showed some alteration of reaction, namely, there was an atypical myotonic reaction. Both triceps, trapezii and deltoids gave no faradic response. These, with the left biceps, showed decreased excitability to galvanism."

While the first of our cases conforms exactly with the clinical picture drawn by Batten and Gibb, it is to be noted that in the second case there occurred in addition an intense muscular weakness and premature bilateral cataract. The former condition is explicable by reason of the advanced stage of the disease, while in regard to the latter it is interesting to note a remarkable family of thirteen members mentioned by Greenfield,[4] of whom six were healthy, two had premature cataract, three myotonia atrophica, and two suffered from both conditions. In view of such a striking and persistent combination of these two conditions it would seem that the association of cataract with the symptoms-complex under discussion is more than accidental and would suggest that both may be abiotrophic in character.

Infant Mortality.—Dr. Jacobi of New York recently gave statistics showing that the industrial conditions in many of our communities are largely responsible for our unnecessarily high infant mortality: "Women working at home are very often worse off even than their sisters in the factory. Their constant treadling of the machine undermines their health. Seamstresses develop anemia, tuberculosis and pelvic diseases. Cigarmakers who work at home develop consumption to the extent of 90 per cent. Such women living in dirty dwellings, without air or light, bear children that are starved before they are born—who are infected with hereditary disease—and are destined either to perish miserably, or, more miserably, to populate asylums, hospitals and penitentiaries."—C. S Sheldon in *Bulletin American Academy of Medicine.*

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[4] Greenfield: Rev. of Neurol. and Psychiat., 1911, **ix**, 169.

THE IMPORTANCE OF THE QUANTITATIVE REGULATION OF THE DIET *

H. D. ARNOLD, M.D., and
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It will generally be admitted that modern methods of infant-feeding have been of very great benefit. It is one of the very few accomplishments in dietetics that the profession may point to with pride. Yet it differs from the older methods of milk feeding chiefly in the fact that the nutritive ingredients of the milk are regulated quantitatively with greater accuracy.

Our grandmothers used to dilute cow's milk in giving it to infants. Their object was to make the milk "less rich" and more digestible, with fewer "curds." They were in reality lowering the percentage of protein, which in cow's milk is too high for infants. Then they sweetened it, apparently to make it more acceptable to the taste. But this also fulfilled the very desirable object of increasing the carbohydrates, which are low in cow's milk as compared with human milk. And further, if the baby did not gain in weight they used "richer" milk, that is, they increased the percentage of fat in the milk mixture, thus adding materially to its nutritive value.

So "modified milk" and "percentage feeding" are not new methods—for milk was always modified—but they represent the introduction of accuracy in the quantitative regulation of the infant's food. It has accomplished so much that at first sight it seems hard to believe that the great advance in infant-feeding is based essentially on so simple a thing as greater accuracy, yet this really is the case. The explanation lies in the fact that this accuracy permits the physician to regulate the amounts of the different foodstuffs—protein, fats and carbohydrates—which comprise the nutritive part of all food. He can do this with sufficient accuracy to allow him to study the effects of such modification of the amounts of the different foodstuffs, and to adapt the diet intelligently to meet the requirements of the individual case. The method needs no defense from us; our object is to use its well-known success as an argument for the extension of the same principle to other fields—to the regulation of the diet of adults in all cases in which greater accuracy will be advantageous.

In general, the regulation of the diet of adults by physicians is not a matter in which the profession can take much pride. With a few directions of "Do take this" and "Do not take that"—the selection of the foods being largely regulated by tradition based on empiricism—the physician leaves the rest to the patient's appetite and the judgment of a nurse or some lay person. This is equivalent in infant-feeding to the direction: "Feed the baby milk"—leaving all other details for the family to work out. It is essentially an absurd position, which is perpetuated by two factors. One is the lack of appreciation by physicians of what may be accomplished by more scientific diet regulation; the other is the difficulty of its application in their hands. This is due largely to the fact that the present generation of physicians was not taught the fundamental facts with any reference to their practical application. This latter defect will soon be remedied, for the importance of the scientific regulation of the diet is being more fully recognized by the profession. The medical schools are beginning to give instruction along these lines, and the coming generation of physicians will be prepared to utilize these valuable measures fully. Even now its value in the treatment of disease has been proved, and an important question for the older physicians to decide is whether they will "keep up with the procession" by adopting this advance in dietetics, or will wait for the more efficient youngsters to crowd them to one side.

You need but to mention the word "diabetes" to the wide-awake physician of to-day and he will recognize that these remarks apply to this disease at least. He knows that the most successful treatment of this disease is based on the careful quantitative regulation of the amounts of carbohydrates allowed in the diet, combined with such an adjustment of the other foodstuffs as to furnish sufficient nutriment for the needs of the system.

The old haphazard methods of treating this disease are no longer justified. Our duty to our patients demands the quantitative regulation of the amount of carbohydrates given in the treatment of diabetes, and the recognized importance of this measure is again cited by us as an argument for the extension of this measure over a wider field.

It has not so generally been recognized that the proper regulation of the amount of protein in the food is almost as important in the treatment of nephritis as is the regulation of the carbohydrates in diabetes. Yet all will admit that the fundamental principle of the treatment of this disease is to spare the kidneys from unnecessary work. Since one of the chief functions of the kidneys is to eliminate the waste products of nitrogenous metabolism it necessarily follows that we can secure this result best by limiting the amount of the nitrogenous material, or protein, that is taken in the food. This matter has been emphasized by Von Noorden and others, and an article by one of us, delivered before this Section last year, dealt with this matter at length.[1]

A further reason for the quantitative regulation of the diet in diabetes and nephritis is the fact that it is not only necessary to reduce the amounts respectively of carbohydrates in the one case and of protein in the other, but that it is of equal importance to make sure that the patient is getting a diet of sufficient nutritive value to meet the requirements of the system for heat and energy and to offset tissue waste. Unless this is provided for we add insufficient nutrition or partial starvation to the condition of disease already existing. This can best be determined by a calculation of the caloric value of the diet. In order to ascertain this we must know with some approach to accuracy the amounts of food taken, which is another way of expressing the quantitative regulation of the diet.

In another field this same consideration holds. Whenever the heart is affected the question of a sufficient supply of nutriment to enable it to maintain its strength is of vital importance. Unless there is sufficient nourishment the heart-muscle will weaken, and disastrous results will follow. This is of the greatest importance in the so-called reduction cures for obesity. If in these cases the heart is not strong, as is often the case, serious and even fatal damage may be done to the heart by cutting the food down too far or too rapidly. In such cases the reduction can be done safely only when the nutritive value of the diet is followed closely. Furthermore, it hardly needs to be argued that in any system for reducing the weight the quantitative regulation of the diet will enable the physician to study the case more intelligently and to get more satisfactory results than if this

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

[1] Arnold, H. D.: The Importance of a Low Protein Diet in Chronic Nephritis, The Journal A. M. A., Dec. 24, 1910, p. 2193

measure is neglected. This is true whether there is any danger from the heart or not.

In many cases of apparent neurasthenia and debility or malnutrition we have found that a calculation of the diet not only helps in the understanding of the case and in the diagnosis but points the way to treatment and enables us to give a more accurate prognosis.

It is interesting to note that recently the diet in cases of tuberculosis has been the subject of extensive study from this point of view. It has been proved that patients do as well or even better when such study and quantitative regulation provides a well-balanced diet, with an abundant but not excessive amount of nutriment.

In gout and those forms of rheumatism in which metabolism is at fault the quantitative regulation of the food is important. These conditions are not as yet as well understood as we might wish in these respects, but this method will enable us to give more scientific consideration to the problems which these diseases bring up. In this way we may hope for a better chance for a successful solution of these problems. In both diseases the cutting down of the protein of the diet seems advantageous, and in gout that careful regulation of those articles of food that contain purin bodies, which is an essential feature of the treatment, can best be secured by the quantitative regulation of the diet.

We have pointed out a number of conditions in which the quantitative regulation of the diet will be of aid and in many cases it is essential to successful treatment. Few will deny the desirability of such measures. The question arises whether it is practicable in application. In order to carry out these measures we must know with some accuracy the composition of food and we must understand a few of the fundamental principles of dietetics. Fortunately, the more recent books on treatment have taken up these matters in some detail. With some patience and study the matter can be worked out. In many of the diseases mentioned, the text-books or monographs will give the desired information. At first, the work is difficult and time-consuming, because it is new and is more or less complicated, but familiarity soon brings facility, and the results well repay the time and trouble involved. We have used the diet chart prepared by one of us (Arnold) in practice for several years and have found that it simplifies the problem a great deal, and makes it feasible to do this work in private practice satisfactorily, when once the physician is conversant with the method of its use. We have repeatedly found that an intelligent nurse can use these charts not only to record, but to calculate the diet, and this has been done also by intelligent members of the family of the patient. Such reports enable the physician to follow his case with little trouble and to handle it much more intelligently. These charts are published by the W. B. Saunders Company. They are not essential for this work, for all that is essential is for the physician to get his data from any reliable source and he can apply them in any convenient form. Such charts merely bring convenience in such methods. With such an aid we have found it perfectly feasible to carry out this work in practice. From an extended experience with this work we can say with confidence that it is well worth while in any condition where the diet enters as an important factor in treatment. By such means we raise dietetics from unintelligent empiricism to a fairly satisfactory scientific basis.

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ABSTRACT OF DISCUSSION

Dr. Wilder Tileston, New Haven, Conn.: The quantitative regulation of the diet is of extreme importance in the treatment of all conditions of undernutrition and obesity. It is not at all difficult to regulate the diet in this way if one obtains tables showing the nutritive value of foods. Such tables can be obtained from Bulletin 28 of the Department of Agriculture, on the payment of 10 cents. The principles governing the diet of the ill are frequently misunderstood and misapplied—more so than other principles in medicine.

THE THYROID WITH SPECIAL REFERENCE TO HYPERTHYROIDISM AND A NEW METHOD OF TREATMENT

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FORT WAYNE, IND.

The surgical treatment of exophthalmic goiter is based on the hypothesis that the symptoms are due to hypersecretion, or hyperabsorption, or both. In the present state of knowledge concerning the chemistry of the secretion of the thyroid and other ductless glands, this is the best working hypothesis. It is probable, rather than possible, that in the near future we may have specific serums to counteract the various symptoms of thyroid disease, but until we know more than we do now, we can do no better than to work on the theory above given.

Ligation of one or more of the thyroid arteries has proved of benefit in some cases, but in the main the results have been disappointing. If one recalls the arterial supply to the thyroid, one ceases to wonder that this treatment has not proved satisfactory. Ligation of the common carotid does not affect the function of the brain, and, if a sufficient interval is allowed to elapse, both common carotids may be ligated without interfering with the function of the brain. The analogy between the arterial supply of the brain and the thyroid is very close.

Pole ligation, as first suggested by Stamm, would seem to be, theoretically, a more effective operation than arterial ligation, because it at once cuts off a part of the blood-supply to the gland, and a part of the return flow of both blood and lymph, presumably laden with toxic material. Moreover, Stamm's operation produces a greater anemia by virtue of the fact that it reduces the possibility of perfect and prompt reestablishment of the circulation by anastomosis. Ligation of the accompanying vein and artery at the same time should be, and I think is, more effective than ligation of the artery alone, but not so effective as the Stamm operation for the reason that the latter does all that the former does in way of curtailing the circulation of the blood in the thyroid and in addition puts out of commission permanently that portion of thyroid between the double ligations and occludes also the lymphatics of the ligated pole. It has not, however, been employed in a sufficient number of cases to enable one to speak accurately of the results obtained.

Partial thyroidectomy is the most effective treatment we have up to date. This, however, is a major operation and largely because of this fact patients are not subjected to this operation until other treatment has been tried and failed, and the disease has rendered the subject a substandard operative risk. Many of these patients must first be subjected to preliminary rest treatment coupled with one or more ligations before thyroidectomy can be done with reasonable safety. Again, in many of these patients, operated on late, myocardial and other changes which are permanent have already taken place.

Ochsner and Thompson name nine dangers of thyroidectomy: (1) anesthesia; (2) shock; (3) hemorrhage; (4) hyperthyroidism; (5) infection; (6) recurrent laryngeal nerve injury; (7) injury to parathyroid glands; (8) air embolism; (9) collapse of trachea and consequent asphyxia. To these should be added a tenth, namely, myxedema. It is quite plain that a simple, safe, and effective operation for hyperthyroidism is much to be desired. I believe that injection of boiling water into the gland will fulfil this desire.

While my experience with this method up to date is not sufficient to put it on a firm basis, yet it is enough, I think, to warrant this belief. The method was first used in dogs to demonstrate its safety and its efficiency in destroying normal thyroid tissue and goitrous tissue. These experiments were made for me by my former assistant, Dr. H. K. Mouser, now of Oakwood, Ohio. I have now treated four cases as follows:

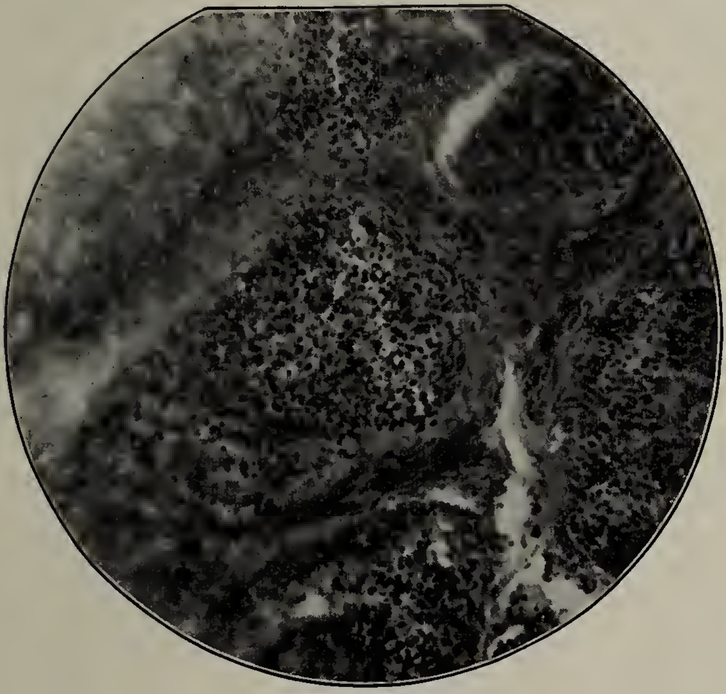

Fig. 1.—Case 4 (J. H.). Section after the injections of boiling water, showing connective tissue proliferation and compression of parenchyma. × 265.

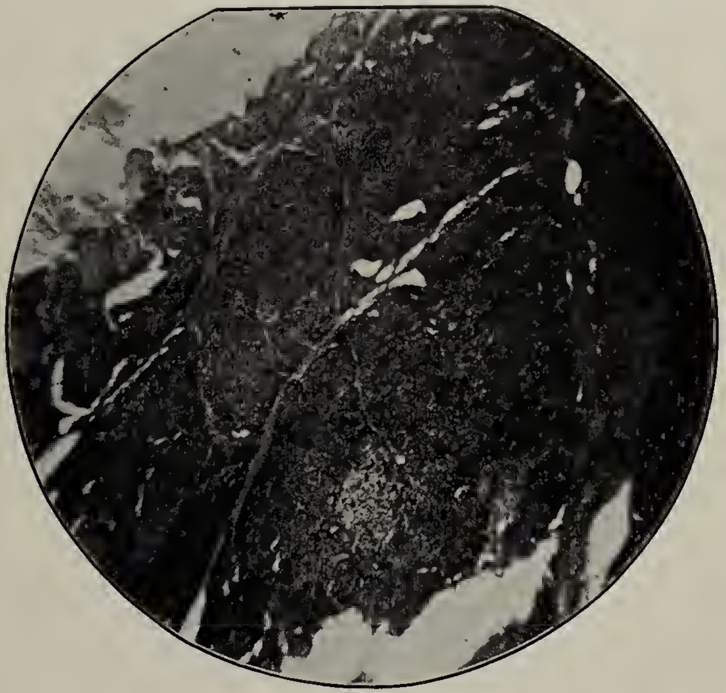

Fig. 2.—Same as Figure 1. × 55.

Case 1.—An unmarried woman who was troubled with a goiter was referred to me by Dr. McCaskey in whose hands she had failed to improve under ordinary treatment, so he asked me to inject the goiter with hot water. She had a small bilobed goiter. Into each lobe was injected 40 minims of boiling water. She was asked to remain in bed for a few hours after which she was allowed to get up and be about. In a few days she left the hospital. One month after the operation, she came to the hospital for examination. I saw her a few moments after her arrival. Her pulse was 80, regular and of good volume. She expressed herself as feeling well and she had gained in weight. She said she was able to do her housework and was having no difficulty with her heart. Prior to the injection of hot water she complained much of palpitation of the heart and her pulse at that time varied from 80 to 120. She was to report to either Dr. McCaskey or me in case there was any relapse. Neither of us has heard from her.

Case 2.—This was a mild case in a male patient referred by Dr. McCaskey. This patient went to work within seventy-two hours after one treatment and was still at work and symptomatically cured a few weeks ago, though he still has a small goiter.

Case 3.—*Patient.*—Mrs. Z., aged 48, married. Family history was negative. She had had typhoid twelve years ago; appendectomy and gall-bladder drainage two years ago. Menses came at 12, always irregular and painful. Patient came to the hospital on a cot on May 14, 1911, having been in bed two weeks. She complained of alternating constipation and diarrhea; pain and tenderness over whole abdomen especially the right half. She had a great deal of headache; was "short of breath" at times and had "dizzy spells"; was very nervous.

Examination.—The chest, abdomen and pelvis were negative, except for general abdominal tenderness. There was no rigidity. There was a perceptible bilobed goiter, larger on left; slight tremor. Examination of stools, urine and blood negative. The patient was kept in bed on light diet.

Treatment and Result.—After five days observation, during which time her pulse ranged from 68 to 84, the patient was given 5 grains of thyroid every four hours. After taking the thyroid for twenty-four hours her usual symptoms were exaggerated and in addition she complained of sleeplessness. The thyroid was continued, however, for six days when she complained of being "short of breath" and her pulse which was small and irregular, ran from 85 to 115. The thyroid was now stopped. Two days later the patient was feeling better and sat up for a few hours. While up her pulse was 108 and rather weak. Thyroidectin was given with negative results for three days, when her goiter was injected with 50 minims of boiling water. There was no reaction but she was kept in bed a few hours after the injection. Five days after the injection she was discharged. Dr. Drayer later reported her much improved and on July 12, forty-two days after the injection, she came to my office. The thyroid could not be seen, save on close observation; the pulse was regular, good volume, 80 per minute. There was no tremor. The patient said that she was attending to many of her duties and was much better in every way, though she felt the need of a little rest on the sofa almost every day.

Case 4.—*Patient.*—J. H., female, aged 27, single. Family and previous personal history unimportant. Her normal weight was 142 pounds. When I first saw her, she weighed 89 pounds and presented all the symptoms of exophthalmic goiter in the most aggravated form it has ever been my privilege to see, including exophthalmos, tachycardia, shortness of breath, trembling, diarrhea, nausea, insomnia and loss of appetite. She was in a reclining chair when this examination was made. The pulse was irregular and weak, from 160 to 180 per minute. She was admitted to Hope Hospital July 27, 1910.

History.—The following notes are taken from the records made at the hospital: The patient has been aware of an enlarged thyroid for five months, and has been aware for that time that she had exophthalmic goiter. For two years, however, she has been losing weight and during this period has suffered from severe headaches. The eyes have been prominent for four months. The patient has been under treatment for two months and for the past week has been taking thyroidectin; has not menstruated for six weeks. Examination after several hours in bed disclosed, in addition to the above, a dilated heart, a large firm thyroid with a pronounced thrill especially in lateral lobes. Neck measurement 15⅛ inches. Marked exophthalmos; eyes remain partially open during sleep, and cannot be closed entirely without strong effort. Urine normal. Small irregular dicrotic pulse 146 per minute, systolic pressure 180, diastolic 155. Temperature 99 3/5 F. Abdominal examination negative.

Treatment and Result.—The patient was given no treatment except injections of boiling water into the thyroid and rest in bed. For a few days only her diet was restricted on account of the diarrhea and nausea; after this she was fed liberally, including meats.

After the first two or three injections she was allowed to read in bed and do fancy work, and later to sit up, have visitors, have tub baths and visit other patients in the hospital whom she knew.

After the first two or three injections improvement was noted in her appetite, she slept better, was less nervous, breathed better, digestion seemed perfect and she no longer complained of palpitation. The pulse gradually improved in quality but did not diminish much in frequency. The thrill in the thyroid largely disappeared and there was some improvement in the exophthalmos. As she improved, she was given more liberty as to exercise, and was finally allowed to go home on Dec. 21, 1910, for the holidays, where she remained until Feb. 21, 1911. During her stay at home she took moderate exercise each day, went shopping and enjoyed the festivities of the season in a moderate way. Of course, on account of the condition of the heart, she was enjoined against exertion. She was weighed ten days after the third injection, when it was found she had gained four pounds. This gain in weight continued. When she left for the holiday vacation she weighed 120 pounds, and during her vacation she continued to improve notwithstanding the increased amount of exercise and excitement. She came back to the hospital Feb. 21, 1911, was given two more injections and discharged seventeen days later, weighing 145 pounds and expressing herself as "feeling fine." Dr. E. J. McOscar, who had seen the patient a number of times, was present at the last injection and remarked at the improvement, including the exophthalmos. I regret that I did not have photographs taken before the injections were begun, after they were stopped, and after the thyroidectomy to show the condition of the eyes and neck at these various stages of the treatment, but I hesitated to ask a sensitive girl for this privilege.

Notwithstanding her increase in weight, her neck had diminished in circumference 0.5 inch. She menstruated normally on March 10, 1911, which was the first menstrual flow she had had since June, 1910—nine months. She has menstruated regularly since.

In all, this patient had injected into her goiter 1,525 minims (a little more than 3⅛ ounces) of boiling water. There were nine seances, and at each seance from one to three injections were given. The largest amount injected at one point was 160 minims and the smallest 80 minims. The largest amount injected at one seance was 370 minims. After each injection, the patient was asked to remain perfectly quiet in bed for three or four hours. Inasmuch as the other patients whose goiters I had injected, before this patient was injected, had complained but little of the pain, the first injection was made in this case without any anesthesia of any kind. The patient complained quite loudly of the hot needle in the skin, and thereafter this was overcome by Schleich's infiltration-anesthesia at the points where the needle was to be thrust through the skin. No attempt was made to anesthetize anything but the skin because the heat is complained of only in the skin, and for the further reason that I believe that the infiltration of the gland tissue would diminish the effectiveness of the injection of hot water, or perhaps defeat its purpose entirely. After the use of the Schleich, the only complaint made was a feeling of distention which at times caused pain to radiate to the back of the head and neck. The excitement produced by the anticipation of the treatment, together with the pain, caused some acceleration of the pulse, and for a few hours after the treatment there was noted a rise in the temperature varying from ½ to 2 degrees F.

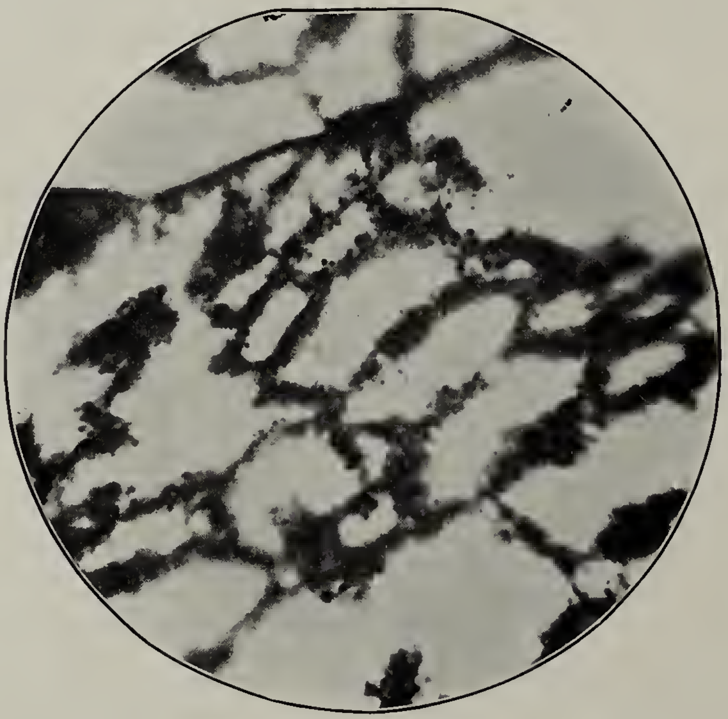
Fig. 3.—Section from gland of J. H., showing cytolysis. ×265.

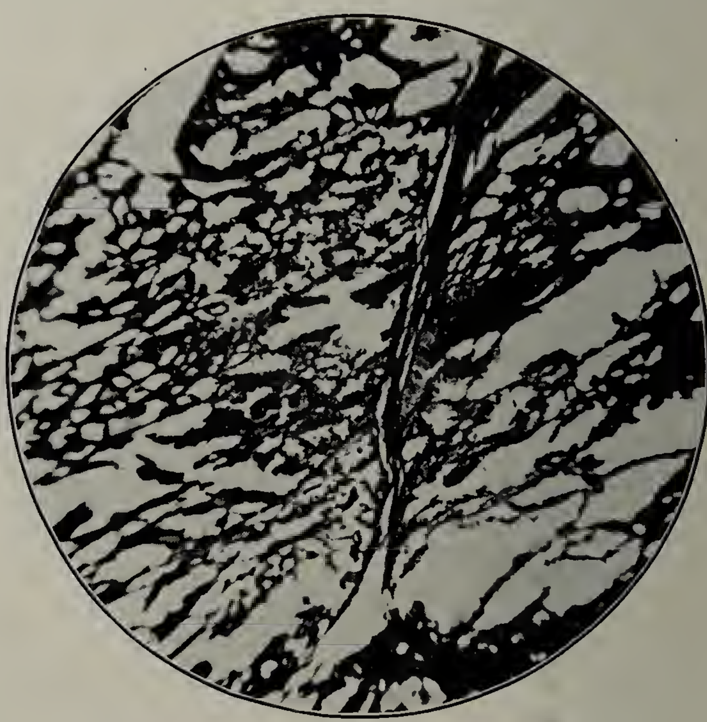
Fig. 4.—Same as Figure 3. ×55.

A minute eschar was produced at the site of each needle puncture but no permanent scar was produced. After each treatment the needle punctures were covered by pledgets of cotton saturated with alcohol and over these an ice-bag was placed for an hour or so after the patient was put to bed. When the patient was discharged, she still had pronounced exophthalmos, a good-sized goiter, a dilated heart and rapid pulse. The pulse counted for a week, at the time of her discharge, and averaged with a like count taken when she first entered the hospital and while she was at absolute and constant rest, showed a rate of 123 per minute in both counts. However, the count taken first represents the pulse while she was living a more or less active life as indicated by the foregoing report. Moreover, the pulse when discharged was regular, of better quality and no longer "went crazy" on the slightest excitement or movement as was the case when the patient began treatment.

I explained to the patient that I regarded her as cured in so far as a cure was possible, except that the tumor could be removed, inasmuch as I regarded the heart and eye conditions as manifestations of permanent tissue changes. She was told, however, that she could have a thyroidectomy done with very little risk, in case she wanted to get rid of the deformity.

She concluded to rid herself of her "big neck" and for that purpose reentered the hospital May 14, 1911, and a thyroidectomy was done under ether anesthesia two days later. There was nothing worthy of note in the operation, save that there were numerous dense adhesions between the capsule and overlying fascia, due no doubt to the injections of hot water. The convalescence was uninterrupted until the end of the fourth day, when the patient began to develop a left hemiplegia, which became complete by the sixth day after the operation. She left the hospital thirty-six days after the operation with the wound healed, save a small point of granulation at the place of exit of the drains, able to walk and use the hand and arm, and with no trace of facial paralysis, though the arm and leg had not yet recovered entirely. Her breathing at this time was better from relief of pressure on the trachea. The exophthalmos and heart remained the same except that the action of the latter was improved as indicated by the improvement in the pulse, which was of fairly good quality and 100 per minute while sitting. The blood-pressure taken three days after the operation was 150 mm. maximum systolic, and 125 mm. maximum diastolic—a diminution in both diastolic and systolic pressure of 30 mm. as compared with the pressure before any treatment was instituted. Owing to an error or misunderstanding the blood-pressure was not recorded when the injection treatment was stopped.

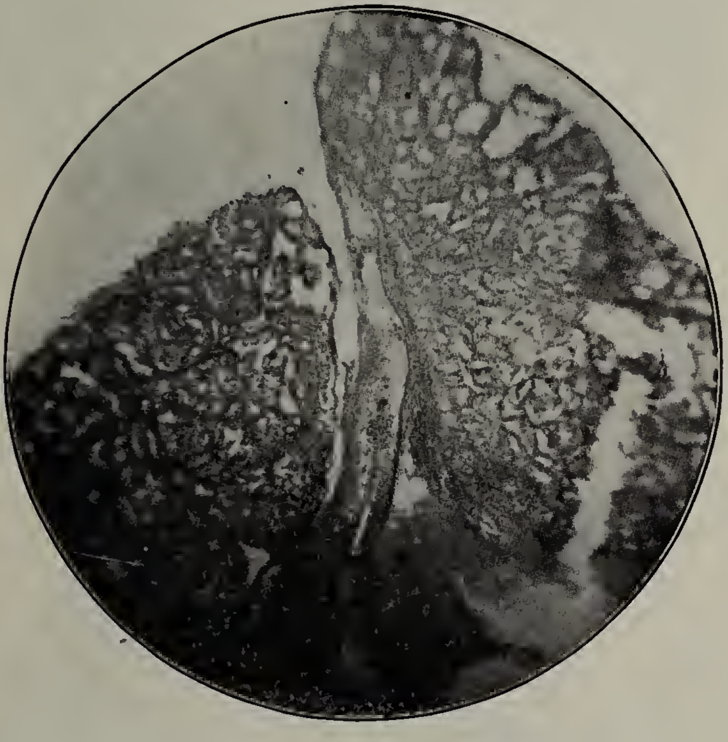

Fig. 5.—Gland of J. H., showing some hyperactive tissue after the injections of boiling water. ×55.

I visited the patient at her home June 30, six weeks after the thyroidectomy, and found her much improved so far as the paralysis is concerned. There was also quite a little improvement in the heart's action and the exophthalmos. Pulse, sitting, 96 per minute.

I was mistaken in my opinion that the thyroidectomy would do her little or no good save to rid her of her deformity. She still had, after the injections, some overactive thyroid tissue which was removed at the operation. This is proved by the clinical symptoms and also by microscopic appearance of the removed gland.

The prevailing picture, from a number of sections made for me by Dr. Rhamy, the pathologist of Hope Hospital, is one of connective tissue proliferation with compression of the gland structure. With the high power some of the fields are almost entirely occupied by connective tissue (Figs. 1 and 2). Here and there, however, is found pronounced cytolysis which is present usually in the severest forms of Graves' disease (Figs. 3 and 4). Rarely may be found a field in which a few follicles present filled with unstained colloid and in which there is some epithelial proliferation indicating a hyperactive gland (Figs. 5 and 6).

An extremely interesting incident in Case 4 was the hemiplegia which, it will be recalled, came on gradually and became manifest first at the end of the fourth day after thyroidectomy. I have communicated with a number of surgeons with large experience in goiter work and none of them report a similar accident, nor can I find a like case in the literature. I am of the opinion that the hemiplegia was the result of cerebral hemorrhage due to arterial degeneration produced by the prolonged thyroid intoxication. In this opinion I am supported by Drs. G. W. McCaskey, A. J. Ochsner, G. W. Crile and C. H. Mayo, to whom I submitted a report of the case. It should be stated here that there could be found in the case no evidence of specific infection either inherited or acquired. In all I have injected boiling water into hyperactive goiters twenty-nine times, in four patients. From 40 to 160 minims were injected at each point. From one to three points were injected at each sitting. The largest amount injected at one sitting was 370 minims. Marked improvement promptly followed the injections in every case. No untoward results followed the injections in any case. As stated in the earlier part of this paper, the evidence thus far accumulated concerning this method of treating hyperthyroidism is not sufficient to base definite conclusions on, but it seems sufficient to warrant a more extended trial.

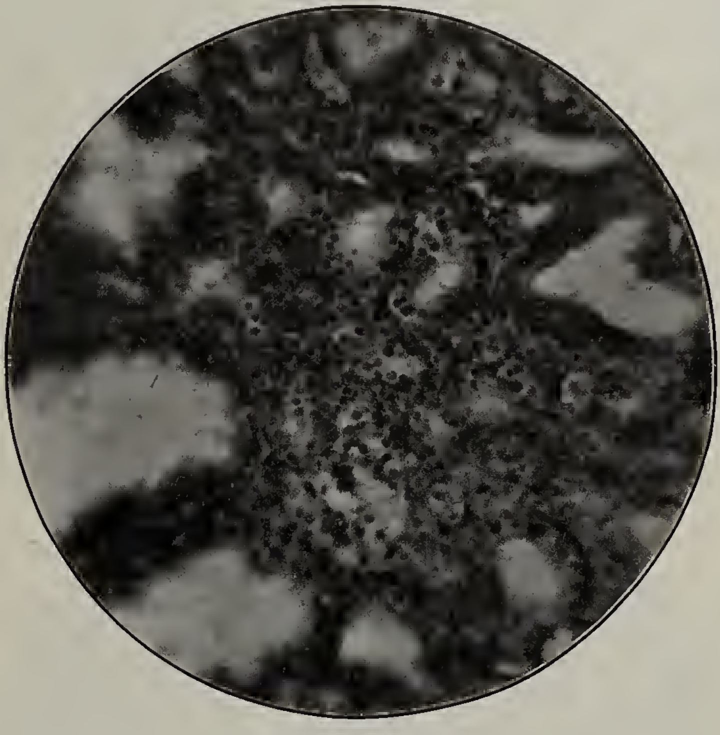

Fig. 6.—Same as Figure 5. ×265.

To me this treatment seems especially adapted to the very mild and the very severe cases. The mild cases, it seems, may be promptly cured and the severe ones, if not cured, rendered safe operative risks. It may be well to say that the injections must be made within the capsule, avoiding the immediate vicinity of the parathyroids and recurrent laryngeal nerves, and with the same general precautions that govern the boiling water treatment of angiomata.

207 West Wayne Street.

Long and Short Incisions.—Be not proud of an extremely short incision. A longer one, in reason, will heal as quickly, to an hour. Daylight is safer than fumbling in the dark.—Robert H. M. Dawbarn, in *Medical Record*.

ACCESSORY OR ABERRANT PANCREAS, WITH REPORT OF A CASE

BENJAMIN BROOKS FINKELSTONE, M.D.
BRIDGEPORT, CONN.

While an accessory pancreas is not very rare, still it is unusual enough to warrant the report of another case. This case, like Opie's, is an accessory pancreas entirely separated from the normal pancreas and adherent to the intestine, with numerous branches of the duct of Wirsung through the section, and it is, of course, natural to conclude that the main duct must have eventually opened into the intestine.

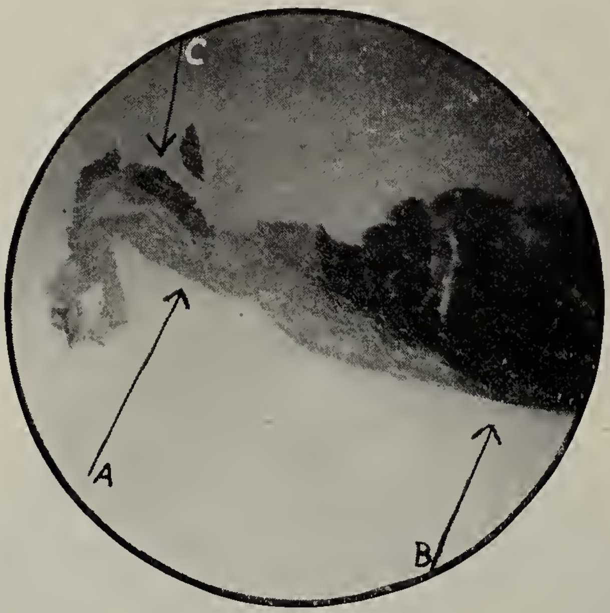

Fig. 1.—Relation of pancreas to the intestine. A, peritoneal surface of small intestine; B, aberrant pancreas inclosed by a slight capsule of connective tissue; C, mucous membrane of small intestine. Low-power lens.

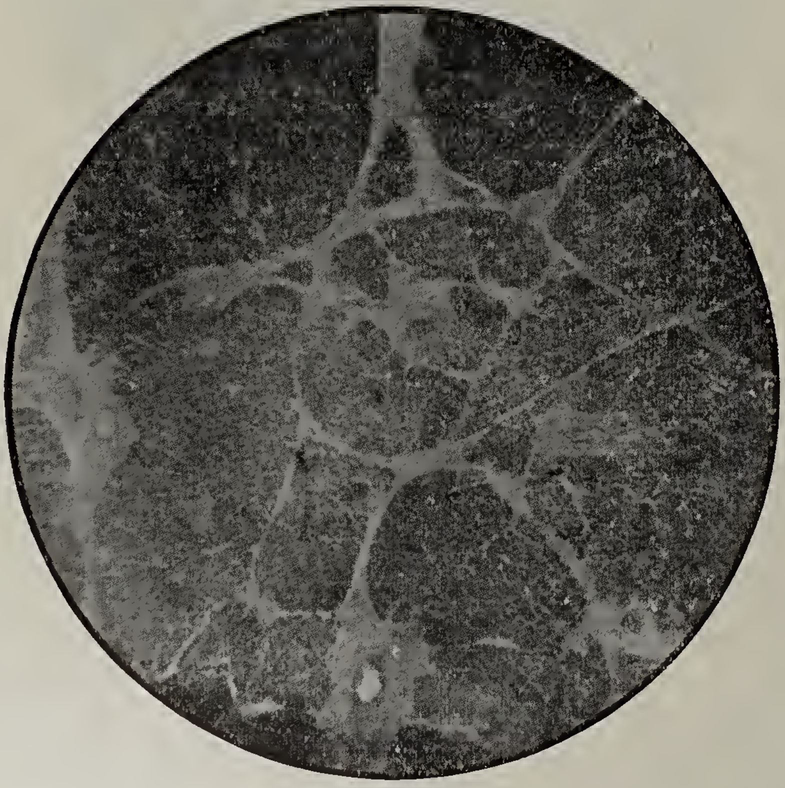

Fig. 2.—A section of pancreas showing general lobular arrangement of the organ.

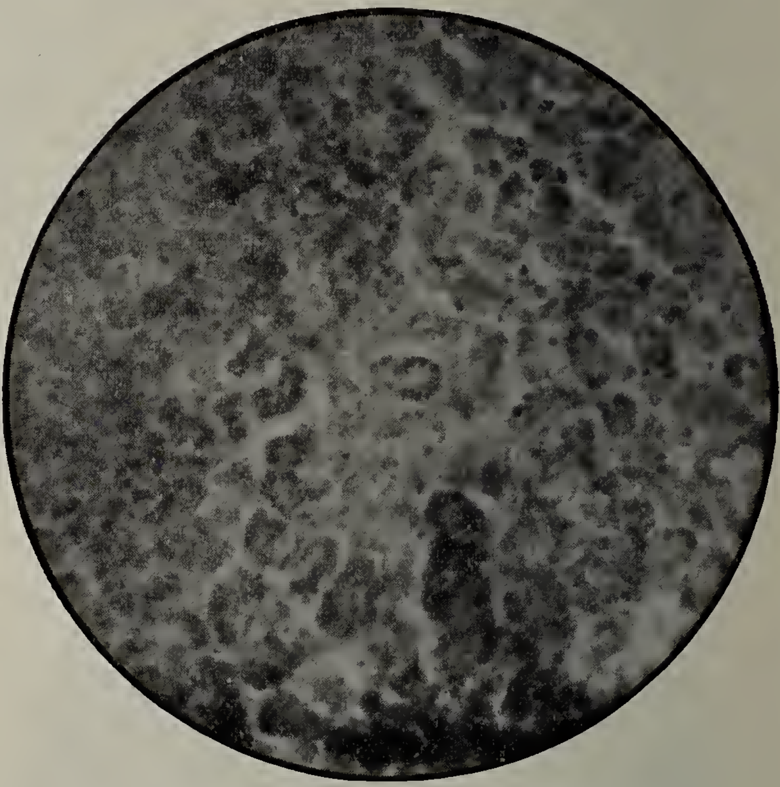

Fig. 3.—Same as Figure 2. High-power lens. Shows cellular structure of the organ.

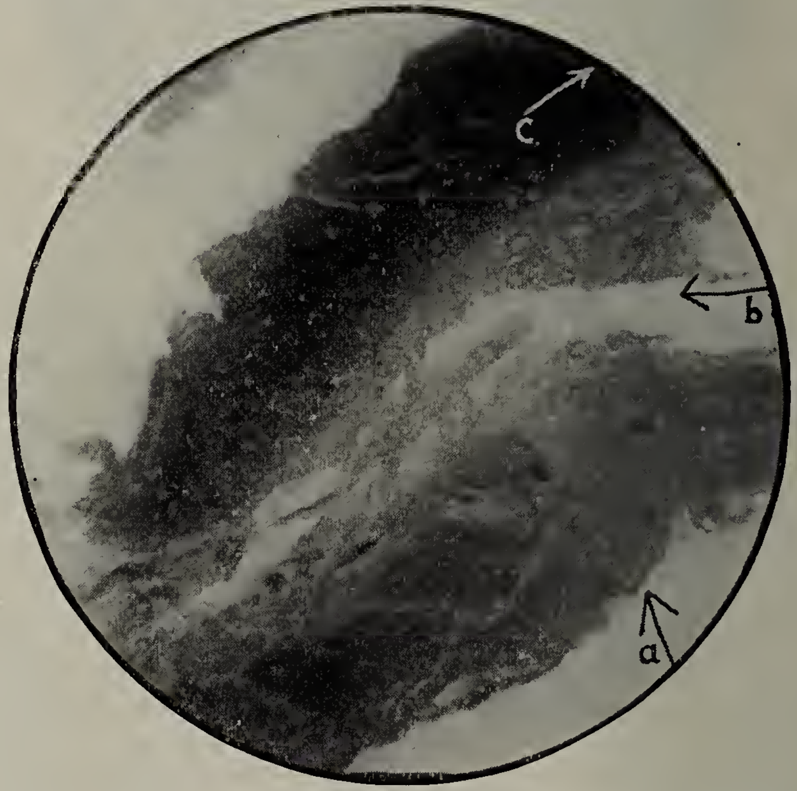

Fig. 4.—Section of intestine attached to the tumor; a, peritoneal surface of small intestine, showing longitudinal and circular muscular coats of intestine beneath; b, submucous coat with its blood-vessels and lymphatics; c, mucous membrane of small intestine.

Among the other cases reported are those of Klob, who demonstrated and cited two examples, viz., one embedded in the wall of the stomach, while in the other case it occupied the wall of the jejunum. Zenker collected six examples in which in every case the tumor had a duct entering the intestine through overlying mucosa. One was 16 cm., another 48 cm. One of Zenker's cases of special interest was an aberrant pancreas with a finger-shaped diverticulum of 5.5 cm. length, 44 cm. from the ileocecal valve. In these cases the coats of the accessory pancreas varied; i. e., microscopic examination showed tissue resembling pancreas, save that the interlobular tissue was frequently more abundant. Zenker diagnosed these tumors as embryonic rudiments. Luttille, in 200 autopsies, found five cases of aberrant pancreas. Wright described one example of the anomaly in which the tissue contained glandular tissue as well as islands of Langerhans. Hilly suggests that part of the primitive growth is separated from the remainder and later acquires an independent duct. In the *Index Medicus* of 1910, report of only one case was found—Nazari's case of aberrant pancreas in Meckel's diverticulum.

REPORT OF CASE

History.—A well-developed, robust-looking Italian, male, aged 34, was brought into the hospital with a penetrating bullet wound of the abdomen. At autopsy all organs were found normal except the peritoneum, which showed extensive peritonitis. The intestines were matted together owing to the same condition. In the intestine 75 cm. from the pylorus two perforations were found, i. e., wound of entrance and wound of exit. About 15 cm. from the sigmoid flexure in the descending colon another perforation was seen. About 30 cm. from the pylorus a flat tumor mass was found in the intestinal wall, on its free border, opposite the mesentery. It was yellowish-gray, about the size of a quarter, markedly defined from the surrounding tissue, and slightly protruding into the lumen of the bowel. The tumor and part of the intestine for about 7 cm. on each side of it were removed and sent to the College of Physicians and Surgeons, Baltimore, for microscopic examination. Dr. William Royal Stokes reported the tumor to be an accessory pancreas, or, as some may call it, "aberrant or supernumerary pancreas." On section the organ had the same yellowish gray color as the pancreas. Sections of it showed that it was enclosed on one side by peritoneum and some muscular tissue, and on the other side by the submucous coat and the mucous membrane.

Dr. H. W. Stoner made the photomicrographs here shown (Figs. 1-4).

To the embryologist, physiologist, and pathologist this condition must surely be of some interest as to its correlation with the true pancreas in health and disease. Interesting queries can be evolved from such an anomaly, as, for instance, whether the presence of such a tumor could prevent diabetes in a patient in whom the islands of Langerhans of the true pancreas were affected. Or whether in a diseased condition of the pancreas, would the accessory pancreas undergo sympathetic degenerative changes or hypertrophy and take up the function of the true pancreas?

38 High Street.

A PLASTER SUPPORT FOR GASTROPTOSIS

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SARANAC LAKE, N. Y.

I have employed for some time with good results, a useful method of securing abdominal support, with zinc oxid adhesive plaster on moleskin. It is adapted to cases of gastroptosis and enteroptosis requiring some mechanical support in the various wasting diseases, especially chronic tuberculosis, in which digestive disturbances are so common and so important to correct.

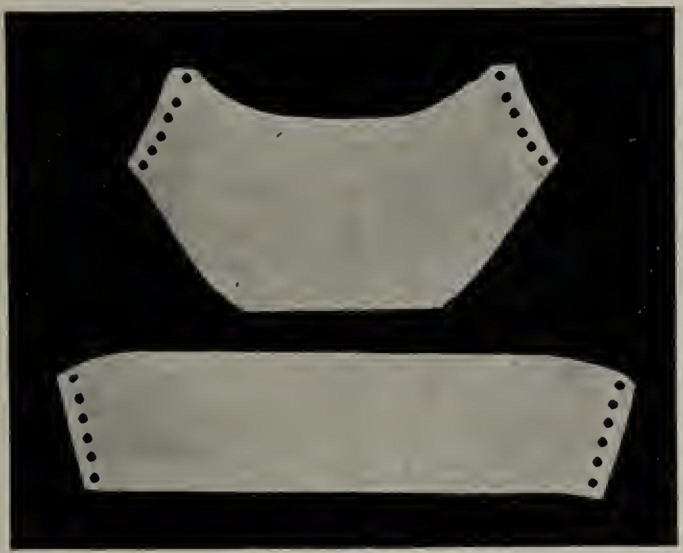

Fig. 1.—Pattern for plaster support for gastroptosis.

A patient in bed will often experience relief and benefit from the constant wearing of a light plaster support of the abdomen, although it is generally assumed, on theoretical grounds, that the sagging viscera require no support at such times. Elastic belts for abdominal support are often not comfortable or effective in the lean individual with a flat abdomen, even with an extra pad inserted under the belt, and holes cut in the elastic to ease up the pressure over the bony prominences at the sides. The plan herewith presented consists of a plaster pattern, with eyelets at the sides for lacing, as now generally used in surgical dressings, when it is desired to avoid a change of plaster at each dressing.

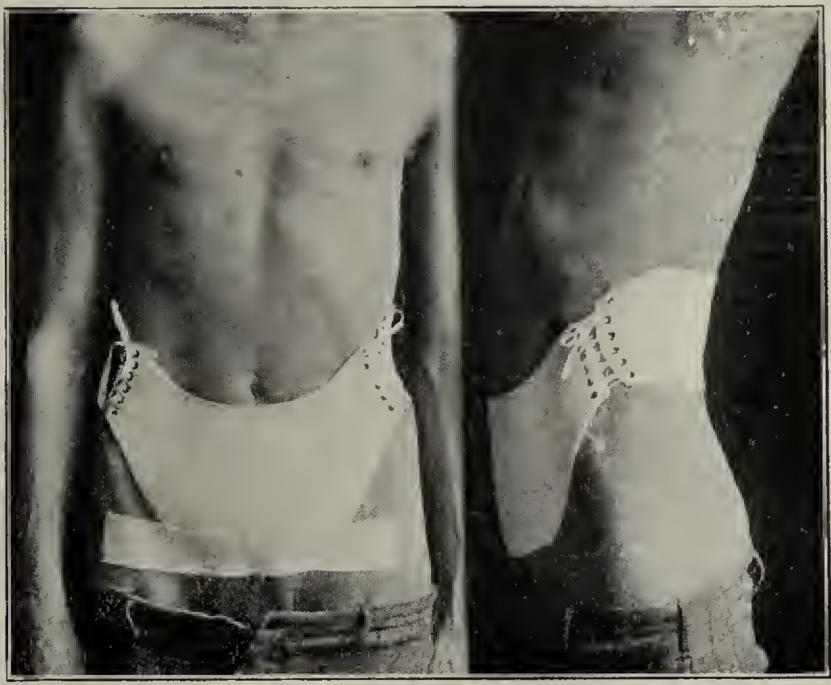

Fig. 2.—Plaster support applied.

The shape and size of the plaster apron will vary, of course, with each individual. The general outline is shown in Figure 1.

The plaster should extend from the umbilicus to the symphysis pubis, and in order to include the side tongues in the same piece with the apron, the 7-inch wide plaster will be necessary. (Fig. 2.)

The strap for the back should be 3½ inches wide, cut straight, or slightly curved toward the ends; the length must be about 3 inches shorter than the actual measurement, leaving the space of 1½ inches on each side, for the uplift traction on apron ends and lacing. (Fig. 2.)

The edge of the plaster along which the holes are punched for eyelets should be faced underneath with an extra narrow plaster strip, so as to make a double thickness to give the eyelets a better staying grip. Less traction on the plaster will be required, when it is laced up, if the patient assumes the recumbent position, which will relax the abdominal muscles and allow the viscera to lie in a more natural position.

The advantages claimed for this pattern and lacing are evident:

1. Quick relief is afforded by unlacing, when the abdomen distends with gas.

2. The single thickness of plaster over the abdomen obviates the necessity for an overlapped edge which often causes a sore ridge on the skin, in the methods requiring a three- or four-piece pattern.

3. There is a small economy of plaster over other methods.

4. It permits easy removal for a tub bath, and a reapplication of the same plaster by the patient, provided (a) that the skin is cleansed of bits of adhesive residue, with turpentine, which should be used before wetting the skin, and removed at once with soap and hot water to avoid irritation; and (b) that the abdomen is shaved clean of new hair growth after every bath.

When the plaster is reapplied to the skin, if it does not adhere readily with the aid of a hot-water bag over the abdomen, then a strip of fresh plaster may be strapped across the lower abdomen temporarily (as shown in Fig. 2 on the left) allowing one-half to lap over lower edge of apron, the other half to extend lower on the skin. After fixation is assured, this temporary strip may be taken off.

The insertion of the eyelets at the sides will be found convenient when the abdomen has been strapped with plaster according to Dr. Rose's method or any other.

104 Park Avenue.

A TABLE FOR EYE, EAR, NOSE AND THROAT WORK

L. W. DEAN, M.D.

IOWA CITY, IA.

This table was designed with the view of securing one that would serve equally well for a cataract operation, brain surgery, mastoid operations, throat work, laryngotomy or bronchoscopy. The table has now been in use for one year and has filled the requirements for this work. The table can be raised to a height of 41 inches and lowered to 31 inches. This allows the operator to work standing or sitting. The table may be tilted to any desired position. This can be done very rapidly if difficulty with anesthesia or other conditions indicate the need for a change of position.

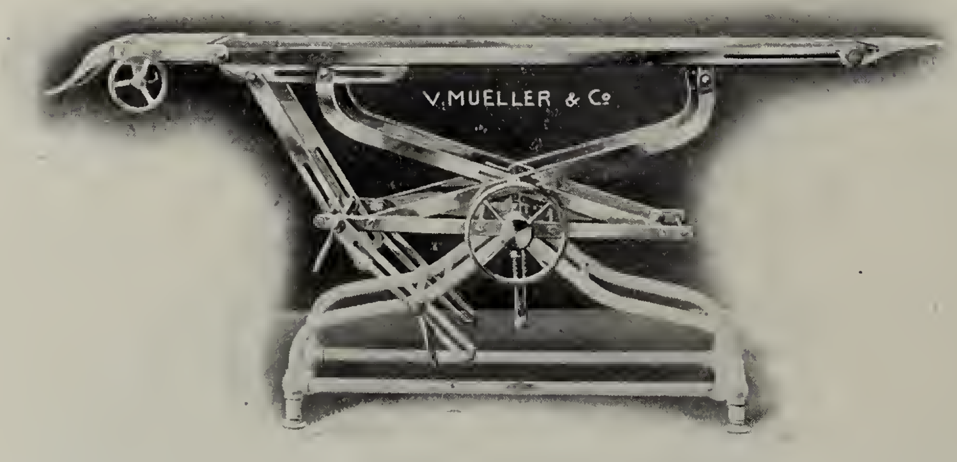

Fig. 1.—A table for eye, ear, nose and throat work, shown with the top of table horizontal.

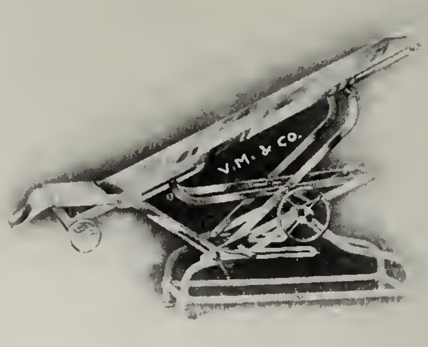

Fig. 2.—View of table with head lowered.

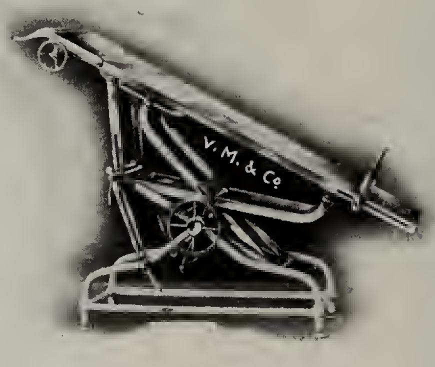

Fig. 3.—View of table with head elevated.

The head-piece of the table may be elevated to any desired position. This advantage, together with the tilting of the table, greatly diminishes the work in bronchoscopy and laryngectomy. In bronchoscopy it is not necessary to have an exceedingly well-trained assistant to hold the head.

The table is firm in every position and there is but slight opportunity for wear.

MITRAL STENOSIS OF TRAUMATIC ORIGIN *

DAVID RIESMAN, M.D.

PHILADELPHIA

History.—N. H., an able-bodied married man of thirty-five, a musician by profession, was returning from a playing engagement one morning at 4 o'clock in the month of August, 1910. Suddenly, when about three squares from home he was set on by foot-pads. Terror-stricken, he ran as fast as his legs would carry him, grasping tightly in one hand his violin and in the other a heavy box containing his music. He arrived at his home utterly spent and exhausted, and with an intense feeling of choking and suffocation. For half an hour he had to stand up and struggle for breath. Gradually the sense of suffocation lessened, its place being taken by a distressing palpitation. There was no real pain. Later in the day the patient consulted a physician, who told him there was nothing serious the matter with him, and that he would soon be well again. By the following day, the palpitation had ceased. Two or three months later it returned, and has troubled the patient intermittently ever since. It caused him to consult me March 21, 1911.

Examination.—I found a presystolic thrill in the apex region, a loud churning presystolic mitral murmur, accentuation of the second pulmonic sound, and, on a later examination, a doubling of the second sound at the base of the heart.

The man's history is entirely negative; aside from an attack of lumbago some years ago, he remembers no illness whatsoever. His mother died at 55 years of age, of a cause unknown to him. His father is still living. Prior to the episode that I have related, he was in every sense, so far as he knew, sound and well.

How shall we interpret this case? I am well aware of the difficulty of proving a given case of heart disease to be the result of trauma. A cursory glance over the literature is not particularly informing, except that it leaves little room for doubt as to the fact that injury and strain can produce functional and muscular disease of the heart. With respect to endocardial, particularly valvular, lesions, the testimony is more questionable. In accidents such as crushes or severe contusions, hemorrhages and tears have been found in the valvular and mural endocardium. Bernstein,[1] who, in 1896, collected all the cases of heart disease of traumatic origin recorded—a total of one hundred and twenty-four—found only a few instances of involvement of the valves; none of which corresponds to the case here reported. There are in his list a few cases of mitral stenosis that followed and seemed to be due to violent blows, falls or contusions. A few additional examples are found in Richard Stern's valuable monograph, "Die traumatische Entstehung innerer Krankheiten." Külbs,[2] in a series of cruel and quite unnecessary experiments, succeeded in producing traumatic valvular lesions in dogs—in seventeen out of twenty-three cases. These lesions consisted chiefly in hemorrhages into the tissues of the valve and the adjacent endocardium, with intimations of a reactive inflammation at the margin of the extravasations.

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* Read before the Section in Medicine of the College of Physicians of Philadelphia, May 22, 1911.

[1] Ztschr. f. klin. Med., 1896, xxix, 519.

[2] Verhandl. d. deutsch. path. Gesellsch., 1908, xii, 172.

A small number of instances of rupture of valves following violent strain are on record, but it seems that the majority are cases in which the valves had been previously diseased. For reasons easily understood, the aortic valve is in such instances the one usually affected.

In the case I have reported it might be said that the man had had an old endocarditis, and that the violent strain did nothing more than render a diseased but competent heart slightly insufficient. I am aware of the fact that mitral stenosis is the one valvular lesion in which the antecedent history most often defaults. In probably 30 or 40 per cent. of the cases, no cause whatever can be found. In my experience, however, this is true chiefly in the female sex. Indeed, mitral stenosis is very much like chlorosis a disease of young women. In the mitral stenosis of the male sex it is much more common to find a definite etiologic factor in the history.

I believe that the endocardial lesion in my case was the direct consequence of the violent strain on the heart caused by the man's running, heavily laden and at utmost speed, from his pursuers. As to the primary lesion, it was either a rupture of one of the more important chordæ tendineæ or, what is more likely, a hemorrhage into the valvular tissues, with subsequent organization and contraction.

1715 Spruce Street.

MALTA FEVER IN TEXAS

A REPORT ON THE SERUM REACTION OF ONE HUNDRED TWENTY-EIGHT GOATS IN EDWARDS COUNTY

FOURTH PAPER

ERNEST R. GENTRY, A.B., M.D., AND THOMAS L. FERENBAUGH, A.B., M.D.
Lieutenants, Medical Corps, U. S. Army
FORT LEAVENWORTH, KANSAS

In our last communication,[1] we reported a series of agglutination tests on twenty-three goats, eight of which gave a positive reaction with the *Micrococcus melitensis*. In this paper also we reported seven additional cases of Malta fever, three of which had occurred in the Nueces River cañon, in Edwards County, the principal goat raising section of the state. In this county there are approximately 175,000 goats, the individual herds ranging from 500 to 6,000 goats each. These herds consist almost entirely of finely bred Angora goats and are raised for the mohair which they produce. A few Spanish and Maltese goats are still to be found in each herd. The pure bred Angoras were first imported in 1867 from Asia Minor, by Harris. The more recent importations have been almost exclusively from South Africa.

In view of the fact that the disease has been prevalent in this county for many years, especially in the Nueces River cañon, it was thought desirable to make some examination of the goats in that section. The large size of the herds made a thorough examination of each herd impracticable and therefore a certain number of goats were taken from the several herds available. Only female goats were examined, in order to secure milk specimens, but at this season of the year, even if goats were specially selected, very little milk could be secured.

A blood-specimen was obtained in a Wright's capsule from the ear of each goat for the specific agglutination test with *M. melitensis*, all tests being controlled with serum from normal goats. Wherever obtainable, milk specimens were taken from those goats giving a positive agglutination test, centrifugalized and the sediment plated out on glucose-nutrose-litmus-agar plates, in the hope of isolating the organism from the milk.

The following results were secured from the examination of 128 goats in the vicinity of Barksdale, Texas

Herd 1.—About 1,500 goats in herd; 80 goats were examined and 16 gave a positive test with the *M. melitensis* at a dilution of 1 in 20, one giving an agglutination at 1 in 40 in thirty minutes.

Herd 2.—About 500 goats in herd; 12 goats examined; 3 gave good clumping at 1 in 10 dilution, one going also to 1 in 20 in thirty minutes.

Herd 3.—About 1,500 goats in herd; 13 goats examined; 2 gave strong reaction with *M. melitensis* at 1 in 20 dilution in thirty minutes.

Herd 4.—About 1,000 goats in herd; 23 goats examined; 4 gave positive agglutination with *M. melitensis* at 1 in 20 dilution, one going also to 1 in 40 in thirty minutes.

Thus twenty-five out of a total of 128 goats examined (19.4 per cent.) gave a positive agglutination test for *M. melitensis*. Only eight of these had milk and they only in small quantity. Specimens of milk plated out on glucose-nutrose-litmus-agar gave a negative result for *M. melitensis* in each instance.

SUMMARY OF WORK ON MALTA FEVER IN TEXAS

In concluding this series of investigations on the subject of Malta fever in Texas, we have, by blood cultures and agglutinations, established the fact that the disease exists endemically in the goat raising sections of Texas.

We believe that the infecting organism, the *M. melitensis*, is present in the goats of this section, this conclusion being based on the following observation:

1. About 20 per cent. of all goats examined (151) have given a positive agglutination test at 1 in 20 dilution, three going also to 1 in 40 in thirty minutes.
2. All cases reported by us gave a history of association with the goat raising industry and six gave a history of drinking goat milk.
3. A large number of these goats are direct descendants of goats imported from Asia Minor and South Africa where the disease has been proved to exist in goats.[3]

While many of the patients give a history of drinking goat milk, the factor of dust infection must be considered, particularly in the Nueces River cañon, where goat milk is rarely used, but where the houses are surrounded by the dusty bedding-grounds of the goats and the disease is not infrequent. At this time of year (September) conditions are unfavorable for the isolation of *M. melitensis* from goats' milk, and we believe a statistical study of Malta fever in Texas in man and goats, to be of value, should be made in the months of March, April, May and June. This period embraces the kidding season and the time when the goats are in full milk. After this time the goats rapidly become dry. The great majority of cases of Malta fever among the ranchmen are contracted also during this season, when the whole family practically lives with the goat herds, caring for the kids and teaching them to suckle.

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[1] THE JOURNAL A. M. A., Sept. 23, 1911, page 1045.

[3] Strachan, P. D.: Undulant Fever in South Africa, Jour. Roy. Army Med. Corps, July, 1907, ix, 83. Also Strachan, P. D., and Birt, C.: Malta Fever in South Africa, Jour. Roy. Army Med. Corps, August, 1909, xiii, 153.

CONTROLLING HYDROPHOBIA IN THE HUMAN SUBJECT *

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WASHINGTON, D. C.

In considering methods of preventing hydrophobia in man there are certain factors in the rationale of the disease which must be constantly borne in mind. The following are some of the most important of these:

1. Although all mammals are susceptible to rabies, it is perpetuated in nature almost exclusively by the domestic dog, but also to a small extent and in a few localities by wild animals of the dog family and by skunks.

2. Human infection occurs, in the vast preponderance of cases, directly from the rabid dog through bites, and in the remaining minority of cases from animals which in turn have received their infection from dogs.

3. Rabies is an infectious disease, transmissible by bites from infected to healthy animals, and by other methods of inoculation with the specific virus. It never originates spontaneously or as a result of starvation, bad food or water, excitement, fear, or other like causes.

4. Statistics from the most diverse parts of the world show that rabies is not confined to, and not even markedly prevalent during, any particular season of the year. It may flourish at any season.

5. All parts of the world are potentially capable of harboring rabies. Climatic influences do not operate to its extinction.

6. Under the present conditions of communication in the United States, physical barriers are insufficient to prevent the introduction of rabies into any state or territory.

7. Animals may be suffering from rabies, and their saliva may be virulent for some days, before symptoms become sufficiently marked to excite notice.

8. Dogs suffering from furious rabies often have a tendency to run long distances, twenty-five miles or more being reported, often inoculating large numbers of other animals and persons *en route*, and carrying infection into previously rabies-free regions.

9. Animals killed early in the course of rabies may fail to show unmistakable evidence of the disease on microscopic examination, and in this manner the diagnosis may be indefinitely delayed pending the result of inoculation tests.

10. By means of the Pasteur treatment, promptly administered, immunity may be induced in exposed persons to the extent that a mortality of no more than 1 per cent. need be expected from rabid dog bites of the average severity.

Measures based on these premises and designed to prevent rabies in man may be considered under two headings: (A) those directed against the disease in animals; (B) those which provide for the administration of the Pasteur treatment to exposed persons.

A. *MEASURES AGAINST THE DISEASE IN ANIMALS*

Since the dog is the perpetuator of rabies, eradicative measures must apply first to rabies in dogs. When wild animals perpetuate the disease in a given locality, measures such as are commonly taken against noxious wild animals must be enforced.

Since any section of the country, at any season of the year is potentially capable of harboring rabies, if it be introduced, there are certain measures which should be in operation everywhere and at all seasons of the year. The object of these measures is to reduce the total dog population by eliminating the ownerless uncared-for element and to restrict it to animals owned by masters who have a sense of the value of their animals and of the responsibility of their ownership, and an intelligent interest in their welfare.

I. PERMANENT MEASURES

1. Destruction of ownerless dogs. This implies in cities the maintenance of an official dog-catching force and a pound for the detention and humane destruction of dogs, cats and other animals. In certain rural districts it is feasible to destroy the animals immediately by shooting.

2. Legal definition of an ownerless dog as one not provided with a license tag of the current license period.

3. Imposition of a license fee on all dogs which are owned, harbored or cared for by any person, and a license tag issued to be worn by the dog. This tag bears a serial number corresponding to the entry in the official register, which contains the name and address of the owner and a description of the dog. The license fee should be sufficiently large to accomplish a reduction of the number of dogs kept, to impress a sense of value, and should be higher for unspayed females.

4. Rendering dog owners legally responsible for damage inflicted by their dogs. In many sections there seems to be no redress for such damage save such as is obtained by protracted legal action. A stray horse peacefully grazing by the roadside would be promptly taken to the pound and held for fines, while there would be no penalty for allowing a dog to run loose annoying or injuring stock and poultry and possibly contracting and transmitting rabies.

5. Education of the dog-owning public in matters relating to the care of dogs as affecting the spread of communicable diseases, especially rabies. This measure is believed to be the most important adjunct or preliminary to the other measures, without which it will be impossible to effect any lasting benefit. The media through which it may be effected are: the press, both public and official; lectures, talks and demonstrations by representatives of the health and veterinary boards; object-lessons in the course of epizootics; the public schools and possibly the pulpit. There is evidence that the average layman does not profit by bulletins and tracts to the desired extent unless he finds them practically and perenially useful, and above all, understandable. They arrive in the waste-basket without even a sojourn in the pigeonhole. For this reason it is urged that information intended to instruct in the methods of preventing rabies be administered in a palatable menstruum, a "Dog-Lover's Handbook" with illustrations, for instance. There should be chapters on the preferred and valuable breeds of dogs, on food and housing, how to build a kennel, what to do for a sick dog when a veterinarian is not immediately available, etc.; but the truths should not be lost sight of, that the majority of dogs are luxuries rather than necessities; that a dog worth having is worth taking good care of; that it is to the personal interest of the dog-owner as well as his duty to avoid the spread of disease by his animals. The essential information concerning rabies should be dealt with in a separate chapter and at appropriate points throughout the bulletin.

6. The organization of a system of securing reliable information concerning the presence of rabies in all portions of the state or territory. The disease should be made reportable, as should also suspected cases, and penalties imposed for noncompliance.

7. State or territorial quarantine against importation of dogs. A measure obviously to be adopted only after a consideration of internal conditions and interstate relations.

II. SPECIAL AND TEMPORARY MEASURES

Under this caption are considered those measures which are to be applied with discrimination, *pro re nata*. They are best administered by a central authority free from local affiliations and prejudices, but well informed through its agents on local conditions. Their selection, duration and area of application are to be decided on after consideration of the specific case.

1. Muzzling.—This measure should be applied whenever an outbreak of rabies occurs, and maintained sufficiently long after the cessation of new cases to warrant a feeling of security that the outbreak has been eradicated and is not merely in abeyance. The only justification for short periods of muzzling is the uncertain one that they may be applied with less opposition and greater thoroughness. It would appear that the greater the area included in an ordinance, the less time it will be necessary to maintain it. Basing the necessary period for eradication on the possible incubation period in dogs, a minimum period of six months and a maximum of one year would be necessitated. The area in which an ordinance is operative should exceed that of the known extent of the outbreak in order to surround it with a safety zone. Muzzling ordinances for certain months or seasons of the year, when based on a supposed seasonal prevalence, are in the face of the facts, illogical. Ordinances should prescribe that muzzles be constructed of metal, should prevent biting, should be humane, and should be fitted to the animal.

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* Read in the Section on Preventive Medicine and Public Health of the American Medical Association, at the Sixty-Second Annual Session, held at Los Angeles, June, 1911.

2. Restraint of Dogs.—This measure may be employed as an alternative or as an adjuvant to muzzling. If well enforced it should be effectual in preventing the spread of infection, but it does not relieve the owner of an already infected dog from the danger of infection. It places the responsibility for an infection in the family or personnel of a household, on the owner of the dog, but does not remove the possibility of infection. Restraint means fastening up with a chain (not a rope), or confinement within an enclosure from which the animal cannot escape. Since it is the custom of unscrupulous persons to liberate their dogs for exercise after nightfall in violation of an ordinance of restraint, special provision against this infraction is necessary. The dogs may be exercised while muzzled, and preferably for their own protection led in leash. Leading in leash unmuzzled is so easy of evasion that it is not to be recommended. The period and area of restraint ordinances are governed by the same considerations as in the case of muzzling.

3. Disposition of Supposedly Infected Animals.—Animals which have been subjected to bites by other animals which have rabies or in which there is good ground for suspecting it should be immediately killed or quarantined. In the case of dogs and cats it is wisest that they be destroyed. Live stock and other animals of especial value may, at the discretion of the authorities, be subjected to isolation or quarantine under official supervision, for a period of not less than six months, the expenses being borne by the owner.

4. Disinfection.—The necessity for disinfection of objects soiled by the saliva and other discharges of rabid animals does not appear to be pressing, but since a possibility of danger from such objects is conceivable, and a chance of infection arising in this manner would bring great discredit on the authorities, it is advisable to provide for disinfection. This may be carried out by burning the litter of stables, kennels, etc., subjecting more valuable objects to the action of boiling water, steam or chemical disinfectants, and washing down walls and floors which may have been soiled with disinfectant solutions, or a fresh coat of whitewash. The commercial use of any part, including the hide, of an animal killed for rabies must be prohibited unless such parts have previously been rendered innocuous to the satisfaction of the authorities. Proper disposal of carcasses must be enjoined.

5. Compulsory Notification of New Cases of Rabies and Animals Bitten.—By the enforcement of this rule new foci of infection may early be recognized. When temporary measures are to be applied in a territory, the public must be informed through the newspapers, by special printed announcements, by verbal notification by a representative of the authorities, or by conspicuous posters. This notification should comprise a statement of the local prevalence of the disease and the danger to human and animal life involved, a statement of the exact area and time period of application, the provisions of the ordinance, a quotation of the authority and the penalties for non-compliance.

A supplementary note as to sources of information and as to the examination of suspected material would be in the direction of increased efficiency.

6. Local Quarantine.—The central office should have authority to impose a quarantine on infected towns, cities, counties, etc., making it illegal for any person to remove dogs or other animals capable of transmitting rabies from the infected district except under official certificate that they are free from rabies infection.

B. PASTEUR TREATMENT

There are now some twenty institutions in the United States where the virus for the Pasteur treatment or one of its modifications is prepared and administered. Some are under private management and others are under state or municipal auspices. The Public Health and Marine-Hospital Service through the Hygienic Laboratory, Washington, D. C., is prepared to furnish gratis on request, glycerinated virus to state health authorities having the necessary laboratory facilities.

Because of the saving of time and expense permitted by it, the treatment of patients at or near their homes is preferable to treatment at a central station which may be far distant. This has been made practicable by the use of glycerinated virus, which is sufficiently stable to permit of shipment by mail or express. It has been used in two forms; that of an emulsion containing glycerin as a preservative, and in the form of the cord itself cut into pieces suitable for a dose, and bottled in glycerin. The latter would appear to be the more stable form but necessitates emulsification under aseptic conditions at the place where it is used.

The preparation of the virus necessitates the services of a bacteriologist with special training and experience in connection with rabies, and such skilled or unskilled assistants as may be needed, according to the amount of work. The equipment consists of a plant for maintaining an adequate supply of rabbits, rooms for the preparation and administration of the virus, two incubators, an ice-chest or refrigerator, and various instruments, glassware, and chemicals. The examination of suspected material for diagnosis may conveniently be included in the duties of the director. The ethics of a state's supplying the virus to needy persons would appear to be the same as in the case of diphtheria antitoxin.

THE MECHANISM FOR CARRYING OUT THE FOREGOING MEASURES

Each state and territory should vest authority for the control of rabies in a central office. Such powers are now commonly entrusted to the state board of health or the state agricultural department or corresponding bodies, or divided as regards certain functions or districts (municipal or rural) between those agencies concerned with human health, and those pertaining to the welfare of domestic animals. The most effective work in the control of the disease will be secured from that agency which has or can develop the best organization of its personnel, and which has competent representatives in the greatest number of localities throughout the jurisdiction. The centralization of authority is necessary for the coordination of the work and the securing of uniformity. Otherwise certain delinquent communities will habitually harbor rabies, to the detriment and discouragement of the neighbors.

The functions of the central office will be as follows:

1. To collect information regarding the prevalence and distribution of rabies in the lower animals and in man.
2. To publish for public distribution information concerning rabies.
3. To investigate reported cases and epizootics.
4. To maintain permanent and apply temporary measures of control or to supervise the carrying out of these measures by local authorities.
5. To cooperate with corresponding authorities in contiguous states.

6. To provide a laboratory for the examination of suspected material.
7. To provide for the administration of preventive inoculations to exposed persons.

Each outbreak of rabies will naturally present peculiar features calling for the exercise of judgment as to the methods to be employed, but for the sake of illustration of the workings of the central office, a hypothetical outbreak will be assumed and described. It is assumed that a central office, say the state board of health, is responsible and authorized for the control of rabies, and that it has put in force the permanent measures previously described; that is, it has instructed the local health officers to report suspected cases, has attempted to reduce the ownerless dog population, has placed information concerning rabies at the disposal of the dog-owning public, and has enforced the license fee. Since conditions in large cities will be attended to by the municipal authorities under the supervision of the state authority, a rural outbreak will be supposed.

A health officer in a small town reports that a dog coming from a neighboring village has entered the town exhibiting the symptoms of rabies, has bitten other dogs and stock and several persons; that the dog has subsequently died and that the head of the animal is being sent for examination. The state office will subject the dog's head to laboratory examination, and in the event of a positive result, will order such temporary measures as in its judgment seem indicated, advising the bitten persons to take preventive inoculations and informing them how this may be arranged. It will also communicate with its representatives in the towns adjacent to the infection, and in case the outbreak is on or near the state line, with the corresponding office in the contiguous state. In case the local representative is obviously unable to cope with the situation as it develops, a special agent must be sent to take charge.

A plan which is giving promising results in at least one state where the control of rabies is entrusted to the veterinary authorities, includes the making of a temporary agent of the local veterinarian, with per diem compensation. This agent is charged with the duty of reporting on local conditions, and carrying out such measures as are prescribed. When necessary, a special agent is sent from headquarters to destroy stray unmuzzled dogs, which he accomplishes with great thoroughness with a shotgun. It is not unusual for communities to request voluntarily that this agent be sent to clean out the stray dogs from the town, even when there is no rabies present. Unfortunately quite the opposite attitude is to be expected in many parts of our country.

DIFFICULTIES AND CAUSES OF UNSUCCESS

Aside from inadequacies in the central administration arising from lack of legal authority, lack of funds, the pressure of more important duties, or even from indifference or incompetence, there are other obstacles which render the eradication of rabies a matter of great difficulty, and this in spite of the fact that the perpetuation of the disease is due to one isolated fact, namely, that dogs will bite, and that its prevention is in essence comprised in a single measure, the prevention of their biting. The mental attitude of the average dog-owner is the greatest obstacle to success. Ignorance is the chief factor determining this attitude, and it should be a special aim of the authorities to dispel this ignorance. A second factor is indolence or indifference, for which salutary stimulation is indicated. A third factor is personal interest of the dog-owner to comply with and support measures against rabies.

A second great obstacle has arisen from a lack of that uniformity and correlation in the methods employed in adjoining territories, which can only be secured by an impartial central authority for each state and by interstate cooperation. Thus, no matter how conscientiously and effectually one community may have dealt with its rabies problem, the constant reintroduction of infection from a dilatory neighbor is sure in the end to discourage and demoralize. In this connection it is instructive to recall that in England it was only after the antirabies operations were entrusted to a central authority that a permanent amelioration and finally complete eradication was effected.

ABSTRACT OF DISCUSSION

Dr. Calvin S. White, Portland, Ore.: We have during the last year had rabies for the first time in the northwestern part of our state, where it is very sparsely settled and where the sheep industry is the only one. The sheep men cannot afford to destroy their dogs; and they tell me that the dog that is muzzled will not work. We have had it among the coyotes, and several that have been sent to our laboratory have shown the Negri bodies in large quantities. There have been only two cases that I know of in which human beings have been bitten, one by a coyote and the other by a dog; in both animals we were able to establish the presence of the Negri bodies; and we used Pasteur treatment on both the patients. How are we going to disinfect the saliva of a dog? The infection is in the whole of the animals that we examined; not only in the saliva but in the teeth and in the humors of the eye, and it seems to me it would be out of the question to do it. I would like, also, to know how a certificate could be given that a dog was free from rabies when we found that the period of incubation varied so before the disease developed. I don't see how any one's certificate could possibly be of any value, if the dog had ever been inoculated.

Dr. Norman Bridge: I don't know any way except keeping the animals long enough in quarantine to be sure. I presume that would cover it.

A CASE OF ANGIOKERATOMA

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The article on angiokeratoma by Dr. Richard L. Sutton[1] suggests the report of the following case.

History.—Patient, P. M. K., a man aged 61, complains of slight ache of testicles. He has followed occupation of engineer previous to his admittance to hospital, and has always enjoyed excellent health. The cutaneous history of the family is negative. The patient's circulation has been good till recently when symptoms of heart involvement developed. There is a very vague history of chilblains. The patient was hit by a baseball in left testicle, twenty-six years ago, immediate swelling of testicle following, however, with very little discomfort at the time. Swelling has persisted since, fluctuating in size from time to time but unaccompanied with any noticeable symptoms except a slight ache. The superficial capillaries have been prominent for an indefinite period of time, the patient first noticing the skin lesion about two years ago. The tumors increased in numbers from time to time and the patient has noticed that a few of them have slowly disappeared.

Examination.—The patient is a well-built man, well nourished, 5 feet and 9 inches in height, and weighs 160 pounds. The skin on the hands and feet is smooth and unmarked and there are no lesions on the body. The superficial capillaries of the calf of the leg and lower portion of the abdomen show a tendency toward varicosity. Patient has some edema of the ankles. The scrotum is enlarged on the left side, a chronic hydrocele being present. The integument covering it is roughened and somewhat boggy to the touch. The superficial scrotal veins on left side are dilated and tortuous, and distributed along their course are a goodly number of hard, purplish, smooth, elevated nodules varying from the size of a grain of wheat to that of the head of a pin. On puncture of the larger ones a small drop of serous blood exudes. Some of the nodules are small and in process of development, while others are of a brownish red color and undergoing degeneration. The patient gives a history of chronic venous obstruction preceding the development of the angiokeratoma, the vascular tumors developing as a result of the increased blood-pressure in the superficial capillaries, the walls of which being insufficiently supported, allowing their formation. The chilblain history in this case being so vague, it, as the underlying cause of the vascular lesion may be ruled out.

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[1] Sutton, R. L.: The Journal, July 15, 1911, p. 189.

"SINGER'S NODULE" (CHORDITIS NODOSA) REMOVED BY VOCAL TREATMENT

F. VICTOR LAURENT, M.D.
PITTSBURGH

While these nodes usually occur in singers and public speakers, the following case will show that habitual misuse of the voice by anyone may cause this condition.

While faulty breathing is a factor, the breathing of itself will not develop nodes, the prime factors being overtension of the intrinsic and extrinsic muscles of the larynx which causes the *coup de la glotte* or stroke of the glottis, which, Garcia used to say, is death to the voice.

Kyle says that nodes are usually located near the junction of the anterior and middle thirds of the cords. My experience has proved just the opposite and I generally expect to find them near the junction of the middle and posterior thirds, for the following reason:

When the voice is used properly and the upper règister is attempted, the posterior thirds of the cords are closely approximated and not in use and the larynx rises to a higher position, the extrinsic muscles being relaxed. Now, when the pitch of the voice is raised and the larynx is held in the same position as when speaking or singing in the chest or medium register, there is overtension of the extrinsic muscles and the arytenoideus muscle, which causes the cords to vibrate throughout their entire length, and as the posterior thirds are closely approximated, the super-attrition which causes the nodes to develop occurs just a little anterior to this point.

The patient, Mrs. E. J., had not been able to speak above a whisper for six months and had been treated during that time by her family physician with no result. She finally became discouraged and was sent by a friend to Dr. Vansant of Philadelphia who referred her to me. On examining the larynx, I found a nodule on the free border of the left cord near the junction of the middle and posterior thirds. The patient said she had a relative living with her who was very deaf and that during the day she talked very loud to her, pitching her voice higher than usual, and in the evening her voice was always tired and the muscles of the larynx very much fatigued. This is exactly what happens when a singer uses the chest register in singing the higher tones, and the result in this case was the same. The voice gradually became hoarser until it could be used only with great difficulty and there was almost complete aphonia.

On examining the cords during tone-production, I found that when singing the four tones C, B, A and G below the staff, the node did not come in contact with the opposite cord. Taking the patient to the piano, I then instructed her how to speak on these four tones and instructed her how to breathe properly. She was told not to talk at all until she could do so by using only these tones as fundamentals, and, in the meantime, to practice the breathing exercises half a dozen times a day.

In four weeks she had a perfectly normal voice, although pitched considerably lower than formerly. The tired feeling in the throat was also gone because the patient had learned to use her voice in the different registers without keeping the larynx in a fixed position, thus relieving the extrinsic muscles of the heretofore constant strain.

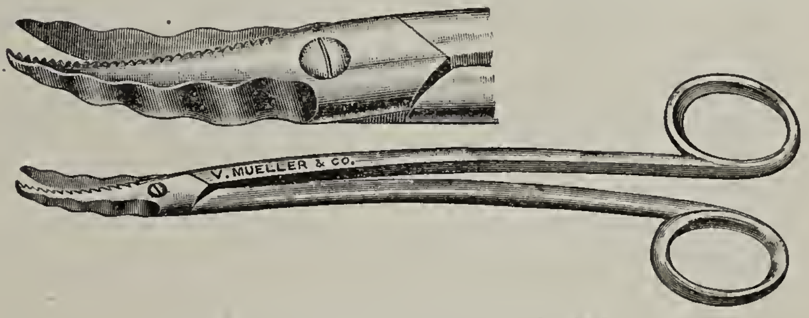
For the removal of the nodule, besides changing the faulty voice production and faulty breathing, external massage of the larynx was practiced and by the end of the third month the node had completely disappeared. For the accompanying hypertrophic laryngitis, inhalations of the compound tincture of benzoin and camphorated tincture of opium were used while the local application of a 2 per cent. solution of silver nitrate was made three times a week.

I wish to emphasize the fact that the main treatment of chorditis nodosa is teaching the patient to use the voice and respiratory apparatus properly. This appears to me a much more satisfactory method than operative measures, as, in the latter case, the node will probably reappear in time, while if the patient has learned to use the voice properly, the cause is removed and there is no danger of recurrence.

NEW TONSIL SCISSORS

WILLIAM S. WINDLE, M.S., M.D.
OSKALOOSA, IOWA

With a view to combining the good points of three instruments in one, for enucleating the faucial tonsil, I have devised the scissors here illustrated. They present these features:



Tonsil scissors with serrated blade.

1. The cutting edge of one blade is serrated and the other smooth; this facilitates the cutting of soft, slippery tissue.
2. The outer edge of each blade is wave-like in outline and beveled to a dull knife edge; this serves as a dissector. By inserting the closed scissors between the tonsil and pillar and then opening them forcibly at four or five points, the tonsil is rapidly exposed and prepared for the snare. The latter may be omitted and the operation completed with the scissors if desirable.
3. The closed scissors may be used as an Allport's or Swan's wave-edge knife for enucleating the tonsil.

Sanitation and the Hookworm.—As Boycott has clearly pointed out, three conditions are necessary for the spread of hookworm disease: (1) a certain degree of temperature, about 68 to 90 F.; (2) a certain degree of moisture; (3) fecal contamination of the ground; and these conditions are found only in tropical and subtropical regions. When the temperature here is suitable for the hatching out and development of the embryo hookworm, the weather is usually too dry; and while the sanitary arrangements, especially in the country districts of New York state, are probably not ideal, they are not to be classed with those in the tropics.—Nichols in *Medical Record.*

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

ADALIN.—Adalin, $C(C_2H_5)_2Br.CONH.CONH_2 = C_7H_{13}O_2N_2Br$, is brom-diethyl-acetylcarbamide.

It is prepared by the action on urea of brom-diethyl-acetyl bromide, obtained by the action of bromine on diethylacetic acid anhydride.

Adalin is an almost colorless and odorless crystalline powder, with a melting point of 116° C. (240.8° F.), which dissolves readily in alcohol as well as in the other ordinary organic solvents. It is difficultly soluble in water.

Actions and Uses.—Adalin is said to be an efficient and prompt sedative, reducing excitement and promoting sleep in conditions in which a powerful hypnotic is not required. In therapeutic doses it is said not to exert any unfavorable influence on the respiration or heart action. The sleep produced is said to be restful, dreamless and exceptionally free from unpleasant by-effects and sequelæ.

Adalin is said to be useful as a sedative and mild hypnotic in neurasthenia, hysteria, cardiac neuroses with tachycardia, chorea, mental disorders with moderate excitement, and insomnia due to various internal diseases, etc.

Dosage.—As a sedative 0.3 to 0.6 Gm. (5 to 10 grains), given in cold water, repeated three or four times daily if necessary; as an hypnotic 0.6 to 1.0 Gm. (10 to 15 grains), followed by a drink of hot, sweetened water or weak tea.

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 983,425 (Feb. 7, 1911; expires 1925). U. S. trademark No. 81,136.

Adalin Tablets, 5 grains.—Each tablet contains adalin 0.33 Gm. (5 grains).

BULGARA TABLETS.—Tablets containing a practically pure culture of bacillus bulgaricus.

Bulgara Tablets consist of the slowly dried cultures mixed with milk sugar and starch, each tablet weighing 5 grains and containing a sufficient number of virile organisms to effect the souring of a pint of sterile milk in less than 20 hours.

Actions and Uses.—The bacilli contained in bulgara tablets give rise to the production of considerable quantities of lactic acid which tends to restrain the growth of putrefactive organisms. They are said to be useful in diseases of the alimentary tract and in such general diseases as are believed to depend on putrefaction in the intestines.

Dosage.—One or two tablets before or after meals. The diet should contain a sufficiency of sugar.

Bulgara Tablets are marketed in tubes, each containing fifty tablets, with an expiring date stamped on the label.

Manufactured by Hynson, Westcott & Co., Baltimore, Md. Not patented or trademarked.

FERRO-SAJODIN.—Basic, ferric iodobehenate. Ferro-sajodin is basic, ferric iodobehenate having the approximate formula $(C_{21}H_{42}ICOO)_2(OH)Fe = C_{44}H_{85}O_5I_2Fe$, and containing about 5.7 per cent. of iron and about 25 per cent. of iodine.

Ferro-sajodin is produced by the interaction of iodobehenates and iron salts.

It is a reddish-brown powder, unctuous to the touch. It is insoluble in water; soluble in chloroform and ether. On heating it melts to a brownish-black liquid which emits an abundance of iodine vapors.

Actions and Uses.—It has the action of iodides and of iron. It is claimed to be more stable and palatable than ferrous iodide and not to injure the teeth or disturb the gastro-intestinal tract and is said to be free from a constipating tendency. It is claimed that it is easily absorbed but slowly eliminated, assuring a more prolonged effect.

It is indicated in conditions in which iron and iodine are employed, such as anemia, rickets, syphilis, chronic bronchitis, arteriosclerosis with anemia, etc.

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, and Farbwerke vorm. Meister, Lucius and Brüning, Hoechst a. M., Germany. (Farbenfabriken of Elberfeld Co., New York.) Not patented or trademarked. Sold in the form of tablets only, see below.

Tablets of Ferro-Sajodin, 8 grains.—Each tablet contains ferro-sajodin 0.5 Gm. (8 grains).

Dosage.—1 or 2 tablets, three times daily; for children ½ to 1 tablet, three times daily.

Tablets should be thoroughly chewed before swallowing, or in the case of small children crushed before administration.

NON-PROPRIETARY BRANDS OF ACCEPTED ARTICLES

Having been found to comply with the standards adopted, the Council voted that the following brands of accepted articles be listed:

Scarlet R. Medicinal Biebrich, Merck.—

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

Not patented or trademarked.

Sodium Perborate, R. & H.—

Manufactured by the Roessler & Hasslacher Chemical Co., New York.

Not patented or trademarked.

PHARMACEUTICAL PREPARATIONS ACCEPTED FOR N. N. R.

The following dosage form of an accepted proprietary article has been accepted for N. N. R.

Supracapsulin Ointment.—An ointment containing 0.1 per cent. of Supracapsulin in a base of hydrous wool fat.

Therapeutics

ASPHYXIA

(Concluded from page 1057)

ASPHYXIA FROM SUBMERSION: DROWNING

Most individuals who become asphyxiated from submersion in water or from drowning are dead when they are taken out of the water, and all efforts to restore them to life are futile. This is especially the case if complete submersion has lasted four or five minutes. The occasional instances of the successful treatment of this form of asphyxia, however, make it incumbent on the physician to be thoroughly informed as to the best methods to employ in the treatment of these cases, and to be prepared to carry them out if he happens to be near by when the patient is taken out of the water.

In the first place, the water must be expelled, so far as possible, from the respiratory passages. Probably there is no better way of doing this than by inverting the patient by taking hold of his feet and raising them up and letting his head hang down. This is a simple maneuver, provided the bystanders have strength enough to carry it out. Rolling the patient on a barrel is a crude and harsh substitute. Having removed the water as far as possible from the chest, the next thing to do is to perform artificial respiration. There are a number of methods of doing this.

The so-called method of Marshall Hall was first described in 1858, and consists in rolling the patient alternately from the lateral to the prone position and pressing on the back between the shoulder blades when he is in the latter position. This has the advantage that the tongue does not fall back into the throat and so obstruct the larynx, and the water and mucus are able to flow out of the mouth.

The following year the so-called Sylvester method was described. This consists in allowing the patient to lie on his back with his shoulders raised and his head hanging low. The operator then takes hold of the arms of the patient above the elbows and draws them gently away from his body until they arrive at a point above his head. This raises the ribs and increases the capacity of the chest. The arms then are carried down by the side and the elbows flexed and pressed against the lower part of the chest, thus diminishing the capacity of the chest and driving the air out. In this method the tongue is likely to fall back into the throat and interfere with respiration unless some one grasps it and pulls it forward.

In 1868, Dr. B. Howard, of New York, described a method of treating these cases which consists in laying the patient on his back while the physician kneels over the lower part of the body and presses on the lower part of the chest so as to diminish its capacity. He then relaxes the pressure, and the natural elasticity of the chest increases the air capacity. In this method also the tongue is liable to fall backward, and must be drawn forward. It is objected that in elderly patients the ribs are brittle and may be fractured, and that the liver is congested and may be ruptured.

Finally it remains to describe the method known as that of Professor E. A. Schäfer, professor of physiology in the University of Edinburgh. He recommends that the patient be placed in the prone position. The physician being astride the patient, the open hands are placed on either side of the lower ribs and firm, but not violent pressure is exerted. This may be done by allowing the weight of the body to come on the arms. After this pressure has been exerted for three seconds the body may be brought upward and the pressure relaxed. This should be repeated at intervals of five seconds, or twelve times in a minute.

Schäfer made investigations with a view to comparing the utility of the various methods of artificial respiration. He found that in natural respiration the air exchanged in a minute by a person breathing thirteen times a minute was 5,850 c.c. The amount of tidal air at each breath therefore would be 450 c.c. Employing the Sylvester method, the amount of air exchanged in a minute was 2,280 c.c., showing the tidal air of each breath to be only 175 c.c. With the Marshall Hall method the exchange of air was 3,300 c.c., with a tidal air volume of 254 c.c. With the Howard method the exchange per minute is 4,030 c.c. and the tidal air volume 310 c.c. With his own method he was able to pump through the lungs per minute 6,760 c.c., showing a tidal air volume of 520 c.c. He therefore believes that this is the most efficient method of performing artificial respiration. He states that the advantages are: "1, it is fully efficient; 2, it can be performed without fatigue by a single individual; 3, it is simple and easily learned; and 4, it allows the tongue to fall forward, and the mucus and water to escape from the mouth, so that the tendency of these to block the passage of air, which is inherent to the supine position, is altogether obviated."

This subject was discussed at considerable length by Professor Schäfer in The Journal, Sept. 5, 1908, page 801.

In treating these cases it is important to preserve so far as possible the warmth of the patient. Woolen blankets should be obtained, and, after the surface of the body has been thoroughly dried, wrapped about him. While artificial respiration is being employed, friction of the surface of the body, especially from the extremities toward the center, should be carefully but not roughly done. It is recommended that artificial respiration should be continued for from one to two hours, but it seems that there is very little use in continuing efforts to restore respiration after the action of the heart has ceased. As long as the action of the heart continues, the artificial respiration should be continued, regularly and systematically.

Some hospitals are establishing apparatus for promoting and compelling respiration in patients who have from ether, chloroform or other acute causes, ceased to breathe.

PRESCRIPTION-WRITING

While not strictly therapeutics, correct prescription-writing is such a close corollary to good therapeutics that it seems pertinent to introduce it in this department, and although some of the material which will appear in this and a few subsequent issues seems elementary, it is hoped that the physician who cares to read it will pardon such detail in order that the subject may be presented entire.

CHAPTER I.—INTRODUCTION

Therapeutics in its broadest sense is the ultimate aim of the science and practice of medicine. It includes not only drug therapy, to which its definition is so often erroneously limited, but also everything that has to do with the treatment of the disease, the management of the patient, of his convalescence, of his permanent return to health, and of the prevention of disease attacking the well. In other words, it is the practical application of all of the knowledge acquired by study, research and practice to the understanding and treatment of disease.

Besides aiming to suggest orthodox and valuable methods of treating some of the common diseases, it is the object of this department also to aid in the proper writing of prescriptions, as nothing more denotes an educated and up-to-date practitioner than his ability to write simple and correct prescriptions.

That it is utterly unimportant to the patient what name the physician gives to his disease or condition is self-evident. He comes to be cured, or at least to have his troublesome symptoms ameliorated, and while a diagnosis is positively essential for perfect therapy, fortunately or unfortunately, it is not always necessary for an amelioration of his symptoms or even, sometimes, for his cure. Consequently, many times the patient is as successfully treated, from his point of view, by a quack or an ignorant practitioner as he is by a scientific physician. It is also unfortunately true that many a scientific physician, owing to his medical training and to some of the best text-books on the practice of medicine, delays the amelioration of the patient's symptoms until slow laboratory processes have made a definite, positive diagnosis. Such diagnosis having been made, he is content to treat the cause of the condition, forgetting even the pain the patient is suffering, and thus his patient is often driven to quackery or dogmas or "patent medicines," and often improves from such treatment.

It should be taught not only in the therapeutic departments, but in the internal medicine departments of every medical school, and no text-book on practice should be considered complete unless it teaches that the uncomfortable, disagreeable and non-eliminative symptoms of a disease must be attended to and therapeutically managed while the disease itself is being scientifically combated. Every clinician well knows that it is the consultant only who can ignore the treatment of troublesome symptoms. All successful quackeries succeed because of their ability to relieve symptoms or to cause such mental suggestion as will relieve overtaxed minds, and many a loyal patient is driven to employ quackery by scientific neglect.

The administration of drugs is only a small part of the management of disease, and the management of disease is the highest pinnacle of the medical curriculum. It presupposes all the physiologic, chemical, anatomic, pathologic, bacteriologic and pharmacologic knowledge that can be obtained. This knowledge is then brought to bear on the management of the disease, which means necessary hygienic changes, perhaps a change of climate, an arrangement of the food and drink, physical treatment if indicated, such mental treatment as is advisable, such medicinal treatment as is needed, and necessary operative procedures, and, altogether, this is therapeutics. The subject of therapeutics is, then, the broadest and the hardest one for the medical student to grasp, and it is safe to say that the young graduate in medicine, even after a hospital course, is less prepared in the bedside and office management of disease than in any other branch of his art.

A proper understanding of and proper teaching of the ability of the mind to overcome many nervous disorders, to prevent the misinterpretation of, and the exaggeration of, slight physical disturbances should be encouraged. Psychotherapeutic instruction should be given in every medical school, and hospitals should have psychotherapeutic wards.

As scientific practitioners are just passing out of the age of drug nihilism and a belief that because a disease cannot be cured by specifics the patient should receive no treatment, we find the necessity for a better understanding of pharmacology. Just as a mental therapist will be cured of absurd prognoses and beliefs by the study of pathology, so does a thorough knowledge of the pharmacologic action of drugs prevent a doubt of their efficiency. Hence it is absolutely necessary for every medical school to furnish laboratory pharmacologic instruction. The medical graduate after such a course will demand pure, active drugs, and will use them rationally.

It is time to repudiate the assertion that Nature is a good physician or a good surgeon. It is not necessary to controvert the belief of ancient, medieval and modern medicine, as evidenced by the various Greek, Arabian, Latin, German and English terms, that the human organism is able to combat poisons and infections and to heal lesions. But we have now come to the time when it should be recognized that we not only must not obstruct in the human body the processes of eradication of an infection which natural metabolism has established, but that it is just as futile and just as absurd not to aid in combating an acute or chronic disease with the proper drugs, all correct physical and hygienic methods having been instituted, as it is to allow pus to burrow and cause serious consequences instead of properly evacuating it. In other words, natural processes are fighting just as much to perpetuate the condition or disease or infection that is abnormal to the part, as are the natural processes of the human body endeavoring to eradicate these foreigners who have invaded their stronghold. Who for one moment can think that the cancer cell is not attending to its natural function of multiplying and eating into healthy tissue, and who would allow to-day such a process to go untreated? Who would allow the diphtheria germ and its toxins to have full sway without the use of its opponent, antitoxin? It is just as absurd to declare that pneumonia and typhoid fever need no medication as it would be to declare that diphtheria needs no antitoxin and no antiseptic gargles.

The proper use of drugs that have physiologic activities being acknowledged helpful and often curative agents, it is self-evident that we expect and demand a standard of strength and purity of such drugs as laboratory and clinical determinations have proved valuable. Consequently, we await the ninth revision of the United States Pharmacopeia with hope and faith that it will furnish the standards of useful drugs, and trust that it will not officialize and attempt to standardize drugs of no therapeutic value and of no pharmacal necessity. A standard book that contains many useless articles and standardizes many common substances insults its articles of value and loses them in a fog of uselessness.

While simplicity in prescription-writing is advisable, it cannot be gainsaid that the art of combining drugs or of rendering a drug less disagreeable should be taught in the medical schools. Even with this laudable object in view, however, it is not justifiable for a physician so to belittle his profession and forget rationality in his treatment of a patient, to say nothing of the enormous graft which he hands the proprietary firms from the pockets of his patients, by ordering proprietary mixtures. The physician who orders such preparations does not realize the positive harm he often does his patients, in some instances almost amounting to criminal negligence. No one deems it reputable, or scientific, or just to patients to prescribe preparations the ingredients of which he does not know. This is little less than malpractice. The patient pays for our opinion. If we prescribe a nostrum, it is fraud, as he could prescribe his own nostrum without paying our fee. He seeks intelligent advice and knowledge, and we have cheated him by giving him unknown mixtures or ignorance. With the aid of an honest druggist, by means of our Pharmacopeia and National Formulary, we hardly need a single proprietary mixture in the medicinal treatment of disease.

Few physicians know the range and compass of these books. They contain sixty cerates, ointments, salves, mulls, petroleums and collodions. Can any one doubt that with this number of greases a good sedative or stimulant ointment could not be selected, or any combination made that was desired? They also offer seventy-seven oils, waters and liniments for external use; certainly all the rubs that there is room for on the human body. There are at least twenty-two simple and antiseptic dusting powders; certainly enough. So much for external remedies.

The Pharmacopeia of 1900 contains two vinegars, seventeen waters, three elixirs, six emulsions, twenty-eight extracts, eighty-five fluidextracts, two glycerites for internal use, about twenty liquors or solutions for internal use, four mixtures, six oleoresins, forty-five oils, fourteen pills, nine powders, four resins, twenty spirits, twenty-nine syrups, sixty-four tinctures, nine troches and ten wines; while the National Formulary contains one vinegar, sixty-four elixirs, nine emulsions, two extracts, thirty-six fluidextracts, four glycerites, more than thirty-eight solutions, eighteen mixtures, twenty-one pills, nineteen powders, three spirits, thirty-seven syrups, twenty-seven tinctures, and ten wines. No sane person would advocate using all of this heterogeneous mass of preparations, but every physician can, with the aid of his druggist, select the few formulas that he will use that will be as elegant and pleasant methods of giving drugs as proprietary preparations, and, moreover, will represent guaranteed doses of the various ingredients of the formulas selected.

While the use of some of the preparations above named is advised, it should be understood that it is much better to combine one's own prescription to fit the individual case, but these official preparations preclude the necessity for using proprietaries.

Now, what are the bugaboos that make the physician reach for the proprietary preparations?

First, tonics: The first drug to consider is iron, and the proprietary preparations of organic iron are legion. There is not a single, good, substantial reason why we should order any one of them, and certainly the profit ordered by physicians to be paid by trusting patients to foreign manufacturers is unjustifiable. No iron will act any better than an inorganic iron. If there is an idiosyncrasy against it, smaller doses should be used, and, ordinarily, too large doses of iron are given. The reduced iron, the mass of carbonated iron, the pill of the carbonate of iron, the saccharated oxid of iron (*Eisenzucker*) in tablets for children, the tincture of the chlorid of iron, the syrup of the iodid of iron, with ten elixirs in the U. S. P. and N. F. containing iron, and any number of other iron salts can do all in the iron line that it is possible to do. No "patented" iron can do therapeutically what we cannot do with one of the first five mentioned iron preparations.

Now as to beef: Is there any beef preparation made, in recommended daily dose, that can equal a small piece of steak, a little scraped beef *pâte,* a little chopped raw beef, or expressed beef serum? No.

As to other albuminoids and protein foods, a little milk, a little white of egg, a little oatmeal gruel, and many other simple nutriments preclude the necessity for their use, except in rare instances.

We do not need a "patented" bitter tonic. We have the compound tincture of gentian, the compound tincture of cinchona, and the tincture of nux vomica, in one to five drop doses, and we need for bitter tonic purposes no other.

As to stimulants: It is not necessary to pay for a poor "patented" sherry. We had much better order whisky, brandy, sherry, ale, or champagne, as needed, and the patient will save money and receive better stimulation.

As to digestants: Very rarely is pepsin needed, and pancreatin is of but little value in the stomach. If they are needed, the Pharmacopeia and National Formulary offer several preparations for a choice. Even predigesting powders are furnished by these official books. In other words, the long list of proprietary digestants is not needed.

We do not need the fat and oil emulsion proprietary preparations. The oil emulsions of the U. S. P. and N. F. are sufficient, if we desire them. Straight doses of cod-liver oil are better, and cream, butter and olive oil surpass any fat emulsion. We need no proprietary suspensions of oils, as the U. S. P. and N. F. offer all that are needed from turpentine to castor oil.

Tasteless quinins are mostly useless, and the various methods at our disposal of giving quinin allow us to surmount all difficulties of age and taste and we need no proprietary help other than the free-to-all elegance of the elastic capsule.

We do not need the legion of "patented" preparations of glycerophosphates and lecithin, as the National Formulary furnishes an elixir of glycerophosphates with lime and soda.

Concerning the long list of antipyretic preparations, cough-mixtures, hypnotics, and nerve sedatives, there is but one thing to say, viz., that any physician who thinks he is unable to write the prescription needed for the individual who requires such medication should instruct himself in the method of writing for such drugs and arranging such pharmacally and pharmacologically correct combinations as will suit the needs of his patients. A long list of antipyretic "coal-tar" drugs is not needed. The official antipyrin, acetanilid and acetphenetidin (phenacetin) are all that need to be used. Caffein, camphor, soda, phenyl salicylate (salol), and any other drug can be combined with them, if desired. As to cough-mixtures: What codein, ipecac, ammonium chlorid, potassium iodid, terpin hydrate, and syrup of hypophosphite cannot do, cannot be done at all with drugs. Any or all of these should be given with absolute omission of the ancient, nasty, sweet and nauseating syrups. There are no combinations of hypnotics that cannot be better made by ourselves, and for much less cost to our patients.

None of this should prevent a physician from trying a new drug if he thinks it is an honest one, because we should be ever ready to make use of a valuable discovery, but never to further a fraud. Such a new drug should be ordered straight or used only in our own combinations, and never in a ready-made mixture offered by the firm interested.

Nerve sedatives for hysteria and allied conditions are either useless and act by suggestion, or they carry the danger of forming a drug habit. We should write for our own patients our own prescriptions.

Among the various uric acid and gout-curing preparations fraud and credulity are rampant. The regimen and extra water abolishes symptoms, if anything is done at all, and of all waters, pure distilled water is the best. It is not intended to assert that a sojourn at a water health resort is not of first-class advantage, because it is. A change of climate, a change of water, a change of food (cooked differently, hence often chemically different), a change of life and freedom from worry, and a change of exercise are the factors that do good, and not "urate solvents." This is not to declare that minute doses of some chemical ingredient in certain waters, taken for a long time, may not modify metabolism; this must be acknowledged, but it does not alter the absolute falsity of the lithic acid and urate solvent promises.

Next we come to the effervescing preparations, and here we should lean on the druggist. A large number of effervescing preparations are official, but any favorite combination of any physician can be prepared by his druggist to effervesce at a cost much less than the same in proprietary bottles that are blazed to show the laity that they are proprietary, and unless the druggist is particularly careful, carry a lot of quack literature into the family, which is read with avidity, "as the doctor ordered it," all for a price which furnishes a splendid profit to the concerns making these preparations, but hardly enough profit to the druggist for shelving them.

As to disinfectants: Again the Pharmacopeia and National Formulary come to meet our needs with mercuric chlorid, phenol, hydrogen peroxid, formaldehyd solution, potassium permanganate, chlorinated lime, and various solutions; and the druggist is ever ready to make in large quantity, or strong for solution, any disinfectant that we may select. Also, he can readily make any alkaline mouth-wash that we may elect, if the two that are official are not satisfactory.

The art of writing our own prescriptions is only a question of a book or two, a little study, careful selection of official preparations, a few heart-to-heart talks with a trusted druggist, and the thing is an accomplished fact.

(*To be continued*)

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DIABETES

The diabetes produced in animals by complete or almost complete removal of the pancreas so closely resembles human diabetes in its essential features that it is reasonable to hope that any method which will cure the former will also be of use in the latter; any light which may be obtained on the experimental form will also help to a better understanding of the human disease. We commented some time ago[1] on the futile efforts which had been made to control diabetes in animals by the administration of extracts of the pancreas and compared them with the similarly futile efforts to treat human diabetes in this manner.

Hédon,[2] one of the most experienced and critical experimenters in this field, has recently made some important observations on experimental diabetes. He has long taken a critical attitude toward the theory of an internal secretion of the pancreas, maintaining that it could not be considered as proved until an experiment could be devised in which the experimental diabetes could be checked by the administration of a product obtained from the pancreas. He speaks of the negative results obtained from the injection of various extracts of the pancreas, of the serum from the pancreatic veins, etc., and remarks that he was near believing the process to be an irreversible one. He had found that when a crossed circulation was established between a normal and a diabetic dog, sugar disappeared from the urine of the latter. Such a result would have been interpreted by a less critical observer to mean that the internal secretion of the normal dog had checked the diabetes in the other dog. Hédon, however, found that when the circulations of two diabetic dogs were crossed there was also a diminution of the glycosuria; such a result suggests that the effect was due to an action on the permeability of the kidneys for sugar.

In the present experiments a portion of the pancreas of a normal dog was inserted into the circulation of a diabetic dog. When the carotid and jugular were used there was no effect on the glycosuria of the diabetic dog; when, however, the pancreas was inserted into the circulation of the spleen, the sugar almost disappeared from the urine after some hours but returned when the connection between the two animals was broken. Thus a normal pancreas checked the glycosuria only when it was so placed that its internal secretion entered the portal circulation directly.

Hédon and others had found that the injection of blood from the pancreatic vein of a normal dog into the general circulation of a diabetic dog had no effect on the glycosuria of the latter; he now finds, however, that if the blood be injected into a mesenteric vein of the diabetic dog the glycosuria falls for a time almost to zero. In all of these experiments, however, there was far less diminution of the sugar in the blood than of that in the urine; the first effect of the pancreatic secretion was to render the kidney less permeable to sugar.

These experiments are significant. They constitute the first demonstration that an internal secretion of the pancreas can check a diabetes already established; this was accomplished, however, under conditions so far removed from anything which can be realized in therapeutics that an effective treatment of human diabetes by pancreatic extracts seems more remote than ever.

These experiments also emphasize the importance of the liver in diabetes and lend further support to the view, which seems to be gaining many adherents, that the cause of diabetes is to be sought in an overproduction of sugar (chiefly in the liver) rather than to a diminished oxidation of sugar; according to this view the function of the internal secretion of the pancreas is to inhibit the production of sugar rather than to facilitate its consumption.

These, and some earlier experiments of Hédon, go far toward explaining the almost uniformly negative results from the use of pancreas in human diabetes; they also make it very probable that the favorable results reported by three or four writers had no connection with the pancreas which had been administered. In some of the cases the beneficial effects were stated to continue for long periods after the administration of the pancreas was discontinued. An animal becomes diabetic within an hour or two after removal of the pancreas; that is, the secretion disappears from the blood exceedingly rapidly even under the most favorable conditions of secretion. These alleged favorable results constitute the sole "evidence" that has yet been offered in support of the view that the internal secretion of the pancreas is absorbed when administered by the mouth. It may be considered as certain that the improvement noted in such cases was in no way dependent on the internal secretions of the pancreas administered.

It is well to remember the caution recently emphasized by Sewall,[3] who says: "It is, of course, unnecessary to dwell on the well-known fact that the clinical course of diabetes mellitus is at times apparently subject to amelioration under a great variety of conditions and remedies which probably have no specific relation to the pathologic process."

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[1] The Journal A. M. A., June 3, 1911, p. 124.

[2] Hédon: Compt. rend. Soc. biol., July 14, 1911, p. 124.

[3] Sewall: Am. Jour. Med. Sc., Sept. 11, p. 321.

It should be added, however, that, according to Falta,[4] there is a small group of cases of diabetes in which the administration of pancreas by the mouth gives good results; but in these cases there is some interference (usually the result of lithiasis) with the secretion of the pancreatic juice into the intestine. These cases are not comparable to ordinary diabetes.

COMMERCIAL ANTISTREPTOCOCCUS SERUM

In these days of the preparation of immune serums by proprietary houses, it is obvious that many such products will be of problematical virtue; so that a recent study of various commercial antistreptococcus serums by Weaver and Tunnicliff[1] possesses a distinct practical value, aside from the theoretic interest always attaching to such work.

In a previous preliminary report[2] these investigators had announced their almost complete failure to find any action of such serums on laboratory animals; and it is encouraging to note that the results of their more complete later work are at variance with this, and show, in several of the commercial preparations, a distinct protective power.

The first part of their work consisted in the testing of fresh specimens of antistreptococcus serum, obtained from one of the commercial houses, as soon as possible after its withdrawal from the animals. Such serums were tested both for their protective power in guinea-pigs against later doses of virulent streptococci, and for their content in opsonin. The latter was found to diminish fairly rapidly, until at the end of a month it had disappeared completely. It could be almost completely restored, however, for variable periods afterward by the addition of dilute fresh normal serum, and the protective power for animals was found to coincide quite closely with this period of capacity for reactivation. The injection of the serum into the animals resulted, as might be expected, in a rise of their opsonin for streptococcus, and also of the phagocytic activity of their leukocytes, and this rise of phagocytic power seemed to be specific for streptococcus. The duration of the protection was about eight days—corresponding very closely with the period of increased opsonin content in the blood.

Five commercial antistreptococcus serums, three of American and two of European preparation, were studied similarly. Of these, both of the foreign and two of the American serums protected guinea-pigs against a minimal lethal dose of streptococci in quantities of from 1 to 6 c.c. The third American serum had no evident protective action. Of course, the administration of a correspondingly large dose to man would be out of the question, but there are apparently reasons for believing that relatively smaller doses may be efficient in cases of human infection; for it was found that the immune serums were reactivated more readily and to a greater degree by human than by guinea-pig serum, so that the same amount may well possess a greater protective power in man than in the guinea-pig. And the usually localized and more prolonged human infection presents an entirely different, and possibly less difficult, problem, than the very acute generalized infection of laboratory animals. Clinical observation has shown, however, that large doses are most effective, and concentration of the serum might be of great value. The possibility of such concentration is pointed out by Weaver and Tunnicliff, who found the antibodies to be united with the pseudoglobulins of the serum as is the case with diphtheria antitoxin.

In view of the fact that one of three of the American serums was found apparently quite inactive, the recommendation of the investigators, that a guarantee as to efficiency be furnished, similar if possible to that of diphtheria antitoxin, seems very reasonable. With such an assurance of reliability, it is probable that the antistreptococcus serums would rapidly acquire a greater importance than their present uncertainty gives them. In this connection, however, it may be well to emphasize the necessity for making an accurate bacteriologic diagnosis previous to the use of such serums, as without this it is impossible to expect consistent results.

EFFECTIVE GARBAGE DISPOSAL

Until lately American practice in the matter of garbage disposal has not been a matter for national pride. Two methods have been common: unsightly, malodorous piles of decomposing refuse have been — in some places still are! — allowed to accumulate in the vicinity of dwellings, or cheap, ineffectual "disposal plants," installed and operated by greedy or dishonest private contractors, have been run for a few years and then allowed to lapse into well-earned oblivion. Neither procedure is creditable to a civilized state. There are now signs that the era of slovenliness and waste in this as in many other municipal activities is drawing to a close. In many places local conditions are being studied by unpaid competent commissions rather than exploited by junketing aldermanic committees. A beginning has been made in establishing high-grade modern plants under expert supervision and in operating them under expert management, which is just as important.

As the reports of some of these plants are coming in we can see more clearly than ever what a mess has been made in the past by the representatives of the people in dealing with this question. There is really no need for a continuance of the offensive and wasteful methods that have been commonly employed in this country. The best expert advice backed by practical experience with American conditions is now available at a moderate price and there is no excuse for any community placing itself in the hands of self-seeking contractors and promoters.

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[4] Falta, W.: Therapy of Diabetes Mellitus, Arch. Int. Med., 1909, iii, 160.

[1] Weaver and Tunnicliff: Jour. Infect. Dis., 1911, ix, 130.

[2] Preliminary Report of Investigations of Serums and Vaccines for Streptococcus, Staphylococcus and Pneumococcus Infections, The Journal A. M. A., Jan. 25, 1910, p. 257.

At least two methods of garbage disposal have proved effective in typical American cities: incineration and reduction. In the incinerating type of plant all kinds of refuse, ashes, paper, rags, scraps of food, kitchen waste, etc., are fed together into crematories and burned. In European works of this type the heat generated by the combustion with a forced draft is a source of considerable revenue. One of the best examples of an incinerator plant in this country is the Milwaukee incinerator, which has been in full operation since May, 1910. Constructed and operated under excellent engineering control, this plant may well serve as a model for other cities.[1] At the old Milwaukee plant the cost of disposal reached as high as $1.37 per ton of garbage, while the cost at the new plant is less than 60 cents per ton. If the excess supply of steam generated at the plant is economically utilized the actual cost will be further greatly reduced.

In garbage reduction works the sorted garbage is passed through various digestors, tanks and roller presses with a view to extracting the valuable portions, especially the fats and the nitrogenous matters. The process needs careful management on account of the offensive gases generated during the treatment. The prevention of a nuisance entails some expense, and hence privately installed reduction works operated for commercial purposes often give rise to much justifiable complaint. Municipal plants constructed with an eye to the comfort of the citizens rather than the pockets of contractors are likely to be much more effectively operated than private ones, as shown by the experience at Columbus, Ohio. The Columbus plant, put in operation in July, 1910, is the first reduction plant in this country designed and constructed by a municipality.[2] "It was not the intention in designing the Columbus plant to try experimental machinery, but rather to assemble to best advantage machinery of known and tried types and only such as had proved most satisfactory in other plants." Successful financial operation of this plant appears in the fact that it netted $2,000 a month for the first six months.

The reasonable and businesslike way of approaching the garbage disposal question seems therefore to be the employment of a reputable and competent engineer to examine local conditions and report on such topics as the most economical routes for collection and transportation, the establishment and location of one or more centers for disposal and the final method of treatment—incineration or reduction—best suited to the amount and nature of the refuse gathered. Small towns should beware of the man with patented machinery. In all cases the expert adviser is better than the quack.

THE CHOICE OF A MEDICAL SCHOOL

At the present time doubtless hundreds of students are wavering in their choice of a medical school—a choice which is of the utmost importance to their future welfare. Before the selection of a medical school is made, the student should inform himself regarding the legal requirements for the practice of medicine, which have been undergoing many changes during the last few years. It is well known that the legal control of the practice of medicine in this country rests, not with the national government, but with the individual states, and that the forty-nine states and territories differ widely in their requirements. It is extremely important, therefore, for the student to know what qualifications he must possess in order to secure a license in the state where he desires to practice. For example, he should know that in order to secure a license in Colorado, Indiana, Iowa, Minnesota or North Dakota, he must have had two years of collegiate work or its equivalent, and that in Connecticut, Kansas, South Dakota and Utah he must have completed one year of collegiate work before beginning the study of medicine. Furthermore, if he desires to secure a license in any of the above-named states or in any one of the nineteen others, he must take his medical training in a college which is considered a "reputable" institution, or one which has been "registered" in the state where he expects to locate.

State boards have various methods of determining what colleges are "reputable." Some make their own inspections, either in person or by proxy; others base their judgment on the reputation held by the colleges; some require that the institution hold standards equal to those of the Association of American Medical Colleges, and of late several states have decided to recognize only those colleges which are listed in Class A by the Council on Medical Education of the American Medical Association.

Each year the requirements by state boards are becoming more exacting. The number of boards which will require one or two years of college work as the minimum of preliminary education will doubtless increase and the requirements regarding the equipment and facilities of medical schools will become more rigid. As will be noted in the Current Comment Department below, any medical college, to be registered in New York after Oct. 1, 1912, must have at least six salaried instructors devoting their entire time to college work besides having ample apparatus and equipment.

Another requirement by state boards which the prospective medical student must consider seriously is that of the state license examination. Year by year these examinations are becoming more severe and the student should use much care in selecting a medical college which will best prepare him for those examinations. Information on this point can be obtained by a careful study of state board statistics such as are published annually in THE JOURNAL.[1] It would be a serious matter indeed to select a medical school having a high percentage of failures of its graduates at state license examinations when doubtless for the same expenditure of time and money the student could secure a training in a first-class medical college.

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[1] A full description of the Milwaukee incinerator, with drawings and operating data, is given in the Engineering News, July 21, 1910.

[2] For description, with diagrams and photographs, see Engineering News, Nov. 17, 1910.

The student may well be guided by the reports on medical colleges also published from time to time in THE JOURNAL. From the investigations made by the Council on Medical Education, the colleges having what was considered an ample corps of teachers and satisfactory laboratories, equipment and clinical facilities, were listed as acceptable schools, that is, in Class A. Schools which were not so well equipped, or which were considered unsatisfactory were listed respectively in Classes B and C. Of the Class A colleges, twenty-eight[2] are now requiring two or more years of collegiate work for admission. The student will not be making a mistake should he select one of these twenty-eight schools, the diplomas from which are acceptable at present in practically every state of the Union. The student having had less than two years of collegiate work, should investigate carefully, before deciding on a medical school, the requirements of the state or states wherein he would like to locate. Furthermore, he should consider whether it would not be better for him to secure the additional preliminary education which would admit him to a medical school wherein he could get the best possible medical training and from which he could secure a diploma making him eligible for a license in any state of his choice. Disappointed indeed will be that student who, after having spent a large amount of time and money, finds on graduation that his diploma is not recognized in a large number of states.

Current Comment

MAGAZINE ARTICLES WHICH ARE WORTH WHILE

An important factor in the crusade for better health conditions is the active interest shown in this question by the better class of popular magazines. The part taken by *Collier's* and the *Ladies' Home Journal* is well known. In the last two or three years, many excellent articles on health matters have appeared in other magazines. Four articles in current periodicals are worthy of special mention. In the September number of the *Delineator,* Samuel Hopkins Adams, under the title of "The Health Master" gives in narrative form some plain truths about drug victims produced by "patent medicines" and soft drinks. In the October *Hampton-Columbian*, O. K. Davis gives the details of "The Case of Dr. Wiley" and the facts regarding the conspiracy to secure his discharge. In the October *Pearson's*, Earl Mayo discusses, under the title of "Public Health vs. Private Gain," preventable sickness and the duty of the government and, incidentally, the efforts that are being made to prevent the establishment of a national department of health and the reasons for the opposition. In the *Outlook* for September 23, the same writer has an excellent article on "The Work That Kills," a discussion of occupational diseases and means for their prevention. Such articles, by the best representatives of the modern school of American magazine writers, are of great educational value and are sure to do good. It is fortunate that our popular magazines, not willing to be confined to sentimental stories and trivial entertainment of their readers, have realized their great possibilities as an educational force and are usually to be found on the right side in any great battle for the public good. Such articles as the four mentioned are of inestimable value in enlightening the public on the needs and the methods of health reforms. More light, more knowledge, more education of the people must be furnished until the demand for federal action for the preservation of life becomes irresistible. It is by such means that lasting reforms can be brought about.

RELIGION AND QUACKERY

For years the religious press reeked with unsavory advertisements of nostrums and quacks of varying degrees of fraudulency and indecency. Public opinion finally forced the more influential church papers to throw out this class of advertising and to-day, except for some of the more insignificant publications, the religious journals are practically free from the blight of "patent medicine" advertisements. That quackery still seems to possess a peculiar fascination for the clergy, however, was recently shown in an episode that occurred at Kansas City, Mo. That city is the unfortunate possessor of a quack named Carson—Hiram Carson, or as he calls himself "Dr. C. H. Carson." This charlatan has grown rich, thanks to a venal press and the large supply of gullible sick. He used to "treat" by means of "vital force," developed by rubbing his victims with vaselin mixed with red pepper. The tingling produced by the red pepper was, he assured his dupes, the "vital force." Later he improved on this "treatment" and had his assistants give out slips of tissue paper that he had "magnetized." These slips the patients were instructed to pin on their nightgowns between the shoulder-blades! Carson is now operating what he calls the "Temple of Health," and advertising heavily. As a means of drumming up trade Carson occasionally gives elaborate "receptions" at his "Temple of Health," to which the curious are invited. A little while ago a meeting of this kind was held at which, as a crowning advertising stroke, Carson got the pastor of one of the leading Congregational churches of the city—the Rev. J. B. Silcox—to give an address! This address and other details of the "reception" occupied nearly two columns in the Kansas City papers of the following day, and although a paid advertisement, the article was set up in news-matter style. Why a reputable minister of the gospel, whose own church membership is strictly high-class and, we are informed, includes some of the best-known medical men of the city, should endorse such a blatant quack as Carson, is a mystery. Every intelligent layman in Kansas City knows that Carson is a humbug and that his system is a fake. Every man in that city also knows, or could know, that Carson's only claim to the title "doctor" lies in his possession of a "diploma" from as wretched a mill as ever ground out parchments—the American Health College of Cincinnati, long since defunct, thank heaven! If there is one class of men more than another that should stand between suffering ignorance and the machinations of the miserable harpies of the Carson type, it is the ministry. If there is one man more than another who should expose the deception and covetousness of the quack, it is the man who professes to follow the teachings of Him whose voice was always raised against shams and cheats and the cupidity of avarice. Yet we have, in the address of Rev. Mr. Silcox, the unedifying spectacle of a Christian clergyman lending the influence of his cloth and personality to further the cause of one who fattens by deceiving the sick and suffering.

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[1] THE JOURNAL A. M. A., May 27, 1911, p. 1558.
[2] THE JOURNAL A. M. A., Aug. 19, 1911, pp. 640, 641.

ADVANCE STEP IN MEDICAL EDUCATION BY NEW YORK

About a decade ago the Revised Statutes of New York fixed a requirement, among others, that any institution to be ranked as a college should have "at least six professors giving their entire time to college and university work." The investigation made by the Council on Medical Education revealed the fact, however, that the Board of Regents did not make this rule apply to medical colleges of New York or of any other state. It remained for the Council on Medical Education, in 1910, after having completed two tours of inspection of the medical schools in the United States, to publish an outline of the essentials of an acceptable medical college; this included the requirement of six full-time, salaried professors. The Council also published the following definition of a medical college, basing it on the New York law referred to above: "An institution to be ranked as a medical college must have at least six professors giving their entire time to medical teaching, a graded course of study of four full years of college grade in medicine, and must require for admission not less than the usual four years of academic or high school preparation or its equivalent in addition to the preacademic or grammar school studies." As will be seen by a news item which appeared last week.[1] the above definition has been adopted by the New York regents in an amendment to their revised rules, this amendment providing that, after Oct. 1, 1912, every medical college to be registered in New York as maintaining a proper medical standard must have at least six full-time instructors besides ample apparatus and equipment. The argument advanced in the regents' report for this amendment is as follows: "The value of a medical education like the value of a liberal arts education is dependent as much or more on the teachers in the medical college as on the material equipment of the institution. Certainly at least six expert, thoroughly trained instructors in the laboratory branches of the medical course, salaried so that they may devote their entire time to instruction and to that research without which they cannot well keep up with the rapid progress being made in their subjects, is not too many teachers to require for a medical school that is to be recognized in this state as thoroughly preparing for the profession of medicine candidates who are to receive a degree that will admit them to a licensing examination." The influence exerted and the prominent position occupied by the New York Education Department in the control of educational institutions in the United States makes this decision one of much importance, and one that will aid in the development of better teaching in the medical schools of this country.

LET CONGRESS INVESTIGATE THE "MEDICAL TRUST"

In the Medical Economics Department[1] appears an open letter from Mr. George P. Hampton, secretary of the Conference of Progressive State Granges to Senator John D. Works of California. Mr. Hampton's letter is worthy of note for two reasons: First, it definitely and officially contradicts the statement made by Senator Works, in his astounding speech in the United States Senate in defense of Eddyism, that the National Grange had repudiated its endorsement of a national department of health. Mr. Hampton proves that the National Grange really reaffirmed its previous endorsement. Second, the letter contains in its closing paragraphs the following pertinent remarks:

> "Christian Scientists fear the consequences that would follow the enactment of such legislation as the Owen bill proposes. If that fear is well founded, and your belief that the American Medical Association is a medical trust is well founded, is it not time that the country knew these and all the facts relating to this burning question? What possible better means have we than a rigid Congressional investigation by a committee specially organized for that purpose? The House of Representatives, as at present constituted, is believed to be honestly desirous of serving the people. It is investigating the trusts, probing into the expenditures of the various departments of the government, and why should it not have a committee on health and thoroughly investigate this matter of such vital importance to all the people. Surely the Christian Scientists are not opposed to honest investigation by a committee having power to probe every charge and countercharge to the bottom."

Mr. Hampton's position is a thoroughly sound one. If the American Medical Association is a "trust" or if it is endeavoring to create a trust, certainly the people should know it. If the physicians of the country are seeking a health department so as to create positions for themselves, and not to stamp out disease and save human lives, the public should know it. On the other hand, if the American Medical Association and the medical profession are earnestly and honestly striving to increase our knowledge of the cause and means of prevention of epidemics and to wipe out preventable disease, then the people should know this and should lend their aid in this life-saving campaign. As Mr. Hampton says, "Why should it (the House of Representatives) not have a committee on health and thoroughly investigate this matter?" Why should not the work of the American Medical Association be investigated? Why should not Congress be able to tell the American public the truth? Surely the needless loss each year of 600,000 lives is of as vital importance to the people as the price of sugar, tobacco or steel rails. Will Congress "investigate" the American Medical Association and its work? If it will, the books and records of the Association will gladly be produced and its officers and members will willingly testify, nor will any order from the courts be necessary to insure their presence. Investigation and credit for the work it has done and is now doing is exactly what the Association most desires, since it knows that the more the people know of its work for the public good, the more it will enjoy the confidence and support of the public.

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[1] THE JOURNAL A. M. A., Sept. 23, 1911, p. 1063.

[1] Page 1154, this issue.

Medical News

ALABAMA

Dispensary Open.—St. Vincent's Free Dispensary, Birmingham, was opened September 5. It is located in the basement of the new wing of the hospital, and is to be open from 2 to 4 p. m., daily excepting Sunday.

Personal.—Dr. Edward B. Bailey, Demopolis, luckily sustained only slight injury when his automobile fell into a 10-feet ravine, September 6.——Dr. Charles M. Moore has succeeded Dr. Rhett Goode, resigned, as health officer of Mobile.——Dr. Claude L. Murphree has been made meat and milk inspector of Gadsden.

ARKANSAS

Sanitarium for Colored Patients.—Dr. Claude M. Wade, Hot Springs, has secured the control of the Pythian sanitarium and bath house, which he proposes to use for the care of sick and indigent colored people who come to Hot Springs.

Personal.—Dr. James L. Greene assumed charge of the State Hospital for the Treatment of Nervous Diseases, Little Rock, August 31.——Dr. Harry C. Stinson, superintendent of the State Hospital for the Insane, took formal charge of the Confederate Home, September 1.——The home of W. T. Gabbert, West Forks, was destroyed by fire, September 12.

CALIFORNIA

State Branch Hygienic Laboratory to be Opened.—Arrangements are being made for the establishment of a branch hygienic laboratory in Los Angeles, where Pasteur treatment may be administered, and also where investigations regarding violations of the pure food law and of water pollution may be conducted.

University to Have an Isolation Hospital.—The board of trustees of Leland Stanford, Jr., University, Palo Alto, has granted a site for the erection of an isolation hospital for the segregation of students with contagious diseases. These cases have heretofore been quarantined in dormitories or private rooming houses. The hospital is to cost $10,000.

Personal.—Dr. Leonard E. Stocking, Agnew, superintendent of the Agnew State Hospital, has been given three months' leave of absence by the board of managers.——Dr. Harold Brunn, San Francisco, who has been seriously ill with pneumonia, is reported convalescent.——Dr. Douglas Brown, formerly of New York and Panama, has been appointed resident physician to the Spreckels Sugar Company, Spreckels.——Dr. J. Auburn Wiborn, San Francisco, fractured his right leg in a fall down an embankment at Klamath Springs recently.——Dr. Thomas R. Meux, Fresno, was seriously injured in a runaway accident, September 4.——Dr. Washington Dodge has been elected a trustee of the San Francisco Free Library.

COLORADO

Loving-Cup for First-Aid Contest.—A silver loving cup is offered by Dr. Thomas J. Forhan, Trinidad, for the best exhibition of first aid to the injured work by a team of school boys under the age of 16. The contest is open to the boys of any school in Las Animas County, and will take place at the time of the county fair.

Personal.—Dr. Benjamin F. Wooding, Denver, has retired from the State Board of Health.——Dr. Carl A. Helgeson, Grand Junction, has been reappointed inspector for the board of health of New York City.——Arnold Stedman, Denver, announces that he decided not to accept appointment as member of the State Board of Health.——Drs. John E. Sawyer, Denver, and Robert Elwood have filed incorporation papers for the opening of a sanitarium in Boulder, for the treatment of rheumatism.

GEORGIA

Officers Resigned.—At the adjourned meeting of the Clarke County Medical Association at Athens, September 9, the resignation of the president, Dr. Daniel H. DuPree, Athens, and the secretary, Dr. John Gerdine, Norfolk, Va., were accepted. Dr. Singleton S. Smith was elected president, and Dr. Samuel C. Benedict, secretary.

Pellagra Hospital Open.—Len G. Broughton, pastor of the Institutional Church, Atlanta, has opened a pellagra hospital in connection with the church. The institution will accommodate twenty-one patients. The permanent free clinic for the diagnosis and treatment of pellagra has been opened by the Atlanta Associated Charities in Room 708, Gould Building, and is open on Wednesday and Saturday from 5:30 to 6:30 p. m.

IDAHO

Personal.—Dr. Harley E. French, Moscow, has been elected professor of anatomy and dean of the medical department of the University of North Dakota, Grand Forks.——Dr. Arthur R. Soderquist, Idaho Falls, was thrown from his automobile recently and sustained painful injuries.——Dr. F. S. Wright has been appointed health officer of Salmon City.

ILLINOIS

Bequests to Hospital.—By the will of the late Emanuel Frankenthal, Chicago, $2,000 is bequeathed to St. Luke's Hospital, and a similar amount to Michael Reese Hospital.

Clinic for School Children at Evanston.—Dr. George W. Boot, president of the staff of the St. Francis Hospital, Evanston, announces that the hospital has arranged for a free clinic for school children needing attention on account of conditions found by school inspectors. The clinic will be held each Saturday at 1:30 p. m.

Tuberculosis Clinic Established.—The Springfield Tuberculosis Association held its first evening clinic between 5 and 6:30 p. m., September 14, at the dispensary, 717 East Washington Street. Evening clinics are to be held on every Thursday, to accommodate patients who are unable to attend during the working hours.

Personal.—Dr. J. N. Thresh, Danvers, who has been ill at St. Frances Hospital, Peoria, has returned convalescent.——Physicians of Mattoon gave a dinner, September 14, in honor of Dr. Cleaves Bennett, who has removed to Champaign.——Dr. Harvey L. Hensley, Oakwood, is reported to be critically ill.——Dr. Charles R. Spicer, Aurora, has been elected chief medical examiner of the Yeomen of America.

Hospital Notes.—The village council of Oak Park has refused permission to build the West Suburban Hospital in that village, on the ground that the management had failed to obtain the necessary consent of the neighbors to the erection of the building.——At the annual meeting of the officers of Proctor Hospital, Peoria, Mr. Oliver J. Bailey was reelected president. A memorial tablet was placed in the hospital in memory of the late Dr. John Murphy.——Dr. and Mrs. Edmund F. Cleveland, Dundee, have announced that they will furnish the dormitories on the first floor of Sherman Hospital, Elgin, now occupied by the nurses. The dormitories are to be remodeled and divided into six rooms, which will be used as wards for women and children. The gift is in memory of their daughter.

Chicago

Institute Does Not Employ Solicitors.—The Chicago Tuberculosis Institute announces that no solicitors are employed to collect money for the organization. The reason for this announcement is that two men are reported to have been soliciting money for the alleged benefit of the institute.

Neighborhood Health Lectures.—The Chicago Medical Society plans to give neighborhood health lectures throughout the city during the winter months. Public lectures have been given in the public library in previous years, and it is now proposed to extend the scope of these lectures by having talks along health lines made in various sections of the city, and in school houses, if they may be obtained from the board of education.

Personal.—Dr. John Ridlon has been elected consulting surgeon for the Newport (R. I.) Hospital.——Dr. William S. Sadler sailed for Europe, September 23.——Dr. and Mrs. Charles S. Bacon and family, Dr. and Mrs. Alexander F. Stevenson and Dr. and Mrs. Arthur H. Geiger have returned from Europe.——Dr. Alexander H. Ferguson has taken in his first assistant, Dr. James J. Monahan, as his partner, and will take a rest for a year.

INDIANA

Wills Estate to Medical College.—The late Dr William Flynn of Marion has willed his entire estate, valued at about $30,000, to the Indiana Medical College, in which he was a member of the faculty for many years.

Grant County Hospital.—The Grant County Hospital Association has requested the county commissioners to make an appropriation of $50,000 for a county hospital to be built at Marion. Mr. Robert J. Spencer of that city has offered a site for the hospital, free of incumbrance.

Personal.—Dr. George M. Kakin, LaPorte, believed to be the oldest active practitioner in Indiana, is reported to be critically ill.——Dr. Adoniram J. Banker, Columbus, is reported to be critically ill in Indianapolis.——Dr. Hugh D. Wood, Angola, was seriously injured in a fall on a slippery sidewalk, September 18.

Hospital Trustees Resigned.—At a meeting of the Good Samaritan Hospital Board, held in Vincennes, September 5, a petition was read, signed by thirty-five members of the Knox County Medical Society, and a resolution of the Vincennes physicians was presented at a formal meeting which called for a radical change in the management of the hospital. With the expressed desire to reestablish harmony, three members of the board of trustees resigned.

IOWA

Personal.—Dr. Harley G. Ristine, Fort Dodge, was seriously injured while cranking his automobile, September 20.——Dr. Daniel Johnson Glomset has been placed in charge of the pathologic and bacteriologic departments of Drake University.——Dr. Paul Eugene Lineback has been appointed instructor in anatomy in the Drake University, Des Moines.——Dr. Jasper E. Guernsey, Olin, was injured in a runaway accident in Chicago, September 8.

Medical Library for Sioux City.—Dr. John E. Garver donated his medical reference library to the Sioux City Medical Library Association. Several others have made similar gifts, and it is hoped that the library will become a permanent institution.

KENTUCKY

Tri-Medical Society Organized.—Physicians of Logan, Simpson and Warren Counties met at South Union, September 12, and organized the Tri-Medical Society.

State Health Car.—The Kentucky Association for the Study and Prevention of Tuberculosis is touring the state with a car fitted up as a traveling health exhibit, in charge of Mr. Eugene Kerner, secretary of the state association, and an assistant. The car is well stocked with charts, mottoes and model houses, showing where the dangers from diseases lie and how they can be prevented; and an illustrated lecture on "What Everybody Ought to Know About Consumption" is delivered at each stopping place.

LOUISIANA

Bequest for Home for Incurables.—By the will of the late Joseph E. Burguieres, $50.000 is devised to establish the Burguieres Home for Incurables, which is to be placed under the charge of the Sisters of Charity of New Orleans.

New Department in Medical College.—The Medical Department of Tulane University announces the inauguration of a department of tropical medicine, hygiene and preventive medicine, beginning October 1, in charge of Dr. Creighton Wellman and staff. Laboratory courses, clinics and lectures will be given in the regular junior and senior classes, in addition graduate courses are offered, for which certificates will be issued, counting toward special degrees to be created as soon as the Tulane School of Tropical Medicine is in force.

Antituberculosis Work.—During the last year the Louisiana Antituberculosis League has abandoned its former camp at St. Tammany Station, which was left practically inaccessible on account of the abandonment of that portion of the railroad, and has opened a new and well-equipped sanitarium for curable cases at Camp Hygeia in the same parish, 5 miles west of Slidell.——On September 4 the cottages at Camp Hygeia, erected by the Pythian Antituberculosis League, the Junior Order of United American Mechanics and two councils of the Daughters of America, were formally dedicated.——A site for the cottage to be erected at Camp Hygeia by the union printers' organization has been selected.

MASSACHUSETTS

Measles.—The White Star steamer *Romanic* from Mediterranean ports reached quarantine September 7, with three cases of measles aboard, but no indication of cholera. The steerage passengers were landed at Gallup's Island, where they were detained for forty-eight hours.

Personal.—Dr. Newell C. Bullard, North Attleboro, is reported to be in a serious condition at the Emerson Hospital, Boston, as the result of an automobile accident.——Dr. William J. Gallivan, Boston, former chairman of the Boston school board, has been selected for head of the bureau of school hygiene, under the direction of the Boston Board of Health, vice Dr. Paul Carson, resigned.——Dr. Francis X. Crawford, South Boston, has been appointed chief physician of the board of Boston, vice Dr. William M. Gay, resigned.

MICHIGAN

Banquet to Dr. Carstens.—A complimentary banquet was given by the Wayne County Medical Society, September 26, at the Hotel Cadillac, Detroit, in honor of Dr. James Henry Carstens.

Officers Installed.—At the first meeting of Wayne County Medical Society, September 18, after the summer vacation, the reports of the retiring officers showed that the society has 525 active members, an increase of 243 during the year; that it has a library of 12,000 volumes; that a nurses' directory of 250 names has recently been added and the café and weekly bulletins are more than self-sustaining. The following officers were installed: president, Dr. Henry O. Walker; vice-president, Dr. Benjamin R. Schenck; and secretary-treasurer, Dr. Robert C. Jamieson.

Personal.—Dr. and Mrs. Louis W. Toles, Lansing, sailed for Europe September 13.——Dr. Eugene W. Mullen, Newberry, formerly a member of the staff of the Newberry State Hospital, has resigned to accept a position in the Agnews (Cal.) State Hospital.——Dr. Francis J. W. Maguire, who has been seriously ill with septicemia, due to an operation wound, is reported convalescent.——Dr. Gilbert V. Chamberlain, Flint, has been appointed a member of the pension board of Flint, vice Dr. Hiram H. Bardwell, resigned.——Dr. Russell P. Wixom has been elected president of the Northeastern Detroit Business Men's Association.——Dr. and Mrs. Leslie G. Rhodes, South Haven, have returned from Europe.

MINNESOTA

Sanitarium Nearly Ready.—The new St. Louis County and Duluth tuberculosis sanitarium, now under construction, will be ready January 1. The main building is already nearly completed.

New Buildings on Campus.—The two new buildings for the University of Minnesota, Millard Hall and the Institute of Anatomy, are progressing well toward completion, and it is expected that they will be ready for occupancy within the next ten months. They are located close to the hospital on the new campus.

Elliot Hospital Dedication.—At the dedicatory exercises of the Elliot Memorial Hospital of the University of Minnesota, September 5, a brief notice of which appeared in The Journal of September 16, the dean, Dr. Frank F. Wesbrook, Minneapolis, presided. Address was made by president George Edgar Vincent, president of the University of Minnesota; the history of the hospital movement was described by Dr. James E. Moore; Frank M. Elliot spoke on the endowment of the Elliot Memorial Hospital. E. L. Carpenter responded for the donors of the hospital site; Dr. Charles Lyman Greene gave an address on "Educational Value of the University Hospitals;" Drs. Rollo C. Dugan, Eyota; Frank H. Alexander, Barnesville; Edward L. Tuohy, Duluth, responded for the alumni of the university hospitals; Dr. William J. Mayo, Rochester, considered the university hospitals as an economic asset of the state, and Dr. Richard Olding Beard, Minneapolis, spoke on the Training School of Nurses of the University. The cornerstone of the Institute of Anatomy was laid, after which the memorial tablets were unveiled and the keys of the hospital were delivered to the superintendent by President Vincent. The superintendent of the hospital, Dr. S. B. Baldwin, then escorted the visitors through the building.

NEW YORK

Industrial Poisonings to be Reported.—The State Department of Health has called the attention of local health boards to the fact that section 58 of the labor law became a law June 6, and went into effect September 1. This law requires that every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury or their compounds, or from anthrax, or from compressed-air illness, contracted as a result of the patient's employment, shall send to the Commissioner of Labor a notice stating the name of and full postal address and place of employment of the patient and the disease from which, in the opinion of the medical practitioner, the patient is suffering, with such other and further information as may be said to be required by the said commissioner. If any medical practitioner, when required by this section to send a notice, fails forthwith to send the same, he shall be liable to a fine not exceeding $10. It shall be the duty of the Commissioner of Labor to enforce this section and he may call on the state and local boards of health for assistance. This is the first law of this nature to go into effect on this side of the Atlantic.

New York City

Special Meeting of Society.—The Eastern Medical Society of New York held a special meeting at the Academy of Medicine September 20, at which Dr. Albert A. Gray, Glasgow, Scotland, was a special guest of the society and delivered an address.

Old Ferryboat Becomes School.—The Committee for the Prevention of Tuberculosis has obtained a loan of the old ferryboat *Rutherford* and has had it fitted up as a school for tuberculous children. Here the children do all their school work and have their meals in the open air and there are also some accommodations for older patients. A physician and nurses are in constant attendance.

Monthly Bulletin a Success.—Although this publication has only been in existence about a year the edition has already been enlarged twice and a still larger edition is now contemplated. It is hoped eventually that a copy of the bulletin may be sent to every physician in the city and to teachers, clergymen and social workers as well. Applications for the bulletin may be made to the editor of the *Monthly Bulletin of the Department of Health*, Fifty-Fifth Street and Sixth Avenue.

Buffalo

Ask Appropriation for Indigent Tuberculosis Patients.—The health commissioner has asked the city to appropriate $1,200 for the care of indigent patients suffering from tuberculosis. This money is required for eggs, milk and other supplies.——The department of health has recently appointed six nurses to do field work in tuberculosis. This work was formerly carried on by the district nurses, but the city has decided to take charge of this work.

NORTH CAROLINA

Personal.—Dr. Wyatt P. Exum, Goldsboro, is reported to be seriously ill at his home.——Dr. David A. Stanton, John T. Burrus, William M. Jones, William J. McAnally and James R. Reitzel have been elected members of the board of health of High Point.

Municipal Laboratory Recommended.—At a meeting of the board of health of Asheville, September 14, it was decided to recommend to the aldermanic board that $5,000 be appropriated for the establishment of a city laboratory of which L. M. McCormick, chief of the sanitary department, is to be in charge.

OHIO

Clinic for Children in Dayton.—A clinic for the treatment of children under 3 years has been established by the Dayton Flower and Fruit Mission. The clinic is to be conducted every Monday, Wednesday and Friday afternoon, and will be in charge of Dr. Alvin L. Light.

Child Hygiene Bureau Organized.—At an open meeting of the board of health of Cleveland, September 7, the organization of a bureau of child hygiene was perfected with the appointment of Dr. Henry J. Gerstenberger as chief of the bureau, and Drs. Fred Beckel, Carlos E. Pitkin, Richard L. Jett, C. F. Zantiny and Alvin S. Storey, in charge of the five dispensaries now in operation.

Personal.—Dr. Clayton B. Conwell, Cincinnati, has resigned as superintendent of the Ohio State Sanatorium for Tuberculosis, Mount Vernon, and will practice in Cincinnati.——Dr. Asa C. Messenger has been reelected dean, and Dr. Clark M. Galloway, Xenia, secretary of the volunteer medical and surgical staff of the Ohio Soldiers' and Sailors' Orphans' Home, Xenia.——Dr. Russell H. Wilson, Martins Ferry, has been appointed chief surgeon for the United Fruit Company's hospital at Bocas Del Toro.——Dr. Sterling B. Taylor, Columbus, who has been ill in Mount Clemens, Mich., is reported to be improving.——Dr. Albert G. Henry broke two ribs and sustained internal injuries by a falling wall during a fire in North Baltimore, September 9.

OKLAHOMA

Free Antitoxin.—The State Health Department announces that the free distribution of diphtheria antitoxin to those who are unable to purchase it will soon be commenced.

Personal.—Dr. John O. Butler, Crescent, is reported to be seriously ill with typhoid fever.——Dr. R. R. Smith, assistant city physician of Muskogee, was operated on for appendicitis in Kansas City recently.——Dr. William E. Dicken has succeeded Dr. John W. Riley, resigned, as city physician of Oklahoma City.

PENNSYLVANIA

Dispensary Buys Farm.—The Kensington Dispensary for the Treatment of Tuberculosis has purchased the Lennig farm in Upper Providence township, at an expense of nearly $7,000. The farm contains 141 acres and will be used by the dispensary in its work against tuberculosis.

Official Organ of Medical Society Appears.—The *Dauphin County Medical Academician*, the official organ of the Dauphin County Medical Society and the Harrisburg Academy of Medicine, made its first appearance September 13. The magazine is to be issued on the fifteenth day of each month, and its office of publication is at the Harrisburg Academy of Medicine Building.

Personal.—Dr. Clifton Guy Hughes, Punxsutawney, sustained severe injuries when his automobile was caught between two street cars moving in opposite directions, September 14.——Dr. Charles Long, Altoona, was tendered a banquet and presented with a handsome pipe by a number of his friends, on the occasion of his 70th birthday anniversary, September 12.——Dr. William Le Roy Marks has been appointed resident physician to the Carnegie Technical Schools, vice Dr. Walter B. Orbin, Pittsburg, resigned.

Memorial Hospital Opened.—The J. C. Blair Memorial Hospital, Huntingdon, opened its doors for patients on September 4. Drs. Francis P. Ball, Lock Haven, and Theodore L. Chase of Philadelphia, delivered addresses. Dr. George G. Harman, Huntingdon, was chosen president of the staff and Dr. Harry B. Fetterhoof, secretary.

Receipts of Tuberculosis Day.—Clerks of the Pennsylvania Trust Company and officers of the Berks County Tuberculosis Society have finished opening envelopes and counting the contents, received on Tuberculosis Day for the maintenance of the Neversink Mountain Tuberculosis Sanatorium. Although a number of envelopes are yet to be received, the total reached $5,944.85.

Censorial District Meeting.—The eighth annual meeting of the Sixteenth Censorial District of the Medical Society of the State of Pennsylvania which includes Montour, Snyder, Northumberland, Columbia, was held at Selinsgrove, September 8. Dr. John B. Cressinger, Sunbury, was elected president, and Dr. Luther B. Kline, Catawissa, secretary. Danville was selected as the next place of meeting.

Philadelphia

School Campaign Against Tuberculosis.—The Pennsylvania Society for the Prevention of Tuberculosis has placed its winter campaign of antituberculosis education among the children of the public schools of Philadelphia, which opened September 11, in charge of Dr. Howard Fussell, special demonstrator and lecturer of the society. Dr. Fussell has a tuberculosis exhibit which he will establish at each school, devoting from one to two weeks to a school. The exhibit consists of photographs, pictures and charts, and, in addition, Dr. Fussell delivers talks on hygiene to the children in the various rooms of the schools.

Institute of Anatomy Dedicated.—The dedication of the Daniel Baugh Institute of Anatomy of the Jefferson Medical College was observed with appropriate ceremonies, September 26. Dedicatory addresses were made by Hon. William Potter, president of the board of trustees and Dr. Edward Anthony Spitzka, professor of applied anatomy. At the same time the portrait of Mr. Daniel Baugh, the donor of the building with all modern appliances, was presented by the board of trustees and placed in a conspicuous position in the new institute. Hereafter, the teaching of anatomy and its allied sciences will take place in this building.

Personal.—The following physicians have returned from Europe: Drs. William M. L. Coplin, George Strawbridge, William L. Rodman, James E. Talley, Thomas A. Cope, J. William White and Dr. and Mrs. J. Cardeen Cooper.——Dr. Francis R. Packard was recently elected president of the Board of Medical Examiners, vice Dr. Henry Beates, Jr., resigned.

TENNESSEE

Compulsory Typhoid Vaccination.—Dr. Max Goltman, health commissioner of Memphis, issued an order, September 11, directing that all health department employees under 45 years of age, be vaccinated, as a preventive against typhoid fever.

Personal.—Dr. William Likley Simpson, Memphis, has gone to Europe.——Dr. John Black Steele, assistant city physician of Chattanooga, has been elected city physician, vice Dr. Philander D. Sims, resigned, to accept the position of physician in charge of contagious diseases under the joint board of health of the city of Chattanooga and Hamilton County. ——Dr. Ruel E. Bartlett, Nashville, physical director of the Memphis Y. M. C. A., has retired.

TEXAS

Personal.—Twenty members of the Dallas County Medical Society attended a banquet, September 2, in honor of Drs. Thomas B. Fisher and Albert W. Nash, the retiring and incoming health officers, respectively, of the city. Dr. James M. Martin acted as toast-master. Dr. Nash entered on his duty as health officer, September 1.——Dr. Adam J. Beall, San Marcos, physician of Hays County, was thrown from his buggy recently, fracturing his clavicle.——Dr. John D. Mitchell, Fort Worth, fractured a rib, August 30, in a violent sneeze.

VIRGINIA

Personal.—Dr. L. W. White has been elected city physician of Suffolk.——The friends of Dr. Charles V. Carrington, Richmond, physician at the state penitentiary for the last twelve years, are making a strong campaign for his reappointment.——Dr. J. Milbourne Daugherty, Nicklesville, has been reinstated as postmaster.

Physicians Register.—The State Department of Health in its bulletin for September, issued a complete register of the physicians practising in Virginia, by districts, counties and cities; and also gave a list of the county boards of health appointed by the State Board of Health, on July 11 of this year. The value of the register would be greatly increased if an alphabetical list had been appended.

GENERAL NEWS

Southern Medical Association Meeting.—The Southern Medical Association will hold its annual meeting in Hattiesburg, Miss., November 16-18.

Clinicians to Meet.—The second annual meeting of the clinical Congress of Surgeons of North America will be held in Philadelphia, November 7-16. Literary sessions will be held every evening and clinical programs will be conducted throughout the day at the various hospitals in the city.

Societies to Meet.—Among coming society meetings in October are the following:

American Association of Railway Surgeons, Chicago, Oct. 18-20.
Delaware State Medical Society, Lewes, Oct. 10.
Idaho State Medical Association, Boise, Oct. 11-13.
Kentucky State Medical Association, Paducah, Oct. 24-26.
Medical Assn. of the Southwest, Oklahoma City, Okla., Oct. 10-12.
Medical Society of Virginia, Richmond, Oct. 24-27.
Minnesota State Medical Association, St. Paul, Oct. 5-6.
Mississippi Valley Medical Association, Nashville, Tenn., Oct. 17-19.
Nevada State Medical Association, Reno, Oct. 10-12.
Utah State Medical Association, Salt Lake City, Oct. 4-5.
Vermont State Medical Society, Burlington, Oct. 12-13.

Military Surgeons Elected.—At the twentieth annual meeting of the Association of Military Surgeons of the United States, held in Milwaukee, September 26-29, the following officers were elected: president, Surgeon Charles P. Wertenbaker, United States Public Health and Marine-Hospital Service; vice-presidents, Surgeon W. C. Braisted, U. S. Navy, Brigadier-General Charles Adams, Surgeon-General of Illinois, and Colonel Jefferson Randolph Kean, Medical Corps, U. S. Army; treasurer, Major Herbert A. Arnold, N. G. Penn. (reelected). Baltimore was selected as the next place of meeting.

Sprague Mercantile Agency.—In the past four or five years The Journal has received letters from physicians, complaining of the methods of the Sprague Mercantile Agency, Chicago. The general opinion seems to be that the membership fee which this concern exacts is the most important part of the contract—to the agency. A physician wrote recently, stating that while this collection agency had had his money for thirteen months it had not collected a dollar. This complaint is typical of others that have been received. The Journal would like to hear from other physicians who have had any experience with the Sprague Mercantile Agency.

American Hospital Association.—This organization held its thirteenth annual meeting in New York City, September 19-22. The opening address was made by Mr. George McAneny, president of the Borough of Manhattan who took the occasion to criticize the divided system of hospital supervision existing at present in New York and to recommend greater centralization. Dr. Abraham Flexner made an address on the relation of the hospital to the medical school and suggested questions which he thought hospital managers ought to ask medical schools which sought clinical facilities in their wards. In addition to the scientific work there were several exhibits of interest, in one of which, called the "Chamber of Horrors," was shown the mistakes of nurses and a list of "dont's" for future guidance. Another exhibit was one of occupations for convalescing patients of all ages and still another demonstrated a plan of social service work for the purpose of helping those too well to remain in hospitals and too sick to go back to active labor. The visiting physicians spent considerable time in inspecting the hospitals in this city and the opinion was expressed that hospital conditions here were better than in Canada or Great Britain.

FOREIGN NEWS

The Next International Congress of Gynecology and Obstetrics.—At the Fifth International Congress, which met at St. Petersburg last year, Berlin was selected as the place for the next congress, in 1912, and the date has been definitely fixed as May 29 to 31. Prof. E. Bumm was appointed president; he is at the head of the committee of organization, composed of Profs. Döderlein and A Martin of Germany, D. von Ott of Russia and Mangiagalli of Italy. The general secretary is Dr. E. Martin, 18 Artilleriestrasse, Berlin. The chief topic to be discussed is "Peritonization."

Festschrift for Hansen.—G. A. Hansen, president of the permanent international committee on leprosy, was one of the founders of the *Medicinsk Revue* in Norway in 1884. On the occasion of his 70th birthday recently, the *Revue* issued a special *Festschrift* number in his honor with fifteen able articles on various live topics, especially leprosy and pellagra, all by Norwegian writers. Laache reports a case of sudden death from asphyxia after a mere exploratory puncture, and Holst discusses the scorbutic symptoms observed in pellagra. Each article is accompanied by an abstract in German.

LONDON LETTER

(From Our Regular Correspondent)

London, Sept. 16, 1911.

Motor Noises at Night

The nuisance from the noises made by motor cars has become intolerable. Human ingenuity has exhausted itself in devising apparatus for the emission of all sorts of unearthly noises far in excess of what is necessary to prevent accidents. Some drivers employ the device known as the "cut out" which makes a continuous and harassing noise. Others use electric devices for intensifying the notes of their horns. Others use a siren or multiple horn making distracting, irregular noises. In certain parts of London the night is made hideous by the Babel, rendering sleep difficult or impossible. In a letter to the *Times* an eminent surgeon, Sir Henry Morris, points out the evil results on himself and other residents in the West End. After the lull which midnight brings and after an hour or so of sleep one is aroused in the early morning by the fearsome sounds of the motor horn. "They strike the ear," he says, "bruise the brain, much as a hot and vivid flash of light affects the eye, or the plunge of a knife hurts the flesh." A bill has been introduced into parliament to amend the law in respect to the warning instruments on motor cars. With the concurrence of the local government board, the commissioner of the Metropolitan Police has issued a circular pointing out that while drivers are bound to give audible warning with a view to preventing accidents, they go far beyond this and at night in streets where there is no hidden danger, and the only danger is reckless speed, they endeavor to prevent the possible consequences of this by continuously and obnoxiously sounding their horns, disturbing the rest of residents. Unless some alteration is brought about by motorists of their own impulse he warns them that repressive legislation will be introduced.

PARIS LETTER

(From Our Regular Correspondent)

Paris, Sept. 1, 1911.

Aid for the Blind

Books with raised letters used by the blind are generally very expensive. They have, up to the present time, been of two distinct types: (1) those which were stereotyped, the manufacturing process being so expensive that frequent printing of new books is made almost impossible; (2) those written by hand by some blind person whose good will does not prevent him from making frequent inaccuracies, and who can make but one copy at a time, and that only slowly. Now, as I have indicated in a preceding article in The Journal (Sept. 17, 1911, p. 1036), M. Ernest Vaughan, the director of hospice des Quinze-Vingts, has devised a press for printing books for the blind by means of which a text of irreproachable exactness can be obtained, and at a cost much less than that of either the stereotyped or the hand-written books. To place this system on the market, he has founded the Société philanthropique d'impressions pour les aveugles, of which the celebrated writer, Anatole France, member of the Académie Française, is president.

What this society proposes to do is this: (1) to provide the blind workers with books on technical subjects—necessary information in the following of their professions—catalogues, references and all the practical information which will enable them to fill positions commanding salaries as large as those drawn by workers who have the use of their eyesight; (2) to establish free district libraries where the blind people can find the means of educating or amusing themselves, in the same way that those who can see may do; (3) to publish and sell books and music for the use of the blind, at the most moderate prices; (4) to give advice to any of them, and particularly to the workers, who will find them willing to give any help which they may need—except money aid, which they make it a practice never to give; (5) and lastly, to propagate M. Vaughan's method, or any other similar method, for printing books for the blind.

The first effort of the society will expend itself on the printing of technical books, which will be sold at a minimum price, or even furnished gratuitously to the extremely poor persons, as the resources of the society permit.

As soon as the number of subscriptions warrant it, centers will be established in the provinces to attract future libraries there. At Marseilles, Dijon, Lyons, Tours, Arras and Lille groups of people are offering quarters and the necessary personnel. The committee of patronage, which is disinterestedly devoting itself to launching the Société philanthropique d'impressions pour les aveugles combines many personalities and different philosophic and political opinions.

The Druggist's Bottle as Agent of Contagion

In most French pharmacies one can return, for a cent or two, bottles, jars and other receptacles. The chances of infection are easy to calculate. Inasmuch as the druggists are not obliged to sterilize the returned receptacles, the only practical means of remedying the evil would be in the refusal of the druggist to take back used bottles. Unfortunately, the druggist does not dare to do this, for the customers, to gain a few pennies, will go to some other druggist. In certain towns, as *La Pharmacie Française* informs us, the druggists have agreed to refuse the return of bottles altogether. A propaganda is now being carried on to have druggists and the public everywhere renounce the practice in question.

A New Responsibility for Physicians

It happens all the time that the country doctor is asked by his patients to bring in his carriage the messenger, who has, in order to gain a little time which may be very precious, come to town after him. The doctor rarely refuses to render such a service. Now it follows, according to several recent decisions, that by so doing he assumes responsibility for the safety of his companion during the trip, and that if an accident occurs in which the latter is injured, the doctor is obliged to bear the consequences.

The Death of Dr. Bruandet

Word has been received of the death of Dr. Louis Bruandet, professor of anatomy at the medical school at Reims. Dr. Bruandet, who was 35 years old, was a victim of his professional duty. Shortly before he left for his vacation, he attended a patient suffering from malignant anthrax, contracted the disease himself, and died soon afterward.

Sources of Cholera

At the last meeting of the permanent commission of the superior counsel of hygiene, Dr. Calmette read his report on the sanitary situation in the city of Marseilles. The result of his investigation was that the origin of the cases of cholera observed in this city, is to be traced not to the water or to the milk, but to shellfish, either those imported from the neighboring towns themselves contaminated, or those gathered on the rivers, in streams or in falls. These shellfish, which are eaten raw, are often filled with vibrios. This explains the isolated cases of cholera which attack an individual or a single family in a certain district. Dr. Calmette demands laws in Marseilles and all along the Mediterranean coast, prohibiting the gathering, sale or importation of shellfish.

The Country Neurasthenic

Dr. Raymond Belbèze, a physician in one of the provinces, who has for some years made a study of several communes in the department of Tarn-et-Garonne, has just published a little book under the title "The Country Neurasthenic," which shows that in this particular district, 30 per cent. of the peasants are subject to neurasthenia, and that this percentage increases yearly. According to Dr. Belbèze, the depopulation, which is particularly rapid in Tarn-et-Garonne (having amounted to 40,000 between 1842 and 1899) is closely related to the increase of neurasthenia there and is explained, among other reasons, by a morbid fear of family responsibility; the numerous and early marriages being almost without exception voluntarily sterile after the birth of the first child. Dr. Belbèze considers that in addition to the economic factor (Tarn-et-Garonne has become greatly impoverished during the last few years) and the social factor (the enervating effect of academic and domestic education) the causes of this neurasthenia are to be found in the prevalence of overwork, inadequate nourishment, and above all in the close blood relationship which exists between the people, for the inhabitants have intermarried for more than a century.

The Public First-Aid Service of Paris

Professor Thoinot has just published his report for tne year 1910 of the public first-aid service of Paris, of which he is the director. It is organized to render aid in various public places and on occasions of public gatherings, in cases of illness, accident, confinement, drowning and violent and natural deaths. Professor Thoinot reports that in the course of 1910, the public service department aided 1,670 people, of which number 321 were submerged, as compared with 1,526, of which 352 were submerged, in 1909. Of these 321 submerged persons (242 men and 79 women) 132 were suicides; 154 were suicides in 1909. Of these 232 remained under the water less than one minute; 33, two minutes; 27, from three to five minutes; 4, from six to ten minutes; and three more than ten minutes. The last three could not be resuscitated. In the stations of aid in the mayor's offices, 268 wounded and 12 sick people were cared for. Stretchers from the different posts have been used to carry those injured in the public streets to the morgue, to the hospital, or to their homes. The organization looked after 50 sick and 12 wounded at the carnival, 50 wounded and 70 sick at the national fête, July 14.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, Sept. 7, 1911.

Personals

On the occasion of the centennial jubilee of its foundation, which was celebrated, September 2, the medical faculty of Christiana, gave the honorary title of doctor to Professor Rubner, Professor Rabl of Leipsic and Professor v. Strümpel of Leipsic.

A new chair has been established at Tübingen for skin and venereal diseases and Professor Linser has been appointed the incumbent.

The Distribution of Persons Engaged in the Treatment or Care of Disease in the German Empire

In accordance with a resolution of the federal council (*Bundesrat*) in 1909, an investigation as to the distribution of persons engaged in the treatment of disease, of pharmacies and of persons engaged in pharmacy and nursing in the German empire, was undertaken May 1, 1909. From the results just published by the imperial health office, the following statements are taken: The number of licensed physicians of the German empire has increased by 23.59 per cent. since 1898, the total now being 30,558. The number of physicians connected with institutions has increased at the rate of 60.1 per cent. in contrast with the percentage increase of 20.28 among physicians who do private practice. The large cities show the greatest increase, while in the relatively smallest communities a retrogression can be shown. Generally the public in large cities is four times as richly supplied with physicians as the people of the smallest communities.

The number of professional nurses has nearly doubled in the last eleven years, reaching the number of 68,818. They are classified as domestic (20,026) and institutional (48,792), also as recognized by the state (23,681) and not recognized by the state (45,075), and finally into association nurses and others. The relatively greater participation of the male sex in the entire increase among nurses is not to be denied. The Roman and evangelical sisterhood nurses form respectively 48.3 and 29.2 per cent. of the association nurses.

The persons engaged in the professional treatment of the sick who are not licensed, are equal in number to 17.1 per cent. of the number of physicians in private practice. Altogether they number 4,468, and since 1887 have experienced an increase of 160.8 per cent. and the non-licensed medical women have increased to the extent of 333.4 per cent., as contrasted with the non-licensed men who have increased by 123.4 per cent. The group of midwives has receded in proportion to the population from 7.72 in 1876 to 5.94 per 1,000; this corresponds with the decrease in the birth-rate. The licensed veterinary surgeons have increased since 1887 from 3,113 to 3,813, and 69.7 per cent. of all veterinary surgeons are engaged in the official inspection of cattle and meat.

With reference to pharmacists, the statistics show that a relative decrease has occurred, for in 1895 there were 0.99 pharmacists for every 10,000 inhabitants, in 1909, 0.97.

Cerebrospinal Meningitis in Prussia in 1910

In 1910 there were officially reported 369 cases of cerebrospinal meningitis as opposed to 1,030 in the year 1909. Of these thirty-seven cases were shown to belong to other diseases of the brain and in twenty-four cases the diagnosis was doubtful. Most of the cases occurred, as in the previous year, in the provinces of Düsseldorf, Arnsberg and Oppein. According to season, the largest number of cases occurred, as in the previous year, in spring and winter; 60 per cent. were of the male sex, showing again a preponderance over the females. As to the age they were generally children from 6 to 10 years. Of the patients 136 had recovered at the end of 1910 and 194, or about 60 per cent., had died. Death occurred most frequently in the first week, namely, in seventy-two cases. Of 136 who recovered, so far as facts are available, only two cases of permanent injury to health remained, namely, deafness. The diagnosis was generally confirmed by bacteriologic examination. According to the reports, forty-one patients had been treated with meningitis serum; of these twenty-three recovered and twelve died.

Reduction of the Excess of Females in Prussia

In almost all European countries the female sex has for a long time outnumbered the male; only in the East do the men exceed the women in number. This has been numerically determined in Roumania, Servia, Bulgaria and Greece. In Turkey the sexes are not separated in the census, but it is certain that there also the male sex is predominant. The reason for this difference is partly to be found in the greater tendency of men to shift about from place to place. Only when exact facts are obtainable with reference to the sex at birth can it be determined how far the greater or less neglect of one or other sex, especially during the period of infancy, is responsible for the varying distribution. In Germany there are annually about 60,000 more boys born than girls. In spite of this, for various reasons, the female sex outnumbers the male to a marked degree. But there is one peculiar fact, namely, that in the last census period, the excess of females over males in Germany has diminished. If this ratio continues, in thirty years or less the sexes will be equal in numbers. At present there are for each 1,000 persons, 506 women and 494 men. If it is assumed that there is a general variation in favor of the male sex, it may be explained by a lesser tendency of the men nowadays to emigrate, and by the number of persons who have moved to Prussia from elsewhere in the empire. Still another factor is the gratifying lowering of the infant death-rate, to which the male sex, in consequence of its larger proportion, contributes to a greater extent than the female.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, Sept. 23, 1911.

A Technical Museum with a Medical Department

Some time ago a private committee organized to erect in Vienna a permanent technical museum. The government not only granted a large sum of money but also caused the technical schools to donate appropriate subjects to the museum. One of the divisions will be devoted to public health, medicine in general, and sanitation, and men of the profession all over the world are invited to contribute any object they might think of value for this institution. A museum of this kind will undoubtedly be equally interesting to the general practitioner, the medical student and the public health official. The committee has already been offered a number of old medical instruments, mixtures, laboratory and pharmacy outfits, including a handsome collection of quack remedies, the compositions of which are analyzed and exhibited. The sanitary exhibit will include the technical details of pure food- and water-supplies, methods and apparatus for the removal of town garbage and waste, filtering-beds and smoke-abating contrivances, and also apparatus and outfits for first aid to the injured, especially in the case of railway accidents, coal-mine explosions, and injuries received in war. The cooperation of medical experts will ensure a proper selection of the exhibits offered.

Protection of Laborers in the Sugar Factories and the Printing Trade

Two ordinances of the ministry of public works, dealing with the conditions in the sugar industry and the printing trade, have an important bearing on the health of a large percentage of the laboring class. These regulations are the outcome of inquiries by a special accident commission and are in strict harmony with the special progress of work in the two mentioned lines of industry. In the sugar industries, precautions to be taken and means necessary for prevention of scalding, cauterizing, poisoning or producing of dangerous dust are enumerated. A periodic regular examination of apparatus which are deemed especially dangerous (recipients, centrifuges, etc.), is made compulsory, and hygienic precautions for the protection of the consumers of the sugar are also added. The regulations concerning the printing trade are directed chiefly against the dangers of lead-poisoning. Thus the minimum of volume of air per laborer has been fixed proportionally with the richness in lead dust in the various industries; proper ventilation is made compulsory. The walls and floors of the workshops must be cleaned at least twice a week and subterranean work-rooms are not allowed at all where lead is used. Female and juvenile workers may not be employed for certain kinds of labor involving great exposure to the risk of lead-poisoning. Colors containing lead must be stated as such and strict observation of the prohibition of eating, drinking and smoking while at work is rigidly enforced. One provision is that the workers in industries using lead shall be examined periodically by public health officers who will be empowered to order a person to stay away from work if found to be affected by plumbism. The readmission of such persons will be conditional on producing a certificate of health. The regulations will go into force Jan. 1, 1912, in the existing factories, and at once in those which will be erected between now and that date.

A Supply of Serum Against Serpents for the Austrian Army

The two army corps stationed in the southern districts of the empire have been provided for some time with a large amount of antitoxic serum for use in cases of soldiers being injured by serpents. The excessive heat and dryness of the temperature has caused a large increase of these inhabitants of the rocky and dry districts and especially the viper has appeared in numbers not seen before. Acting on a suggestion of the head of the army medical corps, the serum was obtained in a sufficient quantity to supply all staff hospitals in the area in question, and the regimental surgeons have received careful instructions how and when to use it. It was also necessary to provide a number of syringes required for the use of this serum. Every year a few cases of fatal injuries by vipers have been reported, mostly from the civilian population. The application of permanganate of potash in crystals to the wound was not always successful, and so the more modern method has been recommended and it will be available both for the military and civilian patients requiring it.

Miscellany

"An Example to Follow.—It is evident that the state of Louisiana has at the head of its board of health a man of unusual enterprise and originality, Dr. Oscar Dowling. He has rightly been described as not only a man of ideas, but a man of action. Reports of what President Dowling has done in and out of Louisiana show that not only has he enforced sanitation and laws of healthful living, but that he has taught their principles in an efficient and novel way. The best example of this is his famous health train, which traveled nearly seven thousand miles and visited over two hundred and fifty towns and cities in the state. Over one hundred and fifty thousand people along the line of this route visited the laboratory exhibits on the train and saw the moving-picture lectures. This educational work was so successful and valuable that Dr. Dowling took the traveling exhibit to the. . . [American Medical Association] convention at Los Angeles. . . and returned across many states, offering everywhere a demonstration of the causes and methods of cure for disease. One car had an additional exhibit showing the methods of preventing disease; a second taught how food should be prepared and guarded; a third was for the accommodation of Dr. Dowling and his assistants. The plan, in Louisiana at least, included not only education but inspection, as is shown by the following extract from a newspaper account:

> "On the arrival of the train at a town, the doctor was off on his tour of inspection—a thing little known before his arrival. Without fear or favor he inspected everything, the water-supply, the treatment of sewage and the disposal of garbage, the slaughter-houses, the markets, the bakeries, the hotels, the restaurants, the schools, the jails, the sanatoria, the railroad stations; and without fear or favor he reported on them all.

"Twenty years ago such an effort to bring about right health conditions was unheard of, and any one who proposed it might have been laughed at as a dreamy theorist."—*Outlook*, Sept. 23, 1911.

Suggestions in Science.—Because every discovery becomes the basis for further study, the imagination of the investigator is constantly stimulated. New facts suggest in turn other facts and point to unsuspected relations between things that have long been known. Bayliss and Starling's discovery of a natural chemical stimulant which induces secretion of the pancreas led directly to the explanation of continued gastric secretion, and also to finding the marvelous mechanism by which the mammary glands are prepared for the giving of milk. Thus, though the interests of the man of science seem at the moment narrow and restricted, they may nevertheless lead his thought out into many diverse realms of knowledge. These excursions of the imagination offer repeated suggestions for fresh adventure. The look, therefore, is always forward to what may be seen when the next step is taken. Seeking new things becomes in time a fixed habit. Past achievements neither satisfy interest nor hold attention—they become fused with the established routine from which it is happiness to escape. The chance of beholding unsuspected wonders, or the possibility of finding that something imagined is really true is a constant incitement to further search and furnishes the zest and interest which are among the best rewards of the investigator.—Cannon in *Science*.

Roentgen-Ray Treatment of Lymphadenoma.—The *x*-rays produce a rapid diminution in the size of the glands, and it is said that life is thus prolonged. *X*-rays destroy the lymphoid tissue, but leave the fibrous tissue unaffected. It must be borne in mind that by free application of *x*-rays the lymphocytes and the healthy lymphoid tissues may be too extensively destroyed and that harm may thus be done. It has been noted that in some instances although rapid diminution in size follows *x*-ray treatment the glandular enlargement returns very rapidly when the treatment is stopped. It appears that treatment by radium would be difficult from the large amount of radium which would be required to deal with the extensive lesions.—H. D. Rolleston, in the *Practitioner*.

Marriages

Howard Charles Randolph, M.D., Aberdeen, Wash., to Miss Lillian Elizabeth Burke of Ann Arbor, Mich., at Seattle, September 11.

William C. Gibson, M.D., Empire, C. Z., to Miss Edith M. Seymour of Petoskey, Mich., at Cristobal, C. Z., August 31.

Howard Bulkeley Haylett, M.D., Hartford, Conn., to Miss Hortense Idell Dunham of Burlington, Vt., August 31.

Arthur M. Bishop, M.D., Chicago, to Mrs. Della Robbins Burnett of Good Hope, Ill., at Galesburg, August 26.

Herbert C. Clark, M.D., Ancon, C. Z., to Miss Jessie Sanderson of Norfolk County, Va., at Ancon, September 2.

Waldemar Rusche, M.D., Giessen, Germany, to Miss Louise W. Treide, at Baltimore, September 14.

Earl H. Coleman, M.D., Los Celtos, Cal., to Miss Nain Taylor of Curpentino, Cal., September 6.

Albert Brewer Landrum, M.D., to Miss Flora Esther Rohe, both of Columbus, O., June 12.

John D. MacLean, M.D., Greenwood, B.C., to Miss Minnie Watson, at Tara, Ont., recently.

John J. Kerwin, M.D., to Miss Helen Marie White, both of Chicago, September 12.

Deaths

Maurice Dwight Clarke, M.D. Harvard Medical School, 1882; of Haverhill, Mass., a member and once vice-president of the Massachusetts Medical Society; for twenty-two years secretary of the Essex North District Medical Society; formerly a member of the Haverhill (Mass.) Board of Health and a member of the local pension board; formerly consulting physician to the Danvers State Hospital; surgeon and chief of staff of the Hale Hospital, and secretary and treasurer of the Haverhill Medical Club; died in Danvers, Mass., September 7, aged 59.

Granville Wilson Tinkham, M.D. Harvard Medical School, 1871; of Weymouth, Mass.; a member of the Massachusetts Medical Society and once president of the South Norfolk District Medical Society; for several years medical examiner for the coroner of Weymouth district; died in the Boothby Hospital, Boston, September 9, a few days after surgical operation, aged 63.

George D. Crandall (license, Tioga County, Pa., 1881); a member of the American Medical Association, Erie Railroad Surgeons' Association and International Association of Railway Surgeons; surgeon of the Tioga Division of the Erie Railroad; surgeon in charge of the Cottage State Hospital, Blossburg; died at his home in that place, August 22, from appendicitis, aged 67.

Charles Cornelius Payne, M.D. University of Kansas, Kansas City, 1907; a member of the Kansas Medical Society and for a time a lecturer of the faculty of his alma mater; died at the home of his wife's mother in Lawrence, September 14, from the effects of a gunshot wound of the chest, believed to have been self-inflicted with suicidal intent, aged 38.

John Craddock Drennan, M.D. Vanderbilt University of Nashville, Tenn., 1893; state senator from the district made up of Cannon, Rutherford and De Kalb counties; died at his home in Woodbury, Tenn., September 13, from the effects of a gunshot wound, believed to have been self-inflicted with suicidal intent, aged 45.

George William Reynolds, M.D. University of Buffalo (N. Y.), 1880; Rush Medical College, 1897; for many years a member of the American Medical Association; chief of the gynecological staff of St. Joseph Hospital, Chicago; died in that institution, September 9, from chronic interstitial nephritis, aged 57.

Eugene Arthur Hults, M.D. Hahnemann Medical College, Philadelphia, 1886; from 1895 to 1898 health officer of Perth Amboy, N. J., and since May 15, 1911, health officer of the port; died at his home, September 4, from nephritis, aged 50.

Edgar M. Griffith, M.D. Cooper Medical College, San Francisco, 1876; died at his home in Boyle Heights, Los Angeles, September 7, from nephritis, aged 53.

Abraham M. Neyman, M.D. Western Reserve University, Cleveland, O., 1853; a member of the Medical Society of the State of Pennsylvania, and a charter member of the Butler County Medical Society; died at the home of his daughter in Butler, September 16, from senile debility, aged 65.

Elmer Wallace Hamilton, M.D. Jefferson Medical College, 1907; a member of the American Medical Association; of Newtown, Pa.; formerly a member of the staff of the New Jersey State Epileptic Colony, Skillman; died in a hospital in Philadelphia, September 1, aged 32.

Alton D. Du Puy, M.D. University of Louisville (Ky.), 1886; for twenty years a practitioner of San Antonio, Tex.; for twelve years chief surgeon of the International and Great Northern Railroad; died at his home, September 8, from heart disease, aged 48.

D. O. Fruth, M.D. Columbus (O.) Medical College, 1879; of Los Angeles, Cal.; a practitioner of Chicago until 1897, and again from 1903 to 1909; died at the home of his sister near Fostoria, O., September 13, from disease of heart and kidneys, aged 55.

John W. Ballard, M.D. Medical College of Ohio, Cincinnati, 1879; for thirty-five years a practitioner of Logansport, Ind., and for three terms coroner of Cass County; died at his home in Logansport, September 9, from cerebral hemorrhage, aged 56.

Thomas Richard Ward, M.D. State University of Iowa, Iowa City, 1873; Bellevue Hospital Medical College, 1882; surgeon to the Swedish Hospital, Omaha; died suddenly at his home in that city, September 10, from heart disease, aged 64.

Clarence Cullens, M.D. Kentucky School of Medicine, Louisville. 1871; a Confederate veteran; probate judge of New Albany County for one term; died at the home of his sister in Pontotoc, Miss., September 8, from bronchitis, aged 69.

Leonard Chester Backus, M.D. University of Michigan, Ann Arbor, 1887; a member of the Ohio State Medical Association; formerly of Fayette, O.; died at his home in Ann Arbor, Mich., September 8, from ptomain poisoning, aged 50.

J. H. Smith, M.D. Atlanta (Ga.) Medical College, 1877; for several years president of the Iowa Farmers' Insurance Company, Cedar Rapids, with a winter residence in Orlando, Fla.; died at his home in Cedar Rapids, August 30.

Edward Desmond, M.D. Tulane University, New Orleans, 1906; of Spokane; a member of the Washington State Medical Association; died in the Sacred Heart Hospital, Spokane, September 11, from typhoid fever, aged 41.

Elisha Sergeant Athearn, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1865; formerly of Oberlin, Kan., and North English, Ia.; died at his home in Boulder, Colo., September 4, from senile debility, aged 76.

Oliver H. Arnold, M.D. Harvard Medical School, 1867; for a time connected with Brown University, Providence, R. I. in the department of biology and comparative anatomy; died at his home in Providence in June, aged 70.

William Francis Pier, M.D. Bellevue Hospital Medical College, 1878; of Avoca, Pa.; formerly coroner of Luzerne County, and a school director; died at his summer home in Elmhurst, September 5, from diabetes, aged 55.

William Henry Viney (license, Massachusetts, years of practice, 1894); surgeon of New York Volunteers during the Civil War; a Forty-Niner; died at his home in Springfield, Mass., September 8, aged 85.

Walter Sullivan Holladay (license, Marion County, Ala., 1888); for ten years a member of the board of censors of the Marion County Medical Society; died at his home in Hamilton, September 7, aged 59.

Gabriel Miesse, M.D. Eclectic Medical Institute, Cincinnati, 1847; a pioneer practitioner of Lancaster, O.; died at the home of his cousin at Columbus, O., September 11, from heart disease, aged 75.

Robert P. Keesee, M.D. Leonard School of Medicine, Raleigh, N. C., 1901; a member of the National (Colored) Medical Society; died at his home in Annapolis, Md., August 26, from appendicitis, aged 32.

Phoebe E. Harding, M.D. (license, Ohio, years of practice, 1896); for more than forty years a practitioner; died at her home in Marion, O.; May 29, 1910, from cerebral hemorrhage, aged 66

William Nelson Fry, M.D. University of Vermont, Burlington, 1887; a member of the Iowa State Medical Society; died at his home in Marcus, September 12, from cerebral hemorrhage, aged 46.

Andrew Jarritte Pool (licensed, Arkansas, 1903); for thirty-eight years a practitioner of Georgia, Texas and Arkansas; died at his home in Mena, Nov. 30, 1910, from cerebral hemorrhage, aged 59.

William Fritchey Roth, M.D. Hahnemann Medical College, Philadelphia, 1878; of Manheim, Pa.; died in St. Joseph's Hospital, Lancaster, Pa., September 3, from intestinal obstruction, aged 55.

Benjamin W. Stauffer (license, Lebanon County, Pa., 1881); for nearly sixty years a practitioner of Campbelltown; died at his home in that place, September 10, from senile debility, aged 85.

Robert Chambers Moorehead, M.D. Baltimore (Md.) Medical College, 1886; formerly of Washington, Pa.; died suddenly at his home in Pitcairn, September 7, from heart disease, aged 57.

James M. Fry, M.D. Kentucky School of Medicine, Louisville, 1876; a Confederate veteran; died at his home in Wills Point, Tex., September 10, from cerebral hemorrhage, aged 60.

Dugald Leitch McAlpine, M.D. University of Toronto (Ont.). 1863; of Vancouver, B. C.; died in that city, April 24, from the effects of a street car accident four years before, aged 76.

Endyman F. Graham, M.D. University of Tennessee, Nashville, 1891; of Marietta, Okla.; a member of the Oklahoma State Medical Association; died in Chicago, September 5.

Tolman F. Andress, M.D. (license, Kansas, 1901); an eclectic practitioner for forty-three years; died at his home in Liberty, Sept. 10, 1910, from valvular heart disease.

Francis Milton Cragin, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1860; died at his home in Norwood, Mass., in June, from heart disease, aged 77.

John N. Jones, M.D. University of Buffalo (N. Y.), 1898; for two terms coroner of Chemung County, N. Y.; died at his home in Erin, September 5, aged 38.

Eugene F. Rink, M.D. Hahnemann Medical College, Philadelphia, 1877; died at his home in Burlington, N. J., September 6, from heart disease, aged 60.

Archibald A. Strange, M.D. University of Louisville (Ky.). 1889; died recently at his home in Burkesville near Martinsburg, from senile debility, aged 70.

Arnold Carpenter Davis, M.D. Hahnemann Medical College, Chicago, 1881; died at his home in Farina, Ill., Sept. 15, 1910, from acute enteritis, aged 71.

Henry T. Whiting, M.D. Chicago Homeopathic Medical College, 1883; died in his office in Rockford, Ill., September 13, from acute gastritis, aged 73.

Lawson Rosencrans Robinson, M.D. Kansas City (Mo.) Medical College, 1892; of Kansas City; died in Hot Springs, Ark., September 9, aged 49.

Mark W. Allison, M.D. University of Nashville (Tenn.). 1860; died recently at his home near Whitaker, Tex., from nephritis, aged about 75.

Alexander A. Watts, M.D. Savannah (Ga.) Medical College, 1856; died at his home in Montezuma, Ga., in July, from valvular heart disease.

William M. Flowers, M.D. Tulane University, New Orleans, 1880; died at his home in Florence, Miss., September 4, from uremia, aged 55.

George W. Lane, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1900; died at his home in Helena, Ga., in November, 1910.

John Search Newton, M.D. Jefferson Medical College, 1867; died at his home in Cedarcreek, Ark., in November, 1910, aged 67.

Daniel Stevens, M.D. Bennett Medical College, Chicago, 1878; died at his home in Fairfield, Neb., September 1, aged 74.

John Kubus (license, Pennsylvania, 1908), of Braddock, Pittsburgh; died recently in Kars, Germany, aged 37.

Mason Thomson, M.D. Bellevue Hospital Medical College, 1876; of New York City; died July 6.

The Propaganda for Reform

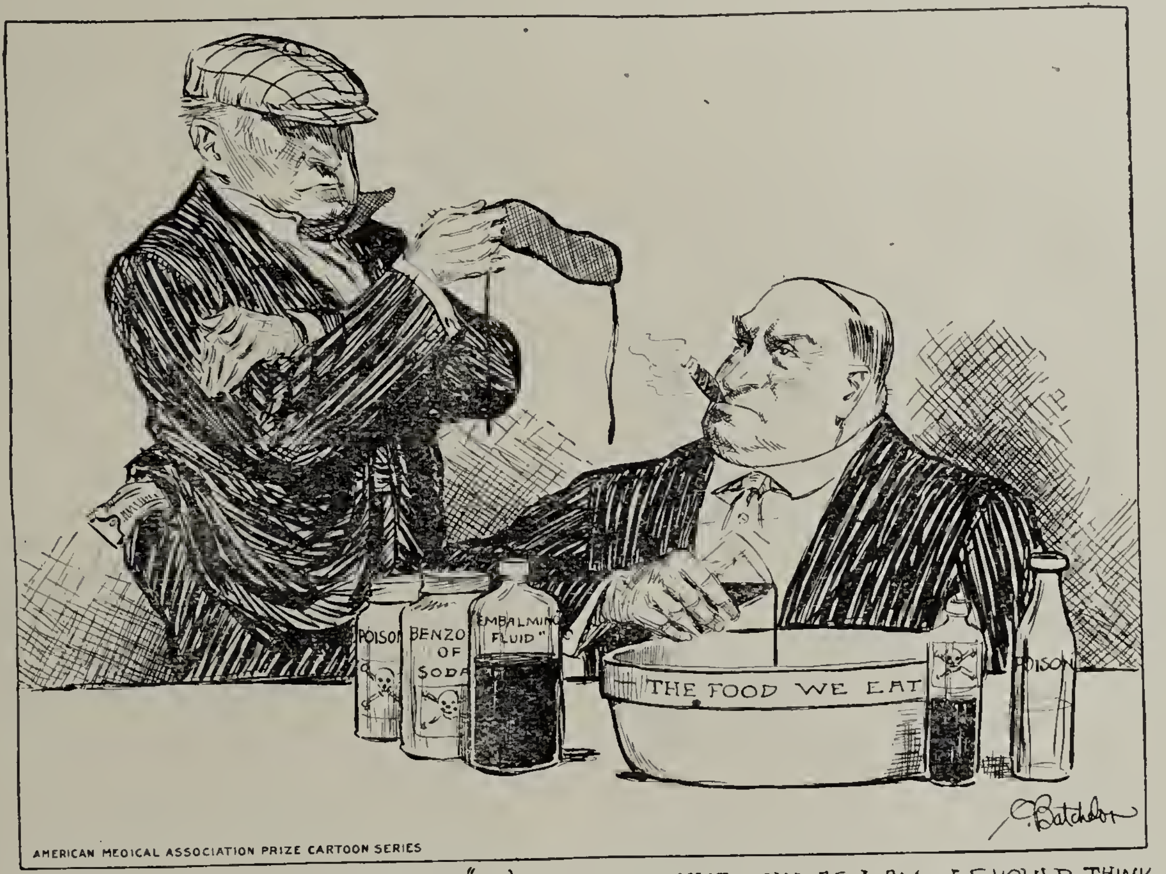
In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession.

THE BIO-ASSAY OF EPINEPHRIN PREPARATIONS

Report of the Council on Pharmacy and Chemistry

The variable quality of epinephrin preparations having been brought to the attention of the Council on Pharmacy and Chemistry, a committee was appointed to determine means of securing uniformity of composition in these products. In particular the committee was to study the keeping qualities of epinephrin solutions and to propose a uniform method for the valuation of preparations depending for their activity on the blood-pressure-raising principle of the suprarenal gland. The report of this committee was submitted to the Council's Committee on Pharmacology and after discussion was adopted by the Council. Its publication having been authorized, it appears below: W. A. Puckner, Secretary.

The experiments of Reid Hunt, of Sollmann & Brown, and of W. H. Schultz have shown that the various commercial samples of epinephrin solution differ considerably in activity. It may fairly be assumed that these variations are not due to any intentional difference in composition, but may be attributed, in part, to the spontaneous deterioration with age and exposure and in part to different methods employed in standardizing the solutions at the factory.



THE SELLER OF IMPURE FOODS: "YE'RE OUT FOR THE COIN AS I AM. I SHOULD THINK THIS LINE WOULD ATTRACT YOU. A GOOD PROPOSITION. BIG MONEY AND LITTLE RISK"

SECOND STORY MAN: "WELL YE SEE ITS THIS AWAY. ME IDEALS WOULDN'T STAND FOR POISONING LITTLE KIDS AND DE LIKE."

Deterioration would naturally depend on the preservative used and on the conditions to which the sample has been exposed. Until the influence of these is better known, it would not be fair to set an age limit. It is better to rely on occasional standardization of samples bought in the open market; and it is herewith recommended that arrangements be made to this end. A variation of 15 per cent. from the claimed strength might be permitted without detriment to the public, and with fairness to the manufacturers. It is highly desirable, however, that manufacturers stamp the age of manufacture on the container, to guard against samples which are obviously over-aged.

As regards the method of standardization there seems to be universal agreement that the preference should be given to the blood-pressure method, the principle of which was first published by E. M. Houghton. In order that different observers may obtain uniform results by this method, certain details must be observed rigorously, while others may be left to the discretion of the experienced experimenter—and only such should undertake bio-assays. The subjoined method has been elaborated to unify these essential details.

The question of supplying an absolute standard has not yet been solved. This requires the issuance of an absolutely pure epinephrin, or of samples of known, absolute strength. Until arrangements for this can be made, the results will not be absolute; but the unification of methods is desirable even for comparative experiments.

It is recommended, therefore, that the method about to be described be employed in investigations by the Council, and that it be published for the convenience of other investigators and for the information of the manufacturers; it was further recommended that its use by the latter be left optional at least for the present.

BIO-ASSAY OF EPINEPHRIN PREPARATIONS

The strength of epinephrin preparations is to be stated in terms of pure epinephrin, and must not differ by more than 15 per cent. from the strength as determined by the quantity required to produce the same rise of blood-pressure as is produced by a known quantity of pure epinephrin, when both are injected, in approximately the same dilution, and at the same rate, into an homologous vein of the same mammal.

1. *Preparation of Experiment:*—A medium-sized dog (or less conveniently, a cat or rabbit), weighed and thoroughly anesthetized, is used. The carotid artery is connected with a mercurial manometer, the excursions of which are partly damped by a screw clamp on the connecting tube. It should be made to write on a drum which should revolve slowly—about 1 to 4 inches per minute.

A short cannula of small bore is tied into each saphenous vein close to its junction with the femoral vein and the veins clamped off with small artery clamps. One of these is for the standard solution, the other for the solution to be standardized. These cannulæ are provided with rubber connections so that the dead space between the opening into the vein and that of the standardized 1 c.c. all-glass syringe does not exceed 0.5 c.c. Two all-glass syringes may be used for making the injections, one marked *A* for the standard solution, and the other marked *B* for the solution to be standardized (or graduated burettes may be used). Both vagi are divided and artificial respiration is performed. Care should be used to maintain a uniform anesthesia, complete enough to avoid muscle-movements, throughout the experiment.

2. *Preparation of Solutions:*—The standard solution is prepared by dissolving 1 part of pure epinephrin hydrochlorid in 100,000 parts of 0.9 per cent. sodium chlorid (NaCl) solution.[1]

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[1] The Hygienic Laboratory, the U. S. P. Revision Committee, or the Council on Pharmacy and Chemistry should issue a standard trituration of ephinephrin hydrochlorid with NaCl 1:900; the standard solution may be prepared by dissolving 0.9 gm. of this in a sufficient quantity of distilled water to make 100 c.c.

The preparation to be standardized is diluted with normal saline solution to approximately the same strength, as nearly as can be estimated, of that of the standard used.

3. *Determination of Standard Dose:*—One of the syringes (*A*) and its cannular connection are filled with the standard 1:100,000 solution. The blood-pressure tracing is started on a slowly revolving drum, and the standard solution is injected in the dose of 0.1 c.c. per kilo of body weight at such a rate that 1 c.c. passes into the vein in five seconds. Soon after the blood-pressure begins to return to normal the drum may be stopped.

The rise of the blood-pressure should be about 25 to 45 mm. of mercury (equivalent to 12.5 to 22.5 mm. rise of the writing point of a U-shaped manometer), and it should be submaximal. To determine the latter, a second injection of 0.15 c.c. per kilo should be made, with tracing, which should show a higher rise.

If the dose of 0.1 c.c. per kilo does not give a submaximal rise of at least 25 mm.; or if it gives a maximal rise, the dose should be increased or reduced respectively, until the standard effect is obtained, and this dose should be considered the "standard dose" for this animal. The injections should be made at the same rate (1 c.c. in five seconds), and an interval of at least three minutes should elapse after the blood-pressure has returned to the normal, before another injection is made.

4. *Adjustment of Dosage of the "Unknown" Solutions:*—The solution of the "unknown" sample is diluted as directed under No. 2. The unused cannula in the saphenous vein and syringe *B* are filled with the solution to be tested. A "standard dose" (see last paragraph of No. 3) is injected at the rate of 1 c.c. in five seconds, and at intervals of from three to five minutes, while a tracing is being taken. The rise of pressure is compared with that produced by the standard dose of the standard solution. According to the result so obtained, the unknown solution is diluted or strengthened, and the results controlled by injections (occasionally making an injection of the standard solution to insure constancy in the reaction of the animal). Final equality is tested by injecting alternately the same dose of the standard and unknown solutions until the average rise from three successive injections is equal within 15 per cent.

5. *Use of Several Animals:*—If an animal reacts abnormally to the standard epinephrin solution, the results from that animal shall be rejected. If the reaction changes during the course of the experiment, or if the blood-pressure falls permanently below 80 mm. of mercury, then the results after this change or fall should be rejected, or at least not compared with those obtained before the changes occurred.

The relation of the unknown solution to the standard solution should be determined on several animals, until the results on three (3) animals agree within 15 per cent., and the average of the three (3) animals shall be accepted as the final result.

Diarrhea in Infants.—The treatment advised by R. Rorke (*Western Canada Medical Journal*) for this condition is exceedingly simple. The bowels are evacuated thoroughly by castor oil if there is serious vomiting, or by lavage of the stomach and calomel in small and repeated doses if there is vomiting of a persistent character. The colon is cleared out by irrigation with normal saline solution introduced high up in the bowel. All food is withdrawn for at least twenty-four hours, giving only sterile water, which may be flavored with a little tea. If the digestive tract continues unsettled, albumin water and strained soups or broths may be given. These latter may also be used as a means of getting back to the breast again, when an abrupt return might bring about a relapse. On doing this a portion of these forms of nourishment or some sterile water should precede the nursing from the breast so as to restrict the amount of milk taken at each feeding. In most of these cases all medicinal treatment is usually unnecessary. However, if the motions become quite watery, fairly large doses of bismuth subnitrate may be prescribed with advantage.

Association News

APPOINTMENTS ON COMMITTEES

Dr. John B. Murphy, president of the American Medical Association, has made the following appointments on committees for 1911-12:

COMMITTEE ON TRANSPORTATION AND PLACE OF SESSION

(To complete the Committee, in addition to J. Rawson Pennington, Chairman, elected by the House of Delegates.)

Thomas J. Murray	Butte, Mont.
William L. Brown	El Paso, Tex.
James P. Hutchinson	Philadelphia
William E. Anderson	Farmville, Va.

COMMITTEE ON NOMENCLATURE AND CLASSIFICATION OF DISEASES

Alembert W. Brayton	Indianapolis

(Vice Victor C. Vaughan, resigned.)

COMMITTEE ON ANESTHESIA

George Emerson Brewer, Chairman	New York City
Thomas W. Huntington	San Francisco
Yandell Henderson	New Haven, Conn.
Fred T. Murphy	St. Louis
E. Denegre Martin	New Orleans

COMMITTEE ON ESTABLISHMENT OF PHYSICIANS' SANITARIUM

Edward Jackson, Chairman	Denver
Alexander C. Magruder	Colorado Springs, Colo.
Joseph Yates Porter	Jacksonville, Fla.
Algernon T. Bristow	Brooklyn
Fitch C. E. Mattison	Pasadena, Cal.

COMMITTEE TO FORMULATE AMENDMENTS TO THE CONSTITUTION AND BY-LAWS TO EXTEND MEMBERSHIP

D. S. Fairchild, Chairman	Clinton, Ia.
John W. Young	Grenada, Miss.
Charles S. Sheldon	Madison, Wis.
Horace D. Arnold	Boston
Jere L. Crook	Jackson, Tenn.

COMMITTEE TO ARRANGE FOR CLINIC DAYS

Charles L. Mix, Chairman	Chicago
Edward Martin	Philadelphia
Philip Marvel	Atlantic City, N. J.
Alexander Lambert	New York
John M. T. Finney	Baltimore

COMMITTEE TO ARRANGE APPROPRIATE LECTURES TO THE PUBLIC AT THE ANNUAL MEETINGS

William A. Evans, Chairman	Chicago
Maria M. Vinton	East Orange, N. J.
Rosalie S. Morton	New York City
Joseph S. Neff	Philadelphia
Edward Guion	Atlantic City, N. J.

COMMITTEE TO INVESTIGATE THE ADVISABILITY OF PUBLISHING A SMALL MEDICAL JOURNAL

Joseph N. McCormack, Chairman	Bowling Green, Ky.
George A. Moleen	Denver
Edward E. Dorr	Des Moines, Ia.
George T. Palmer	Springfield, Ill.
Park W. Willis	Seattle, Wash.

COMMITTEE TO INVESTIGATE THE ADVISABILITY OF PUBLISHING A HEALTH JOURNAL

William A. Evans, Chairman	Chicago
Benjamin R. McClellan	Xenia, O.
Seale Harris	Mobile, Ala.
Gardner T. Swarts	Providence, R. I.
Francis E. Fronczak	Buffalo, N. Y.

COMMITTEE TO CONSERVATION CONGRESS

The President has created and appointed the following Committee to Represent the American Medical Association at the Third National Conservation Congress:

William A. Evans, Chairman	Chicago
Abraham Jacobi	New York
Hubert Work	Pueblo, Colo.
Norman Bridge	Los Angeles, Cal.
Oscar Dowling	Shreveport, La.
The Very Rev. Andrew Morrissey	South Bend, Ind

Correspondence

Fatal Poisoning from Strychnin in the Nose

To the Editor:—September 6, about 11:00 a. m., a man in the habit of snuffing cocain went to a drug store and called for a bottle of that drug. By mistake he was given a bottle of strychnin sulphate, of which, he said, he used about the amount of a pea before he left the drug store. At noon the same day, I was called to see him and he told me that he had just taken a dose of cocain which was about to kill him; it had never had such effect before. While I was preparing a hypodermic injection, I received a message explaining that the substitution of strychnin for cocain had just been discovered in the drug store. When I returned to the patient, he was having convulsions and continued to have them off and on until he died at 1:30 p. m., about two and a half hours after having used the poison. I do not remember having seen a report of any case of poisoning from strychnin sulphate in this manner, and I would like to have an opinion on it.

J. A. Burnett, Marble City, Okla.

Comment.—Naturally the placing of a soluble salt of strychnin, like the sulphate, in the nasal cavity affords an opportunity for absorption as great as, or greater than, when swallowed. The dose given can be known only approximately, but must have been several times as large as doses which are known to have proved fatal. The fatal period was about the average. The unfortunate character of the accident needs no comment. In the reported human strychnin-poisonings, the poison has been administered by the mouth or hypodermically so far as our observation goes except in two instances: In one case after the application of powdered strychnin to the eye, tetanus followed in three or four minutes (Schuler: *Gaz. méd. de Paris*, 1861, Series 3, xvi, 98). In another instance, the inhalation of steam from a hot mixture containing strychnin caused mild poisoning (Newbecker: The Journal A. M. A., Jan. 30, 1904, p. 310).

"There's a Reason"

To the Editor:—On my return from an extended trip in the East I was much surprised to learn that The Journal of the American Medical Association, in its issue of August 19, had taken occasion to attack the *American Journal of Clinical Medicine* editorially.

In this editorial the reader is insidiously led to the conclusion that there was a carefully prepared plan on our part, in cooperation with Mr. Post, to collect testimonials for Grape-Nuts and Postum Cereal. That this inference is unjustified could easily have been learned by The Journal, if it had taken the trouble to communicate with me. However, I am glad to give the profession all the facts in the case, and these are as follows:

Some months ago I had the pleasure of a personal interview with Mr. Post. At that time I was impressed by his candor and evident essential honesty, and convinced that he had not for some time been receiving fair treatment at the hands of some of his critics. While I believed, and still believe, that he has made a serious mistake in the character of some of his advertising (and this I took occasion to tell him personally—and he admitted it) I was also convinced that he was being made the victim of unnecessarily bitter attacks. While I would not defend him for advertising his foods as "cures" for disease, I did believe and still believe that the foods themselves are good, and that in advocating simplicity in diet and showing the harmfulness of the caffein-bearing beverages, he was rendering a real service to the people.

It was this feeling, with the desire to learn exactly how the readers of our journal felt toward Mr. Post and his products, that led me to send letters (we were quoted in The Journal correctly) to quite a number of our subscribers, their names being taken at random. I had decided that whether we should continue carrying the advertisement of the Post products or not was to depend on the character of the replies which we received from this straw vote. As a result of this vote it may interest you to know that we have received and have on file, subject to inspection, about 700 letters in praise of these products, about 500 which are noncommittal or indifferent, and about fifty which are condemnatory—but with no essential reasons given. We still carry their copy.

Your inference that the purpose of this campaign was to collect testimonials for Mr. Post was an unfortunate mistake. I am frank to say that a few (a mere bagatelle, proportionately) of these letters received were sent to Mr. Post for his inspection (but in every case with the writer's permission); and so far as we know, not one of these has been published.

I sent out these letters to our subscribers in the very kindliest spirit, primarily with the purpose of securing the information asked for our own guidance, and with no thought of deceiving or misleading anyone. So far as I can perceive, no man has been injured, but rather the cause of fair dealing between man and man, and the advertisers and the public, has been enhanced thereby. The one mistake I may have made was in failing to make the language of my letters sufficiently "judicial"—or indifferent—in tone.

Your suggestion that we "wish some excuse for participating in the benefits of his (Post) million-dollar advertising campaign" needs no comment. We have carried their business for years and see no reason why we should not continue to do so. Under the circumstances, it hardly seems necessary to state that the question of profit to us was not a factor in this straw vote—not in any sense of the word.

W. C. Abbott, Chicago.

Comment.—We publish the above "explanation" for what it is worth. The point of our criticism—dismissed by Dr. Abbott in three lines—was that a medical journal, in seeking to learn the attitude of its readers toward certain advertised products, should submit to its subscribers a series of leading questions so worded as, practically, to preclude any but favorable replies. It is not surprising that the answers to these letters sent out by the *American Journal of Clinical Medicine* were favorable to the products; the surprising thing is that there were any letters that were otherwise! The fact that there were nearly as many indifferent and condemnatory replies as there were replies praising the product, would, in view of the wording of the letter, have given pause to anyone who had not prejudged the question. The wish was evidently father to the thought. The letter said, in effect:

> We have been advertising Post's products for over ten years.
> We have always believed they were pure; we have used them and recommended them extensively.
> Will you cooperate by giving us your opinion?

Is it any wonder that the majority of the replies were favorable? Would there have been any "cooperation" in an unfavorable reply? Can anyone believe that evidence collected by such means has the slightest value? Of course, as testimonials, these answers doubtless have a distinct commercial value and there is little question that Mr. Post will find a use for those physicians' letters that have been so generously collected and forwarded him. In the famous suit in which Post was condemned to pay *Collier's* $50,000 for libel, Post was able to produce one favorable opinion of his products from a medical man—just one. Now he will have an abundance. As *Collier's* said, commenting on this, "It seems to us that, on every principle of give and take, the advertising of Postum and Grape Nuts ought to continue to appear in the *American Journal of Clinical Medicine* for the next thousand years."

Treatment of Rhus Poisoning

To the Editor:—For many years I have known of a certain cure for poisoning from ivy and various species of rhus. This cure could be described briefly as the last thing that was put on. It was very much like the cures for vomiting of pregnancy. The last thing employed in any given case was a specific.

For something over forty years I have suffered from ivy poisoning, on an average, more than once a year. As a fisherman, hunter and horticulturist, no degree of caution sufficed to allow of my escape from ivy poisoning for an entire season when in America.

Not long ago I read of the discovery by Dr. Berryhill, of the United States Navy, that ivy poisoning was caused by an irritating oil produced in various parts of the plants of poisonous species of rhus, and that proper treatment consisted in scrubbing affected parts vigorously with hot soapsuds, followed by alcohol. A few days later while at a farm house I was poisoned on the hands and arms. Alcohol was applied freely, but the scrubbing brush and hot soapsuds were not available. It is often the case that one finds only the necessities like alcohol at a farm house, without any luxuries in the way of scrubbing brushes. The treatment with alcohol alone was not very effective, and my confidence went back to palliatives like hyposulphite of soda and acetate of lead. A week ago, I was again poisoned severely on the hands and arms. This time a good scrubbing was given with hot soapsuds and a brush, followed by scrubbing with ether on a rag. In five minutes it was evident that a cure had been effected. There was no discomfort at any subsequent moment. The red elevation at the sites of vesication lessened day by day, and without any irritation in evidence. Dr. Berryhill said nothing about the employment of ether, and it is probable that alcohol, as he suggested, would be better as a rule.

The gratification of finding this almost instantaneous cure for ivy poisoning is such that I publish the note as personal experience promptly.

Robert T. Morris, New York.

To the Editor:—There was what might be called an epidemic of skin diseases due to poison ivy at Woods Hole, Mass., this summer. Many of the students, investigators and employees at the U. S. Bureau of Fisheries laboratory suffered from it as did also many visitors. At the seashore an insect bite is usually the portal of entry of the rhus toxin. Not only mosquitoes but the so-called sand fleas are dangerous insects, if their bites precede or follow the poison ivy eruption. The manner of acquiring the eruption cannot always be explained. I know of one man who acquired it from his long-haired St. Bernard dog, who, after rolling in these plants on the way to the beach, would brush past his master's legs and thus infect him. Ladies often get it in drawing off their skirts and shoes that have come in contact with the plant.

There was no end of methods of treatment and as a rule when there are many kinds of treatments for one abnormality not one of them is effective. Therefore it is with much hesitancy that I add another method to this already swollen polypharmacy. But here the other methods had been tried and failed and my new plan was so universally beneficial that I cannot resist publishing it. There are two etiologic ideas that guided me. In the first place it was known that the active poison was an essential oil and therefore only solvents for oils which had a greater affinity for it than the cutaneous cells could remove it. In the second place it soon became evident to me from repeated microscopic examinations of the discharge that all severe cases, at least, are mixed skin infections, due to an invasion of bacteria—even pyogenic cocci—after the rhus had entered.

The first indication was met by an alkaline hot bath (ammonia or bicarbonate of sodium) added to a hot bath and liberal rubbing with ethereal antiseptic soap. Thereafter the parts are bathed in 85 per cent. alcohol and dried.

The second cause is met by the yellow oxid of mercury ointment most effectively.

℞

Unguenti hydrargyri oxidi flavi....................	℥ss
Morphini	gr. ij

M. Ointment.

There is however a third factor, the distress of the itching and the discharge. For this, after going through the above treatment in the morning, the following ointment should be applied at night.

℞

Bismuth subgallate	100 ♏
Solution epinephrin (adrenalin chlorid)—1:1000—	ʒv
Lanolin	℥i
White petrolatum q. s. ....ad.	ʒi

M. Sig: Ointment. Rub in liberally, then dust with an antiseptic powder.

But the yellow oxid of mercury ointment must precede this and the patient must avoid the locality where the rhus grows. The ethereal soap cannot be used around the eyes. Out of fourteen patients, ten were cured in eight days and the method soon acquired the reputation of a specific. Seven cases were so severe that the sufferers were confined to bed from four to eight days. The alkaline bath should be taken daily.

John C. Hemmeter, M.D., Ph.D., Baltimore.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FISH-POISONING

To the Editor:—Please give the bacteriology, pathology, diagnosis and treatment of so-called fish-poisoning or salmon-poisoning occurring among handlers of fish on the Pacific Coast.

L. B. Sims, M.D., Blaine, Wash.

Answer.—We presume that our correspondent refers to an obscure disease observed in employees connected with the salmon-canning business, especially among the Chinese laborers in the Alaska canneries and on the ships bound homeward after the close of the fishing season. Deaths during the voyage and after arrival at port are common, and serious illness affects a comparatively large number each year. On one vessel three weeks en route from Alaska to San Francisco, there were five deaths during the voyage, two more deaths in quarantine and twenty other cases of serious illness in a gang of about 125 coolies. The cases present such a noteworthy similarity of symptoms as to suggest a common cause. The disease begins with general weakness which gradually increases. In a few days the feet and legs become edematous and swollen, and the standing posture is difficult or impossible. There may be precordial discomfort, but there is no pain, no tenderness of nerves or muscles, no abnormality of reflexes and no fever. Respiration is accelerated, the heart action is weak and rapid, there is a systolic murmur, and the area of precordial dulness is increased. The only significant pathologic changes found post mortem are in the heart. This organ is enlarged, flabby and fatty; the muscle is pale, soft and easily torn; and the walls are very much thinner than normal. Bacteriologic examination is without positive results.

The clinical history and the post-mortem findings point to an acute degeneration of the heart-muscle, due to malnutrition. The primary cause of the disease seems to be found in the exhausting labor, poor quality of food and unhygienic surroundings. The sanitary conditions under which these laborers live, especially on shipboard, are described as frightful, and a public health officer (Lumsden, L. L.: Public Health Reports, U. S. P. H. and M.-H. S., xv, 1900) has said that "it is a crime against humanity that these helpless, irresponsible creatures should be herded together in this way, and allowed to remain amid all this filth during a voyage of about three weeks."

VASECTOMY

To the Editor:—Please give me references to literature on vasectomy—history, methods and results.

G. F.

Answer.—The physiologic effect of bilateral excision of a portion of the vas deferens, commonly called vasectomy, was studied on animals a century ago by Sir Astley Cooper, and has been investigated by many others since. The unanimous report is that no effect whatever can be detected, except the imprisonment of spermatozoa and consequent sterility. Both functions of the testicle—the so-called internal secretion necessary to adult masculinity, and the production of spermatozoa—continue unimpaired indefinitely. In a human subject, normal active spermatozoa were found in the testis seventeen years after the occlusion of the vas. Sexual desire and power continue unaffected, as they do also after bilateral occlusion of the vasa by gonococcus epididymitis, and in cases of congenital absence of the vasa.

In the human subject, excision of the diseased vas has long been a standard measure; bilateral excision of a piece of the normal duct was introduced by Lennander, in 1894, as a substitute for castration as a means of relieving the ills consecutive to prostatic hypertrophy; and for several years thereafter it had considerable vogue. This operation is used also to prevent the recurrence of epididymitis resulting from chronic infection of prostate and vesicles; and it is often added to a prostatectomy to prevent epididymitis which is apt to follow the latter operation. Its employment for the purpose of sterilizing mentally defective males, now authorized by law in at least four states in the Union (Indiana, California, Connecticut and Iowa), began in Indiana in 1897; the measure has also been under consideration in a number of other states.

The operation is surgically and physiologically harmless; with local anesthesia a half-inch cut is made to the vas, the latter pulled up above the skin, about an inch of the duct excised, the cut ends ligated and dropped into the wound. Surgical cleanliness is requisite.

The following articles may be referred to:

Belfield, W. T.: Sterilization of Criminals and Other Defectives by Vasectomy, *Jour. New Mexico Med. Soc.*, July, 1909; abstr. in The Journal, April 10, 1909, p. 1211.
Sharp, H. C.: Vasectomy as Means of Preventing Procreation in Defectives, The Journal A. M. A., Dec. 4, 1909, p. 1897.
Bloss, J. R.: Sterilization of Confirmed Criminals and Other Defectives, *West Virginia Med. Jour.*, March, 1910; abstr. in The Journal, April 16, 1910, p. 1336.
Foster, B: Sterilization of Habitual Criminals and Degenerates, *Northwest Lancet*, Jan. 15, 1910; abstr. in The Journal, Nov. 20, 1909, p. 1847.
Rentoul, R. R.: Proposed Sterilization of Certain Degenerates, *Med. Press and Circular*, Dec. 29, 1909.
Carrington, C. V.: Sterilization of Habitual Criminals, *Virginia Med. Semi-Month.*, Dec. 24, 1909; abstr. in The Journal, Oct. 23, 1909, p. 1420, and also March 19, 1910, p. 995.
Chandler, J. W.: Sterilization of Confirmed Criminals, Idiots, Imbeciles and Other Defectives by Vasectomy, *Jour. Med. Soc. New Jersey*, December, 1909; abstr. in The Journal, Aug. 28, 1909, p. 736.
Barrow, B.: Vasectomy for the Defective Negro with His Consent, *Virginia Med. Semi-Month.*, Aug. 26, 1910.
Preston, C. H.: Vasectomy; Its Ethical and Sanitary Limitations, *West Virginia Med. Jour.*, July, 1910.
Hoag, J. C.: Relation of Vasectomy to Eugenics, *Chicago Med. Record*, January, 1911.

PHYSICIANS AND COCAIN PRESCRIBING

To the Editor:—Have I a right to use cocain in my prescription work and to give out the mixture myself in my own prescriptions? Have I also a right to prescribe or to send these cocain mixtures outside of the county or the state? Must the presence and percentage of cocain be stated? F. F. E., Illinois.

Answer.—The federal government in "Food Inspection Decision 57" has declared the status of packages compounded according to physicians' prescriptions and entering into interstate commerce, as follows:

> "If a package compounded according to a physician's prescription be shipped, sent or transported from any state or territory or the District of Columbia to another state or territory or the District of Columbia by a compounder, druggist, physician, or their agents, by mail, express, freight, or otherwise, the label or such package is required to bear the information called for by Congress. If, however, the patient himself, or a member of his household, or the physician himself carries such package across a state line, and such package is not subject to sale, it is held that such package need not be marked so as to conform with the law, because such a transaction is not considered one of interstate commerce.
>
> "The package may be marked so as to comply with the act by either stamp, pen and ink or typewriter, provided all such written matter is distinctly legible and on the principal label, as prescribed in Regulation 17."

The national government has no jurisdiction over packages of medicine that do not go out of the state in which they are put up. The state in which our correspondent lives (Illinois) deals with the subject of cocain prescribing through its pharmacy law. Sections 14a and 14b of this law read as follows:

> "§ *14 a.* It shall be unlawful for any druggist or other person to retail, sell or give away any cocain, alpha or beta eucain, or any salt or any compound or derivative of any of the foregoing substances, or any preparation or compound containing any of the foregoing substances or any of their salts or compounds or derivatives, except on the written prescription of a duly registered physician, which prescription shall contain the name and address of the person for whom prescribed, and the date the same shall have been filled, and shall be permanently retained on file by the person, firm or corporation where the same shall have been filled, and it shall be filled but once, and of it no copy shall be taken by any person, and the original shall at all times be open to the inspection of the prescriber, to the State Board of Pharmacy, and all officers of the law; except, however, that such cocain, alpha or beta eucain, or any salt or any compound, or any derivative of the foregoing substances, or any preparation or compound containing any of the foregoing substances or any of their salts or compounds or derivatives, may lawfully be sold at wholesale on the written order of a licensed pharmacist, or licensed druggist, duly registered practicing physician, licensed veterinarian or licensed dentist, provided that the wholesale dealer shall affix or cause to be affixed to the bottle, box, vessel or package containing the article sold, and on the outside wrapper of the package as originally put up, a label, distinctly displaying the name and quantity of cocain, alpha or beta eucain, or any salt or compound or derivative of any of the foregoing substances sold, and the word "poison," with the name and place of business of the seller, all printed in red ink; and, provided also, that the wholesale dealer shall, before delivering any of the articles, make or cause to be made, in a book kept for the purpose, an entry of the sale thereof, stating the date of sale, the quantity, name and form in which sold, the name and address of the purchaser, and the name of the person by whom the entry is made; and the said book shall always be open for inspection by the proper authorities of the law, and shall be preserved for at least five years after the date of the last entry made therein.
>
> "§ *14 b.* It shall be unlawful for any duly registered physician, or other person, to prescribe, sell or offer for sale, dispense or give away any cocain, alpha or beta eucain, or any salt or compound or derivative of the foregoing substances, or any of their salts or compounds or derivatives, or preparation or compound containing any of the foregoing substances, to any person addicted to the habitual use of cocain, alpha or beta eucain, or any salt or compound or derivative of the foregoing substances, in any form."

BITES OF SNAKES, SPIDERS AND OTHER NOXIOUS CREATURES

To the Editor:—Please give references on symptoms and treatment of bite by (1) rattlesnake, (2) scorpion, (3) tarantula and (4) small black spider. A. L. W.

Answer:—1. A full account of venomous serpents, including the rattlesnake, is found in the "Manual of Tropical Medicine," by Castellani and Chalmers (published by W. Wood & Co., 51 Fifth Avenue, New York, Ed. 1, price $6.00). The following references to the subject are found in the literature since 1905:

Rogers, L.: Snake-Bite Treated by Incision and Application of Permanganate of Potash, *Indian Med. Gaz.*, October, 1905; abstr. in The Journal, Dec. 9, 1905, p. 1830.
Ferguson, A. D.: Adrenalin Chlorid in the Treatment of Rattlesnake-Bite, *Tex. Med. News*, November, 1906.
Haw, W. H.: Two Cases of Snake-Bite with Suggestions for Treatment, *Lancet*, April 27, 1907; abstr. in The Journal, May 25, 1907, p. 1819.
Baier, F. C.: Rattlesnake-Bite, with Recovery, *Northwest. Lancet*, June 15, 1907.
Braddock, C. S.: Treatment of Snake-Bites as Seen in the Jungle, *New York Med. Jour.*, Nov. 8, 1907; abstr. in The Journal, Nov. 23, 1907, p. 1803.
Willson, P.: Snake-Poisoning in the United States, *Arch. Int. Med.*, June, 1908; discussed editorially in The Journal, July 11, 1908, p. 132.
White, C. S.: Case of Poisoning from the Bite of a Rattlesnake, The Journal, May 8, 1909, p. 1486.
Lyon, W. C.: Venomous Snakes of the United States, *Mil. Surg.*, Wash, October, 1910.

In this connection a paragraph in the Vienna Letter in this issue will be of interest.

2. An extensive and excellent article is by H. V. Jackson: Poisonous Scorpion, Including a Review of Some Recent Literature and Personal Experiences, *Interstate Med. Jour.*, July, 1910. See also an article by C. Todd: Antiserum for Scorpion Venom, *Jour. Hyg.*, April, 1909; abstr. in The Journal, July 3, 1909, p. 82.

3. We find no articles on tarantula-poisoning. The tarantula produces merely local swelling and is not dangerous.

4. We cannot say from our correspondent's description which variety of spider is referred to. Castellani and Chalmers ("Manual of Tropical Medicine") describe the symptoms produced by the bite of several spiders, including *Lactrodectus mactans*, which is black with red spots. A case of a bite by this spider is reported, together with editorial comment on the spiders in general: Hodgdon, A. L.: Bite of a Poisonous Spider, *Lactrodectus mactans*, The Journal, May 4, 1907, p. 1507.

CASE FOR DIAGNOSIS

To the Editor:—I have a patient who began to suffer ten months ago with tingling in the ends of fingers and toes, which gradually traveled toward the trunk. Hypersensitiveness followed tenderness on pressure over the trunks of nerves. It has now reached the trunk, and, in fact, the whole extent of the peripheral nerves. The extra sensitiveness changes from one part of the body to the other with powerful pain in the cardiac regions, and the patient almost dies from pain in the heart, owing to contractions of muscles. In the precordial region there is a separation of costal cartilage from the ribs on the left side. Patient's appetite is now very good, bowels a little constipated, urine normal in quantity and quality, habits good. He has been in bed now about six months. Please give diagnosis and treatment. I call it "multiple peripheral neuritis." Dr. S. M. Henry, Groom, Texas.

Answer.—The case as described is not like multiple peripheral neuritis, but suggests the onset of locomotor ataxia with severe girdle-pains or crises. Neuritis produces paralysis and anesthetic zones which are not described. It is desirable to know the condition of the patient's reflexes, whether there are anesthetic zones, whether there is any paralysis or ataxia or muscular atrophy and also his history as to exposure to alcoholic, lead or other poisoning or any of the infections which produce neuritis or locomotor ataxia and allied diseases. Is there disease of the costal cartilage or rib which are said to be separated: i. e., evidence of inflammation or trophic disease? The case is one for careful scientific investigation, as otherwise a correct diagnosis would be only possible by a fortunate guess. The diagnosis being made, the method of treatment will become clearer.

The Public Service

Medical Department, U. S. Army

Changes during the week ended Sept. 16, 1911.

Stone, Frank P., dental surgeon, reported for duty at Fort Barrancas, Fla.

Wing, Franklin F., dental surgeon, returned to Fort D. A. Russell, Wyo., from temporary duty at Fort Logan, Colo.

Boak, S. D., dental surgeon, left West Point, N. Y., on thirty days' leave of absence.

Thomason, Henry D., captain, ordered to Milwaukee, Wis., for the purpose of reading a paper before the Association of Military Surgeons of the United States, Sept. 26 to 29, 1911.

Richard, Charles, colonel, leave of absence extended ten days.

Ferenbaugh, Thomas L., and Gentry, Ernest R., lieuts., relieved from duty in the Department of Texas and will return to proper stations.

Bowen, Albert S., lieut., ordered to Fort Snelling, Minn., for temporary duty; granted thirty days' leave of absence.

Maus, L. Mervin, colonel, leave of absence extended ten days.

Suggs, Frank, M.R.C., granted eighteen days' leave of absence.

Whitney, Walter, M.R.C., ordered to proceed from Fort McPherson, Ga., to Fort Dale, Fla., for temporary duty at the latter post.

Eliot, Henry W., M.R.C., granted thirty days' leave of absence.

Tetrault, Charles A., M.R.C., ordered to proceed from Fort Michie, N. Y., to Fort H. G. Wright, N. Y., for temporary duty.

Changes during the week ended Sept. 23, 1911.

McAlister, John A., Jr., dental surgeon, ordered to proceed from Fort Sam Houston, Texas, to Camp Cloudroft, N. Mex., for temporary duty.

Millikin, John D., dental surgeon, arrived at San Francisco from Philippine Islands and left same date on two months' leave of absence.

Burket, John A., lieut., granted leave of absence from Oct. 3, 1911, to such date as it may be necessary for him to start for the Philippine Islands.

Norman, Seaton, M.R.C., on expiration of present leave will proceed to Fort Clark, Texas, for duty. Lieutenant Norman will stand relieved from duty at Fort Clark at such time as will enable him to comply with orders hereinafter given, and will proceed to his home and stand relieved from further active duty in the Medical Reserve Corps, March 1, 1912.

Russell, F. F., major, ordered to New York City and Boston to investigate recent bacteriological developments in connection with course of instruction at the Army Medical School in this city.

Smith, William H., lieut., granted ten days' leave of absence.

Thomason, Henry D., captain, is detailed to attend the annual meeting of the National Guard Association of the United States, Buffalo, N. Y., Oct. 9 to 11, 1911.

Winter, Francis A., major, ordered to proceed to St. Louis and Jefferson Barracks, Mo., on official business.

Marrow, Charles E., major, granted leave of absence for two months, about Sept. 10, 1911.

McAlister, John A., Jr., dental surgeon, left Fort Sam Houston, Texas, en route to Camp Cloudcroft, N. Mex., for temporary duty.

Little, William L., captain, ordered to proceed from Fort Adams, R. I., to Springfield Armory, Mass., for physical examination of officers stationed at that place, about Sept. 25, 1911.

Hughes, Leonard S., lieut., granted ten days' leave of absence about Nov. 20, 1911.

Rich, Edwin W., captain, will, in addition to his other duties, assume charge of the medical supply depot, San Francisco, during the absence of Colonel William W. Gray, Medical Corps.

Hungerford, George H., M.R.C., resignation accepted.

Buchsbaum, Maurice, M.R.C., ordered to Army General Hospital, San Francisco, for observation and treatment.

McIntyre, captain, granted leave of absence for three months when his services can be spared, with permission to go beyond sea.

Fletcher, John P., lieut., granted leave of absence for one month.

Tetrault, Charles A., M.R.C., assigned to permanent station at Fort H. G. Wright, N. Y.

Craig, Charles F., capt., is detailed to attend the meeting of the Southern Medical Association, at Hattiesburg, Miss., Nov. 14 to 16, 1911.

Robbins, Chandler P., major, granted fourteen days' leave.

Voorhies, Hugh G., dental surgeon, granted twenty days' leave.

Kirkpatrick, Thomas J., major, granted ten days' leave.

Bushnell, George E., colonel, granted thirty days' leave.

Davis, William T., captain, granted ten days' leave of absence.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended Sept. 20, 1911.

Guiteras, G. M., surgeon, detailed to represent the service at the fifth international sanitary conference of American republics, to be held at Santiago, Chile, Nov. 5-12, 1911.

Ramus, Carl, P. A. surgeon, granted seven days' leave of absence from Aug. 24, 1911, under paragraph 189, Service Regulations.

Warren, B. S., P. A. surgeon, granted ten days' leave of absence from Sept. 20, 1911.

Stimson, A. M., P. A. surgeon, directed to proceed to Detroit, Chicago and Milwaukee on special temporary duty. Detailed to attend the meeting of the Michigan State Medical Society, in Detroit, Sept. 27 and 28, 1911, and the meeting of the Chicago Medical Society, Oct. 4, 1911.

Krulish, E., asst.-surg., granted one month's leave of absence from Sept. 12, 1911.

Bond, B. D., A. A. surgeon, granted leave of absence, without pay, for the period Aug. 25, 1911, to Jan. 1, 1912.

Crepin, H. E., A. A. surgeon, granted twenty-one days' leave of absence from Sept. 1, 1911.

Fairbanks, George D., A. A. surgeon, granted thirty days' leave of absence from Sept. 11, 1911.

Markoe, W. W., A. A. surgeon, granted thirty days' leave of absence from Sept. 19, 1911.

Marsh, W. H., A. A. surgeon, granted eleven days' leave of absence from Sept. 23, 1911.

Medical Economics

THE NATIONAL GRANGE AND A DEPARTMENT OF HEALTH

In his remarkable speech before the United States Senate, in July, Senator Works of California said that the National Grange had withdrawn its endorsement of a national department of health. In an open letter addressed to Senator Works, the secretary of the Conference of Progressive State Granges cites the official proceeding of the National Grange to show that, instead of repudiating its endorsement of a department of health, the National Grange reaffirmed its approval of the establishment of such a department. Mr. Hampton's letter is worthy of careful reading.[1]

"*Hon. John D. Works, United States Senate, Washington, D. C.*

"Dear Sir.—I have read with great care your speech opposing Senator Owen's bill to establish a department of health, as published in the *Christian Science Monitor* of July 11.

"You support your argument with quotations from various authorities, among them resolutions purporting to have been forwarded by C. M. Freeman, secretary of the National Grange, showing that the National Grange had completely reversed its position. If Mr. Freeman forwarded such resolutions in the form in which you have published them, he knowingly misrepresented the action of the National Grange, and his action will undoubtedly be investigated by that body at its next annual meeting.

"To prove to you that the Grange position endorsing the establishment of a federal bureau of public health was not reversed by the National Grange at Atlantic City, or by any state granges of large membership at their state meetings of later date, I submit:

"(*a*) Page 167 of the official proceedings of the Atlantic City session, containing the introduction of the general report of the Committee on Resolutions, the opening part of which reads as follows: 'We reaffirm the resolutions and declarations of the general report of the Committee on Resolutions, made and unanimously adopted at the forty-third annual session, held one year ago at Des Moines, Iowa, on public health bureau, on home economics, on tariff revision,' etc.

"(*b*) The April, 1911, issue of the *Michigan Patron* (the official organ of a number of state granges, aggregating a large percentage of the total grange membership) contains an editorial, 'The Grange Position on Public Health,' in which a statement made in a circular letter by the League for Medical Freedom, that the Grange had reversed its position on public health, is reviewed at length and proved not true. This proof, you will note, includes resolutions by the National Grange and editorials by the national master.

"(*c*) A copy of the health resolutions adopted by the Maine State Grange at its annual meeting in Augusta, Dec. 20-22, 1910. The points in these resolutions to which I especially desire to call your attention are: 'That we reindorse the establishment of a federal bureau of public health, as set forth in the resolutions adopted by the National Grange at the forty-third annual session at Des Moines, Iowa, Nov. 10-20, 1909, provided that such legislation properly safeguards the rights of all schools of medical practice,' and 'That the Conference of State Granges is urged to take such action as may be expedient to unite all farmers in supporting a public health policy in the interests of all the people, and that the conference appeals to all public-spirited citizens to unite with the farmers in this important work.'

"You will notice from the above (*a*) that the *first* of the public measures *re*-indorsed by the National Grange at Atlantic City was the action of the Des Moines meeting in 1909, on public health. I submit the resolution thus emphatically *re*-indorsed:

"'*Resolved*, That the National Grange favors the establishment of a national health bureau or commission, and urges on Congress the necessity for the immediate enactment of legislation for this purpose.'

"I sincerely believe you would not willingly help to place the Grange in a false light before the country, but I feel you have been misled, and have unwittingly been made the means by which this has been done. And as your speech has been given wide publicity in the *Congressional Record* and in the public press, I address this open letter to you in order that the true position of the Grange may be placed before Congress and the people.

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[1] See also Current Comment, page 1140.

"For the honest opposition of yourself and the Christian Scientists in general, I have the most sincere respect; but it is the opposition which seeks to gain its object by tricks and misrepresentations, and by exciting the fears and prejudices of the people, which convinces us that back of all the honest opposition—and no doubt unknown to it—are the same interests that are fighting the pure food laws, and which, even at this writing, hope to succeed in forcing Dr. Wiley out of office.

"It is this opposition which we feel should be forced out into the open, where its nature can be fully understood. If this is done, it will at once remove much of the present misunderstanding, and Christian Scientists and all who sincerely desire honest medical freedom should assist in accomplishing this.

"Christian Scientists fear the consequences that would follow the enactment of such legislation as the Owen bill proposes. If that fear is well founded, and your belief that the American Medical Association is a medical trust is well founded, is it not time that the country knew these and all the facts relating to this burning question? What possible better means have we than a rigid Congressional investigation by a committee specially organized for that purpose?

"The House of Representatives, as at present constituted, is believed to be honestly desirous of serving the people. It is investigating the trusts, probing into the expenditures of the various departments of the government, and why should it not have a committee on health and thoroughly investigate this matter of such vital importance to all the people. Surely the Christian Scientists are not opposed to honest investigation by a committee having power to probe every charge and countercharge to the bottom.

"The farmers want the facts and a square deal for all the people—Christian Scientists and all schools of medicine included—and Christian Scientists should join with them in their present efforts to get Congress to appoint a committee on public health and promptly institute a thorough investigation Farmers and Christian Scientists should not work at cross-purposes on so important a matter. Honest investigation by Congress is the way to bring them together, and I appeal to you to use all your influence to bring this about

"GEORGE P. HAMPTON.

"Secretary, Conference Progressive State Granges."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

[NOTE.—The pamphlets containing the outline of the postgraduate study course for county societies for the coming year are ready for distribution. Secretaries of county societies can secure supplies by writing to the Secretary, Council on Health and Public Instruction, American Medical Association, 535 Dearborn Ave., Chicago.]

First Month—Fourth Weekly Meeting

PAPILLOMA: ORIGIN, STRUCTURE, VARIETIES

WARTS: Microscopic section, distribution, number, pigment, secondary changes.

VILLOUS PAPILLOMA: Structure, gross and microscopic, prognosis.

INTRACYSTIC PAPILLOMA: Structure, gross and microscopic, distribution.

PSAMMOMA: Structure, chemistry, location, prognosis.

ADENOMA

Structure, varieties, capsule, fluid, recurrence, infiltration, secondary changes.

DERMOIDS: STRUCTURE, DISTRIBUTION

SEQUESTRATION DERMOIDS: Location, mode of origin, contents, prognosis.

TUBULO-DERMOIDS: Distribution, contents, size.

LINGUAL, BRANCHIAL AND RECTAL: Location of each.

OVARIAN DERMOIDS: Origin, structure, contents, size, age.

MOLES: Distribution, structure, secondary changes.

TERATOMA

Differentiate from dermoids.

CYSTS: MODE OF ORIGIN, STRUCTURE, CONTENTS

Retention cysts, tubulo-cysts, hydroceles and gland cysts.

Monthly Meeting

The Differential Diagnosis of Benign and Malignant Tumors.

The Problem of Metastasis in the Treatment of Malignant Tumors.

The Diagnosis and Treatment of Tumors of Long Bones.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, October 2-3. Sec., Dr. Ancil Martin.

COLORADO: The State Capitol, Denver, October 3. Sec., Dr. David A. Strickler, 612 Empire Building.

GEORGIA: Regular, Atlanta, October 10. Sec., Dr. C. T. Nolan, Marietta. Homeopathic, Atlanta, October 10. Sec., Dr. R. E. Hinman, 106½ Whitehall Street.

IDAHO: Wallace, October 3-4. Sec., Dr. O. J. Allen, Bellevue.

ILLINOIS: Coliseum Annex, Chicago, October 26-28. Sec., Dr. J. A. Egan, Springfield.

KANSAS: National Hotel, Topeka, October 10-12. Sec., Dr. H. A. Dykes, Lebanon.

LOUISIANA: New Orleans, October 19-21. Sec., Dr. A. B. Brown, 108 Baronne Street.

MICHIGAN: Legislative Bldg., Lansing, October 10-12. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: State University Minneapolis, October 3. Sec., Dr. W. S. Fullerton, St. Paul.

MISSISSIPPI: State Capitol, Jackson, October 10-11. Sec., Dr. S. H. McLean.

MONTANA: The Capitol, Helena, October 3. Sec., Dr. W. C. Riddell.

NEW JERSEY: The State Capitol, Trenton, October 17-18. Sec., Dr. H. G. Norton, 429 E. State Street.

NEW MEXICO: The Capitol, Santa Fe, October 9-10. Sec., Dr. J. A. Massie.

OKLAHOMA: Muskogee, October 10. Sec., Dr John W. Duke, Guthrie.

RHODE ISLAND: Room 315 State House, Providence, October 5-6 Sec., Dr. Gardner T. Swarts.

UTAH: Salt Lake City, October 2-3. Sec., Dr. G. F. Harding, 310 Templeton Building.

WYOMING: Riverton, October 9-11. Sec., Dr. A. B. Tonkin.

Illinois January Report

Dr. James A. Egan, secretary of the Illinois State Board of Health, reports the written examination held at Chicago, January 11-13, 1911. The number of subjects examined in was 16. total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 53, of whom 17 passed and 32 failed. Three candidates did not complete the examination and one withdrew. The following colleges were represented:

College	Year Grad.	Total No. Examined
PASSED		
University of Arkansas	(1909)	1
American Medical Missionary College	(1903)	1
Chicago College of Medicine and Surgery	(1910)	1
Northwestern University Medical School..(1889)	(1910)	2
National Medical University	(1909)	1
College of Physicians and Surgs., Chicago, (1904)	(1910)	2
Reliance Medical College	(1910)	1
Rush Medical College (3, 1910)	(1911)	4
St. Louis College of Physicians and Surgeons	(1910)	1
Jefferson Medical College	(1908)	1
University of Pennsylvania (1886)	(1908)	2
FAILED		
Bennett Medical College (1909) (5, 1910)	(1911)	7
Hahnemann Medical College and Hospital, Chicago.	(1909)	1
Hering Medical College	(1910)	2
Jenner Medical College	(1910)	2
College of Medicine and Surgery, Physio-Medical..	(1910)	3
National Medical University	(1909)	1
College of Phys. and Surgs., (1907) (1908)	(2, 1910)	4
Keokuk Medical College, Coll. of Phys. and Surgs.	(1908)	1
Hospital Medical College, Louisville	(1904)	1
Louisville and Hospital Medical College	(1908)	1
Barnes Medical College (1907)	(2, 1910)	3
St. Louis University	(1907)	1
Miami Medical College	(1909)	1
Meharry Medical College (1902) (1909)	(1910)	3
Western University, London, Ontario	(1892)	1

Tennessee May Report

Dr. C. A. Abernathy, secretary of the Tennessee State Board of Medical Examiners, reports the written and oral examinations held at Nashville, Knoxville and Memphis, May 2-3, 1911. The total number of subjects examined in was 8; total number of questions asked, 64; percentage required to pass, 75. The total number of candidates examined was 276, of whom 213 passed, including 110 non-graduates, and 42 failed, including 30 non-graduates. Twenty-one candidates received temporary licenses, including 9 non-graduates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Birmingham Medical College	(1910)	82
Howard University, Washington, D. C.	(1910)	75, 76
George Washington University	(1907)	90
College of Physicians and Surgeons, Chicago	(1907)	88
Northwestern Univ. Med. School..(1907) 80, 88;	(1910)	84
Louisville National Medical College	(1911)	78

University of Louisville (1910) 80, 81, 86; (1911) 77, 78, 79, 79, 81, 81, 82, 83, 83, 83, 84, 84, 84, 85, 85, 86, 89, 89, 89, 90, 94.
Tulane University of Louisiana..................(1907) 87 87
Johns Hopkins University.......................(1910) 88
Detroit College of Medicine....................(1908) 85
Washington Univ. School of Med., Baltimore......(1868) 86
Barnes Medical College..........................(1911) 84, 87
Washington University, St. Louis..(1909) 82, 89; (1911) 78
Mississippi Medical College..........(1909) 79; (1911) 85
Memphis Hospital Medical College (1906) 83, 94; (1908) 80, 83, 87; (1911) 75, 75, 75, 76, 77, 78, 80, 80, 81.
Chattanooga Medical College....................(1908) 75
Lincoln Memorial University (1911) 76, 76, 79, 79, 81, 81, 81, 82, 83, 84, 88.
Meharry Medical College (1904) 76; (1908) 75; (1909) 76; (1910) 75, 76, 79, 81; (1911) 75, 79, 84, 85, 86, 87, 88, 90, 90.
University of Tennessee.........(1900) 78; (1911) 83, 83, 88, 90
Vanderbilt University ....(1911) 78, 89, 89
University of Nashville.........................(1911) 80, 92
University of the South.........................(1909) 78
College of Physicians and Surgs., Memphis..(1911) 81, 89, 89, 90
University of Virginia..........................(1905) 87
Non-graduates: The grade of 75 was reached by eight; 76 by one; 77 by five; 78 by two; 79 by eight; 80 by seven; 81 by nine; 82 by five; 83 by three; 84 by six; 85 by ten; 86 by four; 87 by six; 88 by seven; 89 by ten; 90 by five; 91 by five; 92 by four; 93 by one and 94 by two. The grade for one non-graduate was not obtained.

GRANTED TEMPORARY LICENSES

University of Louisville............(1894) 74; (1909) 70
Lincoln Memorial University.....................(1911) 70, 71
Chattanooga Medical College..........(1905) 72; (1910) 72
Meharry Medical College........(1910) 70, 71; (1911) 71, 73
Memphis Hospital Medical College..............(1910) 70, 70
Non-graduates..................71, 72, 72, 72, 73, 73, 73, 74, 74

FAILED

Mississippi Medical College.....................(1910) 69
Chattanooga Medical College..........(1903) 48; (1907) 47
Lincoln Memorial University........(1906) 61; (1911) 51, 63
University of West Tennessee.........(1909) 60; (1910) 49
University of the South.........................(1909) 52
Memphis Hospital Medical College..............(1911) 69
Meharry Medical College.........................(1910) 57
Chattanooga National Medical College..........(1908) 80 *
Non-graduates 32, 33, 50, 50, 50, 52, 56, 57, 58, 60, 60, 60, 60, 60, 60, 60, 61; 63, 63, 63, 64, 65, 65, 67, 68, 68, 68, 69, 87.*
The grade for one non-graduate was not obtained.

* These two applicants made the requisite grade to pass, but charges of fraud have been brought, and they most probably will be rejected; hence they are put in the list of those who failed.

The following questions were asked:

ANATOMY

1. Describe the portal system. Name the ductless glands. 3. What cranial nerve has the widest distribution? 4. Give the origin and insertion of the humeral biceps muscle. 5. Mention any one muscle that moves the humerus forward, backward or inward. 6. Describe Hunter's canal. (a) What passes through it? 7. Describe the periosteum. 8. What muscles for the tendo Achillis?

PHYSIOLOGY

1. Give composition and properties of chyle. 2. Give composition of the blood. 3. Describe secretion, properties and composition of gastric juice. 4. Give the physiologic anatomy of the testicles. 5. Describe the physiologic anatomy of the tongue concerned in gestation. 6. Give the physiologic anatomy of the mammary glands. 7. Describe the excretion of urine. 8. Name all the enzymes required to digest bread.

PATHOLOGY

1. What is stomatitis? Give the pathology of ulcerative stomatitis. 2. Describe any one pathologic condition caused by the excessive use of alcohol. 3. Describe the pathologic changes which take place in the lung in lobar pneumonia. 4. Give the pathology of parenchymatous goiter. 5. Describe the pathology of the inflammation of any one serous membrane. 6. Describe the pathology of chronic lead poison. 7. Describe the pathology of cerebrospinal meningitis. 8. Describe the pathologic condition caused by the bite of a mosquito.

MATERIA MEDICA

1. Write a prescription for chronic malaria and state how long the patient should take it. 2. Name two medicines which increase the flow of urine. The source and dose of each. 3. What is the source of digitalis and hyoscyamus? What preparation would you use and the dose of each? 4. What is the source of potassium iodid and what is the dose? Name three diseases for which you would give it. 5. Give the source of iodid of lime and iodid of soda and the dose of each. 6. What is sodium sulphate? 7. What is the source of tetanus antitoxin? 8. What is the source of cascara sagrada? What preparation would you use and what would be the dose?

CHEMISTRY

1. Describe Esbach's albuminometer and give a quantitative test for albumin. 2. Give a chemical test for pus in the urine; (a) for blood. 3. What is urea? (a) Its estimation? (b) Of what significance in nephritis? 4. What are alcohols and how classified? 5. Give chemical formula for iodoform. (a) How prepared. (b) Physiologic effects. 6. What is a simple ether? (a) Compound ether? (b) Formula for sulphuric ether? 7. What is benzine? (a) Chemical formula and properties? 8. What is arsenic? (a) Occurrence? (b) Preparation? (c) Properties? (d) Reinsch's test for arsenic?

OBSTETRICS

1. Describe, anatomically, the internal generative organs of the female. (a) State the function of each. 2. What are the dangers of traction on the child and on the placenta? 3. What is involution? (a) How long a time is usually required for this process? (b) What causes may operate to delay or prevent it? 4. Describe the immediate care of the new-born child when from any cause the mother cannot nurse it. (a) Give rules for artificial feeding. 5. Differentiate eutocia and dystocia. Mention important varieties of the latter and give their management. 6. In a labor otherwise normal but tedious, how soon would it be proper to interfere, and what symptoms would prompt such a course? 7. When does it become proper to perform craniotomy, and how should that operation be performed? 8. Define puerperal phlebitis and give its pathology, symptoms and treatment.

SURGERY

1. How would you diagnose a case of complete inguinal hernia from a hydrocele, and describe the radical cure for hydrocele? 2. Describe in full Bassini's method of operation for the radical cure of hernia. 3. Give the nature and treatment of Pott's fracture. 4. Where does senile gangrene most often occur, and what is the usual cause? 5. Give symptoms and treatment of cholelithiasis. 6. Define peritonitis. State three ways in which the peritoneum may be invaded by bacteria. 7. What are the causes and treatment of paraphimosis? 8. Differentiate dislocation of the head of the femur from fracture of the neck, and give main essentials of treatment of each.

PRACTICE QUESTIONS

1. Name the organic diseases of the heart. Define aortic stenosis. Give the physical signs of it. 2. Define lobar pneumonia. Give general symptoms of diagnosis. Give briefly a treatment. 3. What is the pulse? Name some of the varieties of the pulse and their significance. 4. Define acute Bright's disease. What are the most frequent etiologic factors which produce this form of kidney disease? Give a treatment. 5. Define leukocytosis. Define leukopenia. Name four diseases in which the leukocytes are increased in number. Name four diseases in which the leukocytes are normal or diminished. 6. Define diabetes mellitus. Differentiate between diabetes mellitus and diabetes insipidus. Give a diet for diabetes mellitus. 7. Define dropsy. Name four diseases which it accompanies. Given a disease producing it, how would you treat dropsy? 8. Name some of the common forms of tuberculosis. Give a modern treatment for pulmonary tuberculosis.

South Carolina June Report

Dr. A. Earle Boozer, secretary of the State Board of Medical Examiners of South Carolina, reports the written examination held at Columbia, June 13-15, 1911. The number of subjects examined in was 17; total number of questions asked, 105; percentage required to pass, 75. The total number of candidates examined was 124, of whom 97 passed, including 2 osteopaths, and 27 failed, including 1 osteopath. Six candidates were licensed through reciprocity. The following colleges were represented.

PASSED

College	Year Grad.	Per Cent.
University of Alabama	(1907)	77.1
Birmingham Medical College	(1911)	81.6
George Washington University	(1909)	85.1
Howard University, Washington	(1910)	88
Atlanta Coll. of Physicians and Surgeons	(1908) (1910) (1911)	81.6; 80.1; 80.1.
University of Georgia	(1908) (1910) (1911)	76; 75; 75, 75.7, 81.1, 84.3.
University of Louisville	(1908) (1909)	75, 75.7; 83.5
Tulane University of Louisiana	(1911)	84.3
Woman's Medical College of Baltimore	(1902) (1907)	88.4; 78.1
University of Maryland	(1910) (1911)	78.4; 75.9, 81.4, 83.4, 83.7, 87.9, 87.9, 88, 90.6.
Johns Hopkins University	(1906) (1910)	87.3; 77.5
Niagara University	(1897)	75
Columbia Univ., Coll. of P. and S.	(1911)	83.3
North Carolina Medical College	(1905) (1908)	81.1; 76.1
Leonard Medical School	(1909) (1911)	79.7; 75, 84.7
Western Reserve University	(1909)	75
University of Pennsylvania	(1910)	81.3, 82.9
Temple University	(1910)	81.5
Medical College of the State of South Carolina	(1906) (1908) (1909) (1910) (1911)	75.6; 77.1; 75, 80.9; 75.1, 79.4, 79.9, 81.5, 82.3, 82.4, 85.7; 75, 75, 75.5, 75.6, 76.3, 76.4, 76.9, 77.3, 77.6, 78.3, 78.4, 78.6, 79, 80, 80.1, 80.4, 80.6, 82, 82.4, 83.1, 83.7, 84.1, 84.1, 84.3, 84.5, 84.6, 85.3, 85.5, 85.9, 86.1, 86.5, 86.9, 87.9, 89.1, 89.7, 89.9.
Lincoln Memorial University	(1911)	84.9
Vanderbilt University	(1910)	75.3
University of the South	(1906)	75
Memphis Hospital Medical College	(1911)	76.1
Medical College of Virginia	(1911)	82.5, 84.3
University of Virginia	(1910)	84.1

FAILED

College	Year Grad.	Per Cent.
Atlanta School of Medicine	(1909)	71.9
University of Georgia	(1908)	70.5
Hospital Medical College, Atlanta	(1911)	52.7
Maryland Medical College	(1905)	57.3
Creighton Medical College	(1910)	73.4
Leonard Medical School	(1906) (1910) (1911)	70.3; 68; 70
Medical College of South Carolina	(1908) (1909) (1910) (1911)	62.6; 71; 63.5, 70, 73.6; 64.4, 66.1, 69.9, 70.3, 72.4 76.7.*
Meharry Medical College	(1907) (1909) (1911)	60.4; 73.5; 60.5
Memphis Hospital Medical College	(1911)	51.5, 65.4
University of Tennessee	(1905)	49.9
Gate City Medical College	(1910)	61.1

* Fell below 60 per cent. in one subject.

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
George Washington University	(1909)	W. Virginia
Baltimore Medical College	(1897) (1898)	Maryland; Virginia
University of Maryland	(1909)	Maryland
Medical College of Virginia	(1905) (1909)	Virginia

Book Notices

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. In Three Volumes. Vol. II. Cloth. Price, $6 net. Pp. 865, with 103 Illustrations. Philadelphia: W. B. Saunders Co., 1911.

The second volume of this work includes a large number of articles on diseases of the circulatory system, infectious diseases, tropical diseases and animal parasites. The general excellence of the articles is conspicuous. The following are some of those requiring special notice: The principles of cardiac treatment are given by Clifford Allbutt in a short introduction of seven pages. The certainty given to some forms of drug medication is noted, and the fallacy of concluding that high blood-pressure means necessarily an increase of work for the heart, and a fall in pressure must need give the heart relief is pointed out. The danger to the heart from the slighter degrees of endocarditis is dwelt on and Allbutt advises to examine the heart of a child with even a slight cold every day. Myocarditis receives as much attention as pericarditis and endocarditis combined. Considerable space is devoted to a discussion of digitalis, squill, caffein and theobromin. The author expresses his belief that while squill is seldom necessary, this old cardiac remedy should not be allowed to fall into neglect. In some cases the prescription of 15 minims of tincture of squill may succeed when others of these capricious cardiac remedies have failed. Allbutt gives comparatively little credit to alcohol as a remedy in heart disease. In the treatment of dropsy, he finds that the exclusion of salt from the diet has not infrequently an astonishing success, but he is unable to define the conditions under which it succeeds. The hydropathic treatment and especially the Nauheim method are quite fully described. The surgery of the heart and artery is briefly discussed by C. T. Dent.

Typhoid fever is well treated by R. I. Cole. The subject of preventive inoculation is thoroughly discussed and the method advised. Considerable space is given to specific cure of the disease, as the author feels that this method may make possible the cure of all cases in the future. He takes a conservative position with reference to diet and expresses a decided preference for hydrotherapy over antipyretics. Pneumonia is discussed by H. A. Hare, who advocates the usual methods but warns against the abuse of strychnin and the employment of nitroglycerin, for the purpose of lowering arterial pressure. The treatment of exanthematous diseases is described by G. H. Weaver. He gives a full account of the theoretical and practical aspects of the antitoxin treatment. Intubation and tracheotomy are described in a well-illustrated article by J. H. Jopson. In accordance with its importance, tuberculosis occupies a considerable section of the book, something more than 100 pages. The article is by E. O. Otis. The hygienic methods and the details of open-air treatment are fully given with abundant illustrations. The same is true of the construction of sanatoriums and methods of sanatorium treatment. The author reviews the various specific and medicinal forms of treatment, but in conclusion emphasizes the immense superiority of the hygienic-dietetic measures. Syphilis is treated by J. W. White and A. C. Wood. Gonococcic infection is well treated by E. Martin. Vaccinia, variola and chicken-pox are discussed by J. F. Schamberg. Cerebrospinal fever, cholera and plague are considered by L. F. Barker. In the treatment of cerebrospinal fever the author makes several suggestions, such as the injection of normal serum suggested by Hektoen and a modification of Bier's hyperemia as worthy of trial when Flexner's serum cannot be obtained. The rest of the book is occupied with the treatment of various infectious diseases by a number of authors whose work is excellent, but which is impracticable to mention separately.

The reading of this volume strengthens the impressions given by the first that we have a satisfactory presentation of the resources of the modern physician which ought to be a valuable guide to the practitioner in his daily work.

PATHOLOGIC TECHNIC. A Practical Manual for Workers in Pathologic Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School, and James Homer Wright, A.M., M.D., S.D., Director of the Pathological Laboratory of the Massachusetts General Hospital. Fifth Edition. Cloth. Price, $3. Pp. 507, with 162 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The revision of this edition seems to be a thorough one, and a number of new methods of practical value have been introduced. The methods of obtaining the opsonic index, however, are not given. The Wassermann technic is described, but not a word is said about the tuberculin reaction, which one would expect would be described in a book that claims to give directions for clinical diagnosis by laboratory methods. No reference is made to blastomycosis or oidiomycosis; an illustration or two of the characteristic organisms would be helpful, and the same is true of sporotrichosis. One is also surprised that no mention is made of the appearance of pneumococcal and streptococcal colonies on blood-agar. In the next edition the references should be given according to some uniform method and standard abbreviations should be used.

THE BELLEVUE HOSPITAL NOMENCLATURE OF DISEASES AND CONDITIONS WITH RULES FOR THE RECORDING AND FILING OF HISTORIES. Compiled by the Committee on Clinical Records Composed of Drs. Robert J. Carlisle, Warren Coleman, Thomas A. Smith and Edmund L. Dow. Revised and Made to Conform to the International Classification, 1911. Morocco. Pp. 327. [General Medical Superintendent, Bellevue Hospital, First Avenue and 26th Street, New York City.]

The nomenclature of diseases compiled by the committee on clinical records of Bellevue Hospital is too well known to students of vital statistics to require any description. The present edition is conveniently and substantially prepared, being in the form of a small volume with flexible leather covers which can be carried easily in the pocket. The work was published first in 1903 and revised in 1909; the present edition has been collated with the international list of causes of death, while the orthography conforms to the Basel nomenclature endorsed by the Committee on Nomenclature of the American Medical Association. Until such time as we have a single, official and universally observed system of nomenclature, the Bellevue Hospital system will be of great value and will, doubtless, have many followers.

DIE EPIDEMISCHE KINDERLÄHMUNG (HEINE-MEDINSCHE KRANKHEIT). Von Dr. Paul H. Römer, Abteilungsvorsteher am Institut für Hygiene und experimentelle Therapie in Marburg. Paper. Price, 10 marks. Pp. 256, with 57 illustrations. Berlin: Julius Springer, 1911.

This work will be welcomed by those interested in poliomyelitis, especially in its epidemic manifestations. It contains, in addition to the author's own well-known researches, during the epidemic of 1909 in Marburg, into the transmission of the disease to monkeys, studies in immunity, etc., a complete exposition of the whole subject from a historical, clinical, pathologic, pathogenic and therapeutic point, up to the very latest work of Flexner and Clark in this country. It deals as fully with the future, the great unsolved problems, as with that which is known. The illustrations showing monkeys to which the disease has been transmitted, and also the histology of the disease, are excellent. At this time when laymen are as interested as physicians in this mysterious disease that has seemed, at least, to have taken on new characteristics in the last decade, this little volume should find a welcome place.

MINNESOTA MUSHROOMS. Booklet IV of Minnesota Plant Studies, of University of Minnesota, Minneapolis. By Frederic E. Clements, Professor of Botany and State Botanist. Paper. Price, 50 cents. Pp. 169, with 124 illustrations.

This creditable piece of work, elaborately illustrated—partly in colors—gives rules for collecting, preparing and cooking. Particular instructions are given for recognition of poisonous specimens. The preface calls attention to the enormous annual crop, now almost wasted, either through fear or neglect. Probably the total value of mushroom crop of the state is nearly a million dollars. The pamphlet is interesting, practical and valuable. It may not particularly reduce the cost of living but it will enable many people to enjoy this easily obtained food.

Medicolegal

Construction of Statute as to Privileged Communications and Waivers of Privilege, Especially as Between Several Physicians

(Missouri & North Arkansas Railroad Co. vs. Daniels (Ark.), 136 S. W. R. 651.)

The Supreme Court of Arkansas favors a liberal construction of the statute of that state which provides that "no person authorized to practice physic or surgery, and no trained nurse, shall be compelled to disclose any information which he may have acquired from his patient while attending him in a professional character and which information was necessary to enable him to prescribe as a physician or to act for him as a surgeon or trained nurse." The court says that this enactment was manifestly made for the benefit of the patient. Its evident purpose was to throw around him a protecting shield so that he might freely and fully disclose to his physician every fact relative to his ailment with the confident knowledge that the information thus obtained could not be divulged to his injury or disgrace. Being for his benefit, the provision was adopted out of reasons of public policy as a privilege accorded solely to the patient; and, like any other privilege, it is one that the patient may waive.

By the terms of this statute, a physician is prohibited from disclosing information obtained while treating his patient, but it has been uniformly held by the courts of those jurisdictions having similar statutes that the provisions thereof must receive that construction which was intended by the legislature which framed them; and that is that the patient himself may waive the privilege of the statute in order to obtain the benefit of the physician's evidence. When this privilege is waived as to any particular witness, the opposing side is entitled to the benefit of the waiver as to such witness. But the benefit of such waiver in behalf of the adversary should not extend further than to the witness who has been called by the patient, or as to other physicians who may have been present on the same occasion to which the witness testifies.

By virtue of the statute the patient is alone given the right to remove the ban of secrecy. The patient may be willing to waive the objection of incompetency as to a particular physician in whom he reposes confidence, and yet be unwilling to waive this objection as to another, who treated him at a different time for the trouble complained of. The statute affords him this privilege, when the testimony of the offered witness does not relate to the same occasion as that from which the patient has removed the seal of secrecy.

When a patient divulges what occurred between himself and a certain physician who treated him, that would waive his privilege regarding a disclosure of all that such physician knew and all that occurred at the time that such physician treated the patient; but that would not authorize the opposing side to call another physician who might have treated the patient at another and different time for the same disease. So the court is of the opinion that the plaintiff, by the introduction of the testimony of a physician relative to his treatment of her after her injury, did not waive her privilege to object to the testimony of other physicians who had treated her prior to that time, although for the same alleged trouble.

Nor does the court consider that there was a waiver of privilege when the plaintiff was asked, on cross-examination, if the physicians whom the defendant company desired to introduce as witnesses as to her condition prior to her alleged injury had not treated her for displacement of the womb, and she denied it. The company urged that it was entitled to have the benefit of those physicians' testimony in order to contradict the plaintiff. But, if the defendant's position in that respect should be upheld, then the above statute in regard to privileged communications would be easily evaded. In any cause where the opposing party desired to obtain the testimony of an attending physician, it could be secured in like manner, although against the objection of the patient. The plain provisions of the statute forbidding such testimony by a physician cannot thus be abrogated.

Liability for Results of Bruise Followed by Cancer

(Louisville Railway Co. vs. Steubing's Administrator (Ky.), 136 S. W. R. 634)

The Court of Appeals of Kentucky affirms a judgment for $7.500 damages against the railway company for injuries sustained by Mrs. Steubing in being thrown from one of the defendant's cars as she was about to alight from it. A sudden start was alleged to have thrown her from the platform to the ground. She was a large woman. The handle of an umbrella which she had in her hand bruised her breast as she fell on the ground. She thought at the time that she was not hurt, and said so, but soon found that she was worse hurt than she supposed, and was under a physician from the time of the accident and suffered very greatly. Within six months after the accident, a tumor appeared on her breast at the point where it was bruised by the umbrella handle. It was then about as large as an English walnut, and the physician advised her to have an operation performed, but that she did not do, and about a year after that she returned to the physician, who told her that she must have the operation performed at once. The tumor had then developed into a cancer of the breast. The operation was performed, but she died not long afterward.

It was earnestly insisted that all the evidence as to the cancer should have been excluded from the jury, as it was not shown that that was the direct and proximate result of the injury. That, however, the court answers by saying that the testimony of the physicians introduced on behalf of the plaintiff was to the effect that 15 per cent. of cases of cancer of the breast may be traced back to a traumatic injury; that the cause of cancer is unknown, and that it is not known that the injury in these cases was the cause of the cancer. But the physicians gave it as their opinion that in a glandular structure like the breast, where the circulation is very extensive, there are what are called embryonic cells, and that a bruise would start an embryonic cell to growing and develop into a growth different from the original growth; that falling from a street car, and having an umbrella punched into her breast, would be a sufficient or probable cause for the condition in which they found her; that the injury would not cause the cancer, but it might bring about a condition which would result in it when a cancer would not have otherwise existed; that any chronic inflammatory condition in the breast was liable to bring about such a condition, and that a great per cent. of the tumors of the breast in women took on at some time malignancy. These physicians stated facts sustaining the view which they advanced, and the defendant offered no contradictory evidence. The proof for the plaintiff was to the effect that Mrs. Steubing was a strong, healthy woman, without an ache or a pain until her injury; that after that she was never without pain, and the severity of her sufferings, as well as their constancy, tended strongly to confirm the conclusion of the physicians that the malignant cancer was the result of the bruised condition of the breast which she received in the fall. At any rate, there was sufficient evidence on that point to go to the jury.

Liability of Masseurs for Practice of Medicine—When Law Took Effect

(Dankworth vs. State (Tex.), 136 S. W. R 788)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Dankworth of unlawfully practicing medicine. He claimed to be a masseur. The state's witness testified that he took his wife, who was suffering with some female disease, to see the defendant, and he said he could cure her. He said that she needed a wash for use at home, and said that he would call at the drug store and have it put up, which was done. He treated her at his home, and charged $20. The court says that, under its holdings that those who, for pay, practice massage for the cure of disease, practice medicine, it became immaterial whether or not a charge was made for the prescription at the drug store.

The jury was instructed that the provisions of the medical practice act of 1907 do not apply to masseurs in their particular sphere of labor, who publicly represent themselves as such; but a masseur is not permitted under the law to treat, or offer to treat, diseases or disorders, mental or physical, or to effect cures thereof, and charge therefor, directly or indirectly, money or other compensation. This charge was in accordance with the decisions of this court.

It was insisted that the medical practice act approved April 17, 1907, did not become effective until one year and ninety days after the adjournment of the legislature, on April 12, 1907; but the court does not think that such contention was the proper or legitimate conclusion to be placed on the act. The act itself became effective within ninety days after the adjournment of the legislature—on the 12th day of July, 1907. In the act, in Section 6, it is provided: "Within one year after the passage of this act all legal practitioners of medicine in this state, who, practicing under the provisions of previous laws, or under diplomas of a reputable and legal college of medicine, have not already received license from a state medical examining board of this state, shall present to the Board of Medical Examiners for the State of Texas documents, or legally certified transcripts of documents, sufficient to establish the existence and validity of such diplomas or of the valid and existing license heretofore issued by previous examining boards of this state, or exemption existing under any law," etc. Laws in force prior to the passage of that act required the diploma or license of a physician to be filed and recorded in the office of the clerk of the district court in the county in which one proposed to practice, and inasmuch as the defendant testified that he never filed in any county a license to practice medicine, the exceptions in the act could not avail him. If he had held a diploma from a reputable or legal college of medicine, or a license issued by previous examining board, it would have been a matter peculiarly within his knowledge, and if he had relied on that as a defense he should have made that proof.

Action for Malpractice Barred by Statute of Limitations

(Lotten vs. O'Brien (Wis.), 131 N. W. R. 361)

The Supreme Court of Wisconsin reverses a judgment obtained by the plaintiff and directs that the complaint be dismissed because it holds that the alleged right of action for malpractice was barred when the action therefor was commenced on November 13, 1909. The court says that the complaint charged that on August 24, 1908, the plaintiff employed the defendant to set, etc., a broken arm. It appeared that the acts of negligence complained of took place not later than September 26, 1908, when the treatments by the defendant ceased. The mere fact that there was no discharge of the defendant on that date would not change this result. The statute of limitations began to run when the cause of action accrued and this accrued when the negligent acts were committed, without reference to the time of discharge. The real negligent act which caused the injury to the plaintiff was the improper setting of the bones in his arm. The negligent omission to discover this occurred at such dates and times as the defendant undertook to examine, treat, and care for the disabled arm. At that time the Wisconsin statute of limitations applicable was one of one year, and the limitation of one year having begun to run when the two-year act of 1909 went into effect, and the latter act providing a new period of limitation, the former limitation statute was continued in effect as to such former acts under Wisconsin law.

A Physician Cannot Testify as to Examination Made to Aid Compromise

(Woodward vs. Southern Railway Co. (S. C.), 70 S. E. R. 1060)

The Supreme Court of South Carolina holds that, there being evidence that the plaintiff's counsel and an agent for the defendant entered into negotiations looking to a compromise settlement of the plaintiff's claim, for personal injuries, and that, in the course of these negotiations, and in furtherance of them, it was agreed that a certain physician should make an examination of the plaintiff, to ascertain the extent of his injuries, evidence of disclosures made by either party to the other, directly or indirectly, in negotiations for a compromise, not being admissible, testimony of the physician as to the examination was properly excluded.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Infectious Diseases, Chicago

September

1 *Local Production of Antibodies. L. Hektoen, Chicago.
2 *Resistance of Tubercle Bacilli to Dry Heat. C. Krumwiede, New York.
3 Effect on Protoplasm of Nitella of Various Chemical Substances and of Microorganism Introduced into the Cavity of Living Cell. M. A. Barber, Kansas City.
4 *Antistreptococcus Serum. G. H. Weaver and R. Tunnicliff, Chicago.
5 Studies on Chemistry of Anaphylaxis. Experiments with Isolated Proteins, Especially Those of the Hen's Egg. H. G. Wells, Chicago.
6 *Bactericidal Action of Quinone and Other Phenol Oxidation Products as Determined by Rideal-Walker Method. W. Thalhimer and B. Palmer, Charlottesville, Va.
7 Pneumococcus Anaphylaxis and Immunity. E. C. Rosenow, Chicago.

1. **Local Production of Antibodies.**—The results obtained from experiments by Hektoen do not point to any local production of specific antibodies in dogs injected with goat or rat corpuscles, at least not so far as concerns the tissues about the anterior chamber of the eye, the tissues of the pleura, and the subcutaneous tissues.

2. **Resistance of Tubercle Bacilli to Dry Heat.**—Krumwiede found that air-dried tubercle bacilli are many times more resistant to dry heat than are bacilli heated in fluids or steam.

4. **Antistreptococcus Serum.**—Antistreptococcus serums were found by Weaver and Tunnicliff to lose their opsonic power rapidly, which may for some time be largely restored by the addition of fresh human or guinea-pig serum. Guinea-pigs may be protected against virulent cultures of streptococci by previous injection of antistreptococcus serums. The protective power of immune serums continues so long as they can be reactivated by fresh serum. Injections of immune serums in guinea-pigs may be followed by increased activity of leukocytes of short duration and by an increased opsonic power for streptococci in the blood-serum persisting for about ten days. The immunity in guinea-pigs produced by injection of immune serum persists for about eight days. Of three fresh commercial serums manufactured in the United States which were tested, two were active and one inactive. The two European serums were active. Fresh normal human serum and fresh human serum from persons infected with streptococci are able to reactivate antistreptococcus serums. This indicates that such serums may have some protective and curative effect in man in cases of streptococcus infections. The specific antistreptococcus bodies are resistant to heat and chemicals (trikresol, 0.4 per cent. chloroform) and are closely associated with the pseudoglobulins of the immune serum. The authors stated that it would be desirable to have some guarantee of the activity of antistreptococcus serums offered for sale.

6. **Bactericidal Action of Quinone.**—Thalhimer and Palmer found quinone the most efficient bactericidal substance yet reported; phenol-quinone is less active than quinone, and hydroquinone still less so. They emphasize that many of the commonly-used disinfectants and antiseptics, such as bichlorid of mercury, formaldehyd, argyrol, protargol, etc., are relatively inefficient in strengths used. Iodin, alcohol in strengths above 50 per cent., and silver nitrate in solution of 1-1,000 are very efficient bactericidal agents. Potassium cyanid and hydrocyanic acid, although powerful organic poisons, have a weak bactericidal action. The phenol coefficient of crude phenol is 4, of trikresol is 2.2 and of parakresol is 2.8, thereby disproving the statement that a combination of all three cresols is more powerful than any one of them. Beta-naphtol and sodium hydroxid neutralize one another's bactericidal action, and this would also occur in the intestine and so render the former substance useless as an intestinal antiseptic. The work of recent observers and the authors' results indicates the advantage of getting away from the use of bichlorid in surgical technic and the substitution for it of tincture of iodin and 50 per cent. alcohol.

American Journal of Obstetrics, New York

September

8 *Repeated Ectopic Pregnancy. R. R. Smith, Grand Rapids, Mich.
9 *Hydatid Mole. H. N. Vineberg, New York.
10 Pathology of Hydatid Mole and Chorio-Epithelioma and Their Relation to Normal Pregnancy. R. T. Frank, New York.
11 Pelvic Infections (Gonorrheal). J. Brettauer, New York.
12 Puerperal Infections. J. O. Polak, Brooklyn.
13 *Radical Treatment of Pelvic Inflammation. E. P. Davis, Philadelphia.
14 Strangulated Inguinal Hernia in the Female. H. A. Royster, Raleigh, N. C.
15 Treatment of Breast Cancer. T. Abbe, Washington, D. C.

8. Abstracted in The Journal, July 8, 1911, p. 162.

9. **Hydatid Mole.**—Of Vineberg's three cases following hydatid mole, two patients were operated on four years ago; one patient is in good health at the present time; the other was lost sight of shortly after leaving the hospital, when he was fully convalesced. The third patient was operated on five months ago. A couple of weeks after her discharge from the hospital, a small bleeding growth appeared in the vaginal scar. Suspecting a recurrence Vineberg excised it but the pathologist could not detect any evidence of chorioepithelioma in it. She is in excellent health, and the vaginal vault is smooth and perfectly healed.

13. **Treatment of Pelvic Inflammation.**—It is emphasized by Polak that curettage, douches and examinations during the acute stage of puerperal infection, break down natural barriers and open avenues for further dissemination of sepsis to the myometrium, parametrium and adjacent tissues, and that the danger from curettage increases as the period of pregnancy advances. The endometrium should never be curetted in acute streptococci infection, neither should the placental site ever be curetted. Instrumental evacuation of the uterus should be limited to pregnancy of eight weeks or under: digital exploration and digital curettage is the most rational method of learning the contents of the uterus. After the uterus is once thoroughly emptied, the pelvis should be left absolutely alone, except for postural drainage, and we should make every effort to support the patient and increase her natural blood resistance. If the blood-stream is sterile, and the blood shows a leukocytic resistance to the infection by a relative white cell increase, the prognosis is favorable, it matters not what form of cocci are found within the uterine cavity. Polak says, never disturb a local exudative focus postpartum, as long as the patient shows signs of improvement, unless there is definite evidence of a localized collection of pus, this should be opened by extra-peritoneal incision. Exudative pelvic peritonitis may be considered as a sequel of untreated or badly treated endometritis.

Thrombophlebitis is a conservative process on the part of nature, and manipulation or examination tends to break off infected emboli, and disseminate the infection to the remote parts of the body. Nature is competent in the majority of cases to localize and circumscribe the infection. Enormous pelvic and abdominal exudates may disappear without operation, and in time enlarged ovaries, tubes, etc., assume their proper size and function, and as long as the patient's general condition improves, no surgery is advisable. All operations are attended with less risk after the acute stage of the infection has subsided, and an exact diagnosis is more easily made at this time; and finally, vaccines have a definite field and are valuable adjuncts to the therapeutics of puerperal infection.

Military Surgeon, Washington

September

16 Asiatic Cholera. J. R. Hurley, Washington, D. C.
17 San Diego Maneuver Camp. C. W. Decker, San Diego, Cal.
18 Galveston Maneuver Camp. J. H. Ford, U. S. A.
19 *Lime Salts for Troops. W. T. de Niedman, U. S. A.
20 Treatment of Malaria by Salvarsan. M. A. Reasoner, U. S. A.
21 Dislocation of Malar Bone. R. P. O'Connor, U. S. A.
22 Chronic Interstitial Nephritis with Very Obscure Symptoms. G. B. Tuttle, U. S. A.
23 Miscellaneous Notes. R. C. Matson, Portland, Ore., and M. A. Reasoner, U. S. A.
24 Experiments Undertaken to Test Efficacy of Ipecac Treatment of Dysentery. E. B. Vedder, U. S. A.

19. **Lime Salts for Troops.**—The use of calcium lactate and permanganate is held by de Niedman to be particularly desirable during active campaigning under circumstances where the soldiers have to use drinking-water from questionable sources. He is satisfied that calcium permanganate added in definite quantities to drinking-water would act as a prophylactic and would prevent contracting dysentery and other enteric fevers, while calcium lactate, taken with food, would replace the deficiencies of lime salts in the various articles of the diet, thereby minimizing the tendency to the numerous inflammatory intestinal troubles often met and which cannot be rightly traced to careless preparation of food, or to drinking-water. It is his opinion that the routine use of lime salts under certain conditions would be of great benefit to troops serving for a prolonged period in the field or in the tropics.

Mississippi Medical Monthly, Vicksburg

September

25 *Treatment of Appendicitis by Hypodermic Injection of Colon Bacteria. H. M. Folkes, Biloxi.
26 Drops in Syphilis. H. L. Walker, Hot Springs, Ark.
27 Acute Enteritis. W. H. Frizell, Brookhaven.
28 Intestinal Obstruction Due to Intussusception and Volvulus. J. C. Walker, Houlka.
29 Medical Treatment of Appendicitis. J. W. Jordan, Lexington.

25. **Treatment of Appendicitis.**—Thinking that possibly the infection in a case of appendicitis was due to colon bacilli, and not being permitted to operate, Folkes concluded to try an injection of colon bacteria which he did by giving 200,000,000. Within twenty-four hours the temperature had gone to normal, pulse 102, facial expression natural, patient comfortable. The tumor, *pari passu*, became smaller and smaller and ten days after the injection had entirely disappeared. The patient is as well as ever.

Washington Medical Annals

September

30 Iodin as Antiseptic, with Special Reference to Sterilization of Skin. I. S. Stone, Washington, D. C.
31 Suspensions of Salvarsan in Oil. H. H. Hazen, Washington, D. C.
32 Borderland Between Internal Medicine and Psychiatry. W. A. White, Washington, D. C.

Journal of Kansas Medical Society, Kansas City

September

33 Vaccines and Vaccine Therapy. C. J. McGee and P. B. Matz, U. S. A.
34 Complete Atresia of Vagina and Case Complicated by Hematotrachelos, Rudimentary Uterus, Operation. R. S. Harvey, Newton.
35 One Hundred and Thirty-Five Cases of Obstetrics in Country Practice. F. A. Carmichael, Goodland.
36 *Case of Automatic Shedding of Gall-Bladder. H. G. Welsh, Hutchison.

36. **Automatic Shedding of Gall-Bladder.**—On the basis of a diagnosis of appendicitis Welsh opened the abdomen in the region of the appendix and found a good-sized abscess well walled off. The patient was in such an extreme condition that he decided not to remove the appendix as it appeared to be well covered up with adhesions, so he packed the abscess cavity with gauze and hurried the patient to bed, and ordered normal salt solution per rectum. The patient had only a slight rise in temperature at the time he entered the hospital and this did not change much for several days, running from ½ to 1½ degrees above normal. The patient began to improve, however, the gauze drain being removed on the fourth day, and replaced with smaller gauze packing each day thereafter. On the fifth or sixth day a fecal fistula developed and bowel contents discharged freely for a few days and then healed. About the fourteenth day after operation, a black object appeared in the wound at the morning dressing and looked very much as though it was a portion of gangrenous gut. The patient was improving daily, was much stronger and Welsh did not think the substance was bowel, although it looked and felt like it. When the gauze was pulled out of the wound the mass came out with it, and at first sight it looked like a piece of gangrenous gut about 5 inches long by 2 inches in diameter, with an opening at the smaller end, and about half full of a semi-solid or mushy contents. It was the whole gall-bladder. Two or three days after the shedding of the gall-bladder, bile began to discharge freely through the wound and did so for several days, and then ceased and the wound gradually healed. No gall-stones were found at the operation, and none passed through the wound afterward.

Maryland Medical Journal, Baltimore

September

37 Prevention of Inebriety. G. M. Linthicum, Baltimore.
38 Laboratories and Medicine. H. W. Stoner, Baltimore.

Journal of Medical Research, Boston

September

39 Vaccination of Cattle Against Tuberculosis. T. Smith, Boston.
40 *Organic Matter in Expired Breath. M. J. Rosenau and H. L. Amoss, Boston.
41 *Study of Primary Intimal Arteritis of Syphilitic Origin. F. B. Gurd and H. W. Wade, New Orleans.
42 *Rapid Isolation of Typhoid, Paratyphoid and Dysentery Bacilli. A. I. Kendall and A. A. Day, Boston.
43 Investigation on Permeability of Slow Sand Filters to Bacillus Typhosus. E. B. Beasley, Boston.
44 *Certain Fundamental Principles Relating to Activity of Bacteria in the Intestinal Tract; Their Relation to Therapeutics. A. I. Kendall, Boston.
45 *Tuberculosis Among Ground Squirrels (Citellus Beecheyi, Richardson). G. W. McCoy and C. W. Chapin, San Francisco.
46 Precipitation Tests for Syphilis. L. W. Strong, Boston.
47 Twenty-Two Spontaneous Tumors in Wild Rats. P. G. Woolley and W. B. Wherry, Cincinnati.
48 Isolation of Typhoid Bacilli from Urine and Feces with Description of New Double Sugar Tube Medium. F. F. Russell, Washington, D. C.
49 *Isolation of Bacillus Typhosus from Butter. D. H. Bergey, Philadelphia.
50 *Peptid-Splitting Enzyme in Woman's Milk. L. M. Warfield, Milwaukee, Wis.
51 Carcinoma Involving Entire Kidney. L. S. Milne.
52 Thrombo-Angeitis Obliterans. H. Brooks, New York.
53 Value of "Hormone" Theory of Causation of New Growth. I. Levin and M. J. Sittenfield, New York.

40. **Organic Matter in Expired Breath.**—Through the reaction of anaphylaxis the presence of organic matter was demonstrated in the expired breath by Rosenau and Amoss. In brief the method consisted in condensing moisture from the expired breath of man and injecting the liquid so obtained into guinea-pigs. After a suitable interval (at least two weeks) the guinea-pigs were injected with normal human blood-serum. Ninety-nine guinea-pigs were thus tested in twenty-five different experiments; of the ninety-nine, twenty-six gave definite symptoms of anaphylaxis; this does not include the animals showing suggestive or mild symptoms; in four the reaction was so severe that death ensued from anaphylactic shock. The expired breath of eight persons was tested; of these five gave positive reactions; on each of the remaining three, only one experiment was made. This organic matter must, according to the interpretations of our knowledge of anaphylaxis in the guinea-pig, be protein in nature. Guinea-pigs may be sensitized only with protein substances higher in the scale (that is, more complex) than the peptones. Further, this protein substance is specific and for the present it is assumed to come from the blood. The indications are that this organic matter is probably present in variable amounts, although the reaction is a qualitative and not a quantitative test.

The logical conclusion at which the authors arrive is that protein substances may be volatile. It seems unlikely that such a complex molecule should possess the power of passing into the air in a gaseous form. The volatility, however, now in question may resemble that solubility which deals with particles in suspension in a physico-chemical state (colloidal suspension). The protein may simply be carried over in "solution" in the watery vapor. The fact that organic matter is present in the expired breath does not mean that these substances are poisonous. It is evident, however, that the air contains many substances which we cannot at present discern, some of which may have an important bearing on health. Thus it is well known that most of the cases of sudden death following the first injection of horse-serum (diphtheria antitoxin) occur in adults. Children rarely give a severe immediate reaction at the first injection. How the adults become sensitized has always been a mystery. It may now be assumed that some susceptible persons may absorb, through the lungs, enough horse protein, from close association with horses to become sensitized. The fact that the expired breath contains definite amounts of specific organic substances will also have an immediate bearing on the problems of ventilation and the effects of vitiated air.

41. **Primary Intimal Arteritis.**—The authors maintain that total occlusion of vessels having a complete anatomic structure does result from the simple proliferation of the intima. Syphilis must be recognized as one of the factors potent to induce this lesion. Although nourishment for the inner layers of the media may be derived from the circulating blood in the lumen of the vessel, their preparations showed that such a method of nutrition is by no means necessary. In occlusion taking place in this manner, endothelial proliferation is primary, this being followed by subendothelial fibrous tissue hyperplasia. The vascularization of this proliferated tissue takes place by the growth inward of vessels from the adventitia. Necrosis in syphilis results both by the formation of tubercle-like nodules by the proliferation of cells with breaking down in the center, and also as the result of obliteration of vessels as the result of an intimal proliferation.

42. **Rapid Isolation of Bacilli.**—The modified Endomedium used by Kendall and Day contains 15 gm. of agar per liter instead of 40 gm. The colonies developing in 15 gm. agar are much larger in eighteen hours than those similarly grown in 40 gm. agar. The colonies are also more distinct. The reaction of the agar is made just alkaline to litmus, instead of being strongly alkaline to it; consequently those bacteria-forming acid bring about their characteristic changes very promptly because there is less alkali to be neutralized before the acid can assert itself. After eighteen hours' incubation on the medium modified as above, suspicious colonies are removed entire to small tubes containing 1 c.c. of sterile sugar-free broth, which has been kept at 37 C. previous to use and incubated in them at 37 C. for two hours. While the incubation is taking place, the sera are diluted ready for use. The cultures are then agglutinated with appropriate sera and watched for two hours. At the end of that time the results are reported. The whole procedure as outlined requires about twenty hours.

44. **Activity of Bacteria in Intestinal Tract.**—The cases studied on the Boston Floating Hospital during the summer of 1910 numbered thirty-nine. Nineteen patients died and twenty survived. Of those that died eight received no sugar; they were among the earliest studied, and it was from a study of the flora of this group that the ideas employed in the attempt to aid the others originated. Of those receiving sugar, and which died subsequently, two were on a modified milk diet previous to the use of lactose. One reacted very well both clinically and culturally to the sugar treatment, convalesced, and was doing very well on a milk modification. Finally she contracted a severe attack of acute bronchitis and had not strength enough to rally. Two patients died within three days of admission, too early to get the results of the lactose treatment, for the lactose was not given as a rule until after two or three days' starvation on sterile water. One patient was placed on lactose for eleven days, did very well, then on a milk mixture five days, still with improvement, then on Eiweiss milk. She died very shortly after. Two cases were pure Shiga bacillus infections, and terminated fatally rather promptly. This is the usual rule with pure Shiga infections, when the patients are seen as late in the disease as were many of those at the hospital last summer. Of the remainder one survived nine days on lactose, then died. The patient did not show the expected change in flora, and the question arises, were there vestiges of the fermentative flora to encourage? Obviously, if there were no fermentative organisms to start the new flora it could not develop. One patient died after twenty days' illness on the boat: six days of lactose, two of sterile water, then ten of lactose. The first two days were on sterile water. The last patient was placed on lactose solution for fourteen days, then on a milk mixture. She reacted very well bacterially, and no definite explanation of the cause of death can be advanced (syphilis?).

45. **Tuberculosis Among Ground Squirrels.**—Five cases of natural tubercle infection in ground squirrels have been observed. The gross pathology in these animals was as follows: Two had lesions of the lymph-glands alone, one of the lungs alone, one of the lungs and the omentum, and one of the liver alone. As compared with a human strain of the same age and number of generations, the growth on artificial media was far less luxuriant than that of the culture derived from man. The virulence of the squirrel cultures, judged by their effect on rabbits, agrees with that of the bovine type of *B. tuberculosis*.

49. **Isolation of Bacillus Typhosus from Butter.**—Altogether, eight samples of butter obtained from the institution were studied by Bergey and typhoid bacilli were found in one of the samples. The special agar media that seemed to be most helpful, in that it was possible to pick out the colonies of *B. typhosus* from amongst the colonies of other bacteria in the butter, were the Drigalski-Conradi agar and the malachite green agar. No typhoid organisms were recovered from the plates made with the endomedium. Bergey thinks that this result is probably due to the fact that the endomedium may not have been properly prepared, though four different batches of it were tried. These special agar media are rather difficult to make up, as the original descriptions are somewhat involved and the process is rather long. From the results obtained it is evident that these special media are of great value, under certain circumstances, for the recovery of *B. typhosus* from infected food materials. After the sample of butter which contained the typhoid bacilli had been in the ice-chest for several weeks it was impossible to isolate any additional typhoid bacilli from it. Whether this was due to the fact that the organisms had all died out or whether they were not uniformly distributed Bergey does not state.

50. **Peptid-Splitting Enzyme in Woman's Milk.**—Warfield found tryptophan present in the mixture of human milk and glycyltryptophan. This ferment is destroyed by heating the milk to 75-80 C. or above. When the specimen of milk is rendered faintly acid by the addition of either HNO_3 or HCl, there is no splitting of glycyltryptophan. Controls of untreated, normal milk and part of specimen treated, were always incubated for the same length of time. The controls were always positive for tryptophan.

Interstate Medical Journal, St. Louis

September

54 Treatment of Bacillary Dysentery. F. S. Meara, New York.
55 Case of Hemochromatosis with Diabetes. W. P. Elmer, St. Louis.
56 Some General Considerations in Regard to Right Hypochondriac Pain. J. D. Heard, Pittsburgh.
57 *Fallacy of Warmed Ether Vapor. M. G. Seelig, St. Louis.
58 Inflammatory Tumors Producing Intestinal Obstruction. A. Primrose, Toronto.
59 An Estimate of Freud's Theory of Neuroses, Its Value to the Neurologist. S. I. Schwab, St. Louis.

57. **Warmed Ether Vapor.**—Seelig says we may rest content with the simple fact that a warmed vapor will not stay warmed unless it is held under pressure. We have been led astray in our reasoning by the sight of ice crystals on the ether mask, or frost on the nitrous oxid gas cylinder. Indeed, we have been led so far astray as to lose sight of one of the fundamental facts in the administration of anesthetics, namely, when ether is administered by the drop method, its rapid evaporation robs the surrounding atmosphere of latent heat, thus perceptibly cooling it. This cooled air can take up only a moderate amount of ether vapor by reason of the fact that it is cooled, and thus we are furnished with a safeguard against oversaturating the patient with ether. This physical fact it is, which has contributed so much towards making the open method of administering ether so safe and therefore so popular. If we bear in mind the rapidity with which vapors part with heat, we shall probably not concern ourselves much with securing special warming apparatus.

Journal of Michigan State Medical Society, Battle Creek

September

60 Obstetrics in the Home. C. E. Boys, Kalamazoo.
61 Some Pertinent Facts Concerning State Sanatorium. E. B. Pierce, Howell, Mich.
62 Physician as Financier? W. A. Griffin, Deckerville, Mich.
63 Laryngeal Complications of Tuberculosis. N. P. Levin, Detroit, Mich.
64 Pelvic Tumors in Female. W. P. Manton, Detroit, Mich.
65 Fractures. C. H. Sample, Saginaw, Mich.

Albany Medical Annals, New York

September

66 *Anatomy and Pathogeny of Agenesia of Corpus Callosum. L. Archambault, Albany, N. Y.

66. **Agenesia of Corpus Callosum.**—A very complete study was made by Archambault of the clinical history and postmortem findings of a case of agenesia of the corpus callosum. He says that in cases of so-called agenesia of the corpus callosum, we have to do merely with an abscess of the callosal commissure proper. In a considerable number of cases, fetal hydrocephalus is the underlying cause of this anomaly. This lesion may act either by destroying a large part of the periventricular callosal layer, or by determining ventricular symphysis which then interferes mechanically with the development of the callosal commissure. The occipito-frontal fasciculus simply represents, as Sachs originally maintained, a heterotopy of the corpus callosum. It does not exist in the normal cerebrum. The fornix is formed not only by fibers derived from the gyrus hippocampi but also by fibers which originate in the gyrus fornicatus and reach it by traversing the corpus callosum. The internal sagittal layer of the fronto-parietal lobe, the reticular zone of Sachs, represents the corona radiata of the gyrus fornicatus or first limbic convolution. The anterior commissure probably enters into the constitution of the temporal segment of the tapetum. Aside from this possible element, the tapetum is formed exclusively by the fibers of the corpus callosum.

St. Paul Medical Journal

September

67 Bursæ and Exostosis (Spurs) of Os Calcis: Report of Cases. A. R. Colvin, St. Paul.
68 Bonds vs. Mortgages as Investments for Physicians. E. White, St. Paul.
69 Farm Mortgage as Investment for Physicians. W. Wheelock, St. Paul.

American Journal of Diseases of Children, Chicago

September

70 *Case of Scaphocephalus with Retinal Changes. A. W. Fairbanks, Boston.
71 Muscular Hypertrophy of Pylorus in Infancy. H. L. K. Shaw and T. Ordway, Albany, N. Y.
72 *Albumin-Milk in Infant Feeding. C. G. Grulee, Chicago.
73 Protein Metabolism in Infants and Children. H. Schwarz, New York.
74 *Case of Infection of New-Born. L. Taylor-Jones, Washington, D. C.

70. **Scaphocephalus with Retinal Changes.**—The symptoms in the case cited by Fairbanks strongly point to an intracranial tumor. The classic general symptoms presenting themselves in a strikingly typical manner, headache, vomiting, optic neuritis and choked disks with retinal hemorrhage. The symptoms were so intense that the child was twice admitted to the hospital with a view to using a radical palliative decompression operation. The abnormal shape of the head was thought to be a congenital deformity, without connection with the active and serious clinical phenomena. Eye examination showed 2 mm. swelling of the disk and beginning signs of organization. It was thought that there was slightly less coordination and power in the right upper extremity than in the left, but this was always questionable. No other signs were present. His gait, even with his eyes closed, was excellent. From this time to the time of making this report (six months), he was perfectly well subjectively, and presented no abnormality, except the cranial deformity and the changes in the retina.

72. **Albumin-Milk in Infant Feeding.**—Grulee's report consists of thirty cases, of which twenty-five are of nutritional disturbances and five of parenteral affections. Of these cases, five were dyspepsias, with four recoveries and one failure; seventeen were decompositions, with two failures and three deaths. Of those classified as failures, both were cases which could not be controlled. Of the deaths, one was the first infant on which the albumin-milk was used and the albumin-milk period was preceded by a long period of decline; one death resulted from erysipelas. In one case of intoxication the infant made a beautiful recovery. In this case a modification of the albumin-milk was used. Instead of suspending the curds in the buttermilk, barley-water was used, and this in turn gradually replaced, 1 ounce or 2 ounces at a time, with buttermilk. In this case the above procedure did good service. One of the cases in this series was an infant a few days old, of comparatively good health, which thrived well on the food. Another case, aside from a rather severe rickets and furunculosis of the scalp, showed no disturbance and yet went steadily down hill and died a month or six weeks after leaving the hospital.

Of the five cases of parenteral affections, three infants died, one was but slightly improved, while one made an excellent recovery. One of those which died had a very severe anemia pseudoleukemica infantum, one was afflicted with subcutaneous abscesses which were very bad at the start and cleared up entirely for some days, then began again and during the second attack the child died. The third was a case of intestinal tuberculosis. The infant which improved only a little was one with syphilitic hydrocephalus; the other case was an ordinary case of congenital syphilis.

In the twenty-five instances of nutritional disorder there were eighteen recoveries, three failures and four deaths. Of the deaths, two only were uncomplicated nutritional disorders. Of the failures, no infant was on the albumin-milk longer than twelve days, one being taken off the food because of a rather alarming loss of weight in the first week. In no mild case in which it was thought that the infant would thrive on the usual milk mixtures was the albumin-milk given. This is shown by the fact that fifteen of the twenty-five cases were in infants 4 months or under. Quite interesting was the rapid fall and rise of the weight-curve. This occurred usually in more severe cases and often a drop of 4 to 5 ounces in twenty-four hours would be registered, with a quick return to a point above that before the drop.

74. **Infection of the New-Born.**—This baby, which had been apparently perfectly healthy for ten days of its life, died when 12 days old, of a streptococcus infection whose course was by the way of the umbilicus through the left hypogastric artery. At no time was there any sign other than perfect health at the navel. Taylor-Jones could not say when the infection occurred, but it would seem that the most reasonable presumption would put it at the time of, or soon after, the separation of the cord on the fourth day. The physiologic thrombus of the left hypogastric would probably not be broken down by sepsis for several days, and several more days might be required to have the circulation of the organisms in the blood show evidence by elevation of temperature and external signs. Taylor-Jones surmises that had it taken place at the time of birth, infection would probably have manifested itself several days earlier because of the organisms passing directly into the blood-current, before formation of the thrombus.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

September 1

75 Visit to Some Hospitals and Surgical Clinics of France. W. J. Mayo, Rochester, Minn.
76 *Early Symptoms and Diagnosis of Pulmonary Tuberculosis. J. L. Anderson, Powers Lake, N. Dak.
77 Direct Electrical Current in Scientific Medicine. B. T. Green, Brookings.
78 Physical and Medical Supervision of Children. J. W. Robertson, Litchfield, Minn.

76. Abstracted in THE JOURNAL, July 8, 1911, p. 159.

Boston Medical and Surgical Journal

September 7

79 Suits for Alleged Malpractice. G. W. Gay, Boston.
80 *Some Comments on Probable Direction of Future Progress in Treatment of Chronic Joint Diseases. H. W. Marshall, Boston.
81 *Humidity and Health. P. W. Goldsbury, Warwick, Mass.
82 Case of Pellagra. C. H. Dean, Northampton, Mass.

September 14

83 Thoracic Surgery. J. G. Mumford, Boston.
84 Treatment of Empyema. F. B. Lund, Boston.
85 *Bronchiectasis and Abscess of Lung. S. Robinson, Boston.
86 Chest Traumata. F. T. Murphy, Boston.
87 Use of Esophagoscope in Esophageal Surgery. H. P. Mosher, Boston.
88 Value of Roentgen Rays in Diagnosis and Treatment of Fractures; Moral and Legal Obligations. H. A. Lothrop, Boston.
89 Suits for Alleged Malpractice. G. W. Gay, Boston.

80. **Progress in Treatment of Chronic Joint Diseases.**—Reasons and data are given by Marshall to show how greater accuracy in diagnosis; greater skill in applying remedies accurately according to physiologic needs of the tissues; discoveries of new methods of treatment through development of many medical researches; improvements in surgical knowledge and skill; and more keen appreciation of the advantages of preventive measures will all favorably influence progress in treatment of chronic arthritis. Simultaneously with increase in efficiency of such treatments there will develop greater confidence among patients with regard to medical understanding of joint diseases, and this of itself will be an additional advantage, if existing practices that are so fatal to satisfactory results can be minimized, namely, the habit which patients have of wandering from one physician to another, trying indiscriminately many cures until hope of recovery has passed and their joints are worn out and damaged beyond repair while attempting to restore their normal function.

81. **Humidity and Health.**—The beneficence of moisture is emphasized by Goldsbury. He says that the problem of constructing buildings in such a way as to keep the interior up to a fair degree of humidity is a large one. So far engineers have made little practical progress toward its solution. Their ingenuity has been taxed to improve the moisture in large public buildings. The devices for this have so far proved too expensive for private dwellings, hotels, offices or schoolhouses. Another difficulty has been to arouse public opinion on the subject, or to convince of its importance. Americans complain of the drafty, poorly heated buildings abroad, but American houses are both too nearly air-tight and too much heated for ideal humidity. Too little of the moist fresh air enters; and this, under the rising temperature, has its relative humidity greatly lowered. The situation calls for some special measures.

Clothing and covering of the body interferes more or less with an equal shading of humidity and evaporation and circulation of the air directly over the skin. Advantage may be taken of this fact. If the skin is allowed to enjoy longer periods of freedom from clothing upon retiring or rising, or when they are being changed, the body will be bathed more equally by air of a like degree of humidity and should benefit from such baths. Clothing which permits freer circulation of air is a step in this direction, but this whole subject can be reserved to a later discussion. If one must live much indoors he may improve the temperature of his rooms by various devices, such as keeping growing plants and setting about porous dishes, as flower pots full of water. If such receptacles are set near electric fans the stirring of the air facilitates evaporation. Some housekeepers have even placed such pots within the radiator.

There are some objections to the use of plants, such as the amount of care they require, the space they occupy and the physiologic effects of their odors and gaseous exhalations. Those who love plants, however, may get encouragement from the fact that the beauty and fragrance are joined with a humbler and inconspicuous but very much needed service. Porous vessels, too, demand some care. If they are not covered dust will gather within them, evaporation will be retarded and the water itself will grow foul. The vessels should be covered or closed and the water changed occasionally to keep all fresh. As with plants, the esthetic sense may be satisfied along with the useful. Pottery may be formed to furnish an elaborate amount of evaporating surface and at the same time artistically designed.

Goldsbury says that there is nothing for humidity like the out-of-doors. Even though the humidity may range from that of parched Arizona to that of the English Channel, it is so admirably adjusted to the environment on nature's gigantic scale, and so likely under the vast majority of conditions to be superior to anything that can be produced artificially, and it is so bound up with advantages of other sorts, that the Great Open must be the common refuge, and to the natural we must turn in our search after the ideal. Conditions indoors may and must be improved; conditions outdoors wait to be enjoyed.

85. **Bronchiectasis and Abscess of Lung.**—From sixteen cases of abscess which he has seen, eight of which he has operated on, Robinson has come to prefer the responsibility of finding the abscess rather than risk operation at that late stage when the patient's resistance has been lowered during prolonged observation and repeated negative explorations. Continued expectant treatment may result in a fetid empyema. Drainage of such empyemata in the presence of abscess is attended with high mortality. The operative mortality of uncomplicated acute abscess should be less than 8 per cent. in cases which have not been delayed by lack of diagnosis or prolonged observation. He says that exploration for deep

abscess, in the complete absence of adhesions, is more safely performed under differential pressure, the use of which, to say the least, increases confidence. Furthermore, many recent experimental investigations have bettered the technic of opening and closing the chest, and a negative exploration should be devoid of complications.

Operative infection of normal pleura, and postoperative pneumothorax should, nevertheless, be avoided in every possible instance. A careful search before and during operation for an area where adhesions are present will prevent the opening of the free plural cavity. In his six cases of acute abscess, Robinson has established drainage with no mortality.

Lancet-Clinic, Cincinnati

September 16

90 Gastric Ulcer. W. D. Haines, Cincinnati.
91 Early Diagnosis in Tuberculosis. C. A. Shepard, Los Angeles, Cal.
92 Reminiscences of Early Days of Medical College of Ohio. A. H. Rowan, Santa Ana, Cal.

Medical Record, New York

September 16

93 Tetany and Spasmophile Tendency in Infancy and Childhood. H. Koplik, New York.
94 Conservation of Sight. J. W. Jervey, Greenville, S. C.
95 *New Method of Vaccine Treatment and Prevention of Sepsis. C. H. Duncan, New York.
96 Some Common Errors in Treatment of Diabetes. H. Wakefield, New York.
97 Three Phases of Ectopic Gestation. J. M. Keyes, New York.
98 O'Dwyer Forcible Respiration Apparatus for Children. J. O'Dwyer, New York.

95. **Vaccine Treatment and Prevention of Sepsis.**—The cure employed by Duncan consists in giving the patient crude pus from his own wound by the mouth. The prevention is effected by putting the discharge from a fresh wound in the patient's own mouth. To get some idea of the possibilities of this method of curing and preventing infections, he directs attention to the dog and cat and other animals that lick and cure their wounds. He says this is the oldest method of wound treatment the world has known, for animals have always licked and cured their own wounds. The only place where, as a rule, a cat or dog has bad infections is on the head, which it is impossible for them to lick. If the pus from their head wounds is placed in the mouth they will recover from their head wounds as they do from wounds which they can lick. In licking their wounds, they place the autogenous vaccine in healthy tissues away from the seat of disease, and develop specific antibodies in the serum. This is Nature's method of curing an infection. It is the simplest and the best method of curing infection.

New York Medical Journal

September 16

99 Fifty Cases of Syphilis Treated with Salvarsan, with Special Reference to Clinical Result and Wassermann Reaction. A. L. Wolbarst, New York.
100 Gastric Contents in Gastroptosis. T. R. Brown, Baltimore.
101 Duodenal Ulcer. J. P. C. Griffith, Philadelphia.
102 The Hospital Ship *Solace*. M. F. Gates, U. S. N.
103 Treatment of Acute Ailments in Persons Addicted to Habitual Use of Narcotic Drugs. G. E. Pettey, Memphis, Tenn.
104 Infection: A Contest Between Host and Invader. D. H. Bergey, Philadelphia.
105 Swelling of Liver and Spleen with High Continuous Fever. K. L. Elsner, Brooklyn, N. Y.
106 Iritis Plastica Adherens. A. M. MacWhinnie, Seattle, Wash.
107 Scarlet Fever Complicating Pregnancy, Labor and Puerperium. S. Herzstein, New York.

Kentucky Medical Journal, Bowling Green

July 15

108 Syphilis of Stomach. J. J. Moren, Louisville.
109 Serum Treatment of Cerobrospinal Meningitis. J. A. Flexner, Louisville.
110 Injuries At and About the Ankle. C. G. Forsee, Louisville.
111 Shock. F. T. Fort, Louisville.
112 Successful Intestinal Resection for Strangulation by Cord of Meckel's Diverticulum. L. Kahn, Louisville.
113 Cases and Exhibition of Specimens. I. Abell, Louisville.
114 Tuberculosis of Knee Joint: Exhibition of Specimen. E. S. Allen, Louisville.
115 Par Ovarian Cyst; Exhibition of Specimen. A. M. Vance, Louisville.
116 Gastroduodenostomy in Acute Perforated Gastric Ulcer. H. N. Leavell, Louisville.
117 Series of Obstetrical Cases. E. Speidel, Louisville.
118 Uterine Hydatids Followed by Full-Term Pregnancy and Diagnosis of Chorio-Epithelioma in Puerperium. E. Speidel, Louisville.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

September 2

1 *Mode of Transmission of Leprosy. T. L. Sandes.
2 *Transmission of Leprosy. E. C. Long.
3 Ophthalmo Reaction of Calmette in Early Diagnosis of Phthisis. A. S. Hosford.
4 Nasal Obstruction and Its Consequences in School Children. C. E. Reynolds.
5 *Diagnosis, Prognosis and Treatment of Tuberculous Peritonitis. H. D. Rolleston.
6 *Idem. G. A. Wright.
7 *General Edema Following Gastro-Enteritis in Children. W. E. Hume.
8 Infantilism Associated with Chronic Interstitial Nephritis. L. Parsons.
9 Chronic Pulmonary Affections of Childhood. S. West.
10 *Disturbances Arising from Milk-Feeding in Children After First Year. H. Vogt.
11 *Etiology of Nevi: Nerve Influence in Their Causation. D. C. L. Fitzwilliams.
12 Epidemiology of Poliomyelitis. F. E. Batten.
13 Oxypathy and Uric Acid. W. Stoeltzner.
14 *A Thousand Consecutive Cases of Scoliosis. P. B. Roth.
15 Indications for Employment of Spinal Anesthesia in Abdominal Surgery. H. T. Gray.
16 *Harelip: Modifications and Extensions of Owen's Operation. F. W. Goyder.
17 *Treatment and Prevention of Measles. R. Milne.

1. See The Journal, Sept. 9, 1911, (12) 930.

2. **Transmission of Leprosy.**—The possibility of the bacillus being carried by vermin occurred to Long. With a view to testing this hypothesis, bed-bugs obtained from huts which had never been inhabited by lepers were caused to bite lepers in the neighborhood of leprous nodules on the face. The bugs were then killed and the alimentary tract and its contents examined. In every bug that bit freely a bacillus was found which in shape, size and staining reactions is similar to the *Bacillus lepræ*. Control bugs from the same hut gave in every instance a negative result. The experiments are still in progress.

5. **Tuberculous Peritonitis.**—Statistics on tuberculous peritonitis in children quoted by Rolleston are the following: Faludi has drawn up tables showing the percentages of cures in parallel series of cases of tuberculous peritonitis in children operated on and not operated on. The authors he quotes are Cassel, Monti, Pic, Schmitz, Schramm and Sutherland, who all give parallel series of cases operated on and not operated on. The divergence in these statistics is considerable. Schramm found 80 per cent. of cures among the operated patients and 64 per cent. among the non-operated; Pic observed recovery in 74 per cent. of the operated patients and in 5 per cent. only of the nonoperated; Wutherland observed recovery in 50 per cent. of the operated patients and in 81 per cent. of the nonoperated. By adding up all the operated patients we get eighty-eight cures, or 70.4 per cent., in 125 cases, as contrasted with fifty-one cures, or 33 per cent., in 156 patients not operated on. The question of operation on ascitic patients may be fairly summed up in the statement that it should be tried after hygienic and medical treatment has been given a fair trial for a month or so without any definite benefit. Simple paracentesis is not often necessary and is seldom practiced. After removal of some of the fluid, injections of various kinds through a cannula have been employed; thus sterilized air, oxygen (Schulze), isotonic salt solution, epinephrin (adrenalin) (Wynter) have been reported to give good results. The injection of camphorated naphthol is a dangerous procedure (Guinard). Rolleston has no experience of any of these methods.

6. **Idem.**—As to the ultimate results of laparotomy in tuberculous peritonitis and its value as a means of treatment, Wright says that probably not much more than half the patients would live to grow up, for of those who recover for a time a large proportion die of tuberculosis in some form within a few years, though the immediate operative mortality is of course very small. There is no hard-and-fast line between ascitic and plastic cases, either as a matter of morbid anatomy or of operative treatment, or of mortality. But operation is simple in cases in which there is much fluid, and may

be impossible in obliterative cases. Tuberculous mesenteric glands may be safely removed, and in some cases certainly should be removed. The rôle of surgery in tuberculous peritonitis is rather to remove secondary troubles, such as obstruction, and to get rid of noxious collections of fluid and local foci of tubercle, rather than to play any great part in the prevention or cure of the disease as a whole.

7. **Edema Following Gastro-Enteritis in Children.**—Hume's attention was first turned to a group of cases of general edema following gastro-enteritis in 1908, when he had four patients under his care in the children's ward of the Royal Victoria Infirmary at the same time. He could not find any evidence of heart or kidney disease in any of these. Since November, 1908, he has seen nine similar cases; three of these have been under his care at the Royal Victoria Infirmary and six under the care of another. Hume has failed to discover that there is any difference between the salt exchange in cases suffering from this variety of edema and that which takes place in perfectly normal children. He does not think that the theory of salt retention wholly explains the condition any more than it does in all cases of edema in Bright's disease. From the fact that the vascular conditions were improved by the injection of epinephrin, that the children improved more rapidly under its administration than without it, and from the fact that in these two cases there was an abnormal degree of fibrosis in the medulla of the suprarenal gland, Hume suggests that attention in future be paid to these glands when opportunities of examining them occur. Finally, he refers to the fact that toxins are developed in the gastro-intestinal tract which cause degeneration and fibrosis of the suprarenal medulla, and that, either as the result of the absence of suprarenal secretion or from the direct action of the toxins on the capillary cells, the latter become more pervious to the outlet of fluid.

10. **Milk Feeding in Children After First Year.**—Vogt cites a number of instances to prove that many children may be injured by a liberal milk diet. The long-retained dogmatic belief of the medical profession that milk is not only the ideal food for infants, but for every age and every ailment, must be abandoned. The requirements which the food of the infant and that of the older child have to meet are quite different. The infant needs for the construction of his rapidly growing organism relatively large quantities of fluid, as well as of solid matter, to be retained as living substance. The older child and the adult, on the contrary, require above all, a supply of material which will furnish the amount of energy necessary to provide for the maintenance of the temperature of the body and the production of muscular work, both of which play only a minor part in the case of the infant. Again, milk lacks certain constituents which must be present in the food of adults and older children. It is extremely poor in iron, it is entirely lacking in purin bases, and last, but not least, it is for most people unappetizing. This last constitutes a very real defect for individuals who have passed their first year.

11. **Etiology of Nevi.**—From figures yielded by his investigation Fitzwilliams believes that females are affected more frequently than males, that nevi are almost always present at birth, and only comparatively few appear at a later date, spider marks and deeply seated nevi being the chief exceptions to this rule; that nevi most usually start on the surface, and less frequently in the deeper structures; that their extension and growth is intimately connected with the nerve supply of the part.

14. **Scoliosis.**—From a study of these 1,000 cases the following points are emphasized by Roth: 1. Scoliosis is a disease of females—843 females, 157 males. 2. Scoliosis is a disease of adolescence—86 per cent. between 6 and 20 years. 3. The frequent occurrence of scoliosis in members of the same family points to hereditary transmission. 4. The bad position assumed in writing, a delicate constitution and too rapid growth are largely responsible for very many cases. 5. Difference in the length of the legs is not a common cause of scoliosis. 6. Pain is a frequent symptom. 7. Flat-foot is a very frequent complication. 8. Attention to dress before any treatment is absolutely essential. 9. Treatment should never be commenced until a record of the osseous deformity has been made. 10. Treatment by "posture and exercise" entirely arrests the increase of bony deformity in all but 5.5 per cent. of observed cases, and in 3.3 per cent. slightly decreases it. In 83 per cent. of cases a permanent practical cure is brought about.

16. **Hare-Lip.**—The modifications described by Goyder consist in: 1. Extensions of the Owen-Mirault flap. These result in a narrowing of the attached part of the lip without diminishing the effective length from corner to corner. 2. A vertical splitting of this flap. 3. The separation of a thick wedge-shaped ribbon of mucous membrane at the mucocutaneous junction on the side opposite to that on which the Owen flap is cut, leaving it attached by the red margin and dovetailing it into the split Owen's flap. This ribbon is enitrely removed in Owen's operation. This results in a greatly thickened red margin at the line of suture, which is not opposite to the end of the scar in the lip. It does not attract attention, nor does it become increasingly obvious as time goes on. 4. Special methods of dealing with the nostrils. Incise and separate the ala nasi at its junction with the cheek. Reflect the nasal flap. Suture through alae nasi, the nasal flap (if used), and back through septal side. Put a suture on the face to close the nostril in front. Deal with lip, remembering that its suture line must not be opposite to that in the nose.

17. **Treatment of Measles.**—Milne again calls attention to the so-called "pencil" infection in measles.

Lancet, London

September 2

18 *Spinal Curvatures and Their Treatment by Physical Exercises. R. Timberg.
19 Omnopon: Potent Adjuvant to Local Anesthesia. H. M. W. Gray.
20 *Breast-Feeding; Value of Test-Feed. E. C. Pritchard, H. R. Carter and W. O. Pitt.
21 Pachon's Sphygmo-Oscillometer. J. F. H. Dally.
22 Fulminating Appendicitis; Presence of Liver Dulness; Ligature-Temperature. F. W. Forbes-Ross and Q. Chalmers.
23 *Unusual Case of Intussusception. D. Wood.
24 Dermoid Cyst of Testicle. E. E. Hughes.
25 Unusual Abdominal Conditions in Children. V. H. Starr.
26 Evagination of Meckel's Diverticulum. J. W. Thomson.
27 International Exhibition of Hygiene at Dresden. W. E. Hume.

18. **Spinal Curvatures.**—Timberg describes eighteen exercises which he employs in correction of spinal curvatures.

20. **Breast-Feeding.**—It would appear from the authors' observations that those infants who are brought up in institutions and receive a larger amount of breast milk increase in weight more rapidly than those who attend infant consultations as out-patients; on the other hand, among this latter class of infants it would appear that those who receive larger quantities of milk, instead of putting on more weight per week put on a smaller amount. It may be that on an average the milk which is separated in large amounts is inferior in quality, and in this connection it must be remembered that chemical analysis only affords a very crude estimate of quality. Analysis may show the relative percentage of proteids, fats and sugars, but it cannot, as yet, afford a differential estimation of constituent protein bodies, nor does it indicate whether or not they possess toxic properties. On the other hand, it must be remembered that institutional infants live under superior hygienic conditions than do the poor class of infants who attend our consultations; *ceteris paribus*, the better the hygienic conditions and the more active the vital processes the greater is the demand for food. Want of air, sunlight and all the natural stimuli for active metabolism reduce the vitality of our out-patient infants to such a debased level that it is conceivable that an allowance of food which would be physiologically appropriate for the institutional infants may be relatively excessive for the needs of our class of out-patient infant; and overfeeding, as is now well understood, leads sooner or later to malnutrition and loss of weight.

23. **Intussusception.**—The initial symptoms in Wood's case were vomiting and the passage of blood and mucus per anum. Pain was said not to be a marked feature at the onset. The

vomiting persisted periodically for a week, and blood was passed by the bowel for four or five days. Constipation was absolute throughout the illness, so that for a whole fortnight no fecal matter was voided. During the fortnight she apparently had frequent attacks of intestinal colic, but for the greater part of the time she lay in bed in a listless condition, until toward the end when pain became more frequent and more severe, and she then became restless. She took fluid nourishment well after the vomiting had ceased. The abdomen was noticed to swell progressively, particularly toward the end of the fortnight. Several enemata were given, and these were either retained or returned in part without force. There was never any fecal material in the washings, but occasionally some blood and mucus. The tongue was dry and clean; pulse 120 and fairly good, and temperature 99.6 F. The abdomen was uniformly and considerably distended. Peristalsis was not observed. Rigidity was absent and the abdomen was free from tenderness. There was too much distention to allow of any swelling to be palpated. The rectal examination was negative.

On opening the abdomen through a right paramedian incision it was impossible to prevent the prolapse of many coils of greatly distended bowel. An intussusception was easily delivered through the wound. It had traveled to the left iliac fossa. As is usual, the larger part was easily reduced, but the force employed in attempting the reduction of the last 6 inches or so was too great and the intussuscipiens gave way, the intussusceptum escaping through the rent. It was now seen that the intussusception commenced about 18 inches above the ileocolic valve. About 12 inches of the small gut, including the intussusception, were resected, and an end-to-end anastomosis rapidly made. The child's condition was critical, and as the suturing had to be rapidly carried out in edematous bowel the junction was almost certainly imperfect. For this reason, and also on account of the great intestinal distention, the bowel was drained on the proximal side of the junction by a Paul's tube. The abdominal wall was closed save in the lower part where the drainage was established. The patient recovered.

Australian Medical Journal, Melbourne

July 29

28 Technic of Appendix Removal. R. H. Russell.
29 Chronic Kidney Disease S. V. Sewell.
30 Ocular Signs of Renal Disease. F. A. Newman.
31 Two Cases of Chronic Mediastino-Pericarditis. T. E. V. Hurley.

Indian Medical Gazette, Calcutta

August

32 A Year's Medico-Legal Work in Calcutta Morgue, 1910. O. St. J. Moses.
33 Possibility of Two Distinct Varieties of Relapsing Fever Spirochaetal Infection Existing in India. H. Stott.
34 Personal Factor in Sanitation. C. A. Gill.
35 Unusual Cases in Hospital Practice. R. Knowles.
36 Case of Mesenteric Thrombosis. W. L. Harnett.
37 Simple and Cheap Litholapaxy Evacuator. A. J. V. Betts.
38 New Pattern Urinal (for Use in Forts). E. C. Taylor.

Obstétrique, Paris

July, IV N. S., No. 7, pp. 663-728

39 *Puerperal Psychoses. L. Picqué.

August, No. 8, pp. 729-776

40 Obstetrical Anatomy of the Pelvis with Congenital Dislocation of the Hip Joint. (Recherches et conclusions nouvelles sur l'anatomie obstétricale du bassin à luxation coxo-fémorale congénitale double.) J. Delmas.

39. **Puerperal Psychoses.**—Picqué protests most vigorously against sending women with puerperal psychoses to an asylum, declaring that the mental trouble in these cases is merely a delirium accompanying puerperal septicemia. The infectious process may be mild or may cause no symptoms except this delirium, but the women are febrile deliriants and the delirium rises and falls with the rest of the infectious syndrome and does not survive it. He thinks that the importance of latent infection of uterine origin as a causal factor in mental disease does not receive the attention that it merits. His remarks apply only to the psychoses of the puerperium, not of the pregnancy. They may develop even without fever and the infectious process may be located elsewhere than in the uterus; surgical treatment of an infectious arthritis in a woman soon after delivery speedily cured the psychosis observed in one of his cases. An inherited taint is important in that women with it only need an opportunity for the delirium to develop, but an infectious process acting on the predisposition, especially when the infection is of a chronic character, may render the delirium incurable. Otherwise the prognosis depends on the curability of the underlying infectious process. The tardy melancholia of women after childbearing at which there has been no fever, is the result of some attenuated and latent infection, but if the infectious process has run along for a long time and become chronic there is danger that the melancholia may be chronic likewise. The importance of curing the focus at once is demonstrated by these views, which are based on wide clinical experience. He comments with dismay on the number of cases in which women with puerperal psychoses are sent to the asylum in his charge; it is not equipped for the local treatment necessary in these cases. On the other hand, the apyretics, with permanent mental disturbances developing sooner or later after the childbirth, belong in the asylums, as they require psychiatric treatment.

Presse Médicale, Paris

August 12, XIX, No. 64, pp. 657-664

41 *The Arterial Tension in Acute Pulmonary Edema. L. A. Amblard.
42 *Subacute Hemorrhagic Pancreatitis. R. Leriche and L. Arnaud.

August 16, No. 65, pp. 665-672

43 Vaccine Treatment in Typhoid Fever. (Résultats thérapeutiques obtenus par l'emploi du vaccin typhique irradié.) M. Renaud.

August 19, No. 66, pp. 673-680

44 Parasyphilitic Meningitis. A. Sézary.
45 *Albumin Reaction in Pleurisy and Congestion of the Lung. V. Raymond.

August 23, No. 67, pp. 681-688

46 Agglutination Test in Malta Fever. (Valeur de la séro-réaction de Wright dans le diagnostic de la fièvre ondulante ou melitococcie.) L. Nègre and M. Raynaud.
47 Sodium Sulphate in Therapeutics. (Comment il faut prescrire le sulfate de soude.) A. Martinet.

August 26, No. 68, pp. 689-696

48 Fracture from Tearing Out of the Tuberosity of the Calcaneus. E. Juvara.
49 Polyglandular Syndrome. (Etude clinique et anatomique d'un type à prédominance thyroidienne et pancréatique.) M. Faure-Beaulieu, M. Villaret and M. Sourdel.

41. **Blood-Pressure in Acute Edema of the Lungs.**—Amblard states that recent experimental research by others has confirmed his clinical findings in regard to the features of the high blood-pressure preceding acute pulmonary edema from functional insufficiency of the left ventricle. The discovery of a high maximal and minimal blood-pressure should warn of possibly impending pulmonary edema and should be the signal for reducing the minimal arterial tension, the peripheral resistance, and for this, he says, there is only one means; that is, regulation of the diet. All causes for exogenous intoxication should be avoided, as also any unusual amount of salt; the diet should be chiefly milk and vegetables, with as little salt as possible, supplemented by a carefully supervised course of diuretic mineral waters. The heart is then equal to its task and no tonics are required. After an attack, the heart having shown that it has become insufficient, the above measures should be supplemented by tonics to strengthen the heart, especially digitalis. During an attack of acute pulmonary edema bloodletting certainly gives great relief. Morphin given in the hope of combating the dyspnea generally proves disastrous, as it adds the toxic action of the drug to the other burdens under which the kidney is already laboring.

42. **Subacute Hemorrhagic Pancreatitis.**—Leriche and Arnaud report a third case of hemorrhagic pancreatitis in which they have operated. The patient was a man of 48 who had been suffering for two months with recurring pains in the left epigastrium, growing constantly more intense, and radiating backward. A tumor could be palpated under the false ribs while the patient was very anemic and weak. Cancer in the colon was assumed, but the laparotomy revealed merely traces of a recent hemorrhagic pancreatitis with an encysted hematocele which had recently suppurated. The hemorrhagic tendency was revived by the operation, and the patient succumbed

the next day to the constant oozing of blood from the wound. The case teaches that when a hemorrhagic pancreatitis has reached the stage in question the operation should be deferred until healing is a little more advanced unless intervention is urgent. The cachexia and the tumor were the chief symptoms in this case, and they diverted attention from the differentially even more important symptom of the local pains.

45. **Albumin Reaction in the Sputum.**—Raymond's experience confirms the appearance of albumin in the sputum whenever there is any lesion of the parenchyma of the lung, an alveolitis. It is a constant accompaniment of serofibrinous pleurisy and acute congestions of lungs and pleura. Cautious interpretation of positive findings throws light on the lesions involved, as he shows by a dozen clinical cases. In one of the cases the positive albumin reaction, in connection with persisting temperature and the history of the case, seemed to indicate that an old and healed tuberculous lung process had flared up anew under the influence of an attack of measles. In other cases the acute character of the febrile lung affection giving the albumin reaction, the connection with a simple bronchitis, the albuminuria and absence of tubercle bacilli in the sputum—all indicated that the trouble was a comparatively transient pulmonary affection, possibly the work of the pneumococcus. The persistence of the albumin reaction for some time after recovery reveals the lesion of the lung parenchyma, which is the true substratum of the affection; the vascular congestion is not the main feature of the cases, but rather the active exudation into the alveoli, as well as into and under the pleura. The alveolitis is responsible for the main physical signs observed. In one of the cases reported the negative albumin reaction excluded tuberculosis, and showed that the trouble was a simple chronic bronchitis and emphysema in an old case of healed pulmonary tuberculosis.

Revue de Chirurgie, Paris

August, XXXI, No. 8, pp. 215-390

50 *Tuberculous Hip-Joint Disease. (Etude critique sur la coxalgie et mise au point de quelques trauvaux sur le traitement.) E. Vincent.
51 *Osteomyelitis of the Sacrum. H. Gaudier and P. Bertein.
52 Primary Glandular Epithelioma of the Vagina. (Sur une forme particulière d'épithélioma primitif du vagin.) Argaud and Piollet.
53 *Technic for Perineal Prostatectomy. (Nouveau procédé de prostatectomie périnéale.) H. Martini.
54 *Fracture of the Spine in the Neck Without Cord Symptoms. (Des fractures du rachis cervical sans symptomes médullaires.) J. Boeckel and A. Boeckel. Commenced in No. 6.

50. **Tuberculous Hip-Joint Disease.**—Vincent adds a number of points and details to complete Coudray's article on this subject published in the *Revue* last April. Vincent advocates resection for a certain group of cases in young children, but not for adults or older children. He applies resection only after failure of all conservative measures, but insists that when it is done in time it will save many a child who would inevitably succumb if left to Nature's efforts alone or even aided by the whole train of modifying injections, immobilization, extension, traction, fresh air, sea bathing and all other hygienic measures.

51. **Osteomyelitis of the Sacrum.**—Gaudier and Bertein have found twenty-seven cases of osteomyelitis of the sacrum in the literature, including nine reported by French authors. The prognosis is graver than for osteomyelitis elsewhere in the spine, the signs of general infection are more pronounced. They explain this by the anatomic arrangement of the parts owing to which the infectious focus is walled in deep and may not manifest itself for some time. The germs thus shut up in a closed cavity have their virulence exalted and induce general infection with serious phenomena, sometimes even before the focus has been brought to the patient's attention. Operative treatment is indicated at the earliest possible moment to ward off severe general infection or attenuate it. They give the details of the total twenty-seven cases; operative measures, even the most extensive, failed to save the patient except in seven instances, including Hunt's and Young's cases.

53. **Instruments for Perineal Prostatectomy.**—Martini uses a kind of cat's paw instrument to draw up the whole prostate, the three claws folding together as the instrument is introduced. Guided and sheltered by this instrument, another is introduced with a scoop at the tip made of three triangular sharp blades. This resects the prostate tissue, while it is impossible, he says, for it to cut too far or injure the bladder wall. The article is illustrated.

54. **Fracture of the Spine in the Neck Without Spinal Cord Symptoms.**—Bœckel declares that the prognosis of fracture of the cervical spine has been shown up in an entirely new light by the Roentgen rays which have revealed that even extensive fractures may exist and heal without any spinal cord disturbances, and that fractures of the cervical spine, atlas and axis are much more common than hitherto supposed, and explain many hitherto puzzling conditions, the latent fracture having been taken for a sprain, contusion, rheumatism or neurosis or the patient accused of simulation. An early diagnosis is of the greatest importance to ward off mischief later; when trouble does occur it is always extremely serious, if not fatal. Fifty-seven cases are described from the literature or previously unpublished records, and the various differentiating symptoms and best technics for treatment in the different cases are reviewed. The mortality was 34.3 per cent. in the total number and only 22.2 per cent. when the fracture involved the third to the seventh cervical vertebræ. Fracture of the vertebræ above these is much more serious, the mortality having been 45.1 per cent. in his series. At the same time all the seventeen patients have recovered of the former class and the fourteen patients in the latter class, since roentography has been introduced. These figures show that the prognosis of fracture of the spine without injury of the cord has been transformed since it has been possible to recognize it early and apply proper treatment to insure consolidation in a good position, restoring the spine to its normal length and preventing the vertebra above from pressing on the fractured vertebra, while at the same time preventing tardy compression of the spinal cord later from overexuberant callus or traumatic spondylitis. The physician should superintend the transportation of the patient so that the fractured bones may not become displaced. Chipault advises laying a large plank beside the patient after the accident, covering it with a folded sheet, with a crosspiece arranged at the level of the neck; four persons are to lift the patient on the plank while the physician lifts the head and neck with both hands. He has known of persons without spinal cord symptoms after an accident of the kind to become paralyzed or succumb as they were lifted to carry them away. A radiograph should be taken before the patient is removed from the plank to his bed with similar precautions. The fracture should then be gradually reduced and immobilized or extension may be necessary, eventually kept up for a year or longer. Boeckel has compiled nearly a hundred cases of fracture of the cervical spine which healed promptly under these measures. Tardy accidents in other cases have sometimes required rupture of the callus, laminectomy or the figure-eight wire ligature. Defective healing of the fracture causing trouble in some cases was cured by renewed reduction and extension.

Semaine Médicale, Paris

August 23, XXXI, No. 34, pp. 397-408

55 *Vertigo of Intestinal Origin. (Le vertige intestinal.) M. Loeper.

August 30, No. 35, pp. 409-420

56 *The Unappreciated Rôle of Acute Gastritis in Infectious Diseases. L. Cheinisse.

55. **Vertigo of Intestinal Origin.**—Loeper demonstrates how the apparatus of equilibration is liable to be affected by toxins generated in the intestines, by irritation of the nervous elements directly or by vasomotor fluctuations in the tension in the semicircular canals. These variations in tension may be independent of the general circulation, and to determine this the general arterial tension should be investigated, as this, in connection with hypertoxicity of the urine and other phenomena of a toxic order, distinguishes toxic from reflex vertigo. Treatment should be addressed to the bowels, supplemented by amyl nitrite in case the arterial tension is very high or spartein, strychnin, ether, bromids or valerian in case it is low. All irritating foods should be avoided, as also large amounts of fluids which suddenly increase the mass of

the blood. It is important not to depress the patients by a too exclusive or debilitating diet. Many such patients are already excessively nervous and all become so if the vertigo persists, which should be borne in mind in treatment with means to reduce the excitability of the neuromuscular system.

56. **The Unappreciated Rôle of Acute Gastritis in Infectious Diseases.**—Cheinisse does not accept Jerusalem's view that the relics of interstitial gastritis with proliferation of connective tissue which he has discovered at necropsies as such a constant phenomenon in acute infectious diseases, are merely a functional disturbance from the general infection. Cheinisse has encountered several cases of erysipelas and mumps in which the gastric symptoms dominated the clinical picture and could be explained only by assuming a localization of the specific infectious process, the erysipelas or the mumps, in the stomach. The prognosis differs naturally if the acute stomach trouble is a localization of erysipelas or mumps, especially when it is borne in mind that phlegmonous gastritis is not such a rare occurrence as formerly supposed. Cheinisse had a case of the kind in 1909, the phlegmonous gastritis developing in the course of an apparently mild erysipelas. The considerations presented suggest the importance of leaving the stomach in repose during the "gastric phase" of any acute infectious disease.

Beiträge zur Klinik der Tuberkulose, Würzburg

XX, No. 2, pp. 215-340. Last indexed August 5, p. 516

57 Albumose-Free Tuberculin. (Erfahrungen mit eiwissfreiem Tuberkulin.) W. Freymuth.
58 *Reinfection with Tuberculosis. (Ueber Tuberkulose-Reinfektion mit bes. Berücksichtigung der Heilstätten.) W. Freymuth.
59 The Type of Respiration in Women. (Kostaler und abdominaler Atemtypus beim Weibe.) G. Liebe.
60 Endotin in the Treatment of Tuberculosis. A. Camphausen.
61 *Induced Abortion and Tubal Sterilization on Account of Pulmonary Tuberculosis. A. Schottelius.
62 *Experimental Tuberculin Tests. (Die subkutane Tuberkulininjektion als Mittel zur Diagnose des Tuberkelbazillus im Tierversuch.) M. Jacoby and N. Meyer.
63 Elbon in Treatment of Febrile Tuberculosis. (Ueber die Behandlung des tuberkulösen Fiebers durch kontinuierliche Benzoylierung mit Cinnamoyl-para-oxyphenylharnstoff.) W. Minnich.
64 Blood-Pressure After Injection of Tuberculin. (Blutdruckmessungen nach Tuberkulininjektionen.) R. Reznicek.

58. **Reinfection with Tuberculosis.**—Freymuth is chief of the great Belzig sanatorium and he has been reviewing the files of the institution to learn the chances for reinfection at such sanatoriums. He examined the records of 1,400 adults and 328 children, inmates of the sanatorium in 1908 to 1910. He found only thirty cases among the adults in which tubercle bacilli were found in the sputum after they had been in the sanatorium some time, while none were discoverable when they entered, that is, only in 2 per cent., while only two of the children, that is, 1 per cent., came into this category. The interval was only from three to eight days which excludes the possibility of reinfection. The findings related confirm, he thinks, that there is not the slightest necessity for separating the patients with closed from those with open tuberculous lesions. The healthy are exposed to droplet infection, but he knows of no case on record in which a healthy person became infected with tuberculosis in a sanatorium. This may be due to the fact that the supposed healthy are already infected with tuberculosis and consequently immune, or to the fact that the residence in a sanatorium for lung disease induces immunization in time. The question still open to discussion is whether the life in common of patients with open and closed pulmonary tuberculosis may not lead to transmission of mixed infection, and hence that patients with demonstrated mixed infection should be isolated.

61. **Interruption of Pregnancy in Tuberculous Women.**—Schottelius calls attention to the strange fact that older observers used to ascribe a beneficial influence to a pregnancy in the course of pulmonary tuberculosis, while in recent years the tendency has been to attribute a very harmful influence to it. He regards abortion as indicated whenever pulmonary tuberculosis is diagnosed beyond question as his experience shows that in at least 75 per cent. of all the cases the lung affection rapidly progresses during the pregnancy and puerperium. The written consent of the patient and her husband and of a consulting internist are necessary—the responsibility lies with the family physician or the consulted lung specialist. Once decided, the pregnancy should be terminated as soon as possible and be supplemented by tubal sterilization if the woman has already borne more than one child. The more pressing indication for hysterectomy in these cases is excessive uterine hemorrhage. The disturbances from castration should turn the scale in favor of leaving the ovaries. The sterilization induced by exposure to the Roentgen rays destroys the ovaries and thus is equivalent to panhysterectomy, but it has the advantage over this of being a bloodless procedure, not requiring general anesthesia.

62. **Subcutaneous Tuberculin Test After Diagnostic Inoculation of Animals.**—Jacoby and Meyer advocate a subcutaneous injection of 0.5 c.c. of tuberculin two weeks after the animal has been inoculated with the suspected sputum, as a means to simplify and hasten the findings. They report twenty-seven series of experiments with a total of 221 guinea-pigs including forty-three control animals. Fully 88 per cent. of the animals given the test, in from eleven to fourteen days presented a marked reaction; the results were conflicting or negative when the sputum had been previously treated with alkaline solution of sodium hypochlorite (antiformin). The animals giving a positive reaction either died or showed a marked drop in temperature of at least 5.4 F. The anatomic findings were positive in every case giving a specific reaction. They advise using three guinea-pigs, not over 250 gm. in weight each, injecting on the eleventh, the sixteenth and twenty-first days, making a subcutaneous injection of 0.5 c.c. tuberculin. It is thus possible to clinch the diagnosis within two weeks.

Berliner klinische Wochenschrift

August 28, XLVIII, No. 35, pp. 1585-1624

65 Laryngo-Rhinology as an Independent Medical Science. G. Killian.
66 Action of Salvarsan in Syphilis Affecting the Upper Air Passages O. Chiari.
67 *Treatment of Loss of Voice. (Dysphonia spastica.) O. Seifert.
68 Diagnosis and Treatment of Disease in Nasal Sinuses with Eye and Orbit Symptoms. A. Onodi.
69 Mesothorium in Therapeutics. G. Baumm.
70 *Stretching of the Pylorus in Benign Stenosis. M. Einhorn.
71 Results of Operation for Myopia. H. Feilchenfeld.
72 *Differential Atmospheric Pressure in Lungs by Impeding Expiration. (Einfaches Ueberdruckverfahren.) E. Aron.

67. **Treatment of Aphonia.**—Seifert discusses the five groups in which spastic dysphonia may be classified, the hysteric, the reflex, the professional neuroses, those accompanying cerebrospinal affections, and the group in which no causal factor can be discovered. He has obtained exceptionally fine results in this latter class by a method which he describes in detail, aiming to exclude causal spasms in the muscles of the neck, abdomen and diaphragm, while training the patient to speak, on the same principles as in the treatment of stuttering. He accomplished this by having the patient lie across a sofa, the back of his neck supported on the thigh of a third person sitting near the sofa while the patient's head drooped a little, the feet supported on a stool. In this position the patient was trained to breathe deep and regularly and relax all the muscles. After two or three days he had learned to do this and then he was told to whisper "ah" and "ay" and then gradually increase the sound while the physician compressed the abdominal walls after each deep inspiration. The patient was taught to speak with as deep a voice as possible. After two weeks of these exercises he was able to do them sitting up, pressing on the epigastrium to exclude the contractions of the abdominal musculature and diaphragm. By the end of the month the patient was quite cured. He was a man of 36 and the aphonia had developed over two years before and was complete, not obtaining any relief until this course of exercises. A letter from him over a year later confirms the permanency of the cure, and his recovery is evidenced in an official communication from the mayor of his home town, a city with 16,000 inhabitants, expressing the universal gratitude for his cure.

70. **Stretching the Pylorus with Benign Stenosis.**—Einhorn's work was described in The Journal, May 27, 1911, p. 1607.

72. **Simplified Differential Pressure Procedure.**—Aron reports experimental research which demonstrates that a device impeding expiration keeps the lungs permanently inflated, even during expiration, so that the thorax can be opened without its collapsing. It is possible that this principle may be applied in operations on the human chest. His technic requires a preliminary tracheotomy.

Correspondenz-Blatt für Schweizer Aerzte, Basel

July 20, XLI, No. 21, pp. 737-768

73 *Action of Arsenic and Habituation. (Ueber Arsenikwirkung und -Angewöhung.) M. Cloetta.
74 *Glycerin Dressings for Infected Wounds and Lesions. (Behandlung von infizierten Wunden, Phlegmonen, Panaritien und Adenitiden mit Glyzerinverbänden.) F. Rusca.

August 1, No. 22, pp. 769-800

75 Lumbago from Standpoint of Industrial Insurance. (Einige Betrachtungen über Lumbago vom Standpunkt der Unfallversicherung aus.) E. Patry.
76 Sterilization of Sewage. (Ueber Abwässerreinigung.) W. Silberschmidt. Commenced in No. 21.

August 10, No. 23, pp. 801-832

77 Diagnosis of Heart Disease. (Beiträge zur modernen Herzdiagnostik.) D. Gerhardt.
78 *Subcutaneous Drainage of Ascites. E. Tavel.

August 20, No. 24, pp. 833-864

79 Medical Professional Work from Forensic Standpoint. (Aerztliche Berufshandlungen und die Strafrechtsreform.) A. Kaiser.
80 Opening of Cheesy Foci in Tuberculous Lung. (Durchbruch von Käseherden in der tuberkulösen Lunge.) Erni.

73. **Arsenic the Digitalis of the Metabolism.**—Cloetta thus calls arsenic in his article reporting experimental research on its action. He found that animals fed with arsenic developed much better in every respect than the controls from the same litter. That this better physical development includes the vital tissues and is not merely increased accumulation of fat, is shown by the fact that the total tissues of the animals ground into a homogeneous mass, from which water and fat were extracted, showed a larger proportion of nitrogen in the arsenic animals than in the controls. He accepts this as evidence that the arsenic actually promotes the metabolism as digitalis promotes the action of the heart—laboratory research thus lumbering along to explain the facts observed by empiric observation generations ago. He fed dogs with arsenic over long periods, one of the dogs, a fox-terrier, he thinks, must be accorded the record for eating arsenic, as he took 0.5 gm. of arsenic daily for two months and then 2.6 gm. a day without harm, the arsenic feeding being kept up for over two years. Cloetta's further research, however, swept away the idea that the animal had become habituated to the drug, as it was proved that he merely had ceased to absorb it. The lining of the alimentary canal had evidently become modified in such a way that it ceased to absorb the arsenic. This is probably the explanation for the resistance to arsenic acquired by trypanosomes in time and suggests the importance of supplementing salvarsan or other preparations of arsenic with mercury to which the spirochetes do not acquire resistance so soon. For the same reason he hails with approval the efforts to use preparations of antimony against the trypanosomes. There does not seem to be any habituation to antimony, and the proportion absorbed does not progressively decline as is the case with arsenic. He adds that Rowntree and Abel's recent work in this line in this country confirms the results obtained in his researches on dogs in regard to the trypanosomes becoming proof against arsenic and antimony.

74. **Glycerin Dressings for Infected Wounds.**—Rusca is seeking to revive glycerin as a dressing for wounds. Its water-attracting power serves to reduce the congestion in the region while it keeps the wound clean by taking up the secretions and softening the necrotic tissue and crusts so that they can be readily removed, thus depriving the germs present of their favorite nests. Glycerin has also a slight sterilizing action which might be enhanced by addition of some disinfectant. There cannot be the slightest danger from the use of glycerin, he continues, as even taken internally in large doses there does not seem to be any toxic action. He saturates a compress with official glycerin and applies it to the lesion, covering with an air-tight cover, and changes the dressings twice a day. He has obtained excellent results with this technic in 100 cases of various local infectious processes, the lesions soon clearing up and healthy granulation following, except the tuberculous lesions; these do not seem to be influenced. The glycerin dressings are free from the coagulating action on albumin which is one of the disadvantages of alcohol dressings.

78. **Subcutaneous Drainage of Ascites.**—Tavel uses a glass spool with broad ends, the hole through the center 1 cm. in diameter. One end of the spool is worked through into the peritoneal cavity and an ample hole to hold the other end of the spool is made for it in the subcutaneous tissue. Not even local anesthesia is required for the insignificant operation of introducing the spool; the only point is to manage so that omentum will not get into the lumen and obstruct it. He has used the spool in five cases which he reports in detail, the outcome being excellent in all, the ascites draining effectually and harmlessly into the subcutaneous tissue.

Deutsche medizinische Wochenschrift, Berlin

August 24, XXXVII, No. 34, pp. 1545-1584

81 Experimental Tuberculosis of the Eye. (Zur experimentellen Tuberkulose des Auges.) F. Krusius.
82 Transmission of Syphilis to Rabbits by Spirochetes Cultivated from Man. (Uebertragung der Syphilis auf Kaninchen mittels reingezüchteter Spirochäten vom Menschen.) H. F. W. Hoffmann.
83 *Chronic Salvarsan Treatment in Syphilis. E. Kromayer.
84 Salvarsan in Treatment of Chorea. B. Hahn.
85 Salvarsan in Bilharziasis. N. Z. Joannides.
86 *Pathogenesis of Pick's Pericardial Pseudocirrhosis. E. Fogarasi.
87 Oriental Sore. (Die endemische Beulenkrankheit oder Orientbeule.) A. Reinhardt.
88 *Lead Poisoning and the Wassermann Reaction. (Bleivergiftung und Wassermannsche Reaktion.) F. Perussia.
89 *Surgery of the Blood-Vessels. (Arterien-Venenverbindung.) E. Heymann.

83. **Chronic Salvarsan Treatment of Syphilis.**—Kromayer asserts that the experience acquired with other drugs in the treatment of syphilis teaches that it is impossible to eradicate the disease at one stroke, no matter how large the dose of mercury or other drug. Success is possible only with long continued small doses, and the same is evidently true of salvarsan. He has been giving it on this priniciple for nearly a year, making an intravenous injection of about 0.2 gm. of salvarsan three times a week, up to a total of 3.6 gm. Of 365 patients thus treated he has recently had 136 reexamined and the findings confirm his statements that this is by far the best method of treating syphilis at our disposal. There was no neurorecurrence in any instance and no recurrence of symptoms in any case in which the total dosage had amounted to over 1.6 gm. of salvarsan. He is convinced that inadequate dosage of salvarsan as well as of mercury, exposes the patient to the danger of recurrences in a serious form more than if he had not been treated at all. It is his practice to give some mercury with the salvarsan, and the fact that the neurorecurrences subside under calomel he accepts as evidence that they cannot be due to intoxication from the salvarsan but are actually manifestations of the syphilis.

86. **Pericardiac Pseudocirrhosis.**—Fogarasi discusses the mechanism and development of polyserositis, especially that form which Pick has described as pericardiac pseudocirrhosis. It may develop from polyserositis alone or from stasis resulting from mischief in the pericardium, the syndrome being practically identical, although the mechanism may thus be so widely different. To sustain these views he reports a case in which a boy of 17 was hit in the heart region; after five months pericarditis developed, keeping him in bed for six weeks. About three months later a tendency to edema of the ankles and anasarca became evident, the latter due to stasis of both mechanical and tricuspid origin, the liver becoming enlarged at the same time.

88. **Wassermann Reaction Not Pathognomonic of Lead Poisoning.**—Perussia states that he found the reaction constantly negative in thirty-five non-syphilitic patients with various manifestations of lead poisoning and three others who had been infected with syphilis in previous years but had received vigorous treatment. His findings conflict with those of Dreyer, who obtained a positive reaction in sixteen similar cases among sixty patients examined, and Schnitter's, who found the reaction positive in four of sixteen cases.

89. **Surgery of the Vessels.**—Heymann reports the complete cure of angiospastic gangrene in a man of 47, a teacher, by diverting the arterial blood into one of the veins in the forearm. He gives an illustrated description of the technic; the benefit realized at once has persisted unmodified during the ten months to date of writing.

Medizinische Klinik, Berlin

August 6, VII, No. 32, pp. 1223-1260

90 *Pelvic Tuberculosis in Women. (Beitrag zur Klinik der Genital und Peritonealtuberkulose des Weibes.) M. Neu.
91 *Gastric Tetany. E. Bircher.
92 *Two Simultaneous Forms of Abdominal Disease. (Doppelerkrankungen mit konkurrierenden Symptomen.) T. Walzberg.
93 Tuberculin Plus Climatic Treatment of Tuberculosis. A. Wolff-Eisner.
94 Causal Connection Between Syphilis and Idiocy. E. Kröber.
95 Apparatus for Combined Anesthetics, Differential Pressure and Artificial Respiration. (Drägers Kombinationsapparat für Mischnarkose, Ueberdruckverfahren und künstliche Atmung.) O. Roth.
96 Physical Features of the Atmosphere from Medical Standpoint. A. Goekel.
97 The American Medical Student. (Der amerikanische Mediziner und sein Milieu.) Spier.

August 13, No. 33, pp. 1261-1298

98 Treatment of Acute Gastro-Enteritis in Infants. (Behandlung der akuten Magendarmerkrankungen im Säuglingsalter.) F. Göppert.
99 The Differential Stethoscope and the Heart Sounds. (Messungen der Intensität des Herzschalls vermittels des Bockschen Differential-Stethoskops.) Goldschmidt.
100 Titanium in Therapeutics. (Ueber die medizinische Verwendbarkeit der Titanverbindungen.) J. Pick.
101 Mineral Springs and Radio-Active Properties. (Bedeutung der hochradioaktiven Quellen im Lichte der modernen Emanationstherapie.) S. Lachmann.
102 Diagnosis of Scabies. A. H. Rosenberg.
103 Jellying of Albuminous Urine. (Gelatinierung eines eiweisshaltigen Urins durch Zusatz von Essigsäure.) G. Moruzzi.

August 20, No. 34, pp. 1299-1336

104 Operative Tendency in Obstetrics. (Die Berechtigung der modern-chirurgischen Bestrebungen in der Geburtshilfe.) H. Küster.
105 Commercial Chopped Meats from the Hygienic Standpoint. (Hackfleisch, Hacksalze und Hackfleischerkrankungen.) H. Trautmann. Concluded in No. 35.
106 *Cerebral Influenza. (Hirninfluenza.) K. Stepp.
107 Acute Painful Symmetric Lipomatosis. J. Klinkowstein.
108 Treatment of Diabetes Mellitus. A. Lenné.
109 Primary Cancer of the Bronchi. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose.) A. Posselt. Commenced in No. 32.
110 *End-Results of Operative Treatment of Non-Pyloric Gastric Ulcer. (Ergebnisse der chirurgischen Behandlung des nicht-pylorischen Ulcus ventriculi.) W. Zweig.
111 Hemolysins in Cerebrospinal Fluid in Acute Meningitis and Progressive Paralysis. E. Weil and V. Kafka.

90. **Pelvic Tuberculosis in Women.**—Neu has been able to reexamine seventy-seven women who had been under treatment for genital or peritoneal tuberculosis at the Heidelberg clinic between 1902 and November, 1910. Of the fifty-five given operative treatment, 75 per cent. were living and 52 per cent. of the twenty-one treated by conservative measures. On account of the uncertainty of the diagnosis and prognosis of tuberculous processes in the peritoneum and genital organs, operative treatment is indicated, he thinks, if there are no advanced tuberculous lesions elsewhere, particularly in the lungs. The operation should be as radical as possible, including in case the genital organs are involved removal of the uterus, both tubes and the ovary affected. In the inoperable cases, the conservative measures then indicated should include Roentgen therapy. A course of sanatorium treatment before or after operative treatment is extremely desirable. Neu protests against exploratory puncture, advocating rather an exploratory incision. He warns further against the dangers of diagnostic tuberculin tests. The reaction is liable to be far from harmless; he has witnessed cases in which the diagnostic injection of tuberculin seemed to start the process to a progressive course or it had a most unfavorable influence on a tuberculous process elsewhere, especially in the lungs, and depressed very much the general health. He inquires whether others have had similar experiences. He regards exploratory curetting likewise as liable to prove dangerous.

91. **Gastric Tetany.**—Bircher writes from Switzerland, where tetany is comparatively rare, to report several cases of gastric tetany, some with a fatal outcome, and a case of tetany in a soldier after overexertion. The features in the latter case suggested a combination of idiopathic with gastric tetany. In another case the tetany developed in the course of recurring gastro-intestinal disturbances in a man of 30, a hard drinker. After five days of ileus, tonic spasms developed in the neck and muscles of the jaw and cramps in the legs. Necropsy showed the stomach enormously dilated and the jejunum kinked 1 cm. below the pylorus. In three other cases the spasms came on two or six days after appendectomy in children between 5 and 17 and proved fatal in a few hours. A toxic action from the peritonitic effusion seems to have been the probable cause of the tetany in these cases, and he thinks that this may occur more often than supposed and that surgeons should bear its possibility in mind. In another case a woman of 39 of a neuropathic family had anterior gastro-enterostomy done for stenosis of the pylorus from ulcer. The stomach was found much dilated, but there was no tendency to tetany. The pylorus was so closely adherent to the liver that it could not be detached. At the ninth day of convalescence tetany developed and soon proved fatal. The gastro-enterostomy was found doing its work and Bircher is inclined to attribute the tetany in this case to lack of water in a predisposed subject—the rectal injection of water had not sufficed to quench the thirst. He knows of no similar case on record in which tetany was brought on by an operation on the stomach. In another case a similar operation cured tetany in a farm hand, the extreme irritability of the musculature in this case surpassing anything of the kind he has ever heard of. The man had had a goiter removed twenty years before.

92. **Two Simultaneous Forms of Abdominal Disease.**—Walzberg reports three puzzling cases in which an intestinal ulcer and appendicitis were associated or umbilical hernia and ileus, the latter explained by a cancer in the transverse colon, or there was an umbilical hernia plus hernia in the median line and thrombosis of the mesenteric vessels. In the last mentioned case the thrombosis was in such an incipient stage that it was not recognized and the abdomen was sutured after the herniotomy. Walzberg gives the details of the cases on the principle that one learns most from one's mistakes. The symptoms had been ascribed to the partial incarceration of the bowel in the hernia openings and to a cord-like adhesion connecting the omentum with one hernial sac. The root of the mesentery was seen studded with fan-like extravasations and some of the vessels were gorged with blood. Nothing macroscopic could be detected on the connected loops of intestines and the abdomen was sutured. The third day symptoms developed, showing that there must have been incipient embolism at the time of the operation.

106. **Influenza of the Brain.**—Stepp says that not enough attention has been paid to the cerebral disturbances liable to be directly induced by influenza localizing in the brain. In his three cases the patients were free from cardiovascular trouble and all were in the forties. The disturbances developed gradually at first, paralysis of the cheek, then hemiplegia and after a few days the other side was affected. The trouble is probably a disturbance in the smallest capillaries of the brain, inducing diapedesis. Complete recovery may follow or the extravasations may become confluent as after ordinary apoplexy. This recalls the fact that in most cases influenza begins with intense headache. It also suggests that persons with arteriosclerosis are exposed to peculiar danger during epidemics of influenza, and that under the influence of the infection ordinary apoplexy may occur with unusual frequency.

110. **End-Results of Operative Treatment of Non-Pyloric Gastric Ulcer.**—Zweig has records of twelve cases in his practice in which a gastro-enterostomy was done for a gastric ulcer, not located near the pylorus. The outcome was good in only five of the twelve cases; four deaths and three severe recurrences show that gastro-enterostomy under these conditions is a dangerous operation and benefits only in the rarest cases. These experiences, he adds, stand in marked contrast to the rosy reports from the surgical clinics. In conclusion he reports a case which shows that the success of operative treatment is not always attributable to the operation. A man with recurring gastric hemorrhage was so debilitated that jejunostomy was contemplated but the patient refused

an operation and was freed from all disturbances by a six-months' course of treatment in a sanatorium. He has had no trouble since, showing that even in apparently desperate cases of gastric hemorrhage the hemorrhage may finally stop of itself without surgical aid.

Münchener medizinische Wochenschrift

August 15, LVIII, No. 33, pp. 1753-1800

112 *"Puerperal Self-Infection." W. K. Zangemeister.
113 Behavior of Organs After Local Injections of Radium. (Ueber das Verhalten der Organe nach Radiumeinspritzungen am Ort der Wahl.) C. Ramsauer and A. Caan.
114 *Influence of Passive Exercises on the Circulation. (Einfluss passiver Bewegungen auf den Blutkreislauf.) E. Veiel and T. Zahn.
115 *Diagnostic Artificial Stasis Hemorrhages in the Skin. (Ueber Stauungsblutungen in der Haut.) F. W. Strauch.
116 Favorable Experiences with Hydrochloric Acid Treatment of Gout. (Zur Diagnose und Therapie der Gicht.) J. Schmidt.
117 *Name of the Syphilis Germ. (Benennung des Syphiliserregers nebst Bemerkungen über seine Stellung im System.) E. Hoffmann.
118 Elimination of Salvarsan in the Urine After Intravenous Injection. (Beginn und Dauer der Ausscheidung des Salvarsans durch den Urin nach intravenöser Injektion.) J. Abelin.
119 Jaundice with Fatal Outcome After Salvarsan Treatment. A. Hofmann.
120 Comparative Mortality of Breast-Fed Infants and Infants Fed on "Albumin Milk." A. Döblin.
121 *Influence of Emotions and Mind on Heart Action. (Zur Frage der psychischen Beeinflussung der Herzaktion.) R. Lederer and K. Stolte.
122 Technic for Local Anesthesia in Rhino-Laryngology. H. Reimers.
123 Postoperative Asphyxia After Pantopon-Scopolamin-Chloroform Anesthesia. C. Haeberlin.
124 *Treatment of Uncontrollable Vomiting of Pregnancy. R. Foerster.
125 Radium Ferment Therapy. K. Laubenheimer and A. Caan.
126 Phosphaturia. M. Oppenheim.

August 22, No. 34, pp. 1801-1848

127 Treatment of Cancer with Radio-Active Substances, Especially Actinium. V. Czerny and A. Caan.
128 Technic for Intravenous Salvarsan Treatment in Syphilis. E. E. Hüfler and J. Herbsmann.
129 *Case of Fatal Hemorrhagic Encephalitis Following Injection of Salvarsan in Syphilis. B. Fischer.
130 *Fatality Following Injection of Salvarsan in Syphilis. (Zur Kasuistik der Todesfälle nach Salvarsanbehandlung.) Kannengiesser.
131 *Acute Hemorrhagic Encephalitis Following Intravenous Injection of Salvarsan in Syphilis. J. Almkvist.
132 Experimental Research on Biology of Woman's Blood. (Weitere experimentelle Beiträge zur Biologie des Blutes in der Gestationsperiode des Weibes.) M. Neu.
133 Hypophysis Extract in Treatment of Osteomalacia. H. Bab.
134 Medicolegal Examination of Seminal Stains. (Ueber forensischen Spermanachweis.) J. Joesten.
135 Behavior in Animal Body of Organic Bromin Compounds. E. Magnus-Alsleben.
136 Choice of Tuberculin. (Wahl unter den verschiedenen Tuberkulinen.) K. Blümel.
137 *Technic for Intravenous Injection of Salvarsan. G. Knauer and A. Strauss.
138 Vasoconstricting Substances in Serum in Rachitis, Tetany and the Exudative Diathesis. S. Samelson.

112. **Puerperal Auto-Infection.**—Zangemeister declares that this term should be dropped in favor of "infection with endogenous germs." From this point of view the prophylaxis of puerperal infection is seen under a new aspect. It may be the result of (1) any spontaneous or artificial inoculation of these endogenous germs; (2) the production of fresh wounds, thus favoring the inoculation with the endogenous germs; (3) by importation of germs from without, and (4) by the inducing of fresh wounds, inoculating these germs. The obstetrician may thus be responsible for a puerperal infection in any of these four ways and prophylaxis should bear each of the four in mind. Among the dangers are interference with the escape of the discharges, stagnation of the lochia in the first days after delivery, or by palpation of the uterus or extra-uterine maneuvers the germ may be inoculated into already existing raw points. It is possible that germs introduced by the obstetrician's hand may not be inoculated into a wound at first, but erosions may occur later into which the germs may finally get, or the maneuvers may be with a germ-free hand or instrument, but the resulting wounds may become infected later by germs already present. These possibilities have been demonstrated again and again in his clinical experience and experiments on animals. His views in regard to infection from the germs already present should not lead to disregard of the dangers of infection from without, but they open our eyes to the hitherto unrecognized enemy from within and place new weapons in our hands to ward off this danger which we have heretofore run blindly into. His statistics in 220 cases show that the women had streptococcus infection quite as frequently when they had not been examined as when this had been done.

114. **Influence of Passive Exercises on the Circulation.**—Veiel and Zahn report study of the conditions in the circulation. during and after application of Büdingen's apparatus for "hill climbing in bed" (mentioned in THE JOURNAL, April 29, 1911, page 1302). The findings indicate that these passive exercises have the same favorable effect on the circulation as vigorous active exercise only in a lesser degree.

115. **Stasis Hemorrhage in the Skin.**—Strauch has been testing on 180 patients and 160 healthy persons the effect of application of a constricting band to the arm, which Rumpel and Leede have advocated as a test for the presence of scarlet fever by the resulting minute hemorrhages in the skin at the bend of the elbow which they regard as pathognomonic for scarlet fever. Strauch, however, found it very frequent in all kinds of diseases and in health; in 68 per cent. of nineteen cases of acute rheumatism, in 37 per cent. of eight cases of diphtheria, in 62 per cent. of typhoid, malaria, etc., and in nearly half of the healthy persons tested.

117. **The Syphilis Spirochete.**—Hoffmann cooperated with Schaudinn in the discovery of the *Spirochæta pallida* and he here presents evidence to show that this is the proper scientific name for it.

121. **Psychic Influence on the Heart Action.**—Lederer and Stolte have found that the heart sounds can be modified in children with unstable hearts after scarlet fever by merely threatening or frightening the children. The mere sight of instruments was enough to modify the heart sounds under the stethoscope and they believe that their experiences in this line sustain the assumption of the possibility of sudden arrest of the heart action under emotional stress.

124. **Vomiting of Pregnancy.**—Foerster suggests on the basis of clinical experience that changing the position of the gravid uterus in some slight measure might act on the uncontrollable vomiting of pregnancy, either at the time or in prophylaxis.

129. **Hemorrhagic Encephalitis Following Injection of Salvarsan.**—Fischer's patient was a physician only 40 years old, who had recently contracted syphilis in his professional work, the primary sore being in the nose. He was given an intravenous injection of 0.4 gm. salvarsan, followed by thirty mercurial inunctions. After an interval of five days, thus forty days after the first injection of salvarsan, the same amount was injected again and two and a half days afterward symptoms of severe acute hemorrhagic encephalitis developed, which was rapidly fatal. Fischer cites a case recently reported by Plötzl and Schüller in which a rapidly fatal hemorrhagic encephalitis developed in a woman in an early stage of syphilis under mercurial treatment. These and other facts observed lead Fischer to ascribe the encephalitis in his and similar cases to a process of anaphylaxis, but the further fact that this is observed only in syphilis, suggests that the disease is liable to entail certain molecular changes in the brain substance, possibly some modification in the colloids of the brain, which may also be at the base of the parasyphilitic affections. The danger of encephalitis seems to be greater with a second injection of the drug. Fischer adds that the resemblance to anaphylactic phenomena suggests the possibility of therapeutic influencing of the severe cases of encephalitis under these conditions by measures which have proved useful in combating anaphylactic phenomena in experiments on animals, especially the narcotic drugs.

130. **A Fatality After Salvarsan.**—In Kannengiesser's case epileptiform convulsions followed an intravenous injection of salvarsan four months after a subcutaneous injection of the same drug. The patient was a robust butcher of 29. After the convulsions consciousness did not return and the clonic cramps continued with delirium, until death occurred from aspiration pneumonia. The threatening symptoms developed three hours after the injection of salvarsan, but necropsy failed to disclose any satisfactory explanation of the case.

131. **Acute Hemorrhagic Encephalitis After Salvarsan.**—Almkvist reports his one fatality in the 184 cases in which he has given salvarsan. This patient was a man of 32, infected with syphilis in 1905, the primary manifestations soon yielding to mercurial treatment. On recurrence of mild local symptoms in 1910, another course of mercurial treatment was given and in February, 1911, he was given an intravenous injection of 0.6 gm. salvarsan. Symptoms of gastric and brain disturbance became evident the second and third days and at necropsy, six days after the salvarsan injection, the brain showed traces of acute hemorrhagic encephalitis, the blood escaping by diapedesis as in infectious processes. The brain may have been peculiarly sensitive in this patient as he had had much business worry and sought recreation and relief from insomnia in distractions of varied kinds.

137. **Technic for Intravenous Injections.**—Knauer calls attention to the vibratory thrill perceived by the fingers placed on the vein above the point where the injection is being made. If this vibratory thrill from the instreaming fluid is not perceived, the fluid is not entering the vein properly.

Wiener klinische Wochenschrift, Vienna

August 24, XXIV, No. 34, pp. 1207-1234

139 *Heart Disturbances Induced or Aggravated by Purgatives. (Hypodynamia cordis diarrhoica.) W. Jaworski.
140 Rare Defects in Speech. (Einige seltene Sprachfehler und partielle Rhinolalia aperta.) F. Neumann.
141 The Franzensbad Mineral Mud. (Das Franzensbader Eisen-Mineralmoor.) H. Kionka.

139. **Weakness of the Heart After Purging.**—Jaworski calls attention to the aggravation of heart disturbances or their first development in certain cases when attempts are made to relieve constipation medicinally. He calls the condition diarrheic hypodynamia of the heart, and reports five typical cases. They are observed comparatively often in private practice. Besides the loss of fluids in the diarrheic stools, the purge or laxative induces hyperemia and congestion in the abdominal organs and the blood is thus drained away from the skin, muscles and brain and the heart does not have enough blood to pump with. If the heart is in good condition there is no trouble, but if the myocardium is injured from any cause, symptoms of "reflex shock" develop; the external temperature declines; the skin is cool and pale, with more or less general weakness, dizziness, small soft pulse and apex beat. and slight heart sounds or arrhythmia. Treatment should aim to equalize the circulation, with hot-water bottles, nux vomica to contract the intestinal vessels, and strong coffee and tea to dilate the vessels in the brain and periphery. The movements of the intestines should be checked by some opium preparation and transudation into the bowels by some styptic. Persons inclined to weakness of the heart under these circumstances should be warned in particular against a systematic course of the widely advertised purgatives; Jaworski knows of cases in which this led to progressive fatal cardiac insufficiency. The elderly are in greater danger than the young on account of the tendency to arteriosclerosis. With advancing years the inhibiting and regulating influences grow weaker, so that the heart has to depend more and more exclusively on its own myo-automatism. The slightest injury of the myocardium then entails irregular action. He warns further that the same may be said of conditions in the acute infectious diseases in which the heart is suffering from the action of toxins; extreme caution is necessary in ordering purgatives and laxatives in order not to weaken the heart still further. These patients may ask to be purged to get rid of annoying tympanites, but he has often noticed that the face was pinched with other signs of collapse after the drug had operated. It is possible, he adds, that a purge might serve as a test for the diagnosis of latent cardiac insufficiency.

Zentralblatt für Chirurgie, Leipsic

August 12, XXXVIII, No. 32, pp. 1081-1112

142 Ribs as Material for Plastic Operations on Bones. (Die Rippen als Material zur Knochenautoplastik.) W. J. Dobrotworski.
143 *Subcutaneous Silk Drain in Treatment of Hydrocephalus. (Neue Methode der chirurgischen Behandlung der Hydrocephalie.) J. Marimon.
144 Care of Stump After Resection of the Stomach. (Zur Stumpfversorgung nach Magenresektion.) M. Wilms.

August 19, No. 33, pp. 1113-1144

145 *Operative Treatment of Exstrophy of the Bladder. (Operative Behandlung der angeborenen Blasenspalte.) V. Chlumsky.
146 *Camphorated Oil in Treatment of Peritonitis. (Anwendung des 1%igen Kampferöls bei Peritonitis und die adhäsionshemmende Wirkung desselben.) O. Hoehne.

143. **Operative Treatment of Hydrocephalus.**—Marimon aimed to drain the lateral ventricle permanently into the parotid gland which he considers particularly adapted for rapidly taking up the fluid thus emptied into it. He gives an illustrated description of the procedure as applied to an eight-months infant with extreme hydrocephalus, the head measuring 63 cm. in circumference, the eyeballs forced down so that the white sclera alone was visible. The operation induced a marked improvement after its application on one side; vision became normal and the head much reduced by the fifth week after the operation, but then the child succumbed to an intercurrent enteritis. He pierced into the ventricle with a long curved needle forcing it out through the skin below and drawing back the silk drain. The silk was then carried down through the subcutaneous cellular tissue into the middle of the parotid, which required several insertions of the needle. The technic is similar to that of Handley's method of providing new lymph routes in elephantiasis of the limb. The technic is simple but the oozing of cerebrospinal fluid through the needle holes retarded healing. Marimon had intended to apply the same operation on the other side.

145. **Treatment of Exstrophy of the Bladder.**—Chlumsky avoids the tendency to incontinence of the new bladder-wall, when it is formed by transplantation, by leaving to Nature the task of closing the bladder-wall. This insures durable closure. He separates the skin from the mucosa of the bladder and allows it to retract and waits patiently for the healing over of the wound thus made. There thus forms on the operated point a layer of epithelium, free from hairs, whose surface is further enlarged by the fact that the bladder being cut around is pressed forward like an umbilical hernia by the abdominal pressure. He has operated in this way in two cases and the bladder became closed in one and was on the way to closure in the other when the infant acquired bronchitis and the wound tore apart. Chlumsky states that the works on operative treatment of exstrophy of the bladder now number over 179, but the end-results of treatment to date by the usual methods still leave much to be desired. So he thinks there is a future for his simple technic for plastic closing of the bladder which in his successful case resulted in the production in time of a large bladder corresponding entirely to a normal one.

Zentralblatt für Gynäkologie, Leipsic

August 12, XXXV, No. 32, pp. 1145-1176

147 *Prophylaxis of Peritonitis. (Die Technik der anteoperativen Reizbehandlung des Peritoneums.) O. Hoehne.
148 Laceration of the Tentorium in New-Born Infants. (Tentoriumrisse beim Neugeborenen.) A. Bauereisen.
149 *Obstetric Protection of the Perineum. (Zur Dammschutzfrage.) J. Brock.

August 19, No. 33, pp. 1177-1200

150 Prophylaxis of Peritonitis. (Zur Frage der Prophylaxe der postoperativen Peritonitis durch Kampferölbehandlung.) O. Burckhardt.
151 *Pernicious Anemia in Pregnancy. (Die perniziöse Anämie in der Schwangerschaft und ihre Behandlung.) B. Bauereisen.
152 Universal Hydrops in the Fetus. (Zum Hydrops foetus universalis.) R. Teuffel.

August 26, No. 34, pp. 1201-1232

153 Technic for Cultivating Anaerobes. O. Burckhardt.
154 *Sign of Extra-Uterine Pregnancy. (Diagnostisches Zeichen zur Aufklärung der ausgetragenen Graviditas ectopia intraligament.) E. Scipiades.
155 Formation of Corpus Luteum. (Zur Corpus luteum-Bildung beim Menschen.) R. Meyer.
156 Action of Hypophysis Extract in Stimulating Contractions of Uterus. (Ueber Extractum hypophysis als Mittel zur Anregung der Wehentätigkeit.) A. Ross.

146-7. **Prophylaxis of Peritonitis.**—Hoehne refers to the injection of camphorated oil before a laparotomy to induce an aseptic irritation of the peritoneum, and reports remarkably favorable results in over 120 cases. He describes the technic in detail; no anesthetic is required as the blunt needle is inserted through a minute incision, and 30 to 50 c.c. of the 1 or 10 per cent. camphorated oil are injected from one to four days before the operation, in "ante-operative irritation treatment" of the peritoneum, and presents evidence to prove that the reaction thus induced may persist for two weeks or longer, even to seven weeks in one of his cases. According to experience to date, the exudation resulting from the irritation is gradually absorbed and never induces adhesions as long as it is aseptic.

149. **Protection of the Perineum.**—Broek noticed years ago that when the perineum tore during a forceps delivery the laceration corresponded to the blades of the forceps: the pressure from them had reduced the vitality of the tissues, so that they tore at these points. This fact suggested to him that even the pressure of the fingers, while striving to prevent injury during expulsion, may be the very factor which produces the tear. He now teaches always that the perineum should be given time to stretch spontaneously, and the head should be pushed gently back until the maternal soft parts have stretched gradually to their utmost. The accoucheur's hands should not touch the perineum but merely hold back the head, the fingers not curving but spread more nearly flat until the wrist touches the back of the child's head; then, by slightly lifting the chin, the lowest portion of the face can be released. He calls this the passive or expectant method of protecting the perineum, and remarks that while it is far from being ideal, yet it avoids the dangers of the usual methods of pressure on the perineum from without.

151. **Pernicious Anemia in Pregnancy.**—Bauereisen reports two cases of pernicious anemia in pregnant women in which he cured the patients by daily subcutaneous or intramuscular injections of 5 or 10 c.c. of whole blood, seven injections being given in one and five in the other case. He commends this method for its simplicity and advises its wide adoption in general practice. The one yielding the blood sits near the patient; as soon as the blood is taken from a vein in the arm it is injected into the patient when still warm and the spot lightly massaged. The effect seems to be the same as when large amounts of defibrinated blood are used.

154. **Diagnosis of Extra-Uterine Pregnancy.** — Scipiades refers to a case of extra-uterine pregnancy in the broad ligament which had been carried to term. The condition was correctly diagnosed by the asymmetrical location of the tumor and its extension deep into the pelvis, while a cord-like structure could be palpated between the wall of the uterus and the tumor, and the surface of the tumor was smooth and sharply outlined.

Gazzetta degli Ospedali e delle Cliniche, Milan

August 3, XXXII, No. 93, pp. 981-986

157 *Syphilids and Scarlet Fever. T. Silvestri.

August 6, No. 94, pp. 987-1002

158 Diagnosis of Cholera. E. Bertarelli.
159 Importance for Diagnosis and Prognosis of the Mononuclears in the Blood. (La genesi endoteliale dei mononucleati del sangue. Sua importanza diagnostica e pronostica.) V. Patella and D. N. Aperlo.
160 Determination of Tubercle Bacilli in the Stools. L. Cecconi.

August 8, No. 95, pp. 1003-1010

161 Digitalis in Emergencies. (Le iniezioni digitaliche d'urgenza.) R. Massalongo and U. Gasparini.

August 10, No. 96, pp. 1011-1018

162 Research on Stomach Functioning. (Sui metodi di esame della funzione gastrica.) G. Chiabrera.

August 13, No. 97, pp. 1019-1034

163 Epitheliomas Developing on Scars of Burns. (Sopra gli epiteliomi sviluppati su cicatrici da scottature.) E. Amati

August 15, No. 98, pp. 1035-1042

164 Echinococcus Disease of the Liver. U. Sarri.

August 20, No. 100, pp. 1051-1066

165 *Reflex Phenomena in Gynecologic Disease. (La fenomelogia riflessa nelle lesioni dell'apparato genitale femminile.) L. M. Bossi.
166 *Management of Fracture of the Clavicle. (Un nuovo apparecchio per la riduzione della frattura della clavicola.) C. Zatti.

August 22, No. 101, pp. 1067-1074

167 Collapse Under Stovain. (Collasso grave da stovaina.) O. Ortali.

August 24, No. 102, pp. 1075-1082

168 Vicarious Menstrual Hemorrhage in the Bladder. (Contributo clinico sull'emorragia vesicale per mestruazione deviata.) F. Cuturi.

157. **Syphilis and Scarlet Fever.** — Silvestri has been impressed with the way in which a pre-existing syphilis modifies certain other diseases and affords a favorable soil for the development of tuberculosis, which runs a grave course as a rule in syphilitics. In three recent cases of syphilis in his practice intercurrent typhoid had a particularly rapid and malignant course as also pneumonia and erysipelas in other syphilitics. On the other hand, the syphilis has been favorably modified by an intercurrent scarlet fever in three of his cases, which he reports in detail. In the first a child with severe manifestations of inherited syphilis began to thrive and has been in comparative health since after an attack of scarlet fever at the age of 4; the same was also observed in another syphilitic child. In his third case a man of 45 had long been suffering from severe manifestations in the third phase of syphilis, including disturbances suggesting gastric ulcer. An intercurrent scarlet fever transformed conditions so that after recovery from the latter there were no further disturbances from the syphilis, even the Wassermann reaction having become negative. The intercurrent infection seems to paralyze if it does not destroy the still existent spirochetes.

165. **Reflex Phenomena from Gynecologic Lesions.**—Bossi declares that no woman should be committed to an insane asylum until after thorough examination by a gynecologist, as frequently the mental disturbances are merely reflex phenomena from some curable affection of the genital organs. He reports three typical cases which sustain this view. The chronic tendency to irritability and melancholia or a recurring tendency to mania permanently subsided after operative and other measures to cure inflammation in the uterus or cervix or both, with or without rigidity of the cervix, and, in a fourth case, extreme anteflexion of the uterus with a tendency to atrophy.

166. **Brace for Fracture of the Clavicle.**—Zatti uses a rectangular sheet of metal, about 30 cm. long by 12 wide, bending it up to form a ridge in the center to fit over the spine. The plate is held in place across the back by a starched bandage wound in figure 8 folds seven times around the shoulders and across the back, as he shows in four illustrations. The front of the chest is left free and respiration is promoted instead of hindered, while the fractured bone is effectually immobilized and the patient can rest easily in bed.

Policlinico, Rome

July 30, XVIII, No. 31, pp. 969-1000

169 Hernia from Standpoint of Industrial Insurance. (L'ernia considerata in rapporto con la legge degli infortuni sul lavoro.) S. Diez. Commenced in No. 30.

August 6, No. 32, pp. 1001-1032

170 Alimentary Disturbances in Infants. (I disturbi della nutrizione nel lattante.) R. Fua.

August 13, No. 33, pp. 1033-1064

171 Proteolytic Ferments in Stools of Breast-Fed Infants. A. Filia.
172 *Sterilization of Uterus by Hydrogen Dioxid. (La disinfezione della cavita uterina per mezzo delle irrigazioni di acqua ossigenata, nell'infezione puerperale e negl'interventi per raschiamento e per rimozione di residui di aborto.) F. Grandoni.

August 20, No. 34, pp. 1065-1096

173 Mandelbaum's Thread Reaction in Typhoid. (Metodo facile e rapido per la sierodiagnosi del tifo.) V. Zevi and G. Sabatini.
174 Tincture of Iodin in Treatment of Burns. (La tintura di iodio al 2 per cento nelle scottature in genere.) A. Talassano.

August 27, No. 35, pp. 1097-1128

175 Influenza During Pregnancy and the Puerperium. U. Rosi.

August, Medical Section No. 8, pp. 333-380

176 Two Tumors in the Brain. (Osservazioni cliniche ed anatomo-patologiche sopra un caso di duplice tumore dell'encefalo.) F. Costantini.
177 The Mechanism of Hearing. (La teoria dell' udizione piu consentanea alla complessa morfologia dell'organo del Corti.) B. Bocci.
178 Post-Tabetic Paralytic Dementia. P. Ciuffini. Commenced in No. 7.

August, Surgical Section No. 8, pp. 337-384

179 Some Rare Tumors in the Peritoneum. P. Sabella. Commenced in No. 7.

172. **Hydrogen Dioxid in Sterilization of the Infected Uterus.**—Grandoni remarks that it was with considerable hesitation that he first used a solution of hydrogen dioxid for irrigation of the infected puerperal uterus, fearing gas embolism from the nascent oxygen. But his experience in a number of serious cases in which this measure was about the last resort, gave unexpectedly favorable results and has con-

vinced him that these fears are practically groundless. The foam from the nascent oxygen does not seem to have force enough to penetrate into the tubes or open blood-vessels. He cites the details of seven cases emphasizing the prompt way in which the conditions in the infected uterus returned to approximately normal. In the cases in which the infectious process was restricted to the uterus, irrigation with the dioxid conquered it at once. Even when the condition was one of true puerperal septicemia, local irrigation with hydrogen dioxid effectually supplemented the intravenous injection of a solution of bichlorid of mercury, according to Baccelli's technic, when conditions were apparently desperate.

Riforma Medica, Naples

August 7, XXVII, No. 32, pp. 869-896

180 Clinical Importance of Relative Arterial Hypertension in Artery of the Foot. (Sul valore clinico della ipertensione arteriosa relativa nella pedidia.) R. Secchi.
181 Sarcoma in Bed of Kidney. (Rarissimo caso di lipo-fibro-sarcoma dell'area adiposa perirenale.) L. Gaiardoni.

August 14, No. 33, pp. 897-924

182 Traumatic Thrombophlebitis and Colon Bacillus Periostitis. G. Carere.

August 21, No. 34, pp. 925-952

183 *Intestinal Lesions from Foreign Bodies. G. Razzaboni.
184 Inflammation of Meckel's Diverticulum and Intestinal Stenosis. C. Rinaldo.
185 Rachitis. (Del rachitismo.) T. Silvestri. Commenced in No. 33.

183. **Dangers of Foreign Bodies in the Intestines.**—In Razzaboni's case an elderly woman had had an easily reduced femoral hernia for thirty years, when it became suddenly irreducible and painful. Attempts at mild taxis proving ineffectual, herniotomy was done and with apparent success, but in a few hours fecal vomiting developed with other signs of abdominal mischief, soon fatal. Necropsy revealed the presence of two fishbones in the colon which they had perforated at both ends of the bones. He believes that the perforation was the result of his efforts at taxis or during the operation, and warns that the unsuspected presence of a foreign body may singularly complicate an operation for hernia. The case is still another argument against taxis of hernias.

Norsk Magazin for Lægevidenskaben, Christiania

August, LXXII, No. 8, pp. 857-936

186 Inherited Disease in Light of Mendel's Theory. (Arvesygdomme i lys av Mendelismen.) R. Vogt.
187 Suture of Cervical Nerve. (Et tilfælde av nervesutur.) P. E. Giertsen.
188 *Benign Tumors in Stomach Simulating Cancer. (Kræftlignende svulster i mavesaekken.) H. Schilling.

188. **Gastric Ulcers Simulating Cancer.**—Schilling reports a case of this kind in a man of 55. On opening the stomach the diagnosis of cancer seemed positive and the stomach was resected, but the microscope showed that the very large tumor in the larger curvature, adherent to the transverse colon, was a fibrous connective-tissue growth. But at the same time a minute tumor was found near the pylorus which proved apparently to be a true solid cancer. The patient had cause to rejoice over the mistaken diagnosis as seldom or never has a cancer in the stomach been discovered and removed at such an early stage. Syphilis and tuberculosis are often the cause of supposed malignant disease of the stomach; Schilling operated a year ago on a woman of 30, making a gastroenterostomy on account of a gastric tumor which was undoubtedly of tuberculosis origin, as there was a similar tumor in the cecum and the appendix was found on removal to contain a local tuberculous process. The patient has been clinically cured by the operation. A stomach affected with fibrous induration may also simulate cancer and he adds the history of a case of the kind, the signs of stenosis of the pylorus in a woman of 60 finally compelling resection of the stomach, after which the woman rapidly regained strength and weight. After five years of health symptoms returned and a tumor was found at the point of the anastomosis, simulating cancer, but the microscope revealed merely fibrous tissue. The patient was again restored to health by a further resection, but there was suppuration later in the wound and a fistula into the transverse colon with adhesions, finally compelling a third operation by the end of the year. After an anastomosis excluding the site of the lesion in the transverse colon, the fistula soon healed and the patient has been in the best of health during the six years since.

Hygiea, Stockholm

July, LXXIII, No. 7, pp. 785-908

189 *Comparative Importance of Different Operative Measures for Genital Prolapse. (Om värdet af de olika operationsmetoderna vid genitalprolaps.) F. Westermark.
190 Torsion of the Uterus: Two Cases. J. Olow.
191 Endemic Goiter in Sweden. (Endemisk struma i Husby distrikt.) G. Fjellander.

189. **Operative Treatment for Genital Prolapse in Sweden.**—Westermark here brings down to date his previous communication on this subject in 1897, when he tabulated the details and outcome of operative treatment by various Swedish surgeons in 140 cases of severe prolapse of the vagina and 456 of the uterus. The figures since that date include 411 cases of prolapse of the vagina and 817 of the uterus. All this material is sifted and the end-results tabulated and compared with the various technics used. Westermark's preferred method of treating prolapse of the uterus by lateral colporrhapy (published in 1892) was applied in 255 cases of prolapse of the uterus; 173 of the patients have been reexamined recently. A recurrence of trouble was discovered in only twelve cases, that is, the operation was entirely successful in 93.1 per cent. The recurrence was generally in the form of a cystocele. The entire statistics compare favorably with those in other lands.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Ticks. A Monograph of the Ixodoidea. By George H. F. Nuttall, M.A., M.D., Ph.D., Fellow of Magdalene College; Cecil Warburton, M.A., F.Z.S., Christ's College; W. F. Cooper, B.A., F.Z.S., F.L.S., and L. E. Robinson, A.R.C.Sc. (Lond.), of the Cooper Laboratory for Economic Research, Watford. Part II by George H. F. Nuttall and Cecil Warburton. Price, 12 shillings net. Pp. 105-348, with illustrations. May, 1911. Bibliography of the Ixodoidea by George H. F. Nuttall, F.R.S., L. E. Robinson and W. F. Cooper, Price, 6 shillings net. Pp. 67. July, 1911. Paper. Cambridge. University Press, 1911.

Practical Pathology. A Manual of Autopsy and Laboratory Technic. For Students and Physicians. By Aldred Scott Warthin, Ph.D., M.D., Professor of Pathology and Director of the Pathologic Laboratories in the University of Michigan, Ann Arbor. Second Edition. Cloth. Price, $3. Pp. 321, with 55 illustrations. Ann Arbor: George Wahr, 1911.

Reason and Sentiment. An Address Delivered in the Aula of the University of Berne, March 3, 1910. By Dr. Paul Dubois, Professor of Neuropathology at the University of Berne. Authorized Translation by Edward G. Richards. Cloth. Price, 50 cents net. Pp. 82. New York: Funk & Wagnalls Co., 1911.

Technik der Thoraxchirurgie. Von Dr. F. Sauerbruch, Professor, Direktor der Chirurg. Universitätsklinik Zurich und Dr. E. D. Schumacher, Privatdozent, Assistent an der Chirurg. Universitätsklinik Zurich. Cloth. Price, 24 marks. Pp. 97, with 73 illustrations. Berlin: Julius Springer, 1911.

Proceedings Conference on Milk Problems Under the Auspices of the New York Milk Committee, Dec. 2 and 3, 1910. At Assembly Hall, United Charities Building, New York. Paper. Price, $1. Pp. 200. New York: New York Milk Committee, 105 E. Twenty-Second Street, 1911.

Minnesota Mushrooms, Booklet IV of Minnesota Plant Studies of University of Minnesota, Minneapolis. By Frederic E. Clements, Professor of Botany and State Botanist. Paper. Price, to Citizens of Minnesota, free; to Others, 50 cents. Pp. 169, with 124 illustrations.

How to be Heathy. By J. Halpenny, M.A., M.D., Surgeon to the Winnipeg General Hospital, and Lilian B. Ireland, Manitoba Normal School. Cloth. Price, 50 cents. Pp. 242, with illustrations. Toronto: Educational Book Co., (1911).

Auto-Inoculation in Pulmonary Tuberculosis. By Marcus Paterson, M.B., B.S., M.R.C.S., Medical Superintendent at Brompton Hospital Sanatorium, Frimley. Cloth. Price, 21 shillings. Pp. 236. London: James Nisbet & Co., 1911.

Association of American Medical Colleges. Proceedings of the Twenty-First Annual Meeting, held in Chicago, Feb. 27-28, 1911. Paper. Pp. 94. Fred C. Zapffe, Secretary, Chicago.

Twenty-Eighth Annual Report of the Board of Trustees, Soldiers' Home in Massachusetts at Chelsea for the Year Ending June 30, 1910. Paper. Pp. 70. 1910.

Report of the Board of Health of the City of Salem to the City Council, December, 1910. Paper. Pp. 31. Salem, Mass., 1911.

Norsk Medicin I Hundred Aar. Ved S. Laache. Paper. Pp. 289, with illustrations. Kristiania: Steen'ske Bogtrykkeri, 1911.

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The Leukocytology of Typhoidal Diseases, as a Group-Phenomenon Within the Typhoid-Colon Family of Bacilli (Typhaceæ). J. F. Hultgen, M.D., Chicago 1098

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Fallotomy
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Gangliectomy
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Hemorrhoidectomy
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Omentorrhaphy
Orchiopexy
Salpingosalpingostomy
Scapulopexy
Septectomy
Septotomy
Sigmoidectomy
Tenomyoplasty
Typhlectomy
Venovenostomy
Vesiculotomy

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Anisoleukocytosis
Anisuria
Aortism
Apepsinia
Arachnoidism
Asyllabia
Bilirubinuria
Carcinemia
Cecoptosis
Choriocarcinoma
Chylopericarditis
Colibacilluria
Conjunctivoma
Cranitis
Cryptomnesia
Desmopylenosis
Dysdiadochokinesia
Echomimia
Endolabyrinthitis
Enteromegalia
Exocatophoria
Genetopathy
Hemiasynergia
Hemokoniosis
Hepatoma
Hypocapnia
Hypopepsinia
Indicanidrosis
Indolaceturia
Myosalgia
Oto-antritis
Pachypleuritis
Parapraxis
Pericecitis
Perilabyrinthitis
Pituitary eunuchism
Pollinosis
Strongylosis
Ureterectasis
Ureterocele

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Adiathermancy
Affectomotor
Angiosthenia
Archipallium
Auxocyte
Axolysis
Cardiodilator
Comparascope
Cysto-urethroscope
Deactivation
Dermatotherapy
Deviometer
Energometer
Enteroptoscope
Fecalith
Ferrotherapy
Euthenics
Exteroceptive
Gangliocyte
Gastrolavage
Gradination
Granulocyte
Foville's syndrome
Goggia's sign
Hemopoietin
Heteroserotherapy
Idiotherapy
Leukodiagnosis
Nociceptive
Noci-association
Orodiagnosis
Jacobson's reflex
Kronecker's puncture
Oxydasis
Phenolsulphonephthalein
Proprioceptive
Protozoology
Signorelli's sign
Stigmatometer
Thyrotherapy
Tapotage
Ureterography

DRUGS

Adrenochrome
Aperitol
Argentiform
Argydide
Arsan
Arsentriformin
Asquirrol
Boryl
Bromglidin
Carboneol
Cardiotonin
Cycloform
Desalgin
Diaspirin
Digipuratum
Dioviburnia
Dipropæsin
Eucapren
Enteronol
Filmoson
Formocresol
Frigusin
Gelasin
Glandon
Guipsin
Gynoval
Hageen
Hyperideal
Iodargyr
Iodarsyl
Muscusan
Neoform
Novocol
Novain
Novo-iodin
Ostauxin
Orthonal
Pituitin
Proiodin
Propæsin
Puroform
Salvin
Thyramin
Uracin
Ureol
Uterol
Vasotonin
Xaxaquin
Zerodone

PATHOLOGY AND BACTERIOLOGY

Aminolysis
Anticatalyzer
Anaphylatoxin
Auxochrome
Cardiolysin
Catalysin
Chemosynthesis
Chemoreceptor
Chemo-immunology
Cytochemistry
Cytoclastic
Diacrinous
Enoxidase
Erythroclastic
Glycogenolysis
Hemopathology
Hemophil
Hyperglycogenolysis
Isohypercytosis
Opsonometry
Sensibilin
Sero-immunology
Sero-reaction
Urinserum
Urohypertension
Venopressor

VETERINARY TERMS

Bang's bacillus
Bacillus of Johnes
Bottom disease
Carpitis
Chorioptes
Colt-ill
Comb-disease
Crotalism
Curby hock
Cyneatrics
Diarrhemia
Diœstrum
Ectoloph
Enterohepatitis of turkeys
Feather
Frog-stay
Fusarium equinum
Galactococcus
Gut-tie
Heel-ply
Hen-pox
Hoose
Hunger-evil
Hypoderma Bovis
Knuckling
Leg-ill
Lophophytosis
Malenders
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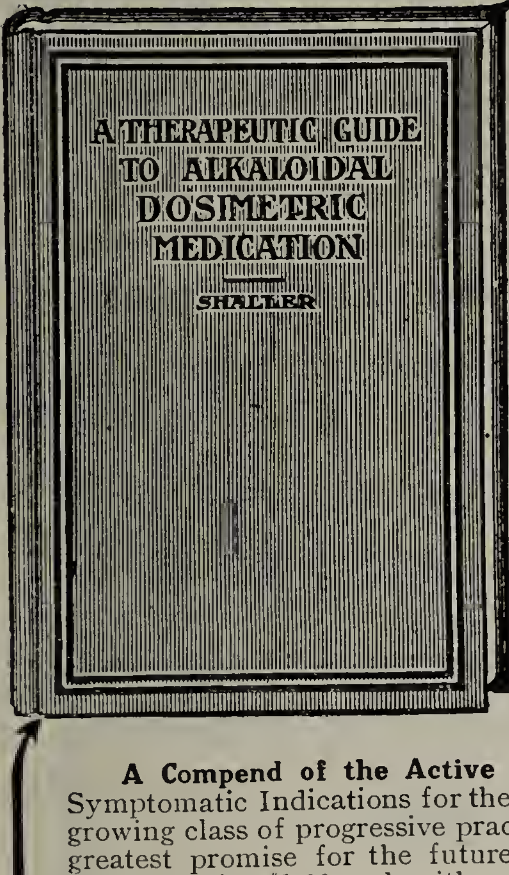

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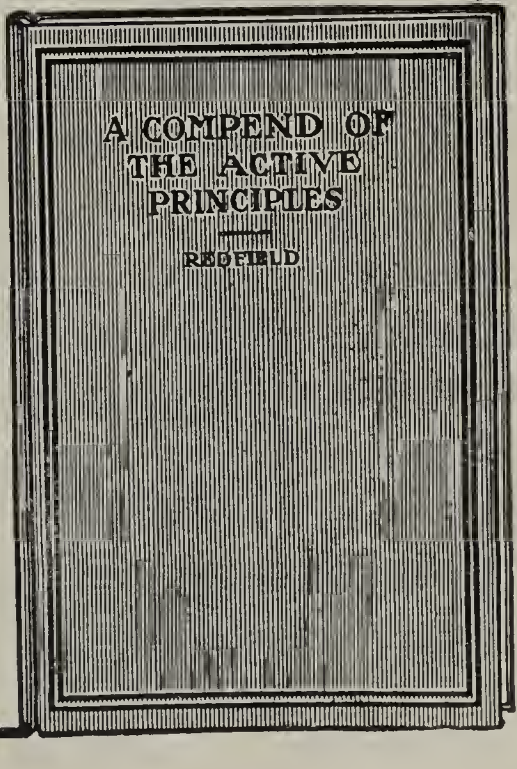

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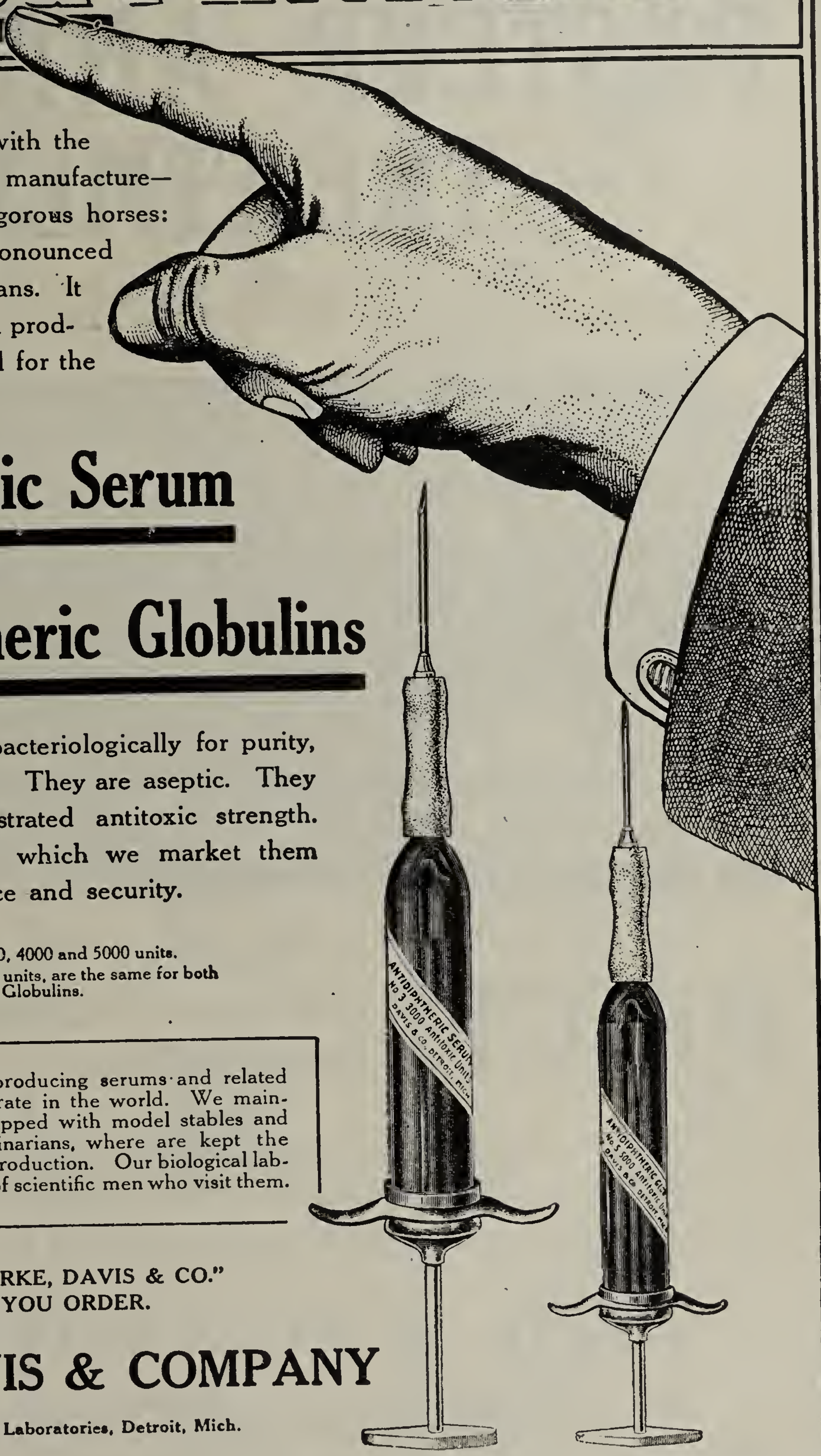

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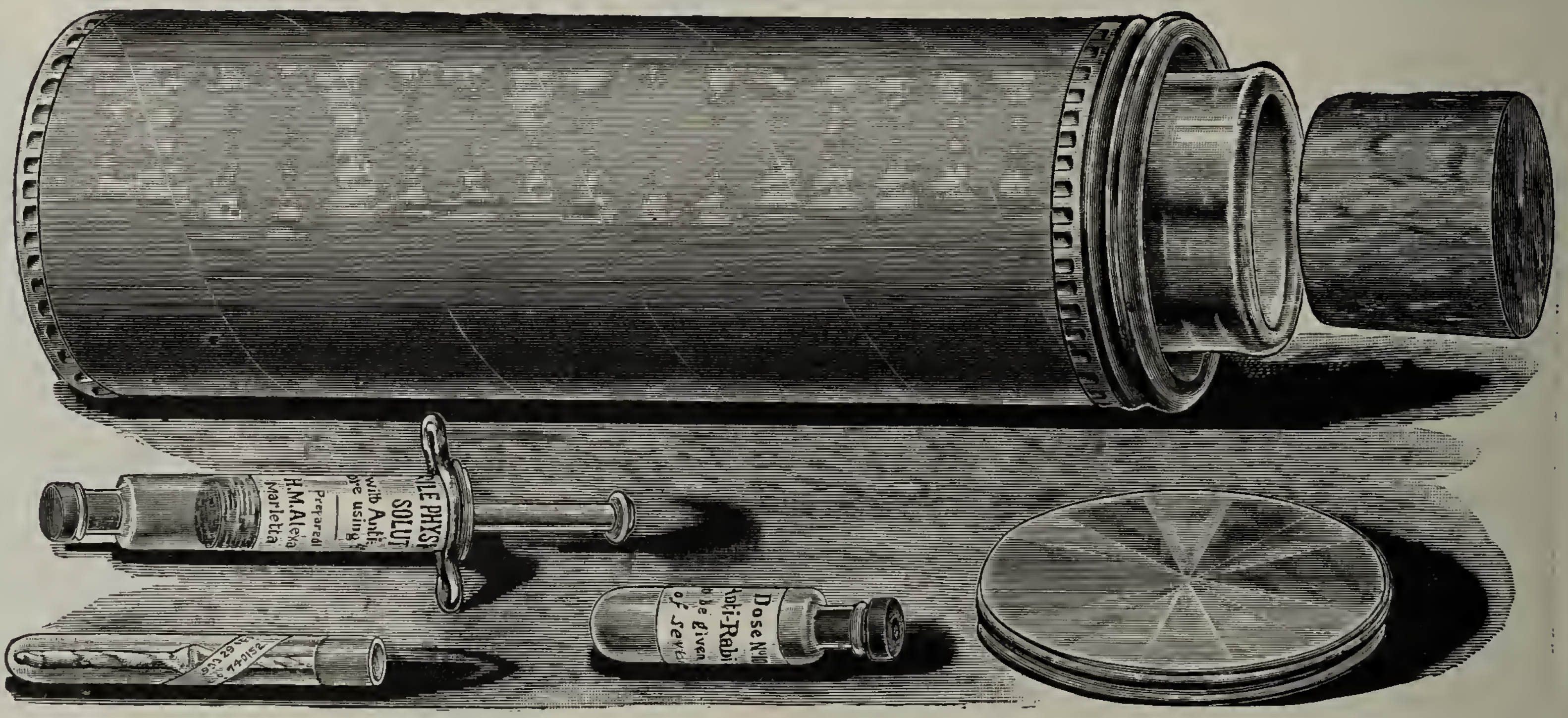

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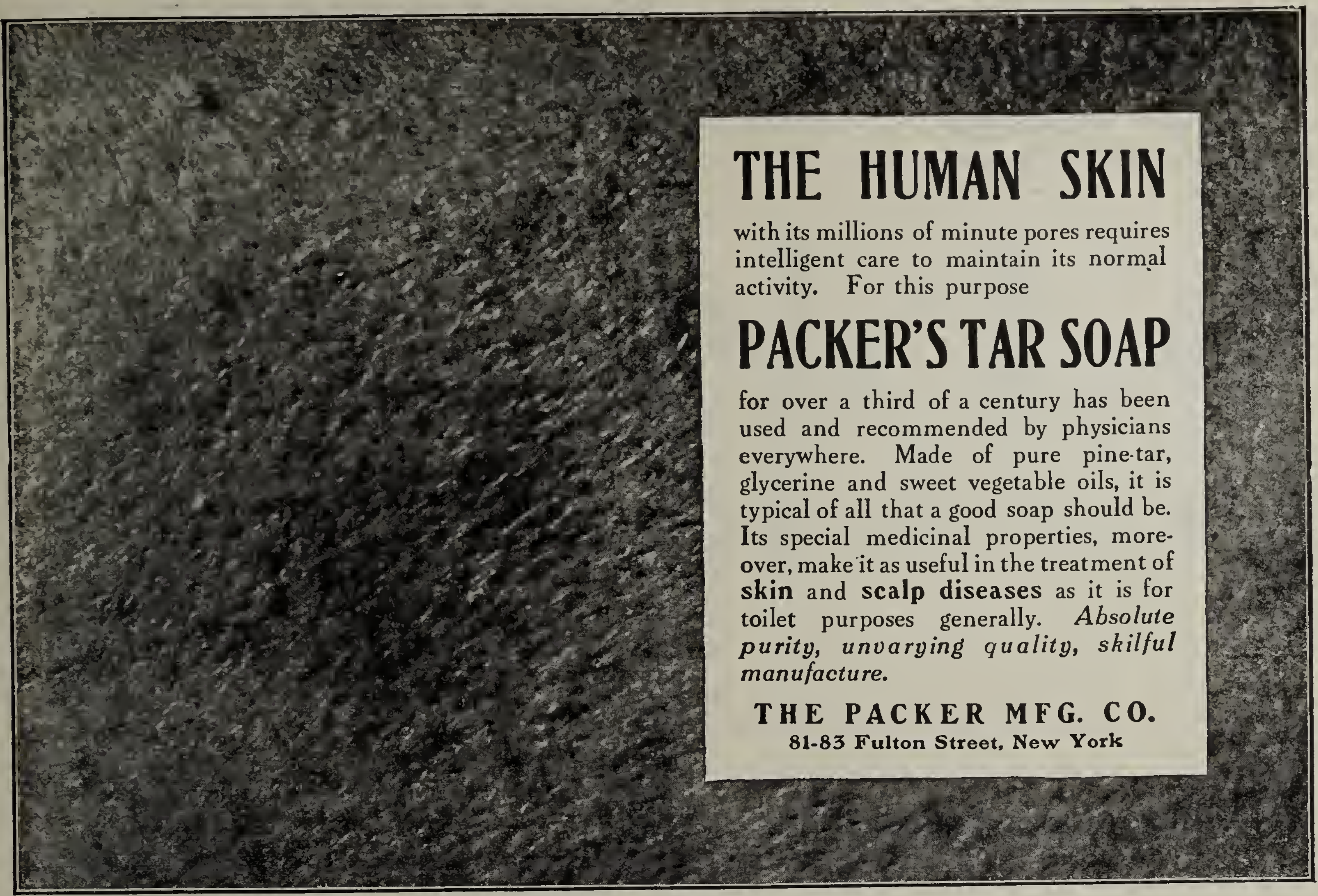

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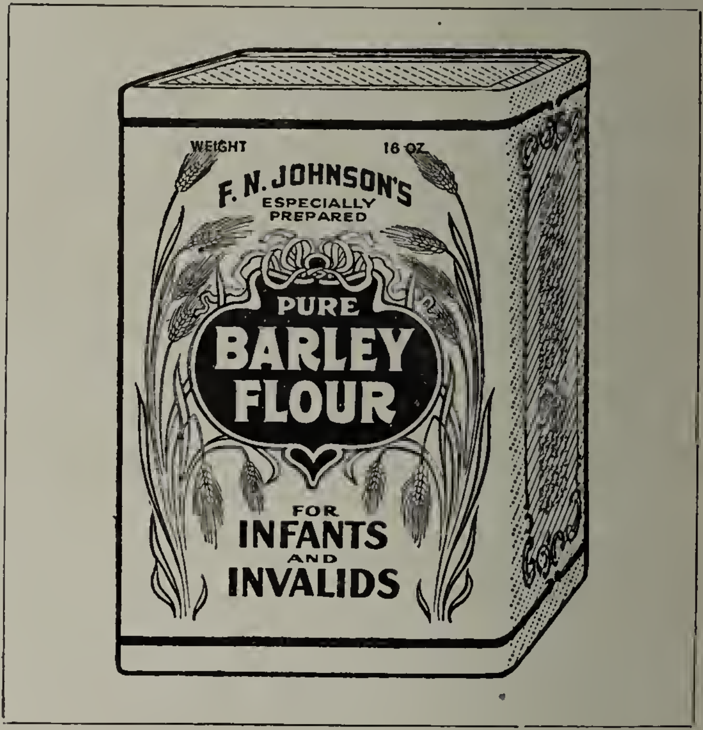

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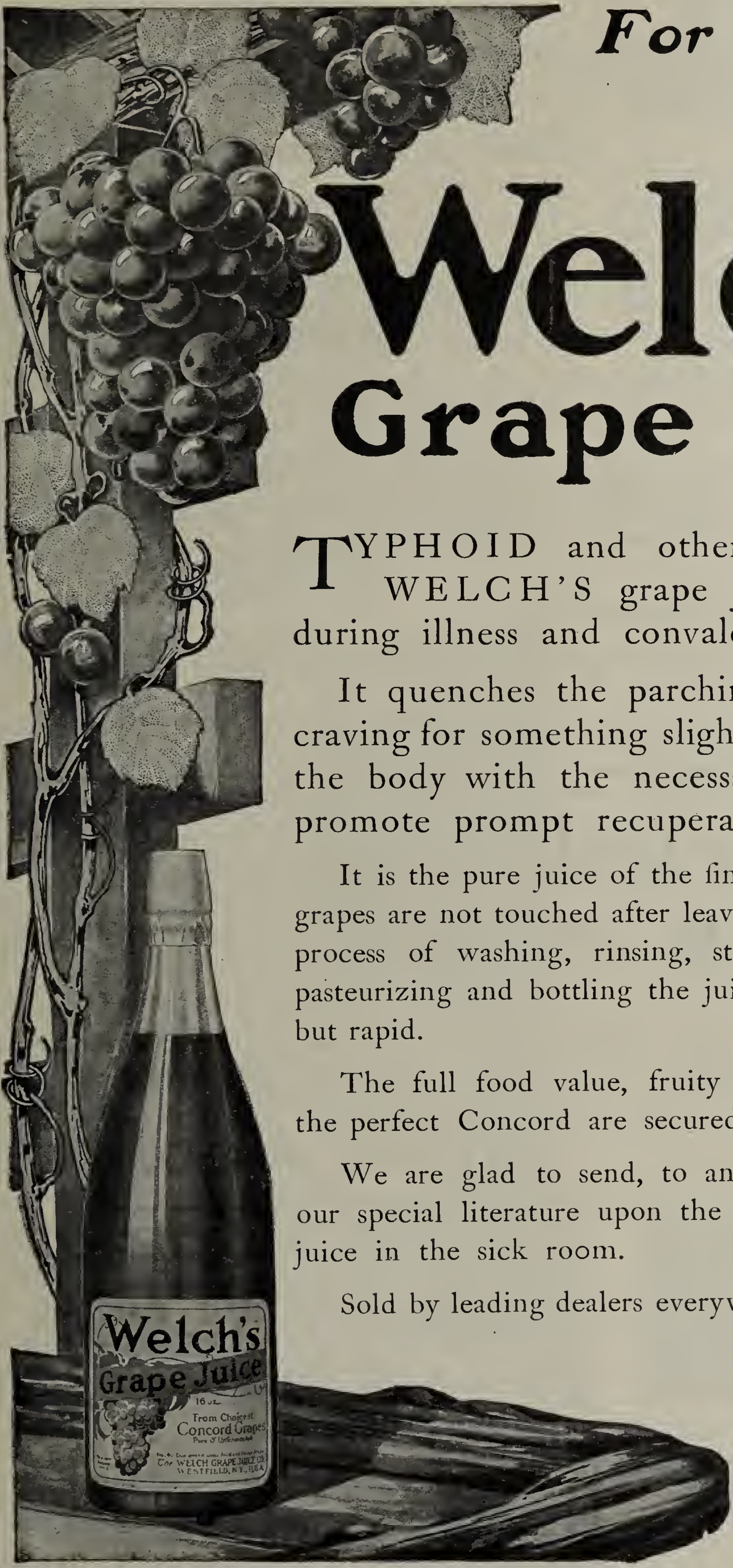

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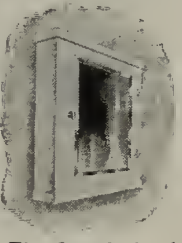

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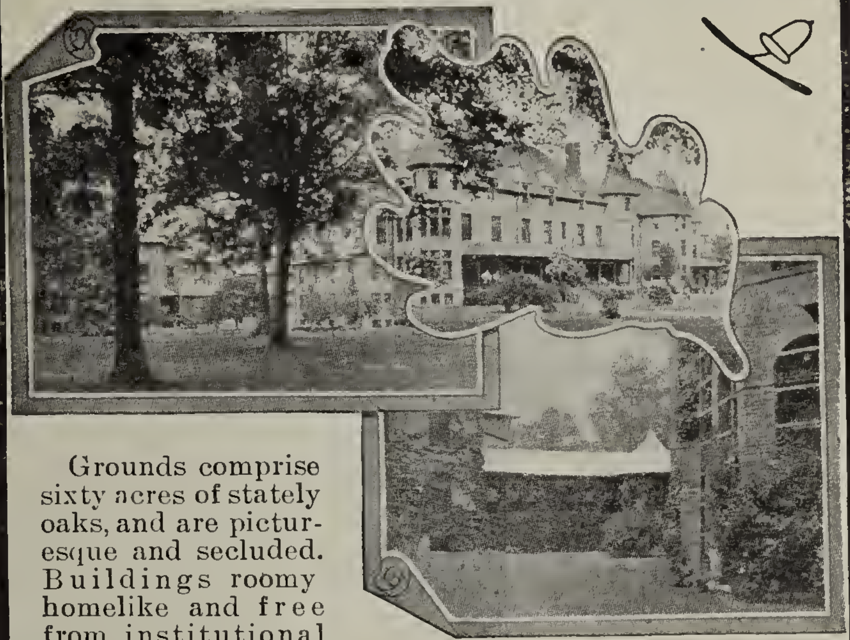

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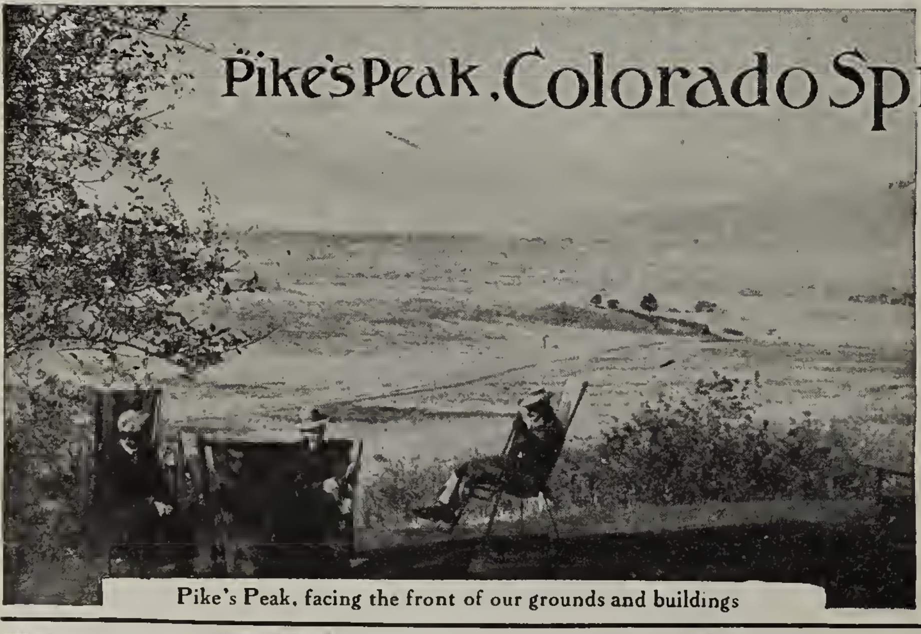

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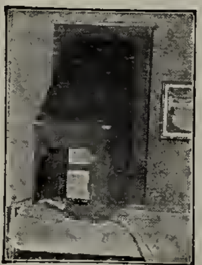

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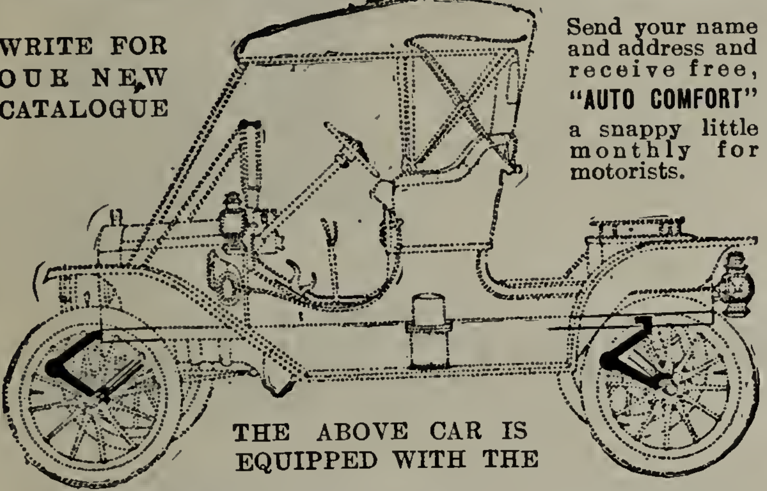

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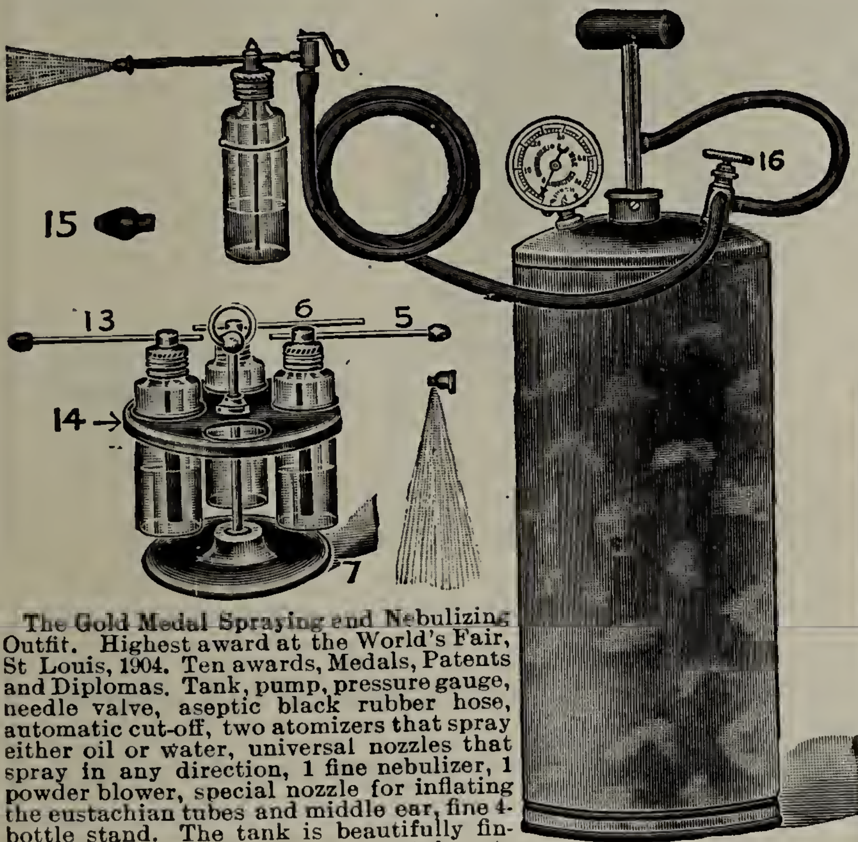

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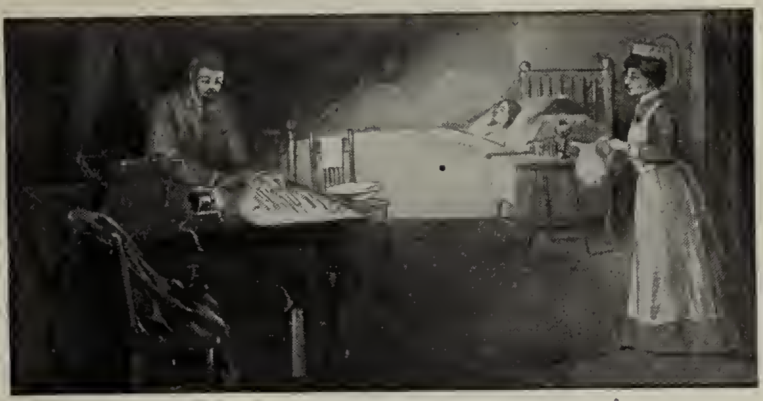

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You have probably seen the time when you would have given much for a strong, steady light in emergency operations.

Equip your buggy or automobile with Prest-O-Lite, and you have a flood of veritable sunlight ready for all such occasions, and turned on and off like a gas jet.

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The tank itself costs $18, and is always saleable for about what you paid for it. In addition you will need a little inexpensive tubing and a lamp (use two lamps if you wish). An empty tank may be exchanged for a full one at our exchange agencies in every city, and nearly every village, in the United States.

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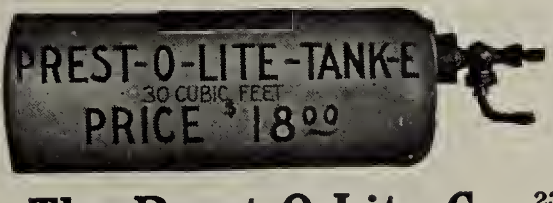
See your nearest automobile dealer, or write us.



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Exchange Agencies Everywhere

PEROXIDE ZINC SOAP
MADE FOR AND UNDER THE PATENT OF
THE ROESSLER & HASSLACHER CHEMICAL CO.
GUARANTEED UNDER THE FOOD AND DRUGS ACT,
JUNE 30TH, 1906.
NO. 1703.
NEW YORK

Guest size sample upon request

Peroxide Zinc Soap (R&H)

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Contains actually 10% Peroxide of Zinc which upon use liberates 85 volumes of available Oxygen.

This soap combines the properties of a high grade toilet soap with the *properties* of *Hydrogen Peroxide* and *Zinc Oxide.*

The effects of Oxygen brought in action by the simple performance of washing with Peroxide Zinc Soap will at once be manifested by the smooth and elastic condition of the skin and a fresh and healthy appearance.

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A peroxide powder which when dissolved in water forms an **ALKALINE SOLUTION OF HYDROGEN PEROXIDE**

Other **PEROXIDES** and **PERBORATES** applied in **OXYGEN THERAPY**
ZINC, STRONTIUM, MAGNESIUM, CALCIUM

Samples sent to members of medical and dental professions whose clinical investigations we invite.

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Patented April 18th, 1905 by The Roessler & Hasslacher Chemical Co.

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OUTFIT packed in neat wooden case, 12x6x5 inches, includes apparatus, (2½ pound) wash-bottle, necessary rubber tubing, mouthpiece, 1 awl and *4 Cartridges.*

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Unlike any other Ointment

SEE CLINICAL REPORTS OF

PAUL AUERBACH: "Aus der Hautabteilung, der Magdeburger Krankenanstalt" (Oberarzt Dr. Schreiber). "Klin. Therap. Wochenschrift," 1909, No. 24.

Dr. H. REINHARDT: "Apotheker-Zeitung," 1909, page 90. See also "Vierteljahrschrift fur pract. Pharmacie," 1908, Part 4, page 311.

Dr. KURT PEIN (Rudolph Virchow Hospital, Berlin): "Die Therapie der Gegenwart," Part 3, March, 1910.

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LIST OF NATIONAL MEDICAL SOCIETIES

This information is correct to date of going to press, so far as we have been able to obtain it from the various secretaries. Officers or others are requested to notify us of any errors or required changes. For further information concerning any society address the secretary.

SOCIETY	PRESIDENT	SECRETARY	NEXT ANNUAL MEETING
AMERICAN MEDICAL ASSOCIATION	John B. Murphy, Chicago	Alexander R. Craig, Chicago	Atlantic City, June, 1912.
American			
Academy of Medicine	Alexander R. Craig, Chicago	Charles McIntire, Easton, Pa	Atlantic City, June, 1912.
Academy of Ophthal. and Oto-Laryng.	John J. Kyle, Indianapolis	Geo. F. Suker, 31 N. State St., Chicago	Indianapolis, Sept. 25-27, 1911.
Anatomists, Association of	Geo. A. Piersol, Philadelphia	G. Carl Huber, Ann Arbor, Mich	December, 1911.
Association of Genito-Urinary Surgeons	Edward Martin, Philadelphia	J. Bentley Squier, 49 E. 49th St., New York.	Philadelphia, May, 1912.
Association of Obstetricians and Gyn.	Herman E. Hayd, Buffalo	Wm. W. Potter, 238 Delaware Ave., Buffalo	Louisville, Sept. 26-28, 1911.
Assn. of Pathologists and Bacteriologists	R. M. Pearce, Philadelphia	H. C. Ernst, Harvard Med. School, Boston	Philadelphia, April, 1912
Association of Railway Surgeons	A. R. Mitchell, Lincoln, Neb	Louis J. Mitchell, 132 N. Wabash Ave., Chicago	Chicago, Oct. 18-20, 1911.
Climatological Association	A. D. Blackader, Montreal	Guy Hinsdale, Hot Springs, Va	June, 1912.
Dermatological Association	Grover W. Wende, Buffalo	James M. F. Winfield, 47 Halsey St., Brooklyn	St. Louis, June, 1912.
Electro-Therapeutic Association	William D. McFee, Haverhill, Mass.	J. W. Travell, 27 E. 11th St., New York	Baltimore, Sept., 1912.
Gastro-Enterological Association	W. B. Cannon, Boston	F. W. White, 416 Marlborough St., Boston	
Gynecological Society	Howard A. Kelly, Baltimore	LeRoy Broun, 148 W. 77th St., New York	Baltimore, May, 1912.
Laryngological Association	James E. Newcomb, New York	Harmon Smith, 44 W. 49th St., New York	May, 1912.
Laryn., Rhin. and Otol. Society	G. Hudson Makuen, Philadelphia	Thos. J. Harris, 117 E. 40th St., New York	June, 1912.
Medico-Psychological Association	Hubert Work, Pueblo, Colo	Charles G. Wagner, Binghamton, N. Y.	May, 28-31, 1912.
Neurological Association	William N. Bullard, Boston	Alfred R. Allen, 2013 Spruce St., Philadelphia	
Ophthalmological Society	Edward Jackson, Denver	W. M. Sweet, 1205 Spruce St., Philadelphia	
Orthopedic Association	Virgil P. Gibney, New York City	R. R. Fitch, 209 East Ave., Rochester, N. Y.	New York, May, 1912.
Otological Society	Edw. B. Dench, New York	James F. McKernon, 62 W. 52d St., New York	
Pediatric Society	Augustus Caille, New York	S. S. Adams, 1 Dupont Circle, Wash., D. C.	Hot Spgs., Va., May 29-31, '12.
Physicians, Association of	J. George Adami, Montreal	Geo. M. Kober, 1819 Q St., Washington, D. C.	Atlantic City, June 4-5.
Physiological Society	S. J. Meltzer, New York	A. J. Carlson, University of Chicago	December 27-30, 1911.
Proctologic Society	John L. Jelks, Memphis, Tenn	L. H. Adler, Jr., 1610 Arch St., Philadelphia	Atlantic City, June 4-5, 1912.
Public Health Association	Chas. O. Probst, Columbus, Ohio	W. C. Woodward, 1766 Lanier Pl., Wash., D. C.	Havana, Cuba, Dec. 4-9, 1911.
Roentgen Ray Society	Percy E. Brown, Boston	Fredk. H. Baetjer, 4 E. Madison St., Baltimore.	
Society of Tropical Medicine	Jos. H. White, U. S. P. H. & M-H. S.	John M. Swan, Watkins, N. Y.	June, 1912.
Surgical Association	Arpad G. Gerster, New York	Robt. G. LeConte, 1530 Locust St., Phila	Montreal, 1912.
Therapeutic Society	Alex. D. Blackader, Montreal, Que.	N. P. Barnes, 212 Maryland Ave., Wash., D. C.	Montreal, Can., June 6-8, 1912.
Urological Association	Hugh Cabot, Boston	H. A. Fowler, The Cumberland, Wash., D. C.	Chicago, Sept. 26-27, 1911.
Assn. of Military Surgeons of the U. S.	G. H. Torney, Washington, D. C.	C. Lynch, 716 Union Trust Bldg., Washington	Milwaukee, Sept. 26-29, 1911.
Congress Am. Phys. and Surgs.	Edw. L. Trudeau, Saranac Lake, N. Y.	W. H. Carmalt, 87 Elm St., New Haven, Conn.	Washington, D. C., May, 1913.
Conference of State and Prov. Bds. of N. A.	W. C. Woodward, Washington, D. C.	H. M. Bracken, Capitol Bldg., St. Paul, Minn.	Washington, D.C., Sept. 20-21, 1912.
Med. Association of the Southwest	M. L. Perry, Parsons, Kan	Fred H. Clark, El Reno, Okla	Oklahoma City, Oct. 10-12, '11
Mississippi Valley Medical Association	Robert H. Babcock, Chicago	Henry Enos Tuley, Louisville, Ky	Nashville, Oct. 17-19, 1911.
Missouri Valley, Medical Society of the	John M. Bell, St. Joseph, Mo	Chas. Wood Fassett, St. Joseph, Mo	
Nat. Assn. for Study and Prev. of Tuber.	Mazyck P. Ravenel, Madison, Wis.	H. B. Jacobs, 11 Mt. Vernon Pl., Baltimore	May, 1912.
Nat. Assn. for Study of Epilepsy	William T. Shanahan, Sonyea, N. Y.	J. F. Munson, Sonyea, N. Y.	June, 1912.
Southern Medical Association	Isadore Dyer, New Orleans	Seale Harris, Mobile, Ala	Hattiesburg, Miss., Nov. 14-16, 1911
Southern Surgical and Gyn. Association	Rudolph Matas, New Orleans	W. D. Haggard, Jr., 148 8th Av. N., Nashville	Wash'ton, D. C., Dec. 12-14, '11
Western Surgical and Gyn. Association	A. W. Abbott, Minneapolis	Arthur T. Mann, Donaldson Bldg., Minneapolis	Kan. City, Mo., Dec. 18-19, '11.

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Alabama, Medical Assn. of the State of	L. Coleman Morris, Birmingham	J. N. Baker, 602 So. Perry St., Montgomery	Birmingham, April 16, 1912.
Arizona Medical Association	Francis E. Shine, Bisbee	John W. Flinn, Prescott	Bisbee, May 7, 1912.
Arkansas Medical Society	Morgan Smith, Little Rock	Clinton P. Meriwether, Little Rock	Hot Springs, 1912.
California, Medical Soc. of the State of	Thos. W. Huntington, San Francisco.	Philip M. Jones, Butler Bldg., San Francisco	Del Monte, April 17-19, 1912.
Colorado State Medical Society	Walter A. Jayne, Denver	Melville Black, Metropolitan Bldg., Denver	Pueblo, 1912.
Connecticut State Medical Society	John G. Stanton, New London	Walter R. Steiner, 4 Trinity St., Hartford	New Haven, May 22, 1912.
Delaware State Medical Society	Presley S. Downs, Dover	G. W. K. Forrest, 901 Jackson St., Wilm'ton	Lewes, Oct. 10, 1911.
District of Columbia, Medical Society of	W. M. Barton, Washington	H. C. Macatee, The Ashley, Washington	
Florida Medical Association	Albert H. Freeman, Starke	J. D. Fernandez, Jacksonville	Tampa, May 9, 1912.
Georgia, Medical Association of	William L. Fitts, Carrollton	Wm. C. Lyle, Augusta	Augusta, 1912.
Hawaiian Territorial Medical Society	W. G. Rogers, Honolulu	Wm. C. Hobdy, Honolulu	
Idaho State Medical Association	John W. Givens, Orofino	Ed. E. Maxey, Boise	Boise, Oct. 11-13, 1911.
Illinois State Medical Society	W. K. Newcomb, Champaign	Edmund W. Weis, Ottawa	Springfield, May 21-23, 1912.
Indiana State Medical Association	Frederick C. Heath, Indianapolis	Chas. N. Combs, Arcade Bldg., Terre Haute	Indianapolis, Sept. 28-29, 1911.
Iowa State Medical Society	L. W. Littig, Davenport	V. L. Treynor, Council Bluffs	Burlington, 1912.
Isthmian Canal Zone, Med. Assn. of	Lloyd Noland, Cristobal	D. F. Reeder, Ancon	
Kansas Medical Society	John T. Axtell, Newton	Chas. S. Huffman, Columbus	May, 1912.
Kentucky State Medical Association	J. E. Wells, Cynthiana	Arthur T. McCormack, Bowling Green	Paducah, Oct. 24-26, 1911.
Louisiana State Medical Society	Richard O. Simmons, Alexandria	Joseph D. Martin, New Orleans	New Orleans, 1912.
Maine Medical Association	Stanley P. Warren, Portland	W. Bean Moulton, 622 Congress St., Portland	June, 1912.
Maryland, Medical and Chir. Faculty of	Hugh H. Young, Baltimore	John Ruhräh, 1211 Cathedral St., Baltimore	April, 1912.
Massachusetts Medical Society	Geo. B. Shattuck, Boston	Walter L. Burrage, 282 Newbury St., Boston.	June, 1912.
Michigan State Medical Society	C. B. Burr, Flint	Wilfred Haughey, 15 E. Main St., Battle Ck.	Detroit, Sept. 27-28, 1911.
Minnesota State Medical Association	J. W. Robertson, Litchfield	Thos. McDavitt, 210 Lowry Annex, St. Paul.	St. Paul, Oct. 5-6, 1911.
Mississippi State Medical Association	Daniel J. Williams, Ellisville	E. F. Howard, 1st Nat. B'k. Bldg., Vicksburg.	Jackson, April 9-11, 1912.
Missouri State Medical Association	Robert H. Goodier, Hannibal	E. J. Goodwin, 3525 Pine St., St. Louis	Sedalia, May, 1912.
Montana State Medical Association	T. C. Witherspoon, Butte	Herbert D. Kistler, Murray Hospital, Butte	Helena, May 8, 1912.
Nebraska State Medical Association	Andrew D. Nesbit, Tekamah	A. D. Wilkinson, 513 Sec. Life Bldg., Lincoln	Lincoln, May 7-9, 1912.
Nevada State Medical Association	S. K. Morrison, Reno	Martin A. Robison, Reno	Reno, Oct. 10-12, 1911.
New Hampshire Medical Society	Geo. W. McGregor, Littleton	D. E. Sullivan, 7 No. State St., Concord	Concord, May 8-9, 1912.
New Jersey, Medical Society of	Daniel Strock, Camden	W. J. Chandler, 65 S. Orange Av., So. Orange	Spring Lake, June, 1912.
New Mexico Medical Society	Robert L. Bradley, Roswell	R. E. McBride, Las Cruces	Roswell, 1912.
New York, Med. Soc. of the State of	Wendell C. Phillips, New York City	Wisner R. Townsend, 17 West 43d St., N. Y.	Albany, April 16-17, 1912.
North Carolina, Med. Soc. of the State of	Alfred A. Kent, Lenoir	David A. Stanton, High Point	June, 1912.
North Dakota State Medical Association	Clinton E. Spicer, Litchville	H. J. Rowe, Casselton	Valley City, 1912.
Ohio State Medical Association	Horace Bonner, Dayton	J. H. J. Upham, 186 E. State St., Columbus.	Dayton, 1912.
Oklahoma State Medical Association	Charles L. Reeder, Tulsa	Claude A. Thompson, Muskogee	Shawnee, 1912.
Oregon State Medical Association	E. A. Sommer, Portland	M. B. Marcellus, 901-3 Selling Bldg., Portland	
Pennsylvania, Med. Soc. of the State of	John B. Donaldson, Cannonsburg	Cyrus Lee Stevens, Athens	Harrisburg, Sept. 25-28, 1911.
Philippine Islands Medical Association	R. E. L. Newberne, Manila	V. L. Andrews, Manila	Manila.
Rhode Island Medical Society	Frederick T. Rogers, Providence	S. A. Welch, 253 Washington St., Providence	
South Carolina Medical Association	J. Wilkinson Jervey, Greeneville	Edgar A. Hines, Seneca	Columbia, 1912.
South Dakota State Medical Association	William G. Smith, Sidney	R. D. Alway, 212 Main St., Aberdeen	Mitchell, 1912.
Tennessee State Medical Association	C. J. Broyles, Johnson City	Perry Bromberg, Nashville, 315 Jackson Bldg.	Chattanooga, April, 1912.
Texas, State Medical Association of	David R. Fly, Amarillo	Holman Taylor, Fort Worth	Waco, 1912.
Utah State Medical Association	Frederick W. Taylor, Provo	W. Brown Ewing, Salt Lake City	Salt Lake City, Oct. 4-5, 1911.
Vermont State Medical Society	H. C. Tinkham, Burlington	C. H. Beecher, Burlington	Burlington, Oct. 12-13, 1911.
Virginia, Medical Society of	O. C. Wright, Jarratt	Paulus A. Irving, Farmville	Richmond, Oct. 24-27, 1911.
Washington State Medical Association	Leon L. Love, Tacoma	C. H. Thomson, Seattle	Tacoma, 1912.
West Virginia State Medical Association	Chas. A. Wingerter, Wheeling	A. P. Butt, Davis	
Wisconsin, State Medical Society of	J. M. Dodd, Ashland	Charles S. Sheldon, 251 Langdon St., Madison	Wausau, June, 1912.
Wyoming State Medical Society	A. C. Hamilton, Thermopolis	W. H. Roberts, Sheridan	

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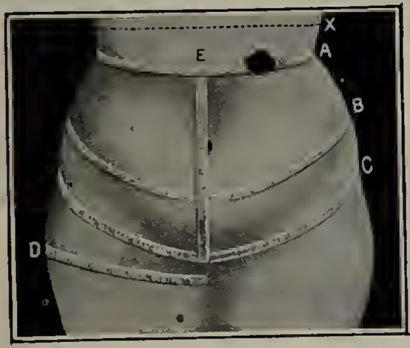

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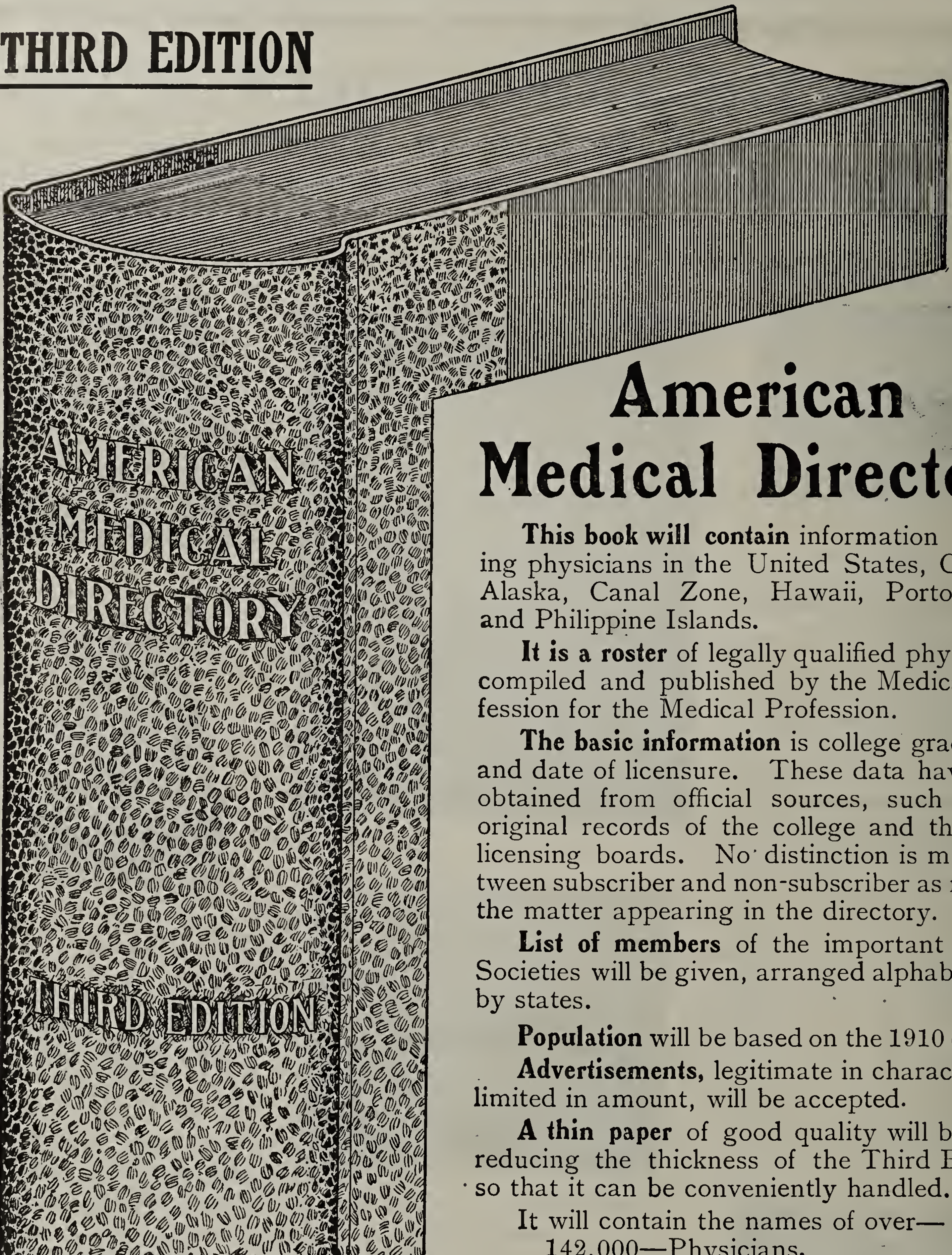

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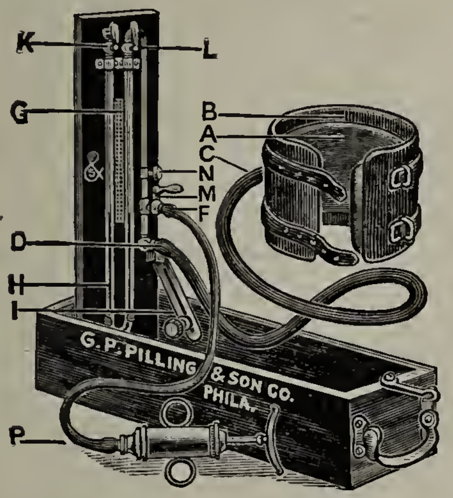

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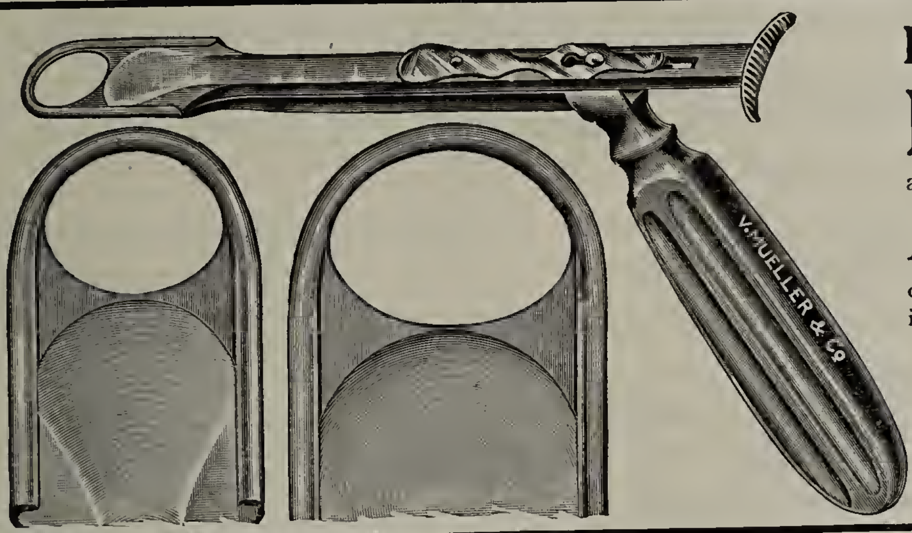

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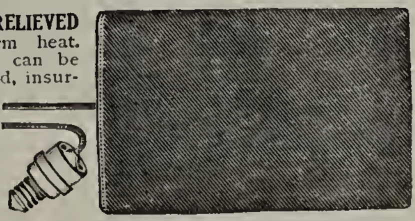

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WANTED—TO BUY—FIRST-CLASS MIcroscope, any standard make, with necessary accessories; must be in A1 condition and have oil immersion lens; give full description and price in first letter. Add. 1638 A, %.AMA.

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WANTED—INSTRUCTOR OF PHYSIOLogy for a southern medical college; full time; salary $2,000; good prospects for advancement; send references. Add. 1568 J, % AMA.

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WANTED—LOCATION IN ARIZONA OR New Mexico, by graduate of best Chicago school, with several years' practice; desire contract, mining work or unopposed town and country practice; will pay $25 for information if place is accepted by me, or will purchase some house and office furniture. Add. 1631 E, % AMA.

WANTED—LOCATION IN WISCONSIN paying from $3,000 to $4,000; good roads and schools; married man, with experience; have money to handle deal and can begin at once; city or village; give full particulars first letter. Add. 1626 E, % AMA.

WANTED—$2,500 TOWN AND COUNTRY practice; Pennsylvania, Virginia, Delaware, Maryland or New Jersey; cash for driving outfit, etc.; purchase home when established; cash for knowledge of good location; few acres of land desired; full particulars first letter. R. F. Garrison, M.D. Add. Lock Box 4007, West Philadelphia P. O., Pa. E

WANTED—LOCATION — HAVING DISposed of my practice I would be glad to hear from parties wishing to sell or take in a partner; would consider hospital work or a location where there is no doctor; prefer central or western states. Add. 1611 E, % AMA.

WANTED—LOCATION—WHERE PHYSIcian and surgeon is needed; prosperous agricultural community and large territory with good roads; no drouth district; little or no competition; must be well populated, prosperous district so I can be kept busy; aged 36; married; do all kinds of dentistry; have the ability and experience. Add. 1605 E, % AMA.

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WANTED—TO BUY AN EYE, EAR, NOSE and throat practice or partnership in city of 15,000 or more; prefer Indiana, Wisconsin, Illinois or Kansas; no real estate. Add. 1614 E, % AMA.

WANTED—CONTRACT PRACTICE OR good paying location in Colorado, New Mexico, Arizona, Kansas, Montana, Wyoming, Utah, Nebraska, or any place in southwest; Mexico or South America; two years' contract and two years' private practice; 30 years old; married;; will go any place; speak some Slavish and a little Spanish and Italian. Add. 1516 E, % AMA.

WANTED—LOCATION OR PARTNERSHIP, Kansas, Oklahoma, Indiana or reciprocating states preferred; pay cash for suitable proposition; prefer town of 2,000 or more; I am a regular graduate, B.S. degree, 18 months' internship in large municipal hospital; 3 years' successful private practice; prefer no real estate; give details; best references. Add. 1539 E, % AMA.

PARTNERS WANTED

WANTED — PARTNERSHIP IN CITY—Michigan or Nebraska preferred; graduate Class A college; 10 years' experience; have good practice at present and positions of respect and responsibility in community; aged 36; married; refined and intelligent; excellent personal appearance; character and professional ability will stand closest investigation; proposed partner must stand same test. Add. 1610 G, % AMA.

WANTED—PARTNER AT ONCE TO TAKE one-third interest in a very large contract practice in Louisiana; practice will soon be paying $50,000 and is growing very rapidly; proposition requires $6,000 cash; do not answer unless you have the money. Add. 1541 G, % AMA.

WANTED—TO A GRADUATE OF THE regular school, who has energy and character and who wishes to practice surgery only, I will sell the majority stock in my private hospital in Bridgeport, Conn.; I will expect to retain my office room and a small interest, but desire to practice as a consultant only. Add. J. W. Wright, M.D., Bridgeport, Conn. G

PARTNERSHIP WANTED

WANTED — TO FORM PARTNERSHIP with elderly physician in a good Missouri town, where there is a good field for consultation and surgical work as well as general practice; have 12 years' clinical and hospital experience, am a good clinical diagnostician, experienced surgeon and can give first-class references; am married, 40 years of age and good mixer. Add. 1555 H, % AMA.

WANTED—PARTNERSHIP — GRADUATE of class A medical school, aged 39, hospital experience, ten years' private practice, particularly qualified in surgery, wishes to form partnership or other connection with physician in city of 15,000-30,000 population, who has more work than he can do, or wishes to retire. Add. 1357 H, % AMA.

WANTED—PARTNERSHIP OR INTEREST in small hospital in California, Oregon or Washington, by surgeon licensed in California; six years' general practice; just returned from postgraduate work in Vienna; would invest reasonable capital. Add. 1600 H, % AMA.

SITUATIONS WANTED

WANTED—HOSPITAL POSITION WITH opportunity to do surgery, by young man with 7 years' experience in general practice and surgery; graduate of Eastern school; hospital experience; married, good habits, hard worker; would consider partnership with man who has legitimate proposition; good reasons for leaving present location. Add. 1552 I, % AMA.

WANTED—POSITION AS ASSISTANT TO or partner with busy practitioner in good, live American city, by McGill graduate, 31 years old, good apperance and habits; spent two years abroad and seven in general practice; thoronghly experienced in surgical and obstetrical work; will not consider anything except remnnerative proposition; good reasons for giving up present location; will take any state board first opportunity; best of references. Add. 1635 I, % AMA.

(*Continued on next page*)

WANTED — POSITION AS INTERN IN hospital, contract practice or assistantship to some doctor who has a good deal of surgery to do; preferably in Illinois or Ohio; 8 years' experience in general practice; 35 years of age, single, good habits, not afraid of work; best references. Add. 1570 I, % AMA.

WANTED — SALARIED POSITION, BY married physician, aged 29 years, experienced in state hospital and private sanitarium work; have also been in general practice; Protestant; health and habits good; references, etc., furnished. Add. 1630 I, % AMA.

WANTED — SITUATION AS ASSISTANT to busy practitioner, salaried hospital appointment, contract practice, locum tenens, etc., by graduate of one of the best medical schools; one year hospital experience; am 29 years old, single, excellent habits, steady, industrious, strictly temperate; will go anywhere. Add. 1629 I, % AMA.

WANTED—SITUATION — YALE GRADUATE, M.D., single, aged 24, desires a salaried position as physician's assistant or in a sanitarium, hospital or insane hospital; experienced in hospital and laboratory work; instructor of pathology and bacteriology for two years; would accept superintendency of an institution; prefer the South; state particulars. Add. 227, Burnside, Conn. I

WANTED — CONTRACT PRACTICE IN mill, mine or similar line, assistantship or salaried position; aged 25; single, healthy, good habits and willing to work; have hospital experience; not particular as to location; speak Slavish fluently; state salary and particulars. Add. 1567 I, % AMA.

WANTED—PHYSICIAN, AGE 31, WOULD like position as locum tenens, or assistant, in Michigan; either private practice or hospital; have eight years' experience in general practice; have taken postgraduate work in gynecology and obstetrics; can give best of references, both lay and professional, as to character and ability. Add. 1371 I, % AMA.

WANTED—A POSITION AS ASSISTANT in a sanitarium for tuberculosis or the insane, by a physician, 32 years of age, married, no children, good health, graduate of good school, hospital intern and four years of successful private practice; references furnished. Add. 1579 I, % AMA.

WANTED—A GRADUATE OF N. U. M. S., 1910, hospital experience, would take care of practice in Montana, Idaho, Washington or Oregon for a few weeks the first part of October. Add. Doctor, Box 122, Hope, Idaho. I

WANTED—BY GRADUATE OF ONE OF best medical schools, position as intern or house physician in eye, ear, nose and throat hospital or assistantship in large city to busy specialist doing that work; salary at least to cover expenses; experience main object; had postgraduate work and experience along that line; also several years' general practice. Add. 1583 I, % AMA.

WANTED—BY CAPABLE AND STRICTLY moral physician with nine years' practice, 31 years of age, a position in a sanitarium or hospital doing a general medical and surgical business; prefer St. Louis, Chicago or an institution located in one of the larger medical centers of the United States; no "T. B." institutions considered; references required and exchanged; state salary, hours and all other information in first letter. Add. 1576 I, % AMA.

WANTED — POSITION AS HEAD SURGICAL nurse or assistant superintendent of a hospital; graduate nurse of a Chicago hospital; can furnish best references as to character and ability. Add. 1562 I, % AMA.

WANTED—ASSISTANTSHIP, CONTRACT work (no lodge), salaried position or location; graduate of Northwestern, 1910; thorough hospital, laboratory and anesthesia experience; not particular as to location; licensed in Minnesota. Add. Doctor, Box 122, Hope, Idaho. I

WANTED — FRENCH PHYSICIAN, REGISTERED, graduate leading college Philadelphia, late army surgeon, middle aged, wishes position as superintendent in sanatorium, assistantship to surgeon or contract practice; best references. Add. 1595 I, % AMA.

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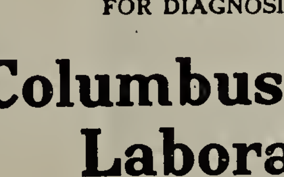

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WANTED—POSITION IN HOSPITAL OR sanitarium, contract practice with railroad, mine or mill, or assistantship to busy doctor; graduate; aged 23; unmarried; licensed in Mississippi and Tennessee; total abstainer; can furnish best of references, both lay and professional, as to character and ability; references required; prefer southern states. Add. 1615 I, % AMA.

WANTED—BY A WOMAN PHYSICIAN, aged 32, a hospital or sanitarium position; experience in hospital and private practice, laboratory and *x*-ray work. Add. 1577 I, % AMA.

WANTED — ASSISTANTSHIP, SALARIED position or contract practice, no lodge; graduate 1910; 27 years of age; one year's experience in emergency surgery with large steel corporation; will go anywhere. Add. Walter G. Palm, M.D., % Illinois Steel Co., Joliet, Ill. I

MISCELLANEOUS—WANTED

WANTED — VILLAGE AND COUNTRY practice; population 500 to 2,500; New York preferred; state in first letter competition, yearly cash income, village improvements, roads, country, whether mountainous, flat, hunting, fishing, price, etc.; need no office nor household furnishings; do not want to purchase real estate; would rent real estate if desirable. Add. 1622 J, % AMA.

WANTED — COURSE IN PATHOLOGIC and bacteriologic technic, principally Wassermann, Noguchi, opsonic autogenous vaccines, mounting, typhoid culture, media preparations, etc.; not interested in name of institution, but in the actual work; near a practical man; must be between Albuquerque, N. M., and San Francisco or near Albuquerque, and not farther than Chicago; also reasonable. Add. 1623 J, % AMA.

WANTED—AT ONCE—BY REGISTERED experienced physician—A $3,000 practice in New York State, preferably without real estate; give full particulars in first letter; country preferred. Add. 1627 J, % AMA.

WANTED—DOCTOR, 28 YEARS OF AGE, married, Harvard medical graduate, two years' hospital experience, one year private practice, would like to find contract with a railroad constructing company going on in a South American republic; would prefer Chili. Add. 1591 J, % AMA.

WANTED—A CHILD OR SEMI-INVALID to board; lovely suburban home; beautiful surroundings; every care and consideration given; references exchanged. Add. 1515 J, % AMA.

WANTED—DOCTOR, 31 YEARS OF AGE, unmarried, licensed in New York State, five years' private practice, would like to find contract with mining company or railroad constructing company, preferably in the west; understands Italian perfectly well. Add. 1641 J, % AMA.

WANTED — A COMPETENT TRAINED nurse to fill the combined positions of superintendent of nurses and matron in beautiful semi-public general hospital of 50 beds with training school; average number of patients 20; in town of 5,000; about 12 hours by rail from Baltimore, Md.; experience in a small hospital preferred; must have perfect record of loyalty and character; salary $75; position not easy, but free from many common annoyances; an excellent position for one ambitious and enthusiastic in institution work; strict economy indispensable; state all qualifications in first letter. Add. 1543 J, % AMA.

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FOR SALE—ONE SECOND-HAND OPHTHALMOMETER, Javal-Schiotz, Meyrowitz model; price, $25; or will exchange for other article of equal value. Add. C. W. Hilliard, Dothan, Ala. K

(*Continued on next page*)

FOR SALE—STERILIZING OUTFIT, CONSISTING of No. 1 Kny-Scheerer circular dressing sterilizer; copper instrument sterilizer, 22x12x7 in., with foot lever; 10-gallon copper tank; outfit shows wear but is in good working order; suitable for small hospital or doctor's office; cost $275; price, $65 cash. H. E. Battin, Corning, N. Y. K

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FOR SALE—A SNAP—WAGNER 4-PLATE *x*-ray and high-frequency outfit, with gasoline engine to operate; also tubes, cord stand, etc., full set of high-frequency tubes and holder, all in fine working order; outfit in finest condition; $165; outfit cost $415; reason for selling, have bought coil. Add. B. H. Sherman, Dexter, Iowa. K

FOR SALE — AUTOMATIC CONDENSATION chairs, willow, no metal; very strong; adjustable to any position; can be used as all-around office chair; folds to size of small easy chair; $17 crated; bargains in second-hand high-frequency and *x*-ray apparatus, batteries, nebulizers, static machines, etc. Add. I. Harris, 353 5th Ave., New York City. K

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FOR SALE—N.-W. ARKANSAS—A GOOD location in the great fruit region; railroad town of 1,200; fine schools, churches and society; climate and water of the finest; competition light, ethical; $300 cash will handle this; excellent location for one seeking health. Add. 1628 L, ℅ AMA.

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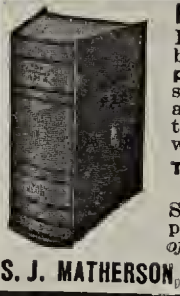

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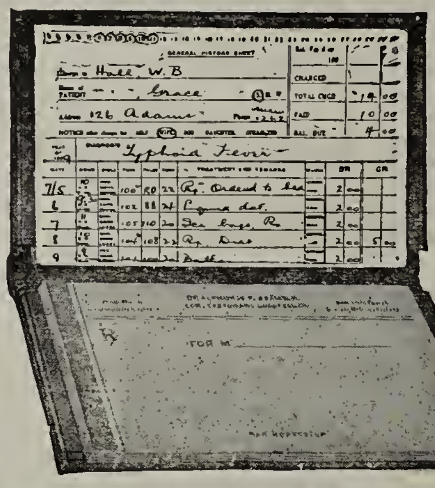

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FOR SALE — ILLINOIS — LOCATION, office furniture, instruments, drugs; growing manufacturing city of 4,000, 30 miles from Chicago; fees good; collections past twelve months, $5,457; opportunity for surgeon; hospital facilities; two other doctors; money can be made from the start; transferable appointments; price, $2,400, one-half cash, balance time; reason, ill health; 7-room house, combination garage and barn, one-half block from main street, optional at $5,000. Add. 1637 L, ℅ AMA.

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FOR SALE—IOWA—TOWN OF 500—ON C. B. & Q. R. R.; a $5,000 practice, including fine seven-room house, two lots, sheds, private garage, complete office outfit and drugs; territory 7 to 24 miles; one weak competitor; fine roads, schools, churches, etc.; going to city; snap for young man; price, $3,200; don't answer unless you mean business and have the money. Add. 1527 L, ℅ AMA.

FOR SALE—IOWA—UNOPPOSED TOWN and country practice; established 16½ years, averaging $3.500; good town of 550 on main line of railroad; unexcelled farming community; collections 98 per cent.; will sell practice with 4-room office on main street for $1,400; will also sell 10-room residence; investigate; leaving on account of health. Add. 1620 L, ℅ AMA.

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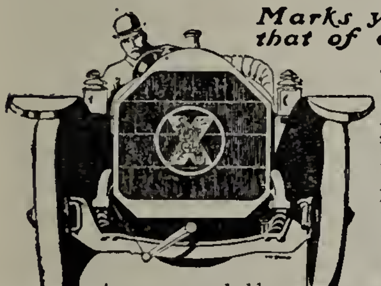

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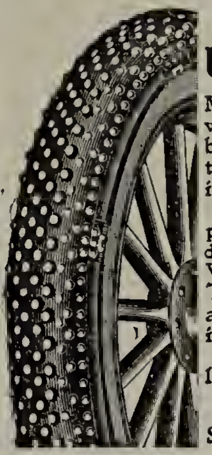

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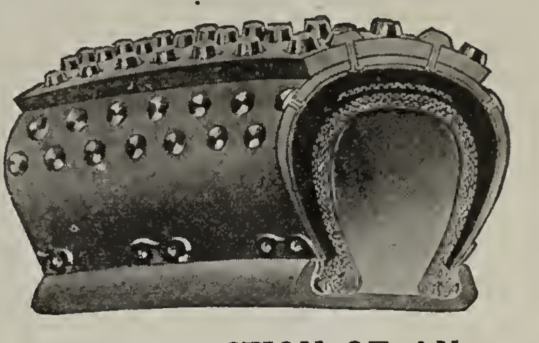

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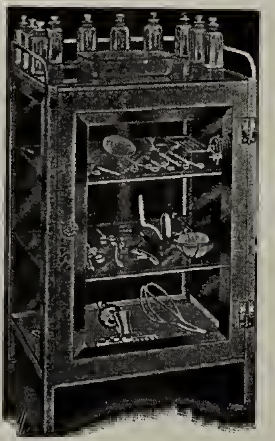

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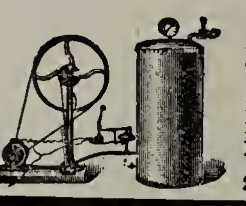

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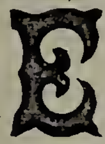

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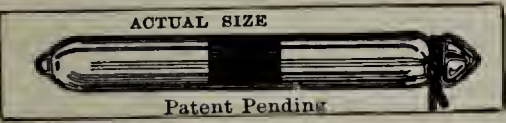

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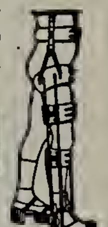

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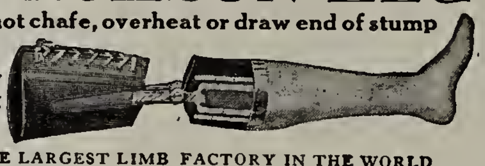

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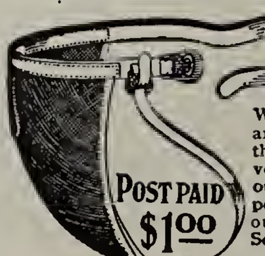

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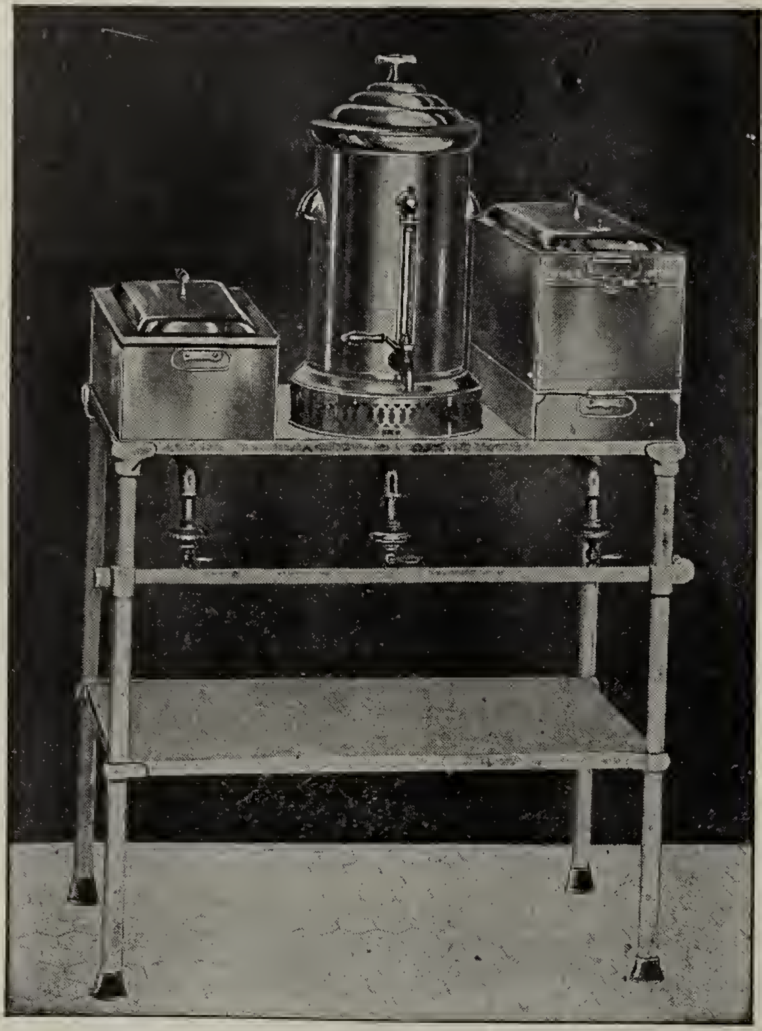

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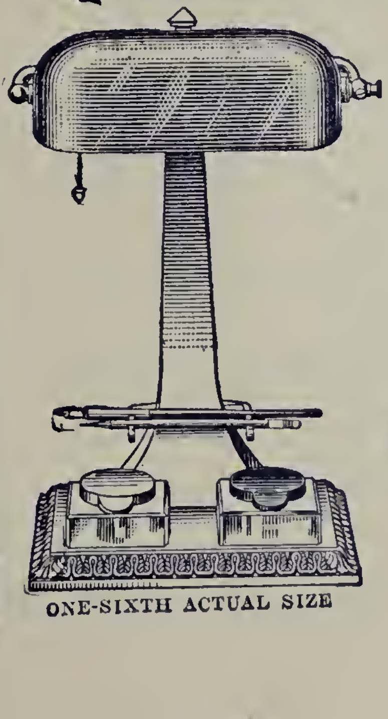

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